

*E*nvironmental *S*ocial *G*overnance (ESG)

The Roadmap to a Global Changeover





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ευχαριστούμε

Since 1921, we have been forging the Greek maritime industry's landscape. With our customers and partners, we have been sharing the same values towards safety at sea and the protection of human life and the environment.

Let's celebrate our past and present, while looking towards a brighter future for the Greek maritime industry. Thank you for 100 years of trust - together, we make the difference.



Editorial | CEO's Note

Concerns about Sustainability have fueled the shipping agenda over the past decade, with environmental, social and corporate governance (ESG) issues already influencing funding decisions, fleet renewal and industry-wide regulatory changes. The views of the industry on sustainability and governance and how these issues will affect financing, and even structures itself, vary. Reducing carbon dioxide emissions are the primary and most immediate challenge, although trade tensions, COVID-19 and access to finance are also significant.

Despite their commitment to sustainability, traditional ship finance banks have a limited appetite to finance the new clean technology upgrades, while carbon emissions are considered the main challenge for shipping. However, there is still no consensus on how to achieve environmental goals and technological challenge is enormous. Zero coal fuels already exist, but the networks for their scale development and the right cost have not yet been developed.

We decided this year's last issue to focus on ESG factors and their impact on the after-Covid-world. One might think ESG is another label, a new trend, a new

'product' to present in a fancy way within a corporate profile. Allow me to disagree. ESG introduces actions and measurable outcomes compared to CSR, for instance, which is the ideal and gives context about sustainability agendas and corporate responsibility culture. CSR can be thought of as the qualitative side and ESG as the quantitative side.

I am a huge fan of actions rather than words. And I am pleased that my company, Arcadia Shipmanagement, does reflect the true value of actions concerning environmental, social and governmental factors. And at the end of the day, what matters are the actions because only actions will remain indelible and indestructible over time. Deepak Chopra put it in the right words: "...our bodies are recycled earth, our emotions are recycled energy, and our thoughts are recycled information..."

Finding ways to take action more completely helps us gain knowledge. We know something when we experience it, not before. If our attention is lost in the mind, then our experience, and therefore our knowledge, is diminished. Thinking is certainly important for gathering information, so we can make appropriate risk decisions. However, we "live by acting"!

It is interesting that many in the Shipping industry believe the drive to sustainability will bring about changes in the shape, capital structure and financing of the sector, meaning shipping will not be able to bring about significant environmental change without also addressing social and governance issues.

What I believe is that where governments have failed to act, the drive of people to make determined efforts to deal with issues have led to manifest and significant changes. After all, this was the purpose of publishing our corporate magazine. Through our actions to share, to reflect, to awaken the spirit of change in people who want to be a vital part of change.

With this issue, we complete the cycle of 2020-2021. Having a sense of satisfaction, inner joy and fullness, I would like to warmly thank the sponsors, supporters and partners who contributed to the success of LeaderSea. We will continue, with the same passion and the same creative spirit, to contribute -in practice- to the empowerment of the Blue Leaders and the Growth Thinkers of Shipping. We will keep leading through our vision and inspiring through our actions; and this is our commitment to you, our valuable readers!

Dimitrios Mattheou

CEO



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Quarterly Edition | Issue 04 - Q3 2021 | ISSN: 2732-6764
 A publication of ARCADIA SHIPMANAGEMENT CO LTD
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A Safe Maritime System Based on DNV White Paper “Closing the Safety Gap in an Era of Transformation”

By Captain Ioannis Ioannidis | Assistant DPA & Environmental Management Representative (EMR)

General

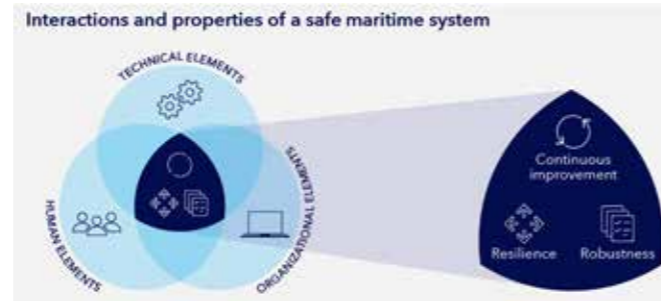
A system is a set of human, organizational and/or technical elements that can achieve things together, in a manner that each component part cannot accomplish alone. Maritime systems, in order to be efficient into the challenging and demanding shipping industry, are robust, resilient and have a process in place for continuous improvement.

A robust system is one that builds on years of developing competence and accumulating experience, to contribute to the development of regulations, rules and standards for building and operating safe maritime systems. Robustness also has a flexibility component, enabling the system to react to foreseen events in a pre-planned manner.

The maritime industry builds on a proud history of seamanship, which is synonymous with coping with change through agility. Rapid developments in society create new opportunities and challenges in the maritime industry and agility will be a prerequisite for safety. Technology development is a main driver of the rapid developments in the industry. Besides the focus on technology, we also need to acknowledge and subsequently support people's ability to solve problems and adapt to unfamiliar situations. People's roles within the industry are changing, but they will continue to be essential contributors to safe maritime operations in the future.

Although a maritime system can appear safe at a given time, it must remain safe from one moment to another and over time. It therefore needs mechanisms that allow it to keep improving, so that it can update and change what is protecting the vessel now, but also to meet similar or new threats in the future. Lessons learned are fed back into the robustness of the system, while any improvements to mechanisms for adapting to changing threats, feed back into the resilience of the system. These lessons and mechanisms are dependent on how much the system benefits from feedback from events with positive or negative outcomes. Maritime systems that embrace a culture of learning also benefit from 'creative worry', where people's sense of unease allows them to think and act on what could happen next. This fosters a proactive approach to safety.

Throughout its existence, the maritime industry has shown that it is capable of continuously transforming itself to improve efficiency and productivity, irrespective of the challenges along the way. The two ongoing transformations related to digitalization and de-carbonization, are having a major impact on future operations and collaboration in the industry. Digitalization is catalyzing the wider use of data, data-driven models and remote services in shipping. To manage the required transformation in



de-carbonization, new technologies and fuels are being leveraged. But for the transformation to be successful, there is one key question that needs to be answered: How capable is the industry of recognizing and managing the associated safety risks?

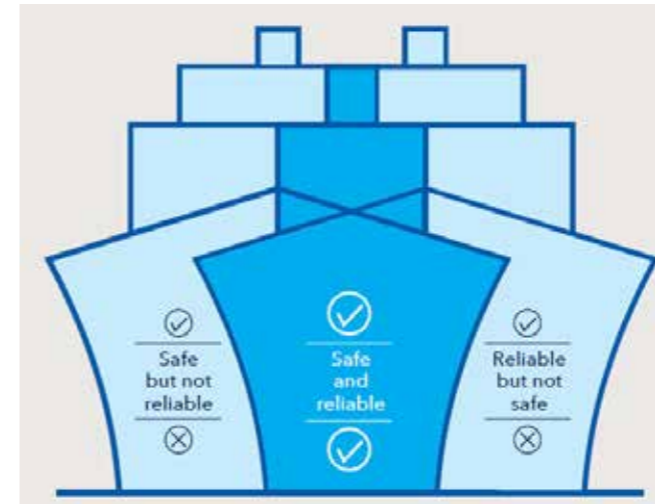
Digitalization

Digitalization offers huge potential to enhance efficiency, safety and cost controls when applying innovative technology and valuable data. But with all these new technical opportunities, increased system complexity needs to be managed. Software, sensors and machines with control systems that depend on algorithms, become interconnected and increasingly reliant upon one another, extracting added value when working in a coordinated manner, but undermining performance and interrupting operations when compromised.

Digital transformation has disruptive properties that offer new opportunities. Yet the digital transformation is also part of the gradual evolution that comes from technological development. Digitalization is generally not a goal in itself, but a means to achieve other goals. The maritime industry should therefore explore the risks and opportunities connected to change through digitalization, to see how digital transformation can best contribute to safer, more sustainable operations.

As traditional risk management methods become insufficient, there will be a need to focus on system performance in addition to component reliability to manage increasingly complex ship systems. This is because an unreliable system may be safe and a reliable system unsafe. For this reason, it cannot be concluded that a system is safe just because the evidence demonstrates adequate reliability. Product and process verifications are means to ensure safe and reliable systems.

Additionally, digitalization affects how people will work. On the one hand, increasing automation and remote operation come together with growing centralization of operations. On the other hand, complex and integrated systems involve many different stakeholders to contribute to smooth operations and lead to more dispersed



teams that need to work together. Who is accountable for what? What happens if communication is disrupted, or normally 'passive' operators are rapidly called into action?

Companies will therefore need to support people's roles and needs with technologies that support human performance and by balanced 'function allocation', i.e. the division of functions between technology and people. Although broadly announced, the time for autonomous vessels will take some more time. Instead, we foresee the need for system integration and human-centered design, to provide the operator with the necessary information that they need to make decisions promptly and act appropriately.

It is likely that organizations may need to combine the centralization of functions across vessels with teams dispersed between vessels and shore. This brings about change to traditional ways of working. It may raise questions about, for example, responsibility, accountability, communication needs or competence requirements. The successful combination of centralization and dispersion of teams therefore depends on solid understanding of the role of the human element in the digital future. This calls for a structured function-allocation process and a human-centred focus in design.

Finally, as organizations increasingly become a patchwork of multiple stakeholders and suppliers, they need digital transformation strategies for managing emerging risks across the entire organization. Digitalization enables safety risk management but also creates new risks.

De-carbonization

When it comes to de-carbonization, international shipping must achieve halve greenhouse gas (GHG) emissions by 2050 to meet International Maritime Organization (IMO) targets and full de-carbonization by 2100. New, alternative carbon-neutral fuels and the associated fuel systems and infrastructure, possess properties that pose new, specific safety challenges when compared with conventional ones, which means that a new understanding and different safety systems and operations are necessary. Flammable and toxic gas releases are among common safety-related risks associated with several alternative fuels. For example, toxicity is the main issue for ammonia,

but flammability and lowered temperatures also need to be taken into account. For hydrogen, challenges relate to extreme low temperatures (-253°C) if stored as a liquefied gas and high pressure (250–700 bar) if stored as compressed gas. Also, the hydrogen molecule is the smallest of all molecules, making it more challenging to contain; it also has a wide flammability range and ignites easily. The properties of ammonia and hydrogen may therefore lead to an increased overall risk level associated with their use as fuel on ships, unless satisfactory safety systems and operations are implemented.

One safety-related advantage of using more digitalized systems in the transition to de-carbonisation is that such systems can reduce the need for manual operations and unnecessary exposure to dangerous situations. Fuel cells, for example, require less maintenance than combustion engines, reducing the need for follow-up by crew on board. Using fuel cells and greater use of sensor technology, reduces the number of people being exposed to toxic fuels on board.

Transformations aimed at de-carbonization are creating an era of constantly changing requirements, targeted towards rapid advancement of new technology to reduce vessel GHG emissions. The industry is navigating its way through this period of uncertainty and change, as it moves toward an era of more established requirements based on an increasingly stable body of knowledge and experience. Regulatory bodies and classification societies represent much of this knowledge and experience, which is essential for the robustness of maritime systems. Yet they also bear the responsibility of supporting the resilience of maritime systems, by driving developments in de-carbonization technologies and safe operations. The challenge, then, is for them to strike a balance between meeting industry expectations to proactively define rules and regulations, while assuring the quality of new regulations.

In conclusion

New alternative fuel types and advanced modes of operation make vessels increasingly specialised. This requires new and specific kinds of competence and experience. Many suppliers are engaged from other industries, but their lack of maritime-specific competence and experience can stand in the way of their understanding of the holistic risk picture, posing a threat to the safety of maritime operations. If crew, suppliers and other stakeholders are to gain a better understanding of the risks associated with emerging technologies, systems and the distribution and operation of different types of alternative fuels, they should be offered competence development programmes and supervision that cover both general and specific risk management.

The industry has the responsibility and ability to safeguard maritime operations. Every maritime organization can, in their own way, play a part in facilitating safe and efficient performance, by balancing out function allocation between technology and people, considering human-centred design of systems and ensuring the physical, mental and social wellbeing of the people in future safe maritime systems.

Question to Deck & Engine Officers:

Only 58 (33%) out of the 174 IMO Member States (Countries) have so far (1st half of 2021) recognized seafarers as key workers (Greece, Philippines and Romania are among them). And yet, 80% of global trade by volume and over 70% of global trade by value, are carried by sea and are handled by ports worldwide.

Why, in your opinion, people worldwide DO NOT recognize the contribution of seafarers into the level (status) of living?



Bogdan Rzavan Michai
Chief Officer
M/T Aegean Vision

Ships and seafarers are not that visible as workers at other means of transportation. Wherever you live you can see a car, a truck and, if you look up in the sky, you can see an airplane. In order to "really" see a ship, you need to live by the sea or to have the need to travel with one. Otherwise you might never see a ship, other than in photos or TV. Very rarely ships come to public's attention. It's when accidents happen and even then, they might not be impacted by that event. I recall one exception that has impacted the Europeans: the C/S Evergiven getting stuck in the Suez Canal. That was because some fast moving consumer goods were delivered later than expected and only then people realized, still not all of them, that goods are mainly transported by sea and not airplane, train or trucks. Another important fact is that in general, people are not aware of goods' transport. They do not know that 80% of the imported goods travel by ship, from bananas to TVs, phones, cars etc. To be fair, not even us, the seafarers, realize our huge importance to the world and to the economic chain. I.e. when transporting crude oil, we are one of the links of the chain of transferring energy from the ground to people's cars and homes, from the oil source to the gas station.



Altzo Aldwyn Rhy
2nd Officer
M/T Aegean Vision

Nowadays, social media is one of the top influencer to human living. News and various advertisements are focusing on activities on land, rather than what is happening at sea, particularly maritime global trade. Most of the people only observe the trading on land transportation, like container trucks, not knowing that these containers are originated from a port, where container vessels are the main transportation means from one country to another. Therefore, seafarer as key worker is seldom to be recognized as a part contributor of 80% of global trade. Member states and other various maritime organizations must show to the world the significance of the seafarer, by promoting maritime profession not only at the field of mandating ships but also through managing companies and businesses, related to global maritime industry.



Chaniotis Nikolaos
2nd Officer
M/T Aegean Nobility

Everyday people do not understand the contribution of seafarers to the community's life. They do not understand that all the materials they have from garments to construction material, are there because of seafarers. It is because of these skilled and brave people that businesses around the world continue to thrive and people are able to buy the things they desire from their favorite stores. Though seafarers work in a closed fraternity, which is not visible to outsiders, their work is indispensable. Unfortunately, because of the unstable life of seafarers onboard and at home town, it does not help the impression people have on seafarers' contribution to the status of living. Seafaring profession needs global approach for the improvement of seafarer's profession and working conditions. The world's conception will only change, if the profession's working conditions improve. Psychological support is a must for seafarers, to deal with onboard social life and shore alienation. Finally, the profession should be pitched at job fares and education and, awareness alongside marketing tactics should be applied, as it is a profession that not many will choose, among the new highly technological and social- addicted generation.



Makrymanolakis Ioannis
2nd Officer
M/T Aegean Nobility

The international shipping industry is responsible for the carriage of 90% of world trade. There are thousands of merchant ships all over the world, transferring goods between places and keeping the economy running. The food you eat, the clothes you wear, the oil. Almost everything has been transferred via ships. People think that our job is something simple. They have it as an inferior profession, because in the past the seafarers were low educated. They must try and do this work by themselves, in order to realize and recognize what the true contribution of the seafarer is. The average person cannot understand that if shipping industry stops, all food and vital chain will be cut and divided. It is a profession, whose results are not immediately perceptible to the public.



Banico Ariel
2nd Officer
M/T Aegean Vision

People worldwide don't recognize the contribution of seafarers to the economy, even to the fact that the huge percentage of global trade is carried out by sea and handled by ports. It should be more relevant to the people, for seafarers' role to be recognized into the status of living. The contribution of the seafarers should be more advertised and spread to the community, in order for them to have more insight and give seafarers more appreciation for their contribution. Many of the world countries' workforce are not interested in this kind of profession, due to being away from their families for several months. Most of big corporate media are not interested of covering the life at sea, since it needs more time to cover it onboard due to long voyages. But in this moment of time, social media such as FACEBOOK are helping seafarers to be known worldwide due to their posts, but still not attracting the interest of the multi media.



Skylogiannis Nikolaos
Master
M/T Aegean Horizon

The world trade and globalization depend on seafarers. Shipping is an industry that contributes over 90% to the world economy. There are many merchant ships plying all over the world, transferring goods between places, keeping the economy running. Daily living of people depends on seafarers, but many people worldwide do not recognize the contribution that the professionals of merchant navy offer, as it should be. My opinion, being a seafarer, is that although there are thousands of ships and millions of seafarers worldwide, it is like being an individual person, because no one knows what you are doing. People don't realize what we actually do – we are kind of invisible. The main reason is that we don't have much attention from the media. Actually, only when things go wrong and there is an incident, then there is exposure of seamen, as accountable to the happening. On a positive note of the current situation, the pandemic of COVID-19 has drawn attention to seafarers with increased awareness in the media and, my plea is this: once all this is over, we mariners should not be forgotten.



Matthaïou Alexandros
Master
M/T Aegean Nobility

Seafarers were tagged as our unsung heroes. When we say unsung, means that they are not entitled to the recognition they deserve. To this date, seafarers are not recognized as a top contributor to the economy of the countries. The very obvious reason why seafarers are not recognized as a contributor to the status of living is because people tend to focus on the "top" professions like doctors, engineers, architects etc. People turn to "see" the word of your profession through academics. Skilled workers like us seafarers, are not receiving the recognition we deserve, because we don't always work on the limelight that people would often see. The people disregard the works and contribution of seafarers, because they are not aware of the seafarer's role on the distribution of the goods and services which they are enjoying. People don't recognize the difficulties and the weight of seafarers' work, just to distribute the top necessities of the world. Only few people know the process and matters involved in seafarers' field of work, fact that is making them less valued and appreciated.



Toriaga Edenol
2nd Officer
M/T Aegean Horizon

Seafaring is not an easy job/task, requiring skilled professionals. We seamen, are thankful to these IMO member states that in spite of our hardness to do our job, they honor and recognize our efforts as seafarers. Most people in our society know that 80% of global trading are being carried by sea transportation. Seafarers are required not only to man domestic shipping but also harbor craft, port & river pilot as well as a range of commercial marine related services, which must be manned by trained seafarers.

People worldwide, in my opinion, do not recognize the contribution of seafarers into the status of living just because they only think that we, seafarers, are working onboard as the same status as normal workers into the land jobs. Which is their big mistake, as we can withstand in all types of weather at sea, just for us to accomplish the task and contribute more in the global trading by sea. In addition, we are also thankful to our principals who provide us, for our necessary needs onboard.



Brixton Barredo
3rd Engineer
M/T Aegean Nobility

Shipping is a vital form of economy and the back bone of the world trade. Not everyone admits and knows that global products are transported by the ships. The evaluation of the seafarers is not yet recognized by many people or government etc.

There needs to be a better way of showcasing and highlighting where the goods, fuel and food we all rely on, comes from or where it goes.

We need to educate society on the role of trade, of the flow of capital, cargo and the creation of health, wealth and happiness which shipping and seafarers bring. Most people just think that we are paid excessively compared to the other field of professions.



Garcia Alvaro
2nd Officer
M/T Aegean Nobility

Most of the people usually cannot understand and even ignore about what goes on at the sea, because most people are too busy getting on with living to worry about how their life happens, especially during this day due to pandemic. Only few people know the process and matters involved in the field of our work, making us seafarers less valued and appreciated.

