



Too slow IMO?

By MEHRANGIZ SHAHBAKHSH

Pictured: Mehrangiz Shahbakhsh, a doctoral-level researcher on human factors in autonomous shipping and a member of staff at Shipping Australia. Photo credit: Ian Ackerman.

Will IMO's slow response to regulating remotely operated and autonomous ships impact the future of seafarers?

In a world where the maritime industry rapidly shifts to digitalisation and green fuels, our seafarers remain trapped in outdated training methods. This isn't just a gap—it's a ticking time bomb. Many ships are already equipped with advanced technologies and, in some cases, alternative fuels, yet the seafarers operating them may not be sufficiently competent. This situation demands immediate action from IMO and a clear path forward; otherwise, the shipping industry might face safety and security risks related to ship operations.

Yes, countries are considering the use of advanced technologies in their shipping industries and may adopt national policies and regulations for remotely operated, autonomous, and green ships. These decisions are influenced by factors such as their risk tolerance, social dynamics, and the technology and

infrastructure available at their ports and ships. However, given the global nature of the shipping industry, these new ships should, sooner or later, be able to operate across international borders or coexist with conventional ships. In this context, the role of the IMO as a leading authority is highlighted, emphasising the need for a sustainable approach to minimise fragmented methods and develop standardised practices.

The shift to remotely operated and autonomous shipping is progressing; however, it is not an isolated phenomenon, but a part of the broader Industry 4.0 revolution. It demands multiple transformations, with the most significant being the twin pillars of digitalisation and decarbonisation (the 'double D trend'). This shift is simultaneously revolutionising operations ashore, as well as the ship's propulsion and navigation systems, paving the way for gradual changes.



Pictured: a snail. Many parties, such as regulators, and many areas, such as seafarer training, are not keeping pace with industry changes. Photo credit: Joshua Kettle via Unsplash.

Research findings

A recently published paper based on ongoing PhD research at the University of Tasmania/Australian Maritime College (UTAS-AMC) shows that seafarers are not the sole focus of evolving trends; these shifts are impacting the entire maritime workforce and its stakeholders. The roles of all industry players, including both yours and mine, are being reshaped by these technical and technological advancements, albeit at different rates and in various directions. However, seafarers are the most directly affected. There is a noticeable gap between the rapid pace of technological progress and their adaptation and training in embracing these technologies, where they are expected to become professional and knowledgeable users. They are at the forefront of bridging this gap, making it imperative to equip them with new skills and competencies for safely operating and managing such systems.

A hybrid workplace model and evolving skill set

In the transition period towards remotely operated and autonomous shipping, research data indicate that a hybrid workplace model will gradually be introduced. This model will require seafarers to work both onboard ships and in Remote Operation Centres (ROCs), for a period determined by their adaptability and professional background, to acquire the necessary skills and competencies. Moreover, in the future, the onboard ship workplace will significantly differ from traditional settings, with future seafarers potentially overseeing multiple departments. This multi-disciplinary responsibility will be requiring seafarers to gain new competencies across different departments of ships.

Furthermore, the research data shows a phased approach for seafarers. Initially, in addition to their seafaring skills, they are expected to gain basic knowledge in areas such as Artificial Intelligence (AI), the Internet of Things (IoT), Cyber-Physical Systems (CPS), Cloud Computing, and Cybersecurity. As the transition advances, their expertise will need to expand to include a deep understanding of intelligent system operations and effective data utilisation within the framework of IoT and data science. The ability to integrate and interpret data from various sources, recognising the potential and limitations