

ITF Ship Automation Working Group

Policy Statement – March 26, 2018

Autonomous ships, however they are defined, raise many complex and difficult issues. It is recognized they may impact employment opportunities, training, safety, security, the ship /shore interface and interactions with ports, pilotage, responses to incidents and the marine environment. It is essential that highly automated ships are capable of at least a level of safety comparable to conventional ships. And, that any future progression to unmanned ships is an evolutionary process effectively managed through effective collective bargaining agreements and adequate regulation to ensure safety and avoid serious disruptions to the industry including its impact on seafarers.

Noting the views of professional seafarers as well as the shipowners whose investments in technology will shape the future. It is believed that unmanned ships in international shipping are a distant possibility for numerous economic and technical reasons. In the foreseeable future it is anticipated that international shipping will focus on gaining efficiency through Information and Communications Technology, digitalization and automation to support onboard human decisions and improve performance on both the bridge and in the engine room.

It is anticipated the application of automaton technology will be an evolutionary progression as it is introduced in commercial usage in the international operating environment. The first phase will be the development of semi- autonomous systems to support and supplement ship board functions in conjunction with onboard human supervision and intervention. Experience will determine what functions are capable of being performed routinely with little human intervention and what functions require higher levels of human involvement. There will be a natural progression to higher levels of semi-autonomous systems where their use was proven safe and economically justified. The progression will be user experienced and demand driven, rather than technology driven by suppliers.

At the same time sensor technology with data exchange technology and communication links to permit shore based monitoring of shipboard functions will be further developed to allow greater levels of shore based management of ship board functions, performance and efficiency. The reliability, safety and economic benefits in actual commercial usage will determine the future extent and feasibility of remote control. Again, the progression will be user experienced and demand driven, rather than technology driven.

In later phases ships may be capable of operating in dual mode relying on semi-autonomous systems under routine circumstances with higher levels of onboard human involvement under non-routine circumstances such as high traffic, congested waters, heavy weather, equipment failure, or unforeseen circumstances. Actual user experience will determine at what point it may be economically feasible and technically

justified to phase in shore based rather than onboard human involvement for higher level decisions. The reliability, safety and economic benefits in actual commercial usage will determine the future role of remote operation.

At this time the focus should be on identifying functional requirements for various operating scenarios and ensuring that the semi-autonomous systems managing those functions have an appropriate balance between automation performance and human supervision to ensure that are safe and reliable. It could have a near term significant impact on seafarers working conditions and ship safety and efficiency.

It is believed that the introduction of automation technology will follow the same pattern as past transitions to newer technology in the maritime industry, such as sail to steam, steam to diesel, coal to oil, and radar and ECDIS. It will be an evolutionary process over a time period that permits human adaptation to new circumstances.

Having fully autonomous unmanned ships as the primary goal at this time is an unrealistic distraction from what could be a productive advancement in working conditions, safety and efficiency through technology.