So what do we think can and should be done, to boost the image of seafarers? Or do you think we are destined to remain an invisible part of the supply chain of work and living?

Would more recognition make a difference for us? We need to educate ourselves first and to educate society on the role of trade, flow of capital, cargo and the creation of health, wealth and happiness, which shipping and seafarers bring. We need to change perception and to boost the esteem and respect that are owed to those who work at sea.



Drivas Pantelis
3rd Engineer
M/T Aegean Horizon

Over 80% of the world's basic needs such as fuel, food and manufactured items are distributed from one country to another, sometimes even to a different continent via sea, just so that businesses worldwide can continue to thrive. It is also a fact that, seafarers are required to sail through war zones to deliver cargo and supplies wherever they are required. To do so, a ship needs skillful seafarers. Such as a worthy and reliable Captain and a well trained crew team, to enable them to maintain a well functioning ship and face any difficulties that may arise during a trip.

Seafarers often face great challenges at sea, such as very bad weather conditions with terrible storms and huge waves, not forgetting to mention the possibility of piracy and high-jacking and members of the crew being held hostages. Therefore it is of great importance the world to realize that seafarers contribute a great deal on the overall economy of a country, level of living and that their work is indispensable. It is about time, seamen to receive the required recognition and respect they deserve from the rest of the world.



Tsoutsouras Nikolaos
2nd Officer
M/T Aegean Dignity

In my own experience, especially before joining the ranks of seafarers, I would say people do not recognize that the amount of goods and services they rely on for their daily routines, are supplied actually as a result of seafarer's worldwide occupation on all kinds of ships, from small motor vessels to VLCC's and huge container vessels that carry materials, commercial goods, petroleum and it's byproducts. A major factor is a lack of information/education on the matter and how much the people's daily lives rely on the above mentioned products, in pretty much every aspect of their life.

The modern way of living is tied with shipping and people need to be informed about the hardships of shipping and the living on board especially during these challenging times, with the pandemics and the lockdowns that make a tough line of work even tougher.



Galon Raulito
2nd Officer
M/T Aegean Dignity

It's not reconizable because it is a stressfull but challenging profession. There is homesickness but it is also unique the way it is, when it comes into your mind, every time you are facing the oceans thinking for wonderful visions. But really seafarers are more abundance in the status of living, supply & earnings.

My wife always asked me, why I like to be a seaman? My answer is, I'm proud to be a seafarer, to see the world free. And mingling people around the world, is my enjoyable task of my entire life.

Seamen shouls always remember that, vessels should be operated in a safeway and in accordance with valid rules and regulations.



Barrozo Aprudicio T.
Chief Officer
M/V Alfios

We seafarers are like people working behind the camera. Most people will hardly appreciate the efforts and sacrifices we make for others' convenience. Most people do not see and recognize how our efforts as seafarers impact their status / level of living. They do not see that our lives are also at stake doing our job well.

Furthermore they cannot possibly realize the desolation that we seafarers are trying to overcome, whenever we part ways with our loved ones for long period of time. Our fights with storms and huge waves are given less importance. Some people only think of the perks of being seafarers and these are, being able to travel worldwide and earning competitive salary. Those perks seem to outweigh the importance of seafarers, making people only see and understand seafarer's job superficially.



Degoma John Michael
2nd Officer
M/T Aegean Dignity

In my opinion regarding this matter, we as seafarers, are not recognized into the level (status) of living of people around the world, because some people are not knowledgeable of our profession. Being a seafarer as I experienced it, is one of the riskiest and toughest profession because it requires courage, determination, being resilient in the adversity of life at sea and most of all attitude towards multilingual crew.

Nowadays, through the platforms of social media, advertisements in televisions, newspapers and magazines, we seafarers can reach out, share our knowledge and experience to the people around the world and show to them that our contribution into the status of living deserves to be recognized. Because we are the key personnel, handling tons of goods transported around the world to keep sustainable supplies of a country for all the needs of its people and industry in terms of energy, commodities, raw materials, etc., including mass transportation of citizens by sea.



Karoutsos Nikolaos
Master
M/V Alfios

Although IMO has 174 member countries, only a few have the seamanship mentality into their lives and culture, without being their fault necessarily. My belief is that, unfortunately, to date there hasn't been enough publicity for who the seafarers are and what they offer to community worldwide.

Especially the last two years, with coronavirus pandemic, people haven't understood the contribution of shipping and seafarers in their lives.

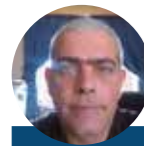
It's important that IMO, ILO and other institutions and organizations within shipping, to familiarize the general public with the benefits of shipping and seamen, in the everyday aspects of life. People and governments have to know first, in order to understand and accept seafarers as key workers.

Finally, if this is difficult to be achieved by the above mentioned organizations and institutions alone, then a small worldwide seafarers' strike, for only 2 – 3 days, will be sufficient for the community to realize the significance of our jobs. We all saw the worldwide annoyance caused by the EVERGIVEN container ship grounding into the Suez Canal.



Breker Carolino
3rd Engineer
M/V Alfios

One of the noblest endeavors is being a seafarer. Daily lives of people depend on us seamen, for providing every trade and goods which our ships carry. Almost everything everybody needs (food we eat, clothes we wear, fuels for our cars etc.), are just some of the many things that is being transported via ships. Most of the people do not recognize us as a key worker and this is because, they are not aware of the nature of our jobs and on what a seaman's life really is. In line with this, we (the people, the government, the media) should inform and educate them all, about our career path. SEAFARERS ARE NOT JUST A MERCHANT MARINE PROFESSIONAL, BUT A SOLDIER AND A FRONTLINER OF OUR WORLD'S LEADING ECONOMY.



Kagioulis Konstantinos
Chief Engineer
M/V Anemos

In my humble opinion, people internationally do not recognize the maritime profession, because on the one hand, they are unaware of the living conditions either in the engine room under hot or cold temperatures, work with several decibels (of course there are the individual measures for personal protection) and, on the other hand, on the bridge that is the constant requirement for safe navigation, sometimes under 9~10 Beauport). Most internationally think that seamen visit countries, go out to every port and go on holiday when disembarking. On the contrary, it requires professionalism in order to be able to deal with any damage that may occur to you at sea. And of course, the seafaring profession has no time-tables when you travel (there is not 8 hours a day job and then going home to eat and meet the family). In general, people are unaware of how challenging is the life not only of a seafarer but also for his family, that they have to live apart for many months!!! This by itself makes our profession extremely difficult and demanding as well as the lives of our families.



Triantafyllidis Ilias
Master
M/V Agonistis

It is a fact that since the beginning of the pandemic to date, the only domain which has not been recognized as essential and meaningful for the whole humanity, considering that it contributes to 80% of global transported goods, is the shipping industry and specifically the persons that constitute this, such as the seafarers. The only one and most important reason that, unfortunately, happens this, is obviously because there has not been created yet a global seafarers' union, independent of nationality and origin, in order to acquire power and assert the self-evident, which is the esteem and the recognition of our existence. At last, a community should be created, which will be having resonance near and far, because the regime shows no respect for fundamental seamen's rights.



Gkaris Dimitrios
Chief Officer
M/V Anemos

First of all, many countries unfortunately, are not involved with maritime industry as others, who already have recognized seafarers as key workers. Perhaps there is lack of understanding about seaman's life by the most of these countries. Harder efforts should be made, in order the occupation of seaman to be well presented to all countries that presently do not recognize seafarers as key workers. That goes with the importance of smooth transportation of goods which is performed by seafarers. If seafarers are not physically & mentally healthy, then transportation of goods could be in danger too. To mention also that there is still an amount of people who underrate the seafarers due to the nature of their job, as it comes abnormal occasionally, meaning there are disembarkation problems & issues which may occur, the contrary weather sea conditions which seamen may face during their contract, the lack of human resources sometimes etc. In fact crewmembers and especially the Officers on board have more knowledge & education, than those people who scorn the seamen.



Xenos Ioannis
2nd Officer
M/V Anemos

With the global fight against the COVID-19 pandemic, the services of seafarers provided, are more important than ever. Seafarers play an essential role in maintaining the flow of vital goods, such as food, fuels and medical supplies, that people, everywhere, need. But as opposed of all the above, many countries worldwide do not recognize the contribution of seafarers, because they have failed in their duty of care towards seafarers and have also failed abjectly to protect the minimum standards for the protection of seafarers' rights. This includes basic rights such as access to healthcare, repatriation, annual leave and shore leave, due to unlawful actions of member states, which are expecting seafarers to work indefinitely, supplying the world with food, medicine and vital supplies, while depriving them of their fundamental rights as seafarers, as workers and as humans. The final conclusion of all the above is, that this landmark ruling shows how governments have failed in their obligations against seafarers, which are not being recognized as key workers around the world, especially amid the pandemic crisis.



Stenakis Angelos
2nd Officer
M/V Anna Maria

People worldwide do not recognize the contribution of seafarers into the level of living, because they can't understand that the world trade and globalization depend on seafarers. Shipping is an industry that contributes 90% to the world economy. There are about 51.400 merchant ships plying all over the world, transferring goods between places, keeping the economy running. Nations are fuelled by gas and to make it clearer, the shortage of oil supply because of a stalled ship can cause chaos. So who are the people responsible for this non-stop action? Also daily lives of people depend on seafarers. The food you eat, the clothes you wear, the oil that fuels your automobile, everything has been transferred via ships. It is indeed high time the world to wake up this immense contribution and start appreciating the unknown seafarer a little more. It is high time that the world should realize that SEAFARERS MATTER.



Jamora Kenneth
Chief Officer
M/T Aegean Dream

Economies would crumble without trade and yet, the heart of this service is barely recognized. People are the heart and soul of the service industry and this includes us (maritime and shipping). I personally think that with the advent of modern technology, we seem to have forgotten that there are still people who work behind the machines.

It is the lack of knowledge about our profession that makes us "invisible". If only there were more publications and social events to make the world aware of us. For now, we shall still remain proud of being the unsung heroes of this modern world.



Lantzopoulos Ioannis
3rd Engineer
M/V Anna Maria

Nowadays within COVID crisis, maritime transports have not stopped delivering in all over the world, in order to not create shortage of basic necessities and basic goods. The sailors played a major role, because as we know the ships do not move without the contribution of the human factor. Sailors who work in a difficult and demanding work environment from the other professionals on land, with risk of their health and many other issues during the trip and also in the ports, they should be at least recognized from people worldwide and especially from the states which they go, in order to safeguard their rights for a better future. It is obvious that if the horns of ships shall stop ringing, then there will be problems in the rhythm of human living.



Donque Aldrin
2nd Officer
M/V Anemos

As a seafarer for 22 years, calm and rough seas and huge waves we encounter every day, whenever we are onboard. We are able to provide good life for our families back home. We are able to give them a comfortable life, which makes us happy and makes being away from them worth it. Hence, there is also down time of being a seafarer, missing all special events of our children and family, being away for months and nowadays it takes almost a year because of the pandemic restrictions. People from the "land" must consider how it is being lonely and feeling isolated in the middle of the ocean. These are only some sacrifices we make, once we decide to be onboard. However, it is worth it when they recognize your hard work and dedication.

On the other hand, I feel sad and dismayed when people do not recognize the seafarer's contribution to the world and do not consider us as essential workers. I think there are people who are not aware, or should I say don't care how hard it is to be a seafarer. Maybe it's because they set in their minds that the money is worth it, in exchange of the many sacrifices.

I hope people would be more aware, empathetic and will recognize our hard work and sacrifices, not only for our families but for the entire world.

To my fellow seafarers, your hard work and sacrifices does not go unnoticed. Let us continue to serve and prove that we are essential and we matter. As long as our family recognizes our hardships and sacrifices, that's what matters the most.



Anagnostou Nikolaos
Apprentice Officer
M/V Anemos

In my opinion, not anyone from land knows the difficulties and what conditions happen to a seaman every day. They think that a seaman takes a lot of and easy money, makes his life better, knows different countries and works only 8 hours per day. But the reality is that a seafarer's life is very difficult under trouble daily conditions.

There are no timetables and he must be reliable and with clear mind from the first day that he will get on the ship's gangway ladder, until the day he will disembark. He's far away from his family for a long time, he will lose important moments with them, as birthdays, Christmas, New Year, Easter, summer holidays, etc. All families are accumulated these days and he loses these moments, he stays alone with his "second family" (the crew), but his mind travels at his family and makes them happy to wait him, to go back as soon as possible.

A seafarer must think that for any condition, he will be anytime ready and sure for everything to arrange for his fellow crew members, to protect their lives. He stays alone on bridge and he commands the ship that the Company commits at him, to keep it safe and keep safe the lives of his crew and passengers if there are on board. So, he must think for so many hours of each day and sometimes he stays awake up more than 24 hours, because he must finish the priorities of his duties. At port, he has to be there during operation, to have not any delays, damage and injuries. Finally, as we see, a seaman has to live a lot of difficult conditions at any time and the money for all these that he loses, cannot be exchanged and bring back the important moments at him.



Parao Pio
2nd Officer
M/V Anna Maria

Seafarers are often seen as happy-go-lucky people, who are always flashing a broad smile both on and off board ship. But there is a lot more to them. They are probably, one of the very few people in the world, who understand the value of family and work. With the types of difficulties they face at sea, seafarers know very well, how to make the most of the free time and enjoy to the fullest. Even though they are aware of the importance of their work, they do not allow it to go to their head. They continue with their duties even if the world, governments and companies continue to ignore them; for they know their time, both on ship and on land, are limited and making the most of that is the only option them have.

As many don't have a clue about the working on the ship, they think seafarers have a lot of time in hand, which allows them to booze, travel and relax. However, the fact is seafarers are one of the hardest working people in the world who have to face serious issues everyday on board. No one has actually stopped to think and thank the seafarers, who are giving all their efforts to all this work! But with the strong mental constitution and mettle of pretty much every seafarer out there, the lot of unfazed, carrying out their duties, to provide for the word and to provide for their families whom they left behind, for that "fat" salary that everyone keeps talking about! Seafarers are unsung heroes without doubt, who do not care for much, aside from their work and their sign off date!



Dela Torre Bernardo Jr.
Chief Officer
M/V Inception

I really don't understand why people worldwide do not recognize us seafarers. As a seafarer myself, we are the number one contributory of global trade shipping industry that carried by sea to all ports worldwide. How may the world survive without shipping industry? Who shall carry the tons of raw materials and products around the globe?

Everything that the community needs in every aspect, like for example food, oil, cars and any other important goods, are mainly transported by ships every day worldwide. That's why people worldwide must understand what we do, how we live onboard and recognize us as key workers.



Alfarero Thomas Ryan
2nd Officer
M/V Inception

The people worldwide must recognize that seafaring is contributory in the world of shipping business. The world's evolvement cannot be achieved without the shipping business of today's new era. Same as it was since the beginning of the world.

A seafarer is more likely the so called a "NEW HERO" of his nation, for helping to improve in "feeding" his own nation's economy. The sea needs workforce, such as the ship without crew is nothing. How will this world we are living evolve, without the shipping business, without the important of goods, the food, the cars, the oil, for as long as there is shipping business seafaring should be the top most recognized profession.

The presence of seafaring globally is highly in demand due to the nature of the world wide merchandise. Can an air transportation be able to carry a cargo of weight 80,000 tons to 100,000 tons of Brazilian soya beans in bulk, or a sum of 25,000 of cars, a 100,000 tons to 300,000 tons of oil? Such amounts can only be transported by sea. Therefore, how much more do we need to say, in order the world to recognize the contribution of seafarer's into the level (status) of living?



Duran Bryan
2nd Officer
M/V Inception

People don't recognize the contribution of the seafarers in the status of living worldwide, because they are unaware of the vital role we mariners play or the Shipping industry's position for that matter among the Global Industries, not only today but even Centuries ago. Most of them are unaware that the food they eat, the clothes they wear, the cars they drive or even the mobile phones they are using, are transported by ships everyday worldwide.

Seafarers are mostly away in the middle of the ocean, so people don't see us often, that's why some of them maybe don't know we exist. In my opinion Governments worldwide need to do more efforts to acknowledge the contribution of the seafarers and help educate the people, so they will be more aware of the vital role we play and how we affect the status of living worldwide.



COVID-19 CONSEQUENCES ARE STANDING STRONG

By Captain Dimitrios Tsakiris | ARCADIA & AEGEAN BULK Crew Manager

This article is dedicated to the memory of our colleague seaman Mr. Robhel MOPIA, who served as a Chief Officer onboard fleet vessel M/V "ARKAS", along with our sorrow and sympathy to his family. Although precautionary measures and protective practices had been applied onboard the said fleet vessel, COVID-19 found its way and permeated to the bodies of fellow crew members, unfortunately with a fatal consequence.

Coronavirus is an infectious disease caused by the SARS-CoV-2 virus. Most people who fall sick with COVID-19, experience mild to moderate symptoms and recover without special treatment. However, some become seriously ill and require medical attention.

The virus can damage the lungs, heart and brain, which increases the risk of long-term health problems and unfortunately leading to eventual loss of life, for persons with inherent illnesses. COVID-19 is an insidious virus, who affects human organisms differently from one to another.

It is the first time that our generations have lived through a pandemic and the consequences, from public health - to mental health - to economics, create challenging and hard living.

COVID-19 deaths are recorded differently between countries. Some countries only count hospital deaths, while others include total declared deaths by the virus. Countries with the higher human losses are (at 01/09/2021):

- U.S. 637,531
- Brazil 579,308
- India 438,210
- Mexico 258,165

Meanwhile China has declared 4,848 human losses - we sincerely hope these are the true figures.

In total the deaths due to COVID-19 worldwide have reached 4.5 million.

Frontline and essential workers have a higher risk of contracting the virus and become ill or die.

According to researchers, individuals working in the food sector (either at the supply chain - supermarkets or common markets, or at the consumption chain - restaurants, bars, coffee shops) are at the highest risk of death from Covid-19, followed by individuals working in transportation or logistics (seamen included here) and those working in the social sector (medics/health, safety, emergency and security staff, personnel working in public).

A vaccine can prevent from getting the COVID-19 virus or prevent someone from becoming seriously ill, if they get the virus. Also, fully vaccinated persons can return to many activities which they may not have been able to do because of the pandemic - including not wearing a mask or not keeping social distancing - except where precautions are required by a rule or law.

An additional dose of a vaccine, might improve people's protection against the COVID-19 virus, a fact that remains to be announced by the authorities, based on researches by medical teams.

Currently, people who have been fully vaccinated don't need a vaccine booster. This is because fully vaccinated people are protected from severe disease and death with the COVID-19 virus, including COVID-19 variants. Most COVID-19 hospitalizations and deaths are among people who are not vaccinated.

The incident on M/V "ARKAS" was a sad and cruel way to remind us all, that the pandemic is standing strong worldwide. The precautionary / protective measures as dictated by guidelines related to the COVID-19 outbreak, published by the World Health Organization (WHO), the International Chamber of Shipping (ICS), the International Maritime Health Association (IMHA), IMO, OCIMF, vessels' Flag Administrations and other industry's bodies (these guidelines are

included into the Company's "COVID-19 Shipboard Management Plan") must be applied strictly, precisely and cautiously day by day. Precautions for avoiding exposure to the virus that causes COVID-19 include:

- Avoid close contact (within about 6 feet, or 2 meters) with anyone who is sick or has symptoms.
- Keep distance between yourself and others (within about 6 feet, or 2 meters). This is especially important if you have a higher risk of serious illness. Keep in mind some people may have COVID-19 and spread it to others, even if they don't have symptoms or don't know they have COVID-19.
- Avoid crowds and indoor places that have poor ventilation.
- Wash your hands often with soap and water for at least 20 seconds, or use an alcohol-based hand sanitizer that contains at least 60% alcohol.
- Wear a face mask in indoor public spaces and outdoors where there is a high risk of COVID-19 transmission, such as at large gathering.
- Cover your mouth and nose with your elbow or a tissue when you cough or sneeze. Throw away the used tissue. Wash your hands right away.
- Avoid touching your eyes, nose and mouth.
- Avoid sharing dishes, glasses, towels, bedding and other household items.
- Clean and disinfect high-touch surfaces, such as doorknobs, light switches, electronics and counters, daily.

