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Collaboration for Change to Tackle Challenges and Achieve Sustainability

Few industries have witnessed as many changes as shipping over the last decade. In fact, almost every novel trend, paradigm, technological, environmental development or (un)expected global event has also had a significant impact on shipping.

Fortunately, there is a persistent will to adapt to change and the industry's resilience continues to invest in innovations and initiatives that support compliance and further sustainability.

Decarbonization is not a concept or a matter for wishful thinking anymore. **The IMO has set specific strategies and regulations** are now in place which are continuously revised to strengthen its commitment to achieving the net zero target by around 2050. Recent **EEI and CII regulations** for example, have raised the bar on compliance to levels where vessels need specific plans for energy efficiency. Shipowners and operators will not only need to monitor CO₂ emissions more effectively but also commit to consistently reducing emissions year on year. The EU Emissions Trading System (ETS) will also encourage owners to phase in lower carbon operations. As a result of the recent regulations, we are also seeing a shift in the traditional shipowner-charterer relationship, as both parties are compelled to collaborate to protect assets and their future tradability.

Alternative Fuels and Digitalization

On the other hand, despite initial high hopes, lack of clarity surrounds the alternative fuels that will best support shipping's lower carbon future. Recently, at an event organized by isalos.net with the Eugenides Foundation and the embassies of the United Kingdom and Norway to mark 50 years since MARPOL, the following question was posed to over 250 participants: What fuel do you think shipping will use in 2050? The overwhelming majority answered 'petroleum'.

We take this straw poll at face value, but also as a reflection of current views on the progress being made on new fuels and when they will be widely available. **The Greek maritime industry is nonetheless working hard to overcome shipping's decarbonization challenge.** There are many factors that still need to be considered such as the costs of new fuels, availability and the required infrastructure, in addition to technical challenges that arise throughout the development and trialling process. However, the current lack of alternative fuels means shipowners and operators are now primarily focusing on investing in solutions that will ensure transparent ship operations.

In this respect, **digitalization is now an integral part of the decarbonization process** as it facilitates the fastest implementation by effectively providing the necessary tools for reducing fuel consumption and thus CO₂ emissions. It is not hyperbole to claim that it is through digitalization that shipping operators are currently making their most effective strides towards greener operations.



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For example, digital solutions such as route optimization, effective weather routing, trim optimization and others have been proven to improve fuel consumption and reduce CO₂ emissions. Latest digital technologies play a key role in the comprehensive monitoring of ship operations as they allow for both the situational awareness and transparency to ensure compliance.

Artificial intelligence (AI) and Digital Twins (DT) are also increasingly becoming part of mainstream owner thinking, although investment in such technologies requires careful consideration.

Addressing Labour Shortages

At the same time, all the technological advancements mentioned above in combination with the everchanging regulatory requirements require new skills and demand for highly skilled mariners has intensified. As ships become more technologically advanced, a lack



Photo: UNSPLASH

of skilled personnel onboard could have a serious impact on ship operations. However, ship operators are increasingly reporting that they are struggling to recruit and retain skilled staff. If not dealt with efficiently soon, this growing condition may seriously threaten the very core of maritime operations onboard ships.

To address the **labour shortages**, shipowners and operators must therefore also invest in crew training to allow personnel to upskill, as well as in the solutions to attract new talent to the shipping industry. Shipping competes with other sectors, and without the appropriate investment in training and the next generation, the industry's ability to further adapt, innovate or even maintain its high standards in safety and efficiency may be compromised.

Encouraging change

The maritime industry has continued to develop a wide range of solutions to address the challenges it faces.

HEMEXPO works very closely with shipping companies in Greece to fully comprehend the challenges they are coming up against. As the world's largest shipping nation, **HEMEXPO** and its members gain direct feedback and real insights from this highly perceptive group of owners and operators which can be applied to the wider shipping industry. This has enabled **HEMEXPO** members to identify key emerging technologies and develop solutions that support the industry's green transition at an early stage.

The reopening of two major shipyards in Greece – the Skaramanga and Elefsina yards – also presents new opportunities for equipment manufacturers, as well as providing shipowners with greater access to the innovative, high-quality and cost-effective solutions produced in Greece.

The response from shipping companies in the direction of decarbonisation and digitalisation has also been very encouraging and we are seeing more willingness to embrace new technologies. Many newbuild orders now include the latest technology with a view to maximizing ship performance, sustainability and future regulatory requirements. For existing fleets, many retrofit projects are underway that involve the installation of various innovative systems. Options include new monitoring and automation solutions, propeller refits, low friction coatings, air lubrication systems and the installation of sails (including rotor sails). Also, all severe energy demanding consumers onboard the ships are now redesigned to be more efficient when it comes to their needs and consumption.

New fuel developments will take several years to mature, and this makes the alternatives difficult to evaluate. It is likely that to maintain momentum toward decarbonization, we will instead see greater use of green technologies and equipment onboard in the short-medium term, and then a slow transition to a multi-fuel model that will be determined by cost, availability and vessel/fuel compatibility.

In the meantime, progressive technologies can help. A good example of a technology that can help reduce emissions while petroleum remains in use, is carbon capture and storage systems. These systems also need time to mature, but some are close to market readiness, and many shipping companies are closely monitoring this technology.

In any event, collaboration is the most crucial factor if the shipping industry is to maintain its resilience and commitment to change.

I am therefore proud of the continuous emphasis **HEMEXPO** places on collaboration at both an international and national level and believe it will be the key to success and to securing a sustainable future as it encourages knowledge sharing and enhances transparency across the multiple stakeholders of future shipping. ■