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This presentation explores the ethical and legal foundations of Maritime Autonomous Surface Ships (MASS) within the established framework of international maritime law. MASS use artificial intelligence (AI) to carry out functions traditionally undertaken by human seafarers. These include planning routes, detecting and avoiding collisions, responding to emergencies, etc. This shift in decision-making raises questions about responsibility, accountability and the ethical limits of machine action at sea.

The research adopts a qualitative research design combining doctrinal legal analysis with normative ethical analysis. The research assesses whether current international legal instruments including the United Nations Convention on the Law of the Seas (UNCLOS), the Convention on the International Regulations for Preventing Collisions at Sea (COLREGs), and the Maritime Labour Convention (MLC) 2006, have the structural capacity to support autonomous decision-making at sea.

The research finds that existing maritime law is anthropocentric. It was designed by, for and around the human seafarer. It also finds that the introduction of AI-driven autonomy creates regulatory gaps and exposes the normative assumptions on which regulation rests.

Through this combined legal and ethical analysis, the research identifies three major areas of tension related to MASS: the normative deficiency of COLREGs rule 2 for machine action, the limitations of machines in terms of morality during lifesaving activities under Article 98 UNCLOS, and issues surrounding algorithmic bias in environmental protection and labour displacement.

The presentation concludes by recommending that MASS comply with technical and ethical standards to fulfil the moral demands of maritime governance. This proposed solution offers a legally actionable framework for evaluating MASS readiness beyond technical certification and contributes to ongoing discussions of AI regulation in high-risk environments.

Keywords

Maritime Autonomous Surface Ships (MASS), autonomous decision-making, maritime governance, ethical regulation