The unfortunate incident onboard M/V "ARKAS", which led to the loss of a colleague seaman and caused the rest of the crew onboard to go through a health ordeal, must guide us all into taking extra care over this ongoing condition, in an effort to stay healthy and COVID-free, for ourselves, our beloved ones and our colleagues.





THE HEROES WHO CONTRIBUTE ON THE TRANSPORT OF GOODS BY SEA



Cpt. Apostolos Skempes
HSQE & Training Manager
Arcadia Shipmanagement Co Ltd.

The main categories of cargo transported by sea include roll on/roll off, break bulk, dry bulk, liquid bulk and container cargo. Practically all products we use in our day-to-day life have been carried / shipped, either as raw materials or in final condition by a vessel. Moreover, coastal navigation, sea-cruises and island connections to mainland (passengers and products) are all done mainly by ships.

Seafarers play the key role into the delivery of goods, such as fuel, medicines and food, enabling the global trade and the supply chains to keep running. Crew rotations are vital and important, to ensure ships' staff welfare, health and safety. Due to the pandemic, protective measures have been in place, with 92 countries prohibiting crew swaps and 120 countries having implemented restrictions on crew changes.

With vaccines receiving regulatory approval for roll-out by national authorities, hopes are high that the pandemic is slowly coming to an end. It has been a difficult one-and-a-half year however, with millions of people hard-hit by restrictions, lockdowns and school closures. Many industries have been affected and are trying to recover, while others were forced to shut down.

When discussing the trade of different goods, cargo type breaks down into dry cargo, hazardous cargo, reefer cargo and over-sized cargo.

Numerous types of ships carry the many types of cargo, but all vessels are navigated and serviced / maintained by deck and engine seafarers, who would be starving if it wasn't for the catering crew. All these ship-borne profession-

als are provided with proven knowledge, management skills and competencies (the combination of all these is called seamanship), which are refreshed and updated regularly, keeping them at the higher level of efficiency and vigilance.

Some 11 billion tons of goods are transported by ship each year. This represents an impressive 1.5 tons per person, based on the current global population. Shipping's capacity to transfer goods and materials from where they are produced to where they will be ultimately consumed, underpins modern life.

Each year, the shipping industry transports nearly 2 billion tons of crude oil, 1 billion tons of iron ore and 350 million tons of grain. These shipments cannot possibly be transported by road, rail or air. To support the world economies, shipping has developed highly sophisticated logistics' chains, delivering just-in-time parts and goods to manufacturers and consumers.

Shipping offers the cheapest mode of transport per ton: sea transport contributes just 0.3p to the £2.50 cost of a cup of coffee, 20p to the £5 cost of a bottle of wine and \$5 to the \$100 cost of a Nike trainer pair of shoes.

This underlines shipping's ability to transport goods cheaply and in large volumes and with only a minimal environmental footprint, compared to other modes of transport. Over the last four decades, seaborne trade has quadrupled in size, with no signs of downbeat in the years to come.

1.89 million seafarers currently serve at the world merchant fleet, operating over 74,000 vessels

around the globe. There will be a need for an additional 90,000 Officers by 2026 to operate the world merchant vessels (as per the "Seafarer Workforce Report" published in July 2021 from BIMCO and the International Chamber of Shipping). Although there has been a 10.8% increase in the supply of Officers since 2015, the shipping industry needs to plan for the future.

The latest statistics show that there is a positive trend in gender balance, with an estimated 24,000 women serving as seafarers, a percentage increase of 45.8% compared with the 2015 data.

The percentage of female STCW certified seafarers is estimated to be 1.28% of the global seafarer workforce and it appears that there has been a significant rise in the number of female STCW certified ratings compared to STCW certified female Officers, with female ratings found predominantly in the cruise ship and passenger ferry sectors.

Bearing all the above in mind and evaluating the contribution of the ship-borne workforce, **seafarers must be characterized as key workers.** Only 58 out of the 174 IMO Member States

(countries) have so far (1st half of 2021) recognized seafarers as key workers who provide an essential service (Greece, Philippines and Romania are among them).

Only 1/3 of countries-members to IMO, have treated seafarers with the respect they deserve, by designating them real key worker status and granting them priority for vaccination.

Seafarers and marine personnel are the unsung heroes of global trade and governments should stand by them, by showing respect and coordinate a global strategy with key stakeholders, including major airlines, to ease restrictions and facilitate the changeover of ships' crews. |

If this issue will not be solved soon, the efficient flow of imports and exports carried by sea will be jeopardized, with negative impacts on the resilience of national economies.

The current condition, not only threatens seafarers' personal health and wellbeing, but also increases the risk of marine accidents and will eventually negatively affect the continuous functioning of the international supply chains, which is the lifeblood of the global economy.



ESG 2.0 | The Roadmap to a Global Changeover

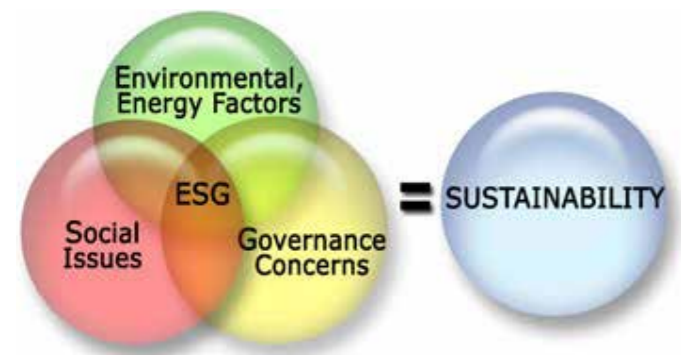
"...our bodies are recycled earth, our emotions are recycled energy, and our thoughts are recycled information..." Deepak Chopra



Capt. Dimitrios Mattheou
Chief Executive Officer,
Arcadia Shipmanagement Co Ltd.



In the alphabet soup of financial acronyms, there are three letters that have risen from relative obscurity to prevailing importance in less than two decades: **ESG**.



ESG stands for Environmental, Social, and Governance factors used to evaluate companies and countries on how far advanced they are with sustainability.

With growing concern about the ethical status of quoted companies, these standards are the central factors that measure the ethical impact and sustainability of investment in a company.

What is the difference between CSR and ESG?

CSR (Corporate Social Responsibility) is the ideal and gives context about sustainability agendas and corporate responsibility culture. ESG is the action and measurable outcome. To simplify, CSR can be thought of as the qualitative side and ESG as the quantitative side.

The ESG factors

Environmental



Environmental factors include the contribution a company or government makes to climate change through greenhouse gas emissions, along with waste management and energy efficiency.

Given renewed efforts to combat global warming, cutting emissions and decarbonizing is become more important.

Social



Social include human rights, labor standards in the supply chain, any exposure to illegal child labor, and more routine issues such as adherence to workplace health and safety. A social score also rises if a company is well integrated with its local community and therefore has a 'social license' to operate with consent.

Governance

Governance refers to a set of rules or principles defining rights, responsibilities and expectations between different stakeholders in the governance of corporations.



A well-defined corporate governance system can be used to balance or align interests between stakeholders and can work as a tool to support a company's long-term strategy.



In less than 21 years, the ESG movement has grown from a corporate social responsibility initiative launched by the United Nations into a global phenomenon representing more than US\$30 trillion in assets under management. Last year, a surge of capital totaling US\$17.67 billion flowed into ESG-linked products, an almost 525 percent increase from 2015, according to Morningstar. One of the key challenges for (ESG) investing, at least in its still-early stage, is that it has always been a movement in search of a philosophy. True. Since the "mainstreaming" of ESG began in the early 2000s, it has sought to bring important social and environmental issues into the "market mentality" around risk and return. The current crisis, however, presents an opportunity for a much deeper assessment of the role of markets, governments and, for that matter, ESG. Clearly, some self-reflection is needed to recognize the limited capacities of ESG to effect meaningful change within the market dynamic, and also to address the balance between returns and social/environmental impact. If it functions only as an add-on to the prevalent market philosophy, ESG cannot inform on the balance between shareholder rewards and societal resilience. The COVID-19 pandemic, as the first truly global natural disaster of modern times, has shown that the current shareholder trend is extremely fragile and will likely require changes far beyond the recognition of the model by stakeholders in the World Business Council.

Public Intervention Precedence – "Whatever It Takes"

In response to the COVID-19 crisis, governments have proven that when sufficiently motivated, they are willing to deploy apparently unlimited resources to

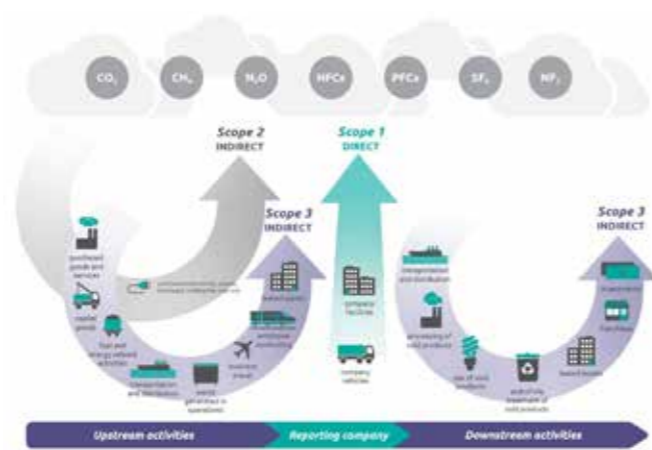
address issues of social risk. Ideas that were viewed as fringe only months ago are not only accepted now, but rolled out on a scale that was once-unimaginable even by their proponents.



It also now seems unfounded to argue that the extraordinary efforts made by governments to prevent COVID-related deaths should also not be taken to address other pressing socio-environmental threats, such as hunger, air pollution, poor hygiene etc.

Building on the Past, Improving for the Future

So far, according to statistical studies the relative performance of companies on ESG metrics has been meaningfully different. Companies with better ESG scores have outperformed. This reflects the reality that within any given sector, some companies are taking ESG risks and opportunities seriously and devising explicit strategies to improve or capitalize. Over time, however, the tendency in any industry is towards convergence on issues that are viewed as material. For example, if diversity is a strategic advantage, all companies will tend to adopt diversity practices. So, imagine a future in which all boards are diverse – and then imagine trying to distinguish materiality among diversity strategies. Or consider climate change. The years of fighting a rearguard action for resources companies will likely morph into credible – and widely adopted – strategies for reducing their carbon footprint and assisting with the energy “transition” (lower emitting sources). Whether used for long-only strategies or those employing shorting, over time the efficacy of a simplistic interpretation of ESG data points is less and less likely to be meaningful.



ESG progress defined as co-operation, not competition

As the COVID-19 pandemic has demonstrated, systemic risks such as natural disasters cannot be addressed competitively at the company level. Inter-company rivalry does not help improve health outcomes or reduce the burden of employee furloughs on societal balance sheets. Universal owners do not want human capital to be a competitive factor, but they do want standards to rise across society. Similarly, with 80% of oil-related emissions derived from the use of their product (i.e. Scope 3 emissions), oil companies must cooperate with one another and with governments to meaningfully introduce alternatives and reduce dependence. This co-operative activity will overwhelm the relative ESG analysis of company operations, since the differences in operational emissions pale in comparison to credit risks associated with systemic demand declines.

Sustainability themes will continue to provide a strong flashlight

In today's crisis, government is prioritizing industries that it deems essential. Ironically, this trend is entirely congruent with the rise of “impact” investing. As today's focus on data quality, disclosure and corporate structure standardizes by market cap and sector, emphasis will shift to the purpose of the company itself. After all, manufacturing ventilators or discovering vaccines is not the same as making products that increase respiratory risk, such as tobacco or combustion pollution; from an impact perspective, that the cost of capital for one should

be lower than the other is aligned with societal objectives towards resiliency and health and well-being. Applying a thematic lens can capture these long-term trends while steering through shorter-term cycles and can provide a more predictable basis for outperformance.

Empowering Resilience & Wellness

It has perhaps never been in the spotlight the way it has in dealing with a pandemic, major economic disruption and significant social unrest related to inequity and discrimination.

Positive signs of continued momentum include investors demonstrating consistent ESG interest during the pandemic, and the launch of new climate commitments by companies like Shell and Microsoft even as the economy stumbles. And there comes business resilience; an ability to anticipate and prepare for change, then adapt to circumstances in the manner that provides the greatest chance of thriving over the long-term. It is shaped by actions that companies choose to undertake, but it is also influenced by a range of external trends and developments. At its heart, resilience is about surviving and thriving in the face of challenges in the short, medium and especially the long-term. Beyond ESG, climate and other signature sustainability issues, the crisis has particularly elevated issues ranging from physical safety to mental and emotional health related to worker well-being. While we regret the driver behind this, we are glad to see the human emphasis. A large number of companies — and other employers, like the UK's National Health Service — have made meaningful sacrifices and changes in order to emphasize the economic, physical and mental well-being of their employees.

Healthy Workforce equals a Resilient Organization

Due to COVID-19 some of the biggest challenges have been employee-related, from restricted travel and re-designing essential workplaces to keep workers safe, to differently supporting whole workforces that shifted to working from home virtually overnight.

In the initial wave of the virus, ad hoc reactions of national and state governments in different regions left global companies to make many decisions on their own. While responses haven't been perfect, many companies have made extra effort to put employee health and safety first.

Lasting Benefits

Just as the pandemic has accelerated remote working, it has forced employers to reassess their approach to employee physical and mental well-being. Companies that demonstrate commitment to the well-being of their workers are more likely to be rewarded with increased employee loyalty, reduced levels of stress, and higher levels of productivity. However, above all they have managed to cultivate a strong and resilient culture while they have established a stronger market position.

ESG 2.0 is the next generation of Leadership



As anyone involved with ESG will attest, the current level of demand for ESG leadership talent is unsurpassed and unrelenting. Even firms with long-standing track records of successfully integrating ESG principles into their organizations are finding it more difficult than ever to stay ahead of dynamic and constantly evolving ESG expectations. As ESG has gone from being a functional requirement to a commercial imperative, best-in-class organizations are embracing ESG in part because they firmly believe in the financial benefits of incorporating sustainability into their corporate and investment strategies.

It is clear that next-generation ESG leaders will look quite different from earlier archetypes, as the scope of the role grows and requires a far more senior and agile executive to be considered as a credible "ESG 2.0" leader.

ESG 2.0 leaders have four primary responsibilities:

1. Create a best-in-class enterprise-wide ESG policy and framework
2. Integrate ESG policy across the organization, ensuring a consistency of messaging and execution throughout each individual business line/investment strategy
3. Serve as the "face of the franchise" both internally and externally, articulating to investors how ESG permeates all levels of the organization and is embedded into each business line/investment strategy
4. Engage with external partners (portfolio companies, operating partners, supply chain) to help them create more sustainable business strategies for their own organizations

ESG Evolution

(Source: Russell Reynolds Associates)

ESG 1.0: The initial wave of ESG hiring began in earnest three to four years ago, when C-suite leaders began to tire of being asked questions about ESG that they could not readily answer. This led many organizations to appoint a "head of ESG," which usually tapped an internal employee coming out of legal, compliance, and marketing or investor relations. These ESG heads were generally mid-level functional executives reporting into compliance or marketing, and were tasked with creating a basic fundamental ESG framework designed to satisfy internal and external questions as they arose.

This minimalist approach worked initially, but investors continued to raise the bar on the level of ESG sophistication, measurement and reporting they required, most notably reflected in BlackRock's annual letter to CEOs heralding the importance of corporate purpose. By 2019, the "ESG 1.0" model had proven to be insufficient.

ESG 2.0: Just as ESG demands from investors, consumers and regulators began to reach a fever pitch in 2020, the world was hit with simultaneous global crises: COVID-19, climate change, racial and social injustice, and dysfunctional geopolitics. When it became clear that ESG policies and frameworks could provide a roadmap for organizations to emerge more effectively from these concurrent global crises, the demand for ESG leadership talent exploded. Organizations now require more credible and more senior leaders who combine ESG domain expertise with business/ P&L backgrounds, and diversity of thought and experience.



ESG 2.0 Leaders bring multi-functional business experience and a diversity of perspective

Best-in-class ESG leaders are business people first, with hands-on industry experience that will enable them to be credible with internal line of business leaders. They are senior executives who are fluent across the suite of ESG dimensions with an industry-specific commercial acumen. These individuals must also possess the ability to successfully influence across an incredibly diverse set of stakeholders, including the C-suite and board of directors, line of business leaders, institutional investors, legal & compliance, regulators, external corporate partners (portfolio companies, operating partners, supply chain) and internal colleagues.



Strong female representation at the top

The ESG function has also managed to avoid the cultural and structural barriers that have limited the number of female executives ascending to senior roles – 70% of recently appointed senior ESG leaders are female. This may result from the fact that, as a relatively new role, the paths to ESG leadership remain varied and multi-faceted, allowing companies to expand the aperture of their search for the best talent. As companies seek greater gender diversity in the C-suite, it would appear that the ESG function will be an important pipeline of talent, particularly given their cross-functional expertise and visibility into both the operational and strategic aspects of the business.

ESG 2.0 in Shipping: from periodic to systemic change



In the last decade, there has been a strong interest in sustainability in the shipping industry. Issues such as environmental, social and corporate governance (ESG) significantly influence funding decisions, fleet renewal and industry-wide regulatory changes. In 2018, the UN's International Maritime Organization (IMO) set a high bar for the industry: to lower shipping's CO2 intensity by 40% by 2030 and its greenhouse gas emissions by 50% by 2050, as compared with a 2008 baseline. Decarbonisation is viewed as the main challenge for shipping, well ahead of non-ESG factors, though this varies somewhat regionally. Within the ESG matrix, there is broad agreement among financiers and ship operators worldwide that emissions are the main priority. Beyond that, concerns differ, though regulatory issues around health & safety and governance rank equally in our survey.

There is not yet consensus on how to meet environmental targets and the technological challenge is immense. Zero-carbon fuels already exist but the networks to deploy them at scale and the right cost have yet to be developed. At the heart of shipping's decarbonisation challenge is the question of who assumes the first-mover financial risk of researching, developing and installing new technology.

One way to bridge the problem is through collaboration and risk sharing; two conditions that will lead to a systemic change and eventually fill in the gap between how the shipowners view ESG and how banks and other sources of capital are adjusting their portfolios according to sustainability and governance criteria.

Compliance with governance and social standards is also becoming important as pressure from regulators and law makers increases. However, shipowners view the social element of ESG as more important than governance criteria, being significantly more concerned about crew welfare than financial reporting, understandably so given the Covid pandemic.

Interestingly, many in Shipping believe that the orientation to sustainability will lead to changes in the shape, capital structure and financing of the sector, which means that shipping will not be able to bring about significant environmental changes without addressing social and governance issues.

Despite its reputation as old-fashioned and cumbersome to change, shipping has proven to be a very durable and adaptable industry over the years. There is a clear global recognition that shipping (ESG oriented) leaders are able to bring significant changes in the coming years that will reshape and thrive in the world of tomorrow ...for us, for our people, for the world!





Five lessons to learn on hydrogen as ship fuel

A consortium of 26 leading companies and associations has published a handbook for hydrogen-fuelled vessels to shed light on the most pressing issues surrounding hydrogen as ship fuel. Explore the key takeaways of the DNV-led MarHySafe project.

Green hydrogen could play a crucial role in the maritime industry's journey towards decarbonization. Many in shipping recognize hydrogen's potential, but the barriers to implementing H2 technology are substantial. Led by DNV, a consortium of 26 partners and observers have come together in the MarHySafe joint development project (JDP) to address the challenges surrounding hydrogen operations: safety and regulations. With Phase 1 complete, the consortium has published the Handbook for Hydrogen-fuelled Vessels, which creates a roadmap towards safe hydrogen operations using fuel cells. The handbook will be updated continually as the second phase of MarHySafe progresses. Here are five lessons learnt so far.



Knowledge gaps: More testing needed on the safety aspects of handling, storage and bunkering hydrogen. Testing and modelling needs to be fine-tuned to hydrogen's unique properties and safety considerations. There are uncertainties about the behaviour of cryogenic hydrogen (LH2), as well as thresholds when detonations occur. "Experiments on cryogenic (liquid) hydrogen, commissioned by the Norwegian Public Roads Administration and carried out at the DNV Spadeadam Research and Testing Centre in the UK, yielded valuable learnings for the handbook," says Asmund Huser, Senior Principal Specialist, Quantitative Analysis at DNV. A key takeaway is that future modelling needs to better account for the detonation risk if there is a leak. Dedicated large-scale testing will be needed when this industry scales up.

Safety: Hydrogen's unique properties make it very different from natural gas. Experience of working with natural gas can be very useful for starting hydrogen operations in shipping. But there are considerable differences between these different fuel types, and on-board configurations that work for natural gas may become dangerous to use for hydrogen. This is because of hydrogen's unique properties: H2 is the lightest of all atoms, making it harder to contain, and it can embrittle materials that would be safe to use with natural gas. For example, hydrogen requires certain types of steel and welded connections rather than fittings. H2 also ignites more easily than natural gas and has a wider flammability range. "Most of the hydrogen technology we expect to see on board ships will have already been used in other applications such as cars, trucks and other modes of land-based transport and storage. So, we don't have to start from scratch. Some of the challenges include adapting this technology to the marine environment and making it safe to use in varying environmental conditions, in smaller spaces, and when personnel cannot be evacuated as easily as on land," says Gerd Petra Haugom, Principal Consultant Environment Advisory at DNV and Phase I Project Manager for MarHySafe.

Fuel system: Use hydrogen in its pure form when possible. Powering vessels with hydrogen can be done via combustion engines, blending hydrogen in with other fuels, or storing it in a liquid organic solution or as ammonia. The most common and greenest way of generating power from H2 is using

hydrogen fuel cells. This is also what the MarHySafe project has focused on. Using hydrogen directly, whenever possible, may reduce the energy losses that happen during the conversion process from hydrogen to other fuels, and be a preferred option to introduce zero-emission value chains.

Framework: The Alternative Design process is currently the best approach. The Alternative Design process is a risk-based approval process for novel ship designs that cannot be approved with the current prescriptive regulations and need safety optimization. The process is in line with SOLAS Chapter II-2 and is described in the IMO Guidelines for the Approval of Alternatives and Equivalents (MSC.1/Circ. 1455). The approval is evaluated in line with the goals and functional requirements of the International Code of Safety for Ship Using Gases or Other Low-flashpoint Fuels (IGF Code, Part A). "The project owners have to actively demonstrate how the hazards and consequences of the design are managed by applying risk-based design instead of demonstrating passive compliance with prescriptive rules. This may seem arduous, but it is the best tool we currently have to help projects materialize," says Mónica Álvarez Carozo, Senior Engineer Piping Systems & Alternative Fuels at DNV Maritime. "Hydrogen is a new technology in a new environment, so a risk-based design process is needed to keep personnel, assets and the environment safe."

Implementation: Scaling up hydrogen operations will be a challenge. Moving hydrogen as a fuel from land-based applications to maritime is no small feat. With the IMO's regulatory framework, class rules and different interpretations from Flag States and ports to consider, navigating the regulatory landscape is challenging to say the least. The MarHySafe handbook offers a comprehensive overview of the regulatory environment. "In the absence of definitive rules, it is all the more important for the industry to come together and learn from existing projects. We need to make sure that any future requirements account for all necessary safety and operational aspects, ensuring that the technology can be developed on a large scale," says Nathaniel Frithiof, Senior Consultant Environment Advisory at DNV and Project Manager for Phase II of MarHySafe.



“ Δραστηριοποιούμαστε στην ελληνική αγορά από το 1929, και είμαστε στην καθημερινότητα ανθρώπων τριών γενεών. Διατηρούμε την ελληνικότητα και τον οικογενειακό χαρακτήρα εδώ και σχεδόν έναν αιώνα. ”



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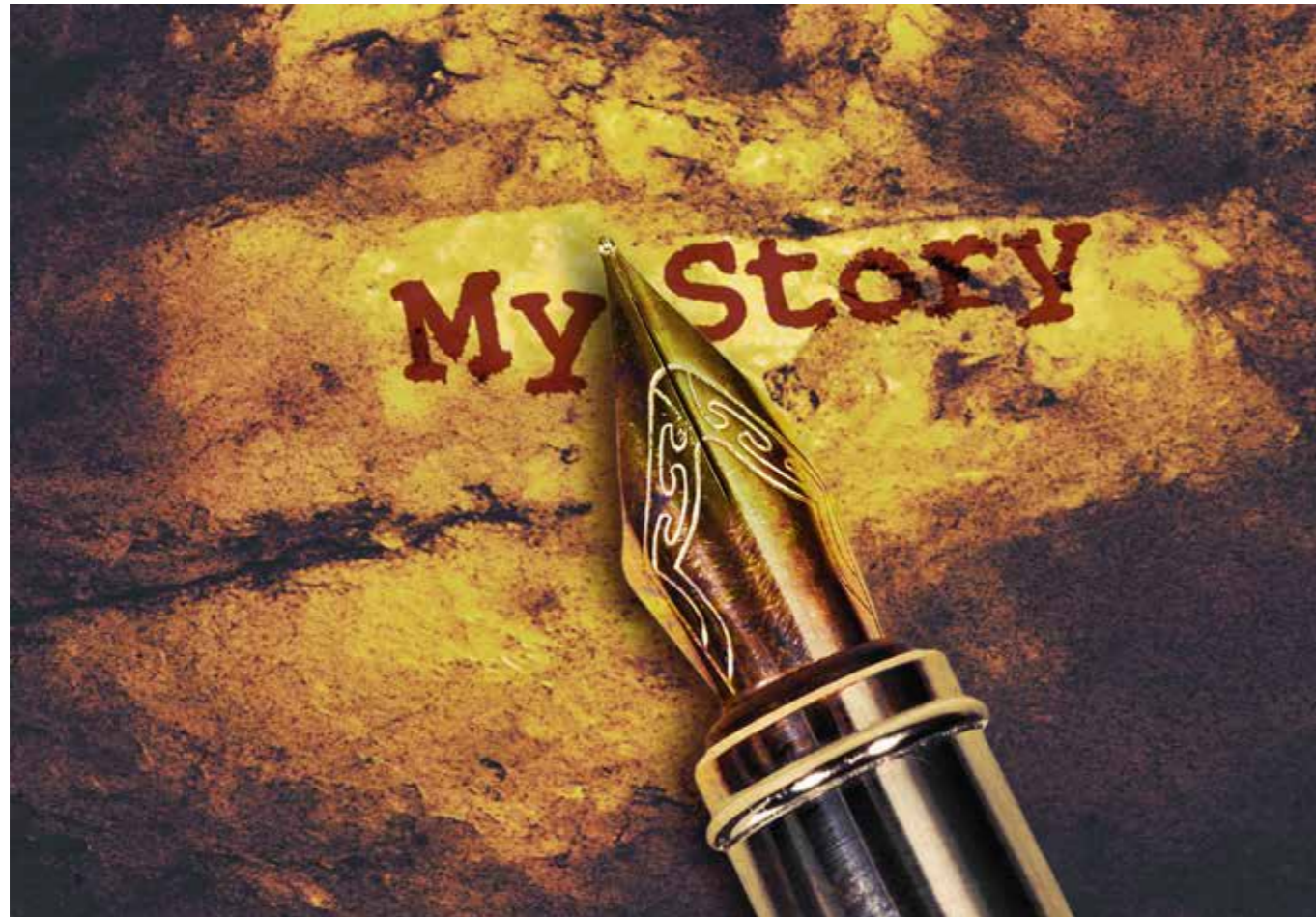


The Other Side of a Sailor



Girish Kumar

Chief Engineer | Business & System Development Manager | Potentia World



Every Sailor sailing on huge merchant vessels always questions, at least once, “What else can I do other than sailing?” This thought usually arises when sailors are feeling down, missing their family, or when they have an unpleasant experience. Most of the time this question comes through as a lightning thought which is eventually ignored and the sailors simply continue their life on board and join the next voyage.

Here, I will try to take you along on a journey of my life, and share with you an experience of how a different world opened up for me.

As I was relaxing and enjoying my holidays I was questioning why some of my skills were not used in the merchant navy. Each and every one of us is the best judge for accessing our strengths and weaknesses. I knew I had more to offer than what I was offering in my present technical work environment; so I took a leap of faith and decided to start thinking ‘out of my box’ willing to explore new challenges.

Our team of 5 sailors all from my academy started a publication exclusively for the Sailors. When we started, we had no idea how we would execute, but the fire was there.



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As they say, the marine engineer is the jack of all trades and we quickly realized everything is possible.

We set up and register a website. We assigned roles and to our surprise a publication company with an active website was ready within a week.

During this experience, I realized the power of the media. I was in charge of business development and the coordination of interviews. That's where the golden gate opened up for me.

I met Chrysoula Patrikiou, Founder & CEO of Potentia World. This woman had a spark; something like an attractive power, supreme and spiritual in the same time, a tremendous energy that motivates you, inspires you and prepares you for something meaningful.

You can call it the law of attraction or the power of a primitive spiral, but every conversation we had, revealed the existence of this energy. There was something special in her. It was Chrysoula who first 'saw' I had the potential to bring a change by simply unleashing my own power, by exploiting my competencies and deploying my strong interpersonal skills.

It was then when she offered me the opportunity to join Potentia World. For a sailor this moment is a life-changing experience, somebody identifying your potential, defining your strength, and trusting you is simply magical.

When I had my first interview with the Chairman of the company, I was thinking how I should prepare myself. Many gave me ideas on how to present myself, but when the interview occurred in the first 5 min I started feeling uncomfortable. I decided and spoke through my heart. I felt relieved and more relaxed.

The Chairman was a very experienced person who can assess you in a few minutes. With his sound experience in managing and leading people, he helped me express my true self. The conversation went very well.

Soon enough I became the new member of the Potentia team waiting for my designation. I was not used in a corporate atmosphere; however here, in Potentia, we connect through heart and all actions derive from our heart. For a sailor every relationship is special and here I felt special among special people.

Today when I look back at my journey I realize that I haven't just found a new business opportunity in a company; I have found a new family, friends and mentors for life. As for my role in Potentia World, I have proudly taken over the position of the Business Development Manager (ASIA).

The reason I share this life episode is to tell every sailor to grab every opportunity given. We are all well-equipped and the environments we work in allow us to adapt and adjust easily and in any situation.

We must never undermine ourselves, the skills we possess and our strength will always be there, but we must decide whether we keep it untouched or use it to explore new challenges in this world.

My dear friends' sailors, it's not only sailing that matters; we must explore all dimensions revealed in life. The satisfaction and feeling of accomplishment is what we all deserve.

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- Economic**
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Ballast Water Convention: Journey to implementation

Developments in Ballast Water Management Technology
and how the regulatory landscape is evolving

By Stelios Kyriacou | Chief Technology Officer, ERMA FIRST

It is 17 years since the Ballast Water Management Convention (BWMC) was adopted by the International Maritime Organization (IMO) in order to prevent the spread of potentially harmful aquatic organisms and pathogens in ships' ballast water.

The regulatory landscape is evolving, and we are now, nearly 4 years after ratification, at the implementation phase of the Convention.

It has been agreed to adopt an Experience Building Phase (EBP) to allow MEPC to monitor the implementation of the Convention. The EBP provides a systematic and evidence-based approach to improving the Convention while all stakeholders have an opportunity to review not only the regulations but also technology performance.

However, the last 18 months have not delivered the awaited outcomes due to the impact of the pandemic that has caused irreversible delays in the IMO review processes. The core EBP data gathering activity has made slow progress with limited data having been made available to date.

The IMO has now contracted the WMU to gather data, coordinate the analysis of the data, and develop an analysis report. It is now a matter of awaiting the EBP report to evaluate what

the data reveals and how these findings can be further used to support the implementation of the convention.

A small number of proactive Flag states have already contributed data having carried out their own investigations and have provided feedback related to their findings following sampling of ships operating within their jurisdiction, see Singapore MEPC.75/INF.11 and Australia MEPC.76/INF.56. Their findings have underlined the need to review the post-delivery functionality of installations following equipment electro-mechanical commissioning and have further revealed the adverse effects of not having selected the most appropriate ballast water treatment technology for a ship.

Confidence in the functionality of Ballast Water Treatment Systems (BWTS) has been improving as ships regularly operate the systems following the entry into force of the Convention. There is little doubt that the operational experience, as systems are operated regularly, is substantially contributing to the development of a more complete picture linked to practical 'real life' operation.

The industry has gained improved understanding of the factors that affect BWTS operability. Installation design, quality of project execution and selection of appropriate BWTS are all



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emerging as factors that have a bearing on system operability. Early identification of operational issues has been possible through commissioning testing of installations.

Such testing has been implemented due to the early adoption of such requirement by a small number of flag states (Australia, Cyprus, Greece, Panama, Singapore).

As of 1st June 2022, however this requirement enters into force and every newly installed system should be subject to commissioning testing per BWM.2/Circ.70, as mandated in the Ballast Water Code MEPC.300(72) and before the issuance of the ship specific International Ballast Water Management Certificate.

The Technical Committee of the Ballast Water Equipment Manufacturers Association (BEMA), have developed a simplified guidance to commissioning testing that can be readily accessed <https://bit.ly/2Wc5te6>

Commissioning testing has highlighted operational issues on newly installed BWTS. In some cases, hidden issues that would otherwise have remained undetected were highlighted and this is a real added value that can be attributed to commissioning testing.

Identified problems range from erroneous installation design and poor execution quality to incorrect system selection and improper operation.

Many operational errors can be traced back to the lack of crew training and absence of operational experience or knowledge and understanding of the System Design Limitations (SDLs) consequently compromising the system operation and risking compliance.

Although the IMO regulations decree an one off assessment of system performance following installation, it is evident that periodic checks for verification of working order would provide further confidence to the BWTS operator thus minimizing the risk of noncompliance.

We would therefore advocate the necessity to engage with the equipment supplier to discuss a service agreement to incorporate periodic inspections and verification of good working order of installed equipment, to ensure continued operability and compliance.

Further it is fair to highlight the need for crew training. Every crew change can inevitably contribute to BWTS operational challenges due to variations in the crew competencies and experience in using the specific BWTS.

Many aspects of control and monitoring of key parameters are similar yet not identical, start-up procedures vary by maker and erroneous operation is a likely possibility. It is therefore worth considering the re-training and qualification of operators as no two systems are identical.

Looking forward, we see very few changes in the regulation front. The IMO still has to address the PSC guidance and measures for sampling for compliance in general. All BWTS to be supplied should now be delivered with IMO Ballast Water Code resolution MEPC.300(72) type approval certificates and installation should be subject to Commissioning Testing.

The USCG regulations remain unchanged however the USEPA VIDA is still under development and in the meantime the provisions VGP2013 should be followed.

SOURCE <http://www.ermfirst.com/>

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Three steps to a decarbonization strategy

It could take five years or more for goals to be met, so there is no time to lose in setting out a plan to reduce carbon emissions



Dionysis Antonopoulos

Director,
Business Development, ABS

With so many fuel and technology options available and certain to emerge in the next few years, devising a sustainable fleet-wide decarbonization strategy that meets your company's needs is complex.

Underpinning whatever decarbonization solutions you select needs to be a robust safety regime that fully addresses the risks that could arise from introducing new technology, fuels and operational strategies.

Step One –

Carbon Footprint And Intensity Profile

Management systems practitioners will tell you that you cannot manage what you do not measure, so the first step is to develop a carbon footprint and carbon intensity profile. Benchmarking the performance of each vessel in your current fleet provides the starting points against which improvements and progress towards future fuel efficiency and decarbonization goals can be measured.

Part of the process requires decoding data from the different assets to create a common language for individual vessel performance measurements and assessing how they compare across common metrics. This data will help target resources to assets where they are

most needed, or assess whether investments are worthwhile.

A critical aspect of developing your profile is also looking ahead and identifying your goals. The idea is to start at the end; establish where you need or want to be and what a picture of what success will look like and let the emissions and fuel performance data mark the path to progress. Starting at the baseline, there should be clear objectives for near mid and long-term fleet performance.

Step Two – Consider Your Options

In the next few years, a raft of new technologies, including those that support low and zero carbon fuels, are expected to mature and become available. The safety implications of these options will need to be fully understood and accounted for, and the value of each option will need to be assessed against the decarbonization goals of each asset and the wider fleet, including any anticipated ship orders. While measures aimed at improving operational efficiency will be applied to each ship, the gains should also be measured in the context of the fleet. Data and digital solutions have the potential to optimize everything from fuel consumption and asset reliability to routing, scheduling and port stays.



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Leveraging new operational strategies or advancements in ship technologies to lower carbon footprints should be measured against the performance of each individual vessel. Questions remain about whether most low-carbon new energy sources can deliver the base load power required for international shipping. Additionally, it is not currently assured that an adequate supply of any new fuels — let alone the supply chain infrastructure to deliver them — will be available.

For these reasons, you should plan to take five or more years for any decarbonization goals to be met from related initiatives. When these technologies mature enough for strategies to be formed and applied, any gains should be measured against individual vessels, both existing and new.

Step Three – Implement Your Strategy

Shifting to low-carbon shipping will require changes to some aspects of how your business is delivered. Your goals will need to be clearly communicated to shoreside staff and crew on-board and any changes will need to be managed across all affected departments, operations and procurement activities, including research and development.

In most cases, external guidance and best practices will be available to help you effectively implement new technologies and operational changes, so it will most likely not be necessary to start from scratch. Measuring your progress is critical, so make sure you ground your measurements in quality data. During the implementation of your strategy, monitor the

alignment with your selected trajectory by putting in place the proper environmental monitoring system that will help you quickly identify potential deviations and provide decision support for corrective actions. This will also provide a structured platform for dependable sustainability reporting.

Tools to Help

To help vessel operators in delivering a decarbonization strategy, the ABS provides the Environmental Monitor, which leverages multiple data sources including vessel routing, waste stream, operations, and emissions data, to provide transparent reporting.

The Environmental Monitor enables vessel operators to monitor and track overall fleet or vessel-specific environmental categories, including vessel emissions profile across laden and ballast voyages, emissions per transport, emissions per distance and total emissions per consumer. It performs calculations in accordance with the Environmental Ship Index and Poseidon Principles, enabling tracking of numerous Key Performance Indicators and reporting on scrubber system performance.

It is important to recognise that decarbonization is a cycle of continuous process improvement and to achieve this means knowing the impact of decarbonization on all aspects of your business. The technology solutions that support the decarbonization of the shipping industry will continue to evolve over time. Your safety strategy and your business must have the ability to do the same, adapting to changes with the least possible disruption.



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Risks arising when issuing bills at the discharge port

Since the start of the Covid-19 pandemic, shipowners and carriers have faced an increase in requests to issue bills of lading at the discharge port. Such requests by charterers introduce risks which need to be understood to limit exposure to cargo claims and delays.

Place of issue

Customary practice is that a bill of lading is issued and released to the shipper at the load port, either by the Master or by the shipper or charterers (or their appointed agent) in accordance with the Master's Letter of Authority. The shipper then presents one original bill of lading to their bank to receive payment. Once payment is made, the bank releases it to the receiver. Although the place of loading must be named on the bill of lading, it is not essential that a bill is issued at the load port. If the place of issue is not the load port, the place of issue is still important as it affects the compulsory application of the Hague, Hague-Visby or Hamburg Rules in the contract of carriage.

Risks with issuing bills at the discharge port

While it is not unusual for bills of lading to be issued in places other than the load port, caution should be exercised when the place of issue is the discharge port. This is because the agent at the discharge port is often appointed by the cargo receiver. So by agreeing to authorise the charterer's agent to issue the bills of lading at the discharge port, the carrier may inadvertently bypass the shipper and facilitate the unauthorised release of the original bill of lading to the cargo receivers before they have paid the shipper for the goods. They might also be preventing endorsement of the bill of lading by

the shipper to allow lawful transfer of rights under the document to a new holder. The reason behind the recent increase in such requests is the delayed arrival of the original bill at the discharge port due to alleged disruption in courier services. However, there is a risk that this practice may be exploited to gain access to the goods without paying for them.

Mis-delivery and claims for delays

As a consequence of this practice, shipowners and carriers have found themselves drawn into acrimonious disputes between the cargo sellers and receivers.

In one such case, the owner agreed to charterer's request that the receiver's agent issue the bills of lading. The agent then released the bills of lading to the cargo receivers and discharge commenced against presentation of that bill of lading.

When the shipper became aware, they applied to the local court to stop delivery of the cargo as the receivers had yet to pay for the cargo. The vessel was detained for a month at the discharge port while the local court considered the unpaid shipper's application. In addition, the lack of proper endorsement of a bill of lading issued in these circumstances can result in the carrier losing legal protection against a mis-delivery claim. Under English law this risk exists for both straight and 'to order' bills of lading.

Making reasonable enquiries

A shipowner or carrier who is considering such a request by the charterer should firstly make enquiries to ensure the shipper is aware and has

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approved the issuance of the bills of lading at the discharge port.

Actions by the shipowner or carrier can include:

- Seek confirmation that the shipper is aware and authorises both the issuance and release of the bill of lading at discharging port.
- Ask the charterer for the details of the agent at the discharge port and find out if this agent is in fact the receiver's agent. It is this agent that is most likely to expose a carrier to a claim from an unpaid shipper by short circuiting the process and authorising issue of a bill of lading to the receiver directly.
- It may be necessary to appoint a separate agent to issue the bills of lading on the owner's behalf at the discharge port, preferably in consultation with the shipper.
- The shipper should provide a Letter of Authorisation, confirming in writing that a named agent

at the discharge port is authorised to issue and release the original bills of lading.

- If the shipper's agent is the same as the receiver's agent, then the shippers should clearly state that they are aware of this conflict.
- The Master's Letter of Authorisation to the charterer's agent to issue the bill of lading on their behalf should clarify that the bills be issued to the shipper or their nominated agent as per the shipper's Letter of Authorisation.
- An implied and/or express indemnity against the charterer under the Master's Letter of Authority may not be preserved if the owner does not first seek to satisfy themselves of the shipper's knowledge.
- If a straight bill of lading or a bill of lading specifying the consignee as merely "to order" is to be issued, arrangements still need to be made for the shipper to endorse the bill of lading (either in blank or to a named consignee) after it has been issued.

SOURCE <https://www.nepia.com/>

New reporting requirements for foreign flag vessels entering China

China: Vessel Reporting and Entry Requirements

In accordance with the Maritime Traffic Safety Law of the People's Republic of China, Maritime Safety Administration of the PRC ("MSA") issued a notice on 27th August 2021 requiring vessels of foreign nationality that fall into below categories to report to Chinese maritime administrations pre-entering the territorial sea of China.

1. Submersibles;
2. Nuclear powered vessels;

3. Ships carrying radioactive materials
 4. Ships carrying bulk oil, chemicals, liquefied gas and other toxic and harmful substances;
 5. Other vessels that may endanger the maritime traffic safety of the P.R.China prescribed by laws, administrative regulations or provisions of the State Council.
- The UK Club's correspondent, Oasis P&I Services Company Limited, kindly outlined the reporting requirements, for more details please refer to Oasis circular 2108.

SOURCE <https://www.ukpandi.com/>

The Neptune Declaration | Crew Change Indicator

Overview

The Neptune Declaration Crew Change Indicator is published monthly to provide reliable data regarding the crew change crisis and the way it evolves.

It is based on data from 10 ship managers, who are collectively responsible for more than 90,000 seafarers across all the major segments.

The September Indicator shows that the number of seafarers onboard vessels beyond the expiry of their contract has slightly decreased from 9.0% to 8.9% in the last month.

The number of seafarers onboard for over 11 months has similarly slightly decreased from 1.3% to 1.2%.

After a significant deterioration of the situation since May, the August and September Indicators point to a stabilization of the situation.

As vaccinations are critical in solving the crew

change crisis, the September Indicator shows that the aggregate percentage of seafarers from the sample who have been vaccinated has risen from 15.3% in August to 21.9% in September.

In comparison, the share of the population fully vaccinated against Covid-19 in several large shipping nations in Europe, North America and Asia is at over 50%2 (noting that this includes children who have not yet been offered vaccines so the percentage of vaccinated adults is likely higher).

Thus, despite the progress in seafarer vaccinations, their rates remain behind those of large shipping nations.

Section 1: Overdue Crew Changes

The contributing ship managers have, as part of the reporting, also highlighted the following key developments that have impacted crew changes in the past month.

	Percentage of seafarers onboard beyond the expiry of their contracts		Percentage of seafarers onboard for over 11 months	
	Monthly percentage	Percentage point change from previous month	Monthly percentage	Percentage point change from previous month
September 2021	8.9%	-0.1	1.2%	-0.1
August 2021	9.0%	+0.2	1.3%	+0.3
July 2021	8.8%	+1.6	1.0%	+0.6
June 2021	7.2%	+1.4	0.4%	0
May 2021	5.8%	-	0.4%	-

The data reflects the situation on the 15th day of the preceding month.

SOURCE <https://www.globalmaritimeforum.com/>

	Percentage of seafarers from the sample who have been vaccinated	
	Monthly percentage	Percentage point change from previous month
September 2021	21.9%	+6.6
August 2021	15.3%	-

The data reflects the situation on the 15th day of the preceding month.

Travel restrictions, flight cancellations and domestic lockdowns continue to prevent seafarers from going back home.

Ship managers are facing a shortage of seafarers, and cited travel restrictions for Indian seafarers and the European summer holiday period as causes.

Governments and ports are placing stricter crew change requirements which have resulted in the cancellation of crew changes.

Section 2: Seafarer Vaccinations

The Indicator provides the aggregated percentage of seafarers from the sample who have been vaccinated and gives an overview of seafarer vaccination trends and the pace at which these increase month by month.

The September Indicator shows that 21.9% of seafarers from the sample have been vaccinated. This corresponds to an increase of 6.6 percentage points since August.

The data shows that seafarer vaccinations are progressing.

Programs are being set up, especially in the US and some European countries, to offer vaccines to international seafarers.

However, while seafarer vaccination rates are at around 21.9%, in comparison the share of the population fully vaccinated against Covid-19 in the European Union is 56.6%, in Hong Kong it is 42.5%, in Japan it is 42.8%, in Singapore it is 74.3%, in the United Kingdom this is 62% and in the United States this is 51.2%.

Additionally, the contributing ship managers have highlighted the following areas where they are finding most difficulties vaccinating seafarers:

- There continues to be limited access to COVID-19 vaccines for seafarers, due to supply issues.
- Ensuring access to the second dose of the vaccine remains a challenge, and in many cases there is a significant gap between the two doses for seafarers.
- There have been reports of reluctance by some seafarers to get vaccinated.



The Neptune Declaration on Seafarer Wellbeing and Crew Change



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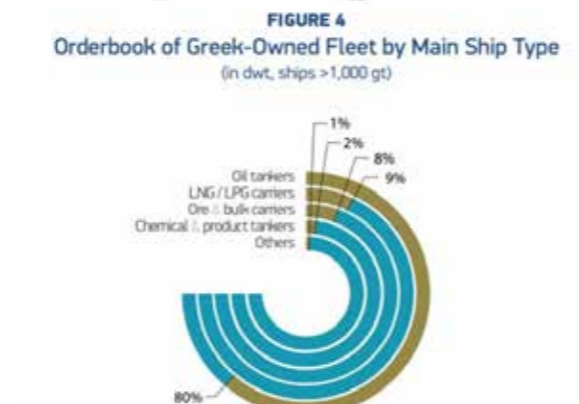
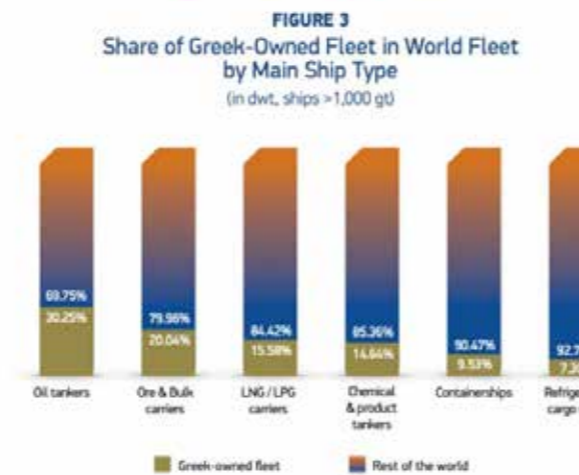
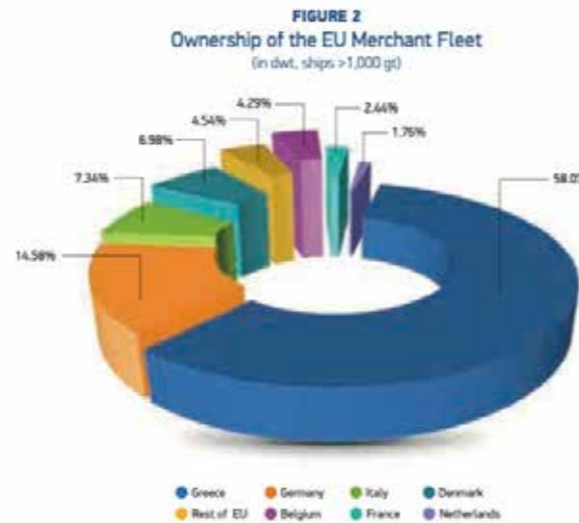
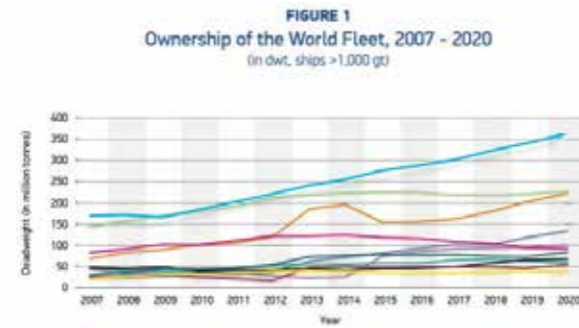
Greece remains the world's largest ship owning nation

With a fleet of 4,901 vessels, Greek ship-owners control 19.42% of global deadweight tonnage (dwt). In 2020, the Greek-owned fleet grew by over 4% to approximately 364 million dwt. The backbone of EU shipping: Greece continues to increase its share of the European Union (EU)-controlled fleet. The Greek-owned fleet represents 58% of the EU-controlled fleet. More than a third of the Greek-owned fleet or 1,706 vessels fly an EU Member State flag. Greek shipping is a cornerstone of global seaborne trade: Greek ship-owners control:

- 30.25% of the world tanker fleet,
- 14.64% of the world chemical and product tankers,
- 15.58% of the global LNG / LPG carriers,
- 20.04% of the world bulk carriers,
- 9.53% of the world containerships.

Greek ship-owners continue to invest in new buildings: New building orders by Greek interests in 2020 amounted to 104 vessels (over 1,000 gt) or 14.36 million dwt, which represents 10.99% of global tonnage on order (Figures 4 & 5). Greek shipowners continue investing in new and energy efficient ships, with the average age of the Greek-owned fleet (9.54 years) being lower than the average age of the world fleet (9.87 years).

Greek shipping is among the safest in the world: Greece remains on the International Maritime Organization (IMO) "List of confirmed Standards of Training, Certification and Watchkeeping for Seafarers (STCW) Parties" and on the White Lists of the Paris and the Tokyo Memorandum of Understanding, while it is one of the safest fleets worldwide with 0.44% of the Greek merchant fleet (based on number of ships) and 0.50% of the fleet (based on tonnage) being involved in minor accidents. From 1.7.2021 Greece is included in the Flag Administrations List of the U.S. Coast Guard (USCG) QUALSHIP 21 Program. Greece remains one of the leading ship registries in the world: The Greek Register numbers 685 vessels (over 1,000 gt) amounting to 37.98 million gt. The Greek-flagged fleet ranks 8th internationally (Figure 6) and



SOURCE: Union of Greek Ship-owners

2nd in the EU (in terms of dwt). Despite COVID-19, Greek shipping remains one of the main pillars of the Greek economy: The COVID-19 pandemic severely impacted the receipts in the country's Balance of Payments from maritime transport services, which despite exhibiting a 20.16% decrease compared to 2019, amounted to approximately € 13.81 billion for the fiscal year 2020.

The Strategic Importance Of Greek Shipping

Greek shipping is the world's largest cross-trader, transporting cargoes between third countries for more than 98% of its trading capacity. The Greek-owned fleet is a vital component of global commerce. Agricultural and forest goods, oil and oil products, gas, chemical products, iron and other ores, coal and fertilizers are among the essentials carried by the Greek-owned fleet. Greek shipping is also strategically important to the EU because, among other things, both its economy and citizens' well-being depend on affordable energy. As the EU's reliance on imported energy resources reaches the 58.2%¹¹ for imports from Extra-EU, the Greek-owned fleet is critical in securing the EU's diverse energy imports from far-flung corners of the globe.

The Characteristics of Greek Shipping

Greek shipping is primarily an SME12 -driven industry that specialises in bulk / tramp shipping, which is a genuinely entrepreneurial sector with characteristics of a perfectly competitive market. This is because the sector comprises thousands of companies worldwide and is not dominated by a limited number of very large corporations-alliances, as is the case in liner shipping and most major industrial and service sectors globally. As a rule, vessels owned by Greek shipowners are hired out to charterers under time charter party contracts. Charterers play a structural role in shipping as commercial operators who control the vessel's operating parameters, such as itinerary, cargo type and quantity and service speed, which in turn determine the vessel's carbon footprint under such contracts.

FIGURE 5 World Orderbook by Main Ship Type (in dwt, ships >1,000 gt)

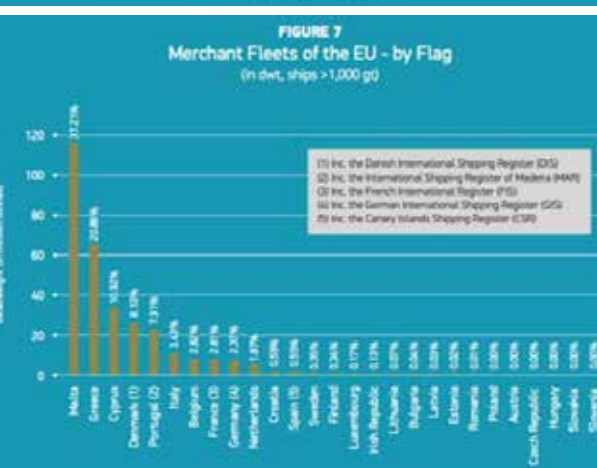
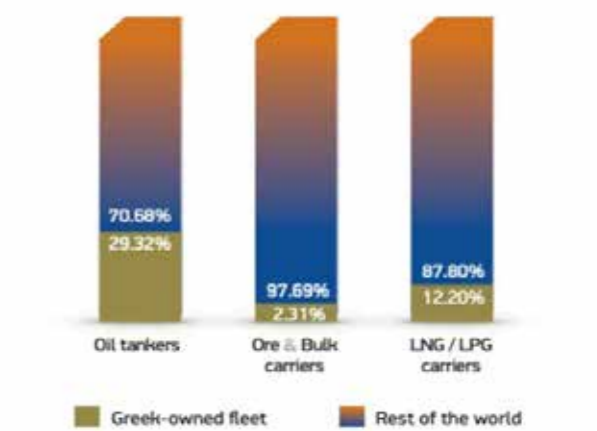


FIGURE 8 Foreign Exchange Earnings of Greece From Shipping (in million €)



Cargo Ship Sinks Off Greece. All 16 Crew Rescued

A Togo-flagged cargo ship sank on Saturday after hitting Greek islets in the Aegean Sea but all 16 crew were rescued, the Greek coast guard said. The freighter Sea Bird, which sailed from Ukraine and was bound for Tunisia, sent a distress signal after sailing into rocky islets in the southwestern Aegean Sea, the coast guard said in a statement. Nearby vessels rescued all 16 Syrian crew, a coast guard official said. It was not immediately clear what caused the accident. Three anti-pollution vessels have rushed to the scene to check whether there was any leaking from the freighter, the coast guard added.

SOURCE <https://www.marinelink.com/>

Damaged Electrical Cable

What happened?

During a wash down of a vessel's cargo hold a crew member noticed arcing from around two electrical cables near the cargo hold light. Upon closer investigation he noticed a piece of tie wire connected to the cables was glowing red. The crew member immediately stopped hosing down and turned the water supply off and notified the ship's electrician.

What were the causes?

The outer insulation of the cabling was damaged. The cable insulation had deteriorated due to age and weathering, exposing the live wire. The location of the cable was such that it was not easily accessed for detailed visual inspection.

Picture1. Damaged cable



Picture2. Cargo hold



Actions taken

- Visual inspection of all electrical cables for early signs of aging and weathering, particularly in difficult to see areas. IMCA notes that neglected exposed mains cabling is a surprisingly common high potential issue, in an area – electrical safety – that ought to be a good deal more tightly controlled.

SOURCE <https://www.imca-int.com/>

Near Miss – Damaged Rig Hose

What happened?

A vessel was engaged in routine operations receiving contaminated oil-based mud from a rig. Upon disconnecting the rig hose and vessel side coupling it was discovered that the inner rubber lining of the rig hose had peeled out and got caught at the junction of the connection. It was determined that should the blockage have prevented the flow of oil-based mud it could have resulted in a significant environmental incident as a result of hose failure due to back pressure.



Picture3. Inner Rubber Lining of Rig Hose -
Picture4. Rig hose

What was the cause?

Rig side hose inner lining parted from sheath and got caught between connections.

Actions taken

- Ensure that hoses are in good condition, properly certified, and in compliance with required standards, before use;
- Conduct a visual check on hoses before use;
- Remember that anyone can enact stop work authority if they see something unsafe.

SOURCE <https://www.imca-int.com/>

Bulk Carrier ZILOS Catches Fire After Explosion Off Uruguay, 1 Crew Died

ZILOS, a Panama-flagged bulk carrier, which was on its way from the Cape Town Anchorage in South Africa to the Port of Montevideo in Uruguay has suffered an explosion at about 760 nautical miles, off the east of Montevideo Port, leaving one seafarer dead. The 46,541 DWT vessel is owned by Seaside Maritime Inc., and is operated by Karlog Shipping Company.

The incident came into light after the Uruguay MRCC received an emergency call from the U.S. Coast Guard, which reported the 200-built bulk carrier being in trouble. The explosion has reportedly occurred in the engine room of the vessel, which rendered the ship adrift. It was later reported that the vessel is on fire.

No further details were provided from the Uruguay MRCC about the incident. marine monks will keep you posted about every minute development which unfolds, about the incident.

The vessel, which has a length of 183 meters and a beam of 31 meters, was scheduled to arrive at the Port of Montevideo on 10th September, at 3:00 PM (local time).

SOURCE <https://marinemonks.com/>

A fatal accident involving enclosed space entry and rescue

Summary

An electrician collapsed inside a cargo hold aft transverse bulkhead lower stool (the lower stool) when testing the water ingress alarms. The bosun also fainted

inside the lower stool while trying to rescue the electrician. This accident resulted in the death of the electrician and bosun. This Note draws the attention of ship-owners, ship managers, ship operators, masters, officers, and crew to the lessons learnt from this accident.

The Incident

When a Hong Kong registered bulk carrier (the vessel) was en route from Hay Point, Australia to Jingtang, China, an electrician, while working inside the lower stool alone to test the water ingress alarms, collapsed there without anyone noticing it until the supertime.

A rescue team comprising the fitter, bosun, and two crew members was formed to look for the electrician in the duct keel in the evening. The fitter, who was the only one in the rescue team equipped with self-contained breathing apparatus (SCBA), did not notice the overhead access opening on the inner bottom plate leading to the lower stool.

The bosun noticed the access opening and found the fainted electrician after entering the lower stool. When he tried to rescue the electrician, he also collapsed inside. When one of the team members, who followed the bosun, nearly fainted at the entry of the lower stool and the low level alarm of fitter's SCBA sounded coincidentally, the team evacuated immediately from the duct keel. However, the electrician and the bosun were left behind.

A second rescue team was organized and the bosun was successfully brought out. While resuscitation was applied to the bosun, the vessel directed its course to the nearest port in Weihai, China.

The second rescue team re-entered the lower stool and finally brought the electrician out, but the electrician did not show any vital signs. After about two hours of resuscitation, the bosun also failed to respond. Both the electrician and the bosun were certified dead after they were sent ashore by a rescue tug.

The investigation identified that the electrician entered the enclosed space alone without following the permit to work procedures; the crew were not effectively trained in the enclosed space emergency res-



cue; and the safety management system was also not effectively implemented on board. The investigation also revealed that the crew was not familiar with the ship compartments configuration and the ventilation limitations of the lower stools; and no warning sign was posted at the entrance of the access hatches to prevent unauthorized entry when the access hatches were left open during ventilation.

Lessons Learnt

In order to avoid recurrence of similar accidents in the future, masters, officers, and crew of vessels should: (a) follow the permit to work system for enclosed space entry strictly;

(b) enhance the enclosed space entry and rescue drill and training; and

(c) enhance the knowledge of the ship compartments configuration in relation to the limitations of the corresponding ventilation systems.

The attention of ship-owners, ship managers, ship operators, masters, officers and crew is drawn to the lessons learnt above.

SOURCE www.mardep.gov.hk/en/home.html

Fatal accident involving shipboard mooring operation

Summary

When a Hong Kong registered bulk carrier berthed at a port for cargo loading, its aft spring line was caught under a tyre fender. When the Master attempted to free the aft spring line, he was hit by it which caused him to fall into the water. Despite being rescued, the Master died at the end. This Note draws the attention

of ship-owners, ship managers, ship operators, masters, officers and crew to the lessons learnt from this accident.

The Incident

When a Hong Kong registered bulk carrier (the vessel) berthed at the port of Ilo, Peru for loading copper concentrate, an aft spring line was caught under a tyre fender on the quay, owing to rolling and swaying of the vessel caused by wind and swell. The Master stood on the fender and attempted to use a steel pipe to pry the aft spring line.

The aft spring line suddenly jerked free as the vessel moved along with the waves, hitting the Master and causing him to fall into the water. A rescue team was immediately organized on board to rescue the Master from the water. Although first aid treatment was applied to the Master, he was later declared dead by the paramedics who arrived on board.

The investigation revealed that the Master probably had inadequate safety awareness to consider a safe way to free the aft spring line. 4. The investigation also revealed that the crew did not carry out proper risk assessment and take preventive measures in handling mooring lines vulnerable to break by wind and swell following the vessel's safety management system.

Lessons Learnt

In order to avoid recurrence of similar accidents in the future, the masters, officers, and crew of vessels should: (a) strictly carry out risk assessment to identify potential risks, well plan key operations with all necessary safety precautionary measures;

(b) follow the Code of Safe Working Practices for Merchant Seafarers and utilize standard seamanship practices during daily mooring operation; and

(c) enhance the safety awareness of the risks and hazards associated with mooring operation and improve the safety culture on board.

The attention of ship-owners, ship managers, ship operators, masters, officers and crew is drawn to the lessons learnt above.

SOURCE www.mardep.gov.hk/en/home.html



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Case Studies related to seafarers suffering burns at sea – Based on UK P&I “Risk Focus” BURN edition

Burn injuries are bad news whenever and wherever they occur, but when they happen at sea, remote from shore medical facilities, the consequences may become dangerously aggravated. A serious burn will require prompt professional medical attention and special facilities which are unlikely to be available on a merchant ship navigating in mid ocean. For this reason it is particularly important that seafarers are fully aware of the risks presented by hot (and cold) appliances and systems, as well as the necessary safety precautions to take, both on and off duty.

What is a burn

A burn is damage to skin tissue which causes the affected skin cells to die resulting in swelling, blistering, redness, charring and tissue loss. The most common causes of burn injuries to crew on board ships may be summarised as follows:

- Steam and hot fluid burns
- Contact with heated surfaces
- Exposure to hot or burning solids, liquid or gas
- Chemical burns
- Electrical burns
- Cold burns

Classification of burns



The severity of a burn is graded according to the depth of the injury through the skin. Skin has an outer layer (epidermis) and a deep layer (dermis). The latter contains the sweat glands, hair follicles and nerves relaying sensation and pain to the skin.

First degree burns affect only the outer skin layer, causing redness, mild swelling, tenderness and pain.

Second degree burns extend into the deeper skin layer (the dermis): Superficial, second degree burns cause deep reddening, blister formation, considerable swelling and weeping of fluid. Deep second degree burns may not be easy to distinguish from third degree burns immediately after the injury. Pain may be severe because of damage to the nerve endings.

Third degree burns involve the whole thickness of skin and may extend to the underlying fat, muscle and bone.

The skin may be charred, black or dark brown, leathery or white according to the cause of the burn. Pain may be absent due to destruction of the nerve endings.

The treatment of burns will depend upon the cause of the burn, how deep it is and how much (percentage) of the body it covers. Ship's Masters need to be fully aware of the potentially life threatening complications that may present in a casualty due to the loss of the protective skin layer, including infection, hypothermia, dehydration and shock, even in the case of burns of a relatively minor bodily extent. It is therefore of vital importance that burn injuries are quickly assessed and professional medical advice obtained as soon as possible, even if they initially appear to be trivial. The apparent seriousness of burn injuries can be easily misjudged by laymen, with casualties in the early stages presenting as being alert or not even in great pain due to the effects of shock or the destruction of nerve endings. This can engender complacency and delays in seeking appropriate medical attention with sometimes tragic consequences.

CASE STUDY - Cargo pump malfunction

During cargo oil discharging operations, the sea water cooling system low pressure alarm sounded in the engine room. The duty Engineer checked the source of the alarm and noticed that sea water cooling pump no.2 was not delivering sufficient pressure and immediately informed the Chief Engineer. The Chief Engineer then started sea water cooling pump no.1 and the other pump was stopped. Shortly after, the cargo pump condenser low vacuum alarm sounded and the Chief Engineer proceeded with the duty Engineer to the cargo pump turbine platform to close the steam delivery valves from the boiler to prevent over-pressurisation of the condenser. While they were closing the valves, the turbine expansion joints blew out, exposing both men to high pressure steam resulting in very serious second and third degree burns over large areas of their bodies.

Lessons learned

The incident report indicated that the standby no.1 cooling pump had not been properly lined up and was ineffective when started. The sea water cooling water intakes were also found to be fouled with debris, restrict-



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ing the flow. It was furthermore reported that the Chief Engineer had the option of shutting the steam valves from a remote stop position, rather than on the turbine platform itself.

CASE STUDY - Cleaning oil filters

While the vessel was at anchor, the Chief Engineer instructed the duty crew to clean the duplex filters for the fuel oil booster pumps. The diesel generator was changed over from Heavy Fuel Oil (HFO) to Diesel Oil (DO), the HFO heater was shut off and the feed and booster pumps stopped. The 3rd Engineer was said to have closed the valves before and after the filters and then slackened off the air vent plug to relieve the pressure in the filter unit. As the 3rd Engineer commenced removing the filter cover, hot fuel oil was ejected from the casing, causing extensive first and second degree burns to his arms, legs and feet. The Engineer was quickly transferred ashore and hospitalised.



Lessons learned

The actions reported to have been taken to isolate the FO filters and relieve pressure were consistent with

standard practice and yet there remained enough fuel and pressure in the system to cause the discharge of hot oil from the opened filter casing. This shows that it should never be blindly assumed that the system is 100% safe when being opened up – what if a drain or vent is blocked or a valve is not closing properly?

When working on steam or hot fluid systems, it is good practice to ensure that valves which have been closed to isolate the system are locked or tied shut and notices attached to the effect that they are not to be opened. Other measures to de-pressurise, drain and cool the system should also be positively identified and recorded by the work team. In all cases, the manufacturer's instructions for operation and maintenance should be strictly adhered to.

CASE STUDY - Galley scalding

The mess man was cleaning in the galley while the vessel was experiencing heavy weather. During an alteration of course, the vessel rolled heavily causing a large electric kettle to topple from a nearby work top, spilling boiling water over the mess man's lower legs and hands resulting in serious scalding injury.



Lessons learned

Catering personnel should wear appropriate work wear that does not leave the skin overly exposed. Suitable safety footwear should be worn with open top type sandals being strictly prohibited. When heavy weather is expected, appropriate precautions should be made to ensure hot pots and pans are properly secured against movement and not over-filled. This would include the fitting of safety bars around galley cooking ranges. In very heavy weather, consideration should be given to limiting cooking activities.

Your Travel Partner



CASE STUDY - Improvised barbecue grill

The crew arranged a barbecue on the poop deck using the type of improvised grill not uncommon on board vessels. After lighting the charcoal, the Boatswain decided to pour paint thinner from a ¼ filled 20 litre drum onto the charcoal, in order to speed up the burning process. As he was doing this, the drum exploded, covering the Boatswain and two other nearby crew members in burning solvent. They all suffered severe and extensive burn injuries, requiring the vessel to deviate for an emergency evacuation.

**Lessons learned**

Using highly inflammable chemicals in such a negligent manner is extremely dangerous. The fact that the actions of the crew were associated with a leisure activity does not mean that the application of shipboard safety precautions and common sense may be disregarded. Furthermore, during leisure activities the attitude and behaviour of the people is loose, sometimes "helped" by consumption of alcohol or consumption of food in excess of a normal day's habit, leading to relaxation of judgment and risk awareness.

Chemical burns

Ships carry on board a wide range of chemicals used in numerous applications in all departments. Many of these chemicals are potentially injurious to health and can result in serious burns to skin and eyes if proper protective precautions are not observed. Hazardous chemicals carried on board may be used variously for general cleaning, de-greasing, de-scaling, water and oil treatment, solvents, additives and hold and tank cleaning agents. Other possible sources of exposure may also include battery fluids and certain chemicals carried as cargo. Many of these chemicals are strongly acidic, alkaline and toxic.

Prior to using any hazardous substance, it is essential that crew make reference to the manufacturers Material Safety Data Sheet (MSDS) in order to be fully apprised of the potential hazards and to ensure that the appropriate personal protective equipment (PPE) and working practices are used. Such PPE will include chemical resistant gloves or gauntlets, aprons, chemical suits, boots and eye protection in the form of goggles or full face visors as appropriate to the assessed risk. The MSDS will also provide advice on first aid measures in the event of skin or eye contact. All chemicals should be carefully handled, stored and inventoried and only used with the authority of a responsible officer. They should only be stored in designated well ventilated spaces with controlled access and with all the relevant MSDS available on file. Storage lockers and other areas where chemicals can be expected to be used should also have PPE and a first aid kit on station, the latter including a good supply of medicated eye wash. Skin or eyes splashed with chemicals should be drenched with water as soon as possible, which should be continued for at least ten minutes or more as directed.

CASE STUDY - Chemical drain cleaner

An assistant Cook was using chemical drain cleaner to clear a blocked sink waste pipe in the galley. After pouring in the fluid, a sudden release of back pressure from the drain caused the chemical to splash into his face, resulting in burns to the exposed skin and eyes. The seafarer was evacuated ashore for medical treatment and was assessed to have sustained serious damage to the cornea of one eye with the effect that his sight was permanently impaired.

**Lessons learned**

In this incident, it was apparent that the crew member failed to appreciate the hazard presented by drain cleaning agents, which are highly aggressive chemicals. The work was improperly supervised and there was a failure to wear appropriate PPE. This is a clear demonstration that an apparently routine task involving the use of chemicals can result in very serious consequences.

CASE STUDY - Water treatment chemicals

One of the ship's Engineers was routinely tasked with adding water treatment chemical to the boiler hot well tank. The chemical was contained in a 25 litre plastic



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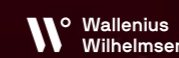
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drum and on this occasion, was almost full. After opening one of the hinged lids on top of the hot well, the engineer unscrewed the container cap and stepped up on to a pipe bracket in order to pour the chemical into the tank. As he was doing this, he lost his balance and fell onto the deck, causing the chemical to splash onto his face and neck. He immediately flushed his skin and eyes using a nearby fresh water hose and was assisted by other engine room crew to the workshop where medicated eyewash was also applied. The Engineer was quickly transferred ashore to a hospital for professional medical attention.



Lessons learned

Water treatment chemicals are highly alkaline (pH of 13-14 undiluted) and can cause severe burns and eye damage. In this case, the seafarer was fortunate in that appropriate first aid could be very quickly given and that the vessel was in port enabling prompt transfer ashore. A number of factors relating to deficient working practices contributed to this incident, including:

- inadequate arrangements for handling and transfer of the chemical,
- the routine nature of the task engendering complacency,
- a lack of appreciation as to the very hazardous nature of the chemical and
- the absence of a proper working platform to perform the job safely.

Electrical burns

All crew members are potentially at risk as modern ships are packed with a wide variety of electrical equipment, some of which may operate at high voltages. The risk

of electrical shock and burns is increased in conditions of damp and high humidity, reducing the contact resistance of the human body. Electrical burns can be broadly categorised as contact burns when a part of the body touches a live power source or arc flash burns, associated with both high and low voltage equipment. An arc flash occurs when an electrical current flows through an air gap, ionising the surrounding air and creating a large quantity of thermal energy. Therefore, direct contact with the electrical appliance is not necessary and very severe burns may result.

Electrical burns, which do not look significant on the surface, may be misleading as serious damage may occur to underlying tissues. It is for this reason that electrical burns should always be assessed by a medical professional.

The following basic principles should always be strictly adhered to:

- Persons working on electrical equipment must be properly trained and competent to do so
- Work should always be subject to thorough risk assessment, job planning and the issuance of a Permit to Work, with which all involved personnel should be appraised
- Before any work is performed, fuses should be removed and circuit breakers opened to ensure that the electrical equipment is "dead", which should be confirmed using a voltage indicator
- Switches and circuit breakers should be open and warning notices posted to prevent accidental reconnection
- Work on or near live equipment should always be avoided
- Where work on live equipment or high voltage systems (greater than 1,000 Volts) is considered necessary, additional robust precautions must be taken
- All electrical machinery, equipment and tools must be properly cared for and incorporated into the shipboard Planned Maintenance System
- Appropriate Personal Protective Equipment must be worn, including insulated gloves where practicable, and insulating mats placed adjacent to switchboards.



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CASE STUDY - Live electrical components

The Chief Engineer instructed the Electrician to troubleshoot a fault on the 440 Volts main switchboard relating to the operation of no.2 generator. The Electrician opened the relevant rear switchboard panel before starting work on identifying the defect. While carrying out his checks, it appears that the electrician touched a live component, which delivered an electric shock, rendering him unconscious.

When later discovered lying next to the switchboard by the Chief Engineer, he was transferred to the ship's hospital where he recovered consciousness after first aid was given. Both hands sustained severe third degree burns down to the bone. The next day, the Electrician was transferred ashore for professional medical attention and later endured a long and painful period of treatment and rehabilitation as well as permanent disability.

**Lessons learned**

Investigation of the accident revealed a serious neglect to comply with the Company Safety Management System. The generic Risk Assessment forms relating to electrical maintenance and fault finding at the main switchboard were not consulted, no Permit to Work was prepared and no tool box talk was carried out. Despite both the chief engineer and the electrician being experienced, trained seafarers, there was a demonstrable lack of hazard awareness and observance of basic safety precautions. Certainly the electrician should not have been working unattended and the fact that the vessel was rolling at the time would not have provided a stable working platform.

Cold burns

Contact with very cold substances or materials can damage skin and tissue in a way similar to heat burns. This type of injury is relatively rare on board ships, with most notable incidents being related to the loss of containment of pressurised or refrigerated gases. However, bare skin contact with un-insulated surfaces at sub-zero temperatures, as may be found in refrigerated cargo holds, provision stores or gas tanker deck fittings, may also cause injury.

Although cold burns may sometimes appear the same as heat burns, the required treatment differs. For example cold burn injuries should only be bathed in lukewarm water (not cold). As with all burns, prompt professional medical advice should always be sought.

CASE STUDY - Air conditioning unit charging

The 2nd Engineer noted that the quantity of refrigerant gas within one of the accommodation air conditioning units was at a low level. With assistance of a junior Engineer, a cylinder of spare refrigerant gas was taken to the air conditioning room and connected to the system charging port by flexible hose. When the system was charged, the 2nd Engineer shut the valves of the cylinder and charging port.

However, when the hose was disconnected, gas was released under pressure from the charging port, impacting both of his hands and producing a burning sensation. In accordance with advice contained in the relevant MSDS, other crew members responded by bathing his hand in lukewarm water in the engine room workshop. As the vessel was at a port anchorage, the 2nd Engineer was soon transferred ashore to hospital.

Lessons learned

Investigation into the incident determined that the air conditioning unit charging port valve was defective and had failed to properly close, before the hose was disconnected.

The sudden expansion of the escaping gas caused rapid cooling of the surrounding environment, including the 2nd Engineer's leather gloved hands, a process known as adiabatic cooling. Although the failure of the valve could not reasonably be foreseen, it serves as a lesson to take great care when handling compressed gases. On the other hand, the crew actions were commendable in giving appropriate first aid enabling the seafarer to make a full recovery.

INDONESIA: INCREASE OF VESSELS DETENTIONS

Increase of incidents where the Indonesian Navy have detained vessels anchored in waters off the island of Bintan, furthest to the east in the Singapore Strait.

Bintan is the island furthest to the East on the chart below and a popular place to anchor ("waiting for orders") because it is close to shipping lanes, and believed to be OPL Singapore. However, these waters are within Indonesian territorial waters!

Currently we are aware of 20 detentions in Indonesia (not just around Bintan). Each case is different, but there are a majority of cases where it is alleged, or we suspect that the charge is or will be, 'illegal anchoring'.

This is a recent development and the correct procedure of how to deal with this once the vessel is detained is not yet established. This is frustrating for Members and the Club because of the delays and the lack of information/directions. It must be stressed that each case is different, so we follow the directions given by the Navy and it usually requires the appointment of lawyers to deal with the statutory aspects of detentions.

The typical reasons for the infringement are (i) misunderstanding of where territorial waters of Indonesia legally begin and end and (ii) what local laws require.

Be advised:**Innocent passage (i)**

Once a vessel is southbound in the Malacca Strait (past Port Klang) and through the Singapore Strait until entering the South China Sea, either Malaysia, Singapore or Indonesia will claim territorial waters. It has perhaps been (mis)understood in the past that there are waters in these Straits not claimed by any of the three countries. This would be a mistake. There are no OPL anchorages in the area.

Only if a vessel is passing through territorial waters without stopping, will it not be subject to the jurisdiction. The right of "innocent passage" is secured in article 17 of the United Nations Convention on the Law of the Sea (UNCLOS). The passage, however, needs to be continuous and expeditious (art. 18.2).

In practice, this means the vessel cannot stop except when forced to incidentally stop for reasons of safety, danger or distress.

Ship-to-Ship (STS) operations is a good example of this. It is not an incidental stop and the right of innocent passage is 'lost'. Slowing down (crew change or taking stores) also disqualifies the right of innocent passage.

Local law (ii)

When a vessel is located within the territorial waters, it needs to be cleared in and out of Indonesia. This also applies if the vessel is only anchored and has no intention of 'interacting' with Indonesia, such as cargo operation, taking supplies, crew change, etc. An agent needs to be appointed.

It has often been overlooked that activities such as transshipment, crew change and cargo operations within Indonesian waters can only be performed by an Indonesian shipping company, operating an Indonesian flagged vessel and manned by Indonesian crew.

Transshipment activities (including launch boats carrying stores or crew) are categorised as activities that may violate Indonesian Law No. 17 of 2008. The Indonesian Navy have recently been upholding this rule strictly. We have been made aware that live ammunition has been fired by the Indonesian Navy towards a commercial vessel for an undisclosed reason

Recommendation

Do not anchor in/around Indonesian territorial waters, without checking the position with local agents and, if necessary, clearing in. Should your vessel be detained we suggest you contact our Jakarta office immediately. They are dealing with a number of vessels, act for numerous Clubs already and have contacts in the relevant branches of the Navy. The sooner we know, the quicker we can assist and work on getting the vessel released.

SOURCE <https://www.nepia.com/>



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TECHNICAL AND REGULATORY NEWS No. 14/2020 - Statutory

IMO AND EU REQUIREMENTS FROM MARCH 2020 TO DECEMBER 2021

Relevant for design offices, shipyards, suppliers, owners/managers and flag states.

JULY 2020

This statutory news summarizes the most important IMO and EU requirements entering into force after 1 March 2020 to 31 December 2021.

CONV/ CODE	REGULATION	ENTRY INTO FORCE	APPLICABLE TO	SUBJECT	IMO RES.
MARPOL	Annex VI, Reg.14	2020-03-01	All cargo vessels, HSC/ DSC and passenger vessels. Not applicable to ships with scrubbers.	Fuel oil used or carried for use on board a ship shall not exceed a sulphur limit of 0,50% m/m. The supplement to the IAPP certificate is updated accordingly.	MEPC.305(73)
MARPOL	Annex VI, Ch. 4/ Reg. 22A (new reg.) & Appendix IX (new)	2020-03-31	All cargo vessels, HSC/ DSC and passenger vessels, GT >= 5000.	Final date of the first fuel consumption report to be submitted for verification. Data as specified in Appendix IX.	MEPC.278(70)
MARPOL	Annex VI, Ch.2/ Reg.6 & Appendix X (new)	2020-05-31	All cargo vessels, HSC/ DSC and passenger vessels, GT >= 5000.	Final date of the first issuance of the Statement of Compliance after the annual report is verified and submitted to the Administration. Validity date to be 31 May the next year.	MEPC.278(70)
MARPOL	Annex I, II, IV and V	2020-10-01	All cargo vessels, HSC/ DSC and passenger vessels.	Electronic Record Books (eRB) as an alternative method to hard copy record books approved by the Administration in accordance with Guidelines, Res. MEPC.312(74) is accepted. This applies to the MARPOL record books.	MEPC.314(74)/ MEPC.316(74)
NOx Technical Code 2008	Reg. 1.3	2020-10-01	All cargo vessels, HSC/ DSC and passenger vessels, GT >= 400.	Electronic Record Books (eRB) as an alternative method to hard copy record books approved by the Administration in accordance with Guidelines, Res. MEPC.312(74) is accepted. This applies to the Record Book of Engine Parameters (NOx Technical Code).	MEPC.317(74)
BWM	A-1 (new para.8) & D-3	2020-10-28 Installations on or after.	All cargo vessels and passenger vessels. Also applicable to floating platforms, FSUs and FPSOs. If with ballast water capacity and subject to Article 3 of the BWM Convention.	Ballast water management systems installed on or after 2020-10-28 shall be in compliance with the BWMS Code (Res. MEPC.300(72)). An UI of Appendix I clarifies that the 'installed' means the contractual date of delivery of the ballast water management system. In absence of this date, actual date of delivery may be used.	MEPC.296(72)



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CONV./ CODE	REGULATION	ENTRY INTO FORCE	APPLICABLE TO	SUBJECT	IMO RES.
EU Ship Recycling Regulation	Article 5.2	2020-12-31 Implementation date.	All cargo vessels, HSC/ DSC and passenger vessels, GT >= 500. If non-EU/EEA flag.	Non-EU-flagged/ third-country flagged vessels calling at a port or anchorage of an EU member state shall have on board a Statement of Compliance on Inventory of Hazardous Materials (IHM) by 31 December 2020.	EU (1257/2013)
EU Ship Recycling Regulation	Article 5.2	2020-12-31 Implementation date.	All cargo vessels, HSC/ DSC and passenger vessels, GT >= 500. If EU/ EEA flag.	Vessels in operation and flying the flag of an EU/ EEA member state shall have on board Certificate on Inventory of Hazardous Materials (IHM) by 31 December 2020.	EU (1257/2013)
IBC Code		2021-01-01	Chemical tankers, keel-laid >= 1986-07-01. Tankers holding NLS Certificate or International Certificate of Fitness.	The carriage requirements for all IBC products will change, consequently vessels holding a certificate of fitness or a NLS certificate will need to be provided with a new certificate and corresponding product list based on the new carriage requirements. The new certificate will be issued prior to 1 January 2021 and will supersede the existing certificates on this date.	MEPC.318(74)
BCH Code		2021-01-01	Chemical tankers, keel-laid <= 1986-06-30. Ships holding Certificate of Fitness for the Carriage of Dangerous Chemicals in Bulk.	The carriage requirements for all IBC products will change, consequently vessels holding a certificate of fitness or a NLS certificate will need to be provided with a new certificate and corresponding product list based on the new carriage requirements. The new certificate will be issued prior to 1 January 2021 and will supersede the existing certificates on this date.	MEPC.319(74)
MARPOL	Annex II, Reg. 13 (new para. 7.1.4 & 9)	2021-01-01	All chemical tankers.	A prewash will be mandatory in North Europe ports when unloading certain high viscosity or low melting point persistent floating products. The affected products, mainly vegetable oils and paraffin was, will be identified in Ch. 17 og the revised IBC Code due to enter into force of the same date.	MEPC.315(74)
MARPOL	28.6 (new para.)	2021-01-01 Final date for complying.	Oil tankers, keel-laid <= 2015-12-31.	All ships shall be fitted with an approved stability instrument, capable of verifying compliance with intact and damage stability requirements. Existing instruments needs no replacement if satisfactory to the Administration. There are some conditions for exemptions. Paragraph 5.7.5 and 5.7.6 of the IOPP Certificate and Supplements, Form B are inserted accordingly.	MEPC.248(66)
GC Code	Ch. II/2.2.4 & .5 (new sub-para.s)	2021-01-01 Final date for complying.	Gas carriers, keel-laid <= 1986-06-30.	All ships shall be fitted with an approved stability instrument, capable of verifying compliance with intact and damage stability requirements. Existing instruments needs no replacement if satisfactory to the Administration. There are some conditions for exemptions. Paragraph 6 of Certificate of Fitness is updated accordingly.	MSC.377(93)
IBC Code	2.2.6 & 2.2.7 (new sub-para.s.)	2021-01-01 Final date for complying.	Chemical tankers, keel-laid >= 1986-07-01, keel-laid <= 2015-12-31.	All ships shall be fitted with an approved stability instrument, capable of verifying compliance with intact and damage stability requirements. Existing instruments needs no replacement if satisfactory to the Administration. There are some conditions for exemptions. Paragraph 6 of Certificate of Fitness is updated accordingly.	MEPC.250(66)/ MEPC.369(93)

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CONV./ CODE	REGULATION	ENTRY INTO FORCE	APPLICABLE TO	SUBJECT	IMO RES.
BCH Code	Ch.II, 2.2.1 (replaced)	2021-01-01 Final date for complying.	Chemical tankers, keel-laid <= 1986-06-30.	All ships shall be fitted with an approved stability instrument, capable of verifying compliance with intact and damage stability requirements. Existing instruments needs no replacement if satisfactory to the Administration. There are some conditions for exemptions. Paragraph 6 of Certificate of Fitness is updated accordingly.	MEPC.249(66)/ MSC.376(93)
2011 ESP Code	June 2019	2021-01-01	All bulk carriers and oil tankers.	The complete text of the Code is replaced to align the Code with the survey an certification requirements of the IACS UR Z Series.	MSC.461(101)
IMSBC Code	June 2019	2021-01-01 Implementation date.	All cargo vessels, GT >= 500.	Amendments providing updated information on the shipment of certain types of solid bulk cargoes. Consequential amendments to MSC.1/ Circ.1395/Rev.3 on 'Lists of solid bulk cargoes for which a fixed gas fire-extinguishing system is effective' where approved accordingly.	MSC.462(101)
ISM Code		2021-01-01 First annual verification of DOC after	All cargo vessels, HSC/ DSC and passenger vessels.	The new Res. 428(98) encourages Administrations to ensure that cyber risks are appropriately addressed in safety management systems.	MSC.428(98)
MARPOL	Annex IV (sewage), Reg. 1, 11 & 13	2021-06-01 (expected) Implementation date.	Passenger vessels, contract date <= 2019-05-30. This regulation applies if building contract < 2019-06-01, or in the absence of building contract, if keel-laid < 2019-06-01. Delivery date is not relevant in this respect.	Annex IV has been amended introducing Special Area (the Baltic Sea) regulating the discharge of sewage from passenger ships. Discharge is prohibited in this area except for ships that have an operative approved sewage treatment plant (STP), type approved to the new standard, Res. MEPC.227(64), para. 4.2.	MEPC.274(69)
IGC Code	Ch.2, 2.2.6 (in revised code)	2021-07-01 Final date for complying.	Gas carriers, keel-laid >= 1986-01-01, keel-laid <= 2016-06-30.	All ships shall be fitted with an approved stability instrument, capable of verifying compliance with intact and damage stability requirements. Existing instruments needs no replacement if satisfactory to the Administration. There are some conditions for exemptions. Paragraph 6 of Certificate of Fitness is updated accordingly.	MSC.370(93)





A Roadmap for Ship Decarbonisation

Shipping decarbonisation and energy efficiency targets

Global warming is one of the most severe and complex challenges our world faces today. There is an urgent need to reduce emission levels and avoid the most devastating impacts of climate change on our food supply, global health, extreme weather and more. Every individual, business, and industry, including shipping, has a part to play.

"The need for shipping to decarbonise is real and urgent, but not without its challenges, especially given the technical complexity of the measures being explored to enhance efficiency and/or reduce emissions, and given that the regulations and targets are still evolving. The UK Club continues to support its Members in developing a good understanding of these developments and, following the 76th session of the IMO's Marine Environment Protection Committee (MEPC 76) from 10 to 17 June 2021, the purpose of this article is to provide a summary of the some of the latest issues and challenges facing ship owners and managers. At a time when the technologies and risks will be changing fast, a close relationship between ship owners and their insurers will be more important than ever, helping both to better understand the new technologies and the new rules, and to navigate the changing green seascape." Patrick Ryan, Sustainability Director, UK P&I Club.

Shipping & climate change timeline

The focus on air emissions in shipping started in 1997 with the eventual introduction of regulations through MARPOL Annex VI in 2005. This focused on pollutants such as nitrogen oxide (NOx), sulphur oxide (SOx), volatile organic compounds, polychlorinated biphenyls, and chlorofluorocarbons. The reduction of SOx emissions has been phased, with the most recent regulations requiring fuel sulphur content to be 0.5% or less from 1 January 2020. NOx reduction targets were achieved by optimisation of the combustion process in diesel engines or by installing dedicated NOx emission control technologies.

Measures to reduce carbon dioxide (CO2) and greenhouse gases (GHG) brings a different set of challenges. The International Maritime Organisation's (IMO) first major step to reduce carbon emissions was announced in 2011 and by 2013 the industry saw the introduction of two new terms:

- Engine Efficiency Design Index (EEDI) to improve the design efficiency of ships

- Shipboard Energy Efficiency and Management Plan (SEEMP) to improve operational efficiency. Targets to improve design efficiency (EEDI) of new build ships commenced in 2015 with the next phase of design efficiency targets coming into effect in 2022.

In 2018, the IMO set out its ambitions in its initial Greenhouse Gas (GHG) strategy. It targets a 40% reduction in CO2 intensity by 2030, a 70% reduction by 2050, and a 50% reduction in all GHG by 2050.

The targets have left many Shipowners with an enormous task of achieving compliance. Shipowners may have to review operational efficiencies such as voyage optimisation, introduce technological advancements in ship design, implement reduction in voyage speeds and/or use alternative fuels with a lower carbon footprint.

"The green transition and the need to adopt new green practices and technologies quickly will inevitably lead to new risks which, from a loss prevention point of view, will need to be understood, mitigated and hopefully avoided. A strong relationship and good communications between ship owners/operators and their Club will be vital in ensuring that lessons are learned in relation to the emerging technologies and, ultimately, that losses are prevented." Stuart Edmonston, Loss Prevention Director, UK P&I Club.

New builds

Since 2013, the Energy Efficiency Design Index (EEDI) has been a significant measure at driving technical efficiency improvements and reducing carbon emissions from new builds in a phased manner.

Based on the IMO's 2030 CO2 reduction targets and the measurements achieved from IMO DCS (the IMO introduced data collection (IMO DCS) in 2019), a baseline will be created for each vessel and yearly CO2 reduction targets will be specified to achieve the 2030 target.

As a vessel is expected to have a lifespan of approximately 25 years, new builds are not only expected to comply with greater efficiency requirements as per current EEDI targets, but they also have to consider available alternative fuel options to meet the IMO's future GHG reduction goals.

Existing Ships

For existing ships above 5,000 GT, CO2 emission monitoring was introduced by the European Union and the IMO, to measure the amount of fuel consumed. The European Union Monitoring, Reporting and Verification (EU MRV)

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was introduced in July 2015 with data collection taking place from 2018.

This monitoring provides the background and foundation for all future measures, including the IMO's Energy Efficiency Existing Ship Index or EEXI for existing ships, and mandatory carbon intensity reduction targets (CII) for new and existing ships.

These new regulations will likely apply from 2023 onwards, but their impact is already being felt across the industry. Stakeholders are beginning to acknowledge that the EEXI poses considerable challenges to vessels' commercial and technical operations. There are also looming regulatory and safety-critical aspects.

The EEXI

In simplistic terms, this new existing ship index (EEXI) represents the application of the design Index (EEDI) to existing ships. Its primary objective is to level the playing field in technical efficiency for new and existing ships.

Existing Ships not meeting the EEXI targets will soon have to consider compliance options to meet their target EEXI values. The options available to them are:

- A reduction in ship's propulsive power by introducing an Engine Power Limiter (EPL).
- Some ships might consider retrofits of energy efficiency technologies (EETs) such as Mewis ducts, air lubrication, battery or fuel cell auxiliary power, waste heat recovery systems, rotor sails or solar panels, to name a few.
- Retrofitting ships to burn carbon-neutral fuel is another option, but this might not be viable for most existing ships due to very high capital expenditure, especially once vessels' age and remaining working life is considered.

Installing a power limit will naturally mean reductions in a ship's manoeuvrability in certain conditions. The ship's crew needs to be satisfied that they can lower the available power without compromising the vessel's safety margins and whilst ensuring that they can increase power above the normal limit if/as required in an emergency.

While EEXI is a technical measure requiring one-time certification, the CII would strengthen the requirements to manage the in-service energy efficiency, mandating year-to-year operational efficiency improvement targets. After ships have been certified to comply with the required EEXI, they will have to remain compliant with a downward carbon trajectory up to 2030 and beyond, decreasing their carbon intensity annually from an operational perspective.

By establishing a ship/fleet baseline, comparisons can then be made with trajectories under different scenarios established under the Poseidon Principles. The Poseidon Principles, launched in New York on 18 June 2019, are an agreement reached between the finance sector and the

shipping industry to integrate the IMO's climate related policies into ship finance decision making processes. Specifically, signatories to the Principles have to ensure that their ship finance portfolios are aligned with the goals set out in the IMO's initial GHG strategy.

Concerns

One burning question in the minds of all stakeholders will be how much further an existing ship's carbon reduction can go from a technical perspective when the ships have already reduced their installed propulsive power?

A further related concern is that, even after complying with EEXI and CII, ships can still find themselves in the lowest carbon efficiency category; thus, they may still be subject to increased market scrutiny.

All of these, in combination, could theoretically mean that some ships on the water today will meet the IMO's 2030 emissions target under the EEXI regime, but without necessarily being on track to meet the longer-term requirements. On a positive note this would, to some extent, delay the need to replace ships with unproven technology for the first few years. Eventually, however, the EEXI regime gains will tail off, and then ships will have to move to alternative fuels such as LNG, hydrogen-based liquid fuels, or even electricity.

Recently, the European Parliament voted to include CO2 emissions from shipping within the EU's Emissions Trading Scheme (ETS). The scheme is set to include all voyages by vessels 5,000 GT and above that start or finish within the EU. It will require vessel operators to purchase carbon permits to cover related emissions. Looking at how other regulations have developed within the industry, schemes assimilate to the ETS might emerge in different regions over the next decade. Varying emission requirements will have enormous challenges for vessel owners and operators.

The upcoming new fuel types, engines, new technology and regulations are going to introduce several new challenges. Thus, appropriate crew training to ensure the competence of the crew to deal with the new technologies/challenges will be a further significant concern. Major incidents have occurred in the past due to a lack of understanding of new technology introduced on a ship, such as when the industry transitioned from paper charts to electronic charts, or when the move was made from conventional diesel engines to electronic engines. Learning from these experiences, for a seamless "green" transition to take place, it is imperative to have a workable framework to adopt the changes well in advance, taking a very cautious approach and utilizing risk assessment tools.

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EU maritime transport: first environmental impact report acknowledges good progress towards sustainability and confirms that more effort is needed to prepare for rising demand

Maritime transport plays and will continue to play an essential role in global and European trade and economy. In recent years, the maritime sector has taken significant measures to alleviate its environmental impacts. Ahead of a projected increase in global shipping volumes, a new report reveals for the first time the full extent of the impact of the EU maritime transport sector on the environment and identifies challenges to achieving sustainability. With 77 % of European external trade and 35 % of all trade by value between EU Member States moved by sea, maritime transport is a key part of the international supply chain. Despite a drop in shipping activity in 2020 due to the effects of the COVID-19 pandemic, the sector is expected to grow strongly over the coming decades, fuelled by rising demand for primary resources and container shipping.

Against this background, the European Maritime Transport Environment Report, launched today by the [European Environment Agency](#) and the [European Maritime Safety Agency](#), marks the first comprehensive health-check of the sector. The report shows that ships produce 13.5 % of all greenhouse gas emissions from transport in the EU, behind emissions from road transport (71 %) and aviation (14.4 %). Sulphur dioxide (SO₂) emissions from ships calling in European ports amounted to approximately 1.63 million tonnes in 2019, a figure which is expected to fall further over the coming decades due to stricter environmental rules and measures.

Maritime transport is estimated to have contributed to the fact that underwater noise levels in EU waters have more than doubled between 2014 and 2019 and has been responsible for half of all non-indigenous species introduced into European seas since 1949. However, even though the volume of oil transported by sea has been steadily increasing, only eight accidental medium to large oil tanker spills out of a worldwide total of 62 occurred in EU waters over the past decade.

The joint report assesses the current state of emerging maritime transport sustainability solutions, including alternative fuels, batteries and onshore power supply, and provides a comprehensive picture of their uptake in the EU. It also outlines future challenges posed by climate change for the industry, including the potential impact of rising sea levels on ports.

"Our Sustainable and Smart Mobility Strategy makes clear that all transport modes need to become more sustain-

able, smarter and more resilient — including shipping. Although maritime transport has improved its environmental footprint in past years, it still faces big challenges when it comes to decarbonising and reducing pollution. Based on all the latest evidence, our policies aim to help the sector confront these challenges, by making the most of innovative solutions and digital technologies. This way, maritime transport can keep growing and delivering on our citizens' daily needs, in harmony with the environment, all the while maintaining its competitiveness and continuing to create quality jobs," said **Adina Vălean**, EU Commissioner for Transport.

"This joint report gives us an excellent overview of the present and future challenges related to maritime transport. The message is clear: maritime transport is expected to increase in the coming years and unless we act now, the sector will produce more and more greenhouse gas emissions, air pollutants and underwater noise. A smooth but rapid transition of the sector is crucial to meet the objectives of the European Green Deal and move towards carbon neutrality. This will also create new economic opportunities for the European transport industry as part of the necessary transition to a sustainable blue economy. The challenge is immense, but we have the technologies, the resources and the will to tackle it," said **Virginijus Sinkevičius**, European Commissioner for Environment, Oceans and Fisheries.

"Innovation-driven sustainability is an opportunity for shipping to complete a transformation on the same scale as the replacement of sails by steam. This new maritime revolution will depend on ships developed through advanced technology and digital solutions, but also on a multi-layered, fully inclusive process at national, European and international level that encompasses safety, security and social aspects as well as environmental ones. But crucial too is shipping's role as a link in a transnational logistics chain. This means that every part of that chain — from ports to the shipbuilding sector, from shippers to the private and public financial sectors — must be included in our drive towards sustainability," said **Maja Markovčić Kostelac**, EMSA's Executive Director.

"While Europe's maritime transport sector plays a vital role for our economic well-being, this report clearly shows that maritime transport in Europe and the entire international shipping community have an urgent responsibility to step up their efforts to reduce this sector's environmental

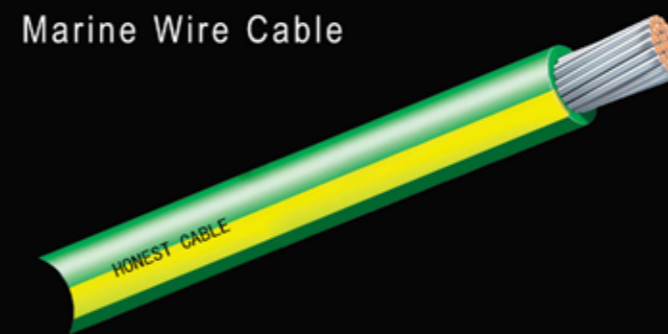
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footprint. While steps have been taken already based on European and international policies, much more is needed for a fundamental shift towards a sustainable maritime transport sector that contributes to secure the future well-being and survival of our most sensitive ecosystems and coastal areas, and the well-being of Europeans," said **Hans Bruyninckx**, EEA Executive Director.

Key impacts on the environment

- **Greenhouse gas emissions:** in total, ships calling at EU and European Economic Area ports generated 140 million tonnes of CO2 emissions in 2018 (approximately 18 % of all CO2 emissions generated by maritime transport worldwide that year).
- **Air pollution:** In 2019, sulphur dioxide (SO2) emissions from ships calling in European ports amounted to around 1.63 million tonnes, approximately 16 % of the global SO2 emissions from international shipping.
- **Underwater noise:** Ships create noise which can affect marine species in different ways. It is estimated that between 2014 and 2019, the total accumulated underwater radiated noise energy more than doubled in EU waters. Container ships, passenger ships and tankers generate the highest noise energy emissions from propeller use.
- **Non-indigenous species:** Overall, since 1949, the maritime transport sector has accounted for the largest proportion of non-indigenous species introduced into seas around the EU — close to 50 % of all species, with the

largest number found in the Mediterranean. A total of 51 species are all classified as high impact, meaning that they can affect ecosystems and native species. The report also notes the limited data available in assessing the full impact on habitats and species.

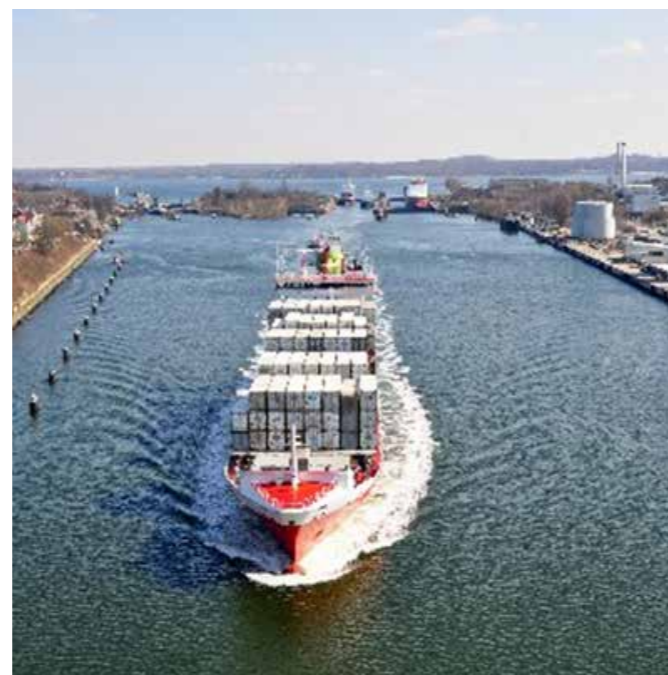
- **Oil pollution:** out of a total of 18 large accidental oil spills in the world since 2010, only three were located in the EU (17 %); better monitoring, enforcement and awareness is helping to reduce oil pollution events even though the amount of oil transported by sea has been steadily growing for the past 30 years.

Navigating towards sustainability

EU maritime transport faces a crucial decade to transition to a more economically, socially and environmentally sustainable sector. Already, most ships calling in the EU have reduced their speed by up to 20 % compared to 2008, thereby also reducing emissions, according to the report. In addition, non-traditional fuels and energy sources, such as biofuels, batteries, hydrogen or ammonia, are emerging as possible alternatives for shipping, with the potential to decarbonise the sector and lead to zero emissions. On-shore power supply (where ships shut down their engines and connect to a power source on land while berthed at port) can also provide a clean source of energy in maritime and inland navigation ports. *SOURCE <http://www.emsa.europa.eu/>*

European Zero Emission Waterborne Transport Partnership adopts R&I strategy

On 7 September 2021, during the first meeting of its Partnership Board, the European Partnership on Zero-Emission Waterborne Transport adopted its Strategic Research and Innovation Agenda. Zero-Emission Waterborne Transport is a co-programmed Partnership in the framework of Horizon Europe. It aims at leading and accelerating the transformation of waterborne transport (i.e. maritime transport and inland navigation) to eliminate all harmful environmental emissions, including greenhouse gas, air and water pollutants, through innovative technologies and operation. By 2030, the objective is to develop and demonstrate deployable zero-emission solutions which are applicable for all main ship types and services, to enable the achievement of zero-emission waterborne transport by 2050. *SOURCE <https://era.gv.at/>*

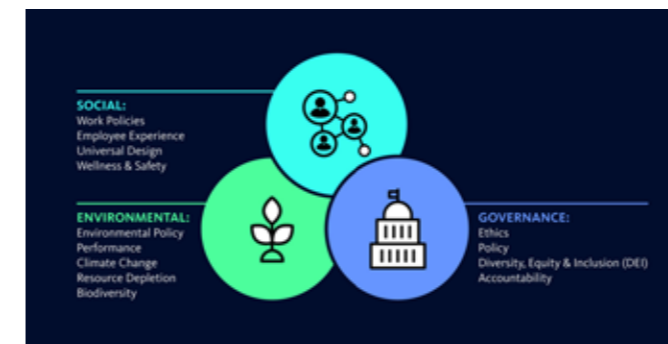


An 8-Step Model for ESG and Wellness in the Workplace

By **Cindy Coleman** | Gensler Wellness Leader, Design Director, Senior Associate and **Stacey Olson** | C.I.D., LEED Fellow, Fitwel Ambassador | Gensler Design Resilience Leader, Director of Sustainability, Senior Associate

As developers and organizations start to face the proverbial fork-in-the-road for what might be the post-pandemic role of the return to office "normal," they are faced with new existential concerns around the safety and wellness of their workforce and those who inhabit the buildings they provide. How we emerge from the pandemic is driving many return and wellness strategies, but that's not the only priority on everyone's minds. Over the past year, there has been enormous focus given to climate action and issues of social equity. For many, wellness in the workplace now includes sustainable and healthy buildings, as well as environments that promote diversity, equity, and inclusion (DEI).

One way landlords and employers are taking action on these priorities is by investing in ESG goals. ESG, short for Environmental, Social, and Corporate Governance, is a way an organization can focus and measure the sustainability and societal impact of their investments. Instead of measuring an investment based on cost or financial impact alone, with ESG, overall health is measured by the balance of these three categories:



When a landlord or business owner takes an ESG approach, the project's design brief changes. The conversation shifts from one of first-time cost alone, to overall impact, and wellness plays a more expansive role: Does the project response lower absenteeism and healthcare costs? Will the project

reduce carbon emissions and improve air quality? Are our environments and work cultures inclusive? Have we enhanced our operational goals? Have we reduced operational expenses? Are our workspaces effective, healthy, well-maintained, and ready for what comes next? Will workers feel safe when returning to the office? Will this building or office be a place to thrive? What is our impact on the greater community?

Researchers define thriving as a psychological state where people experience a combined sense of vitality and learning. When you thrive, you are able to grow rather than feel stalled. People who are able to experience a state of thriving are healthier, more resilient, and just better at focusing on their work.

Helping people thrive at work is both achievable and fundamental to the notions of ESG and wellness.

Wellness is the inroad to thriving at work

Health and wellness are emerging as major components of ESG criteria, influencing responsible investors' real estate decisions and shaping companies' ESG strategies.

Here are the eight key elements of a spatial and work experience model that prioritizes wellness and resilience in the workplace. The model was modified from the Six Dimensions of Wellness developed by Bill Hettler, co-founder of the National Wellness Institute (NWI).

1. Emotional wellness relies on smart zoning of the work environment so that noisy activities don't overpower the quiet ones. *Emotional wellness requires the ability to have outlets and spaces in support of reducing stress, meeting personal demands, and building and maintaining*

team members and looks at internal processes, and considers what the organization can do to support wellness more broadly. Being organizationally well requires looking at management practices, work processes, meeting structures, and cadence. Seeing patterns in how and who gets promoted is valuable, as well as defining what work-life balance and more hybrid work styles might mean for your organization. As we move forward from this past year of remote work and concerns about health security, climate change, and social equity, we enter an era of heightened awareness of the impact the built

environment has on the environment and the organizational and social structures they represent. What you build and how you invest your resources is a representation of your values. Workplaces are no longer just a place to find a desk.

The office is the place that team members come to define a career. It's a platform for learning. It's where we can create and invent. It provides a sense of belonging. And it gives those who inhabit and occupy these spaces an ability to feel connected to a purpose — it's a place to thrive.

High-Performing Teams Need Psychological Safety. Here's How to Create It

"There's no team without trust," says Paul Santagata, Head of Industry at Google. He knows the results of the tech giant's massive two-year [study on team performance](#), which revealed that the highest-performing teams have one thing in common: psychological safety, the belief that you won't be punished when you make a mistake. [Studies](#) show that psychological safety allows for moderate risk-taking, speaking your mind, creativity, and sticking your neck out without fear of having it cut off — just the types of behavior that lead to market breakthroughs.

Ancient evolutionary adaptations explain why [psychological safety is both fragile and vital to success](#) in uncertain, interdependent environments. The brain processes a provocation by a boss, competitive coworker, or dismissive subordinate as a life-or-death threat. The amygdala, the alarm bell in the brain, ignites the fight-or-flight response, hijacking higher brain centers. This "act first, think later" brain structure shuts down perspective and analytical reasoning. Quite literally, just when we need it most, we lose our minds. While that fight-or-flight reaction may save us in life-or-death situations, it handicaps the strategic thinking needed in today's workplace. Twenty-first-century success depends on another system — the broaden-and-build mode of positive emotion, which allows us to solve complex problems and foster cooperative relationships. Barbara Fredrickson at the University of North Carolina has found that positive emotions like trust, curiosity,

confidence, and inspiration broaden the mind and help us build psychological, social, and physical resources. We become more open-minded, resilient, motivated, and persistent when we feel safe. Humor increases, as does solution-finding and divergent thinking — the cognitive process underlying creativity. When the workplace feels challenging but not threatening, teams can sustain the broaden-and-build mode. Oxytocin levels in our brains rise, eliciting trust and trust-making behavior. This is a huge factor in team success, as Santagata attests: "In Google's fast-paced, highly demanding environment, our success hinges on the ability to take risks and be vulnerable in front of peers."

So how can you increase psychological safety on your own team? Try replicating the steps that Santagata took with his:

1. Approach conflict as a collaborator, not an adversary. We humans hate losing even more than we love winning. A perceived loss triggers attempts to reestablish fairness through competition, criticism, or disengagement, which is a form of workplace-learned helplessness. Santagata knows that true success is a win-win outcome, so when conflicts come up, he avoids triggering a fight-or-flight reaction by asking, "How could we achieve a mutually desirable outcome?"

2. Speak human to human. Underlying every team's who-did-what confrontation are universal needs such as respect, competence, social status, and autonomy. Recognizing these deeper needs

naturally elicits trust and promotes positive language and behaviors. Santagata reminded his team that even in the most contentious negotiations, the other party is just like them and aims to walk away happy. He led them through a reflection called "Just Like Me," which asks you to consider:

- This person has beliefs, perspectives, and opinions, just like me.
- This person has hopes, anxieties, and vulnerabilities, just like me.
- This person has friends, family, and perhaps children who love them, just like me.
- This person wants to feel respected, appreciated, and competent, just like me.
- This person wishes for peace, joy, and happiness, just like me.

3. Anticipate reactions and plan countermoves.

"Thinking through in advance how your audience will react to your messaging helps ensure your content will be heard, versus your audience hearing an attack on their identity or ego," explains Santagata. Skillfully confront difficult conversations head-on by preparing for likely reactions. For example, you may need to gather concrete evidence to counter defensiveness when discussing hot-button issues. Santagata asks himself, "If I position my point in this manner, what are the possible objections, and how would I respond to those counterarguments?" He says, "Looking at the discussion from this third-party perspective exposes weaknesses in my positions and encourages me to rethink my argument."

Specifically, he asks:

- What are my main points?
- What are three ways my listeners are likely to respond?
- How will I respond to each of those scenarios?

4. Replace blame with curiosity. If team members sense that you're trying to blame them for something, you become their saber-toothed tiger. John Gottman's research at the University of Washington shows that blame and criticism reliably escalate conflict, leading to defensiveness and — eventually — to disengagement.

The alternative to blame is curiosity. If you believe you already know what the other person is thinking, then you're not ready to have a conversation. Instead, adopt a learning mindset, knowing you don't have

all the facts. Here's how:

- State the problematic behavior or outcome as an observation, and use factual, neutral language. For example, "In the past two months there's been a noticeable drop in your participation during meetings and progress appears to be slowing on your project."
- Engage them in an exploration. For example, "I imagine there are multiple factors at play. Perhaps we could uncover what they are together?"
- Ask for solutions. The people who are responsible for creating a problem often hold the keys to solving it. That's why a positive outcome typically depends on their input and buy-in. Ask directly, "What do you think needs to happen here?" Or, "What would be your ideal scenario?" Another question leading to solutions is: "How could I support you?"

5. Ask for feedback on delivery. Asking for feedback on how you delivered your message disarms your opponent, illuminates blind spots in communication skills, and models fallibility, which increases trust in leaders. Santagata closes difficult conversations with these questions:

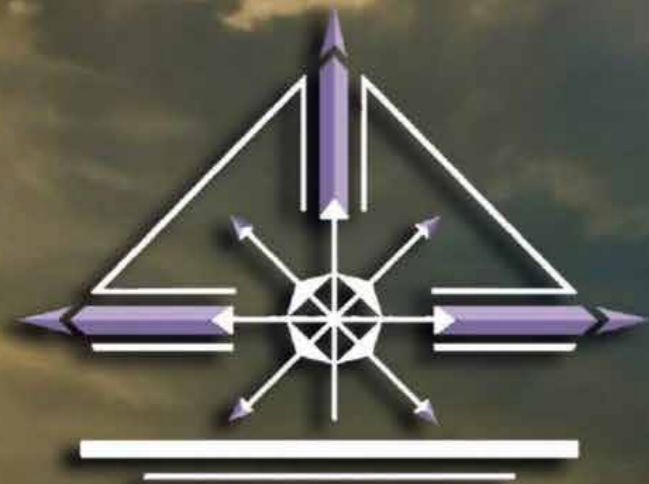
- What worked and what didn't work in my delivery?
- How did it feel to hear this message?
- How could I have presented it more effectively?

For example, Santagata asked about his delivery after giving his senior manager tough feedback. His manager replied, "This could have felt like a punch in the stomach, but you presented reasonable evidence and that made me want to hear more. You were also eager to discuss the challenges I had, which led to solutions."

6. Measure psychological safety. Santagata periodically asks his team how safe they feel and what could enhance their feeling of safety. In addition, his team routinely takes surveys on psychological safety and other team dynamics. Some teams at Google include questions such as, "How confident are you that you won't receive retaliation or criticism if you admit an error or make a mistake?"

If you create this sense of psychological safety on your own team starting now, you can expect to see higher levels of engagement, increased motivation to tackle difficult problems, more learning and development opportunities, and better performance.

Source: <https://hbr.org/>



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