



# **The IMO MASS Seminar - Summary Report**

Dr Aref Fakhry, Associate Professor, WMU; Advocate

International Maritime and Transport Law Course, Inter-University Centre, Dubrovnik, Croatia,  
5-10 September 2021



# Outline

- Who, what and why?
- The agenda in brief
- Run-through of salient presentations
- Q&A of interest
- What is the contribution of the seminar?
- Conclusion
- Caveats



## Who, what and why?

- MSC/LEG/FAL MASS Joint Working Group
- IMO organised this with lead from MSD
- Moderated by delegates from MSC and LEG
- Speakers from different fields and sectors invited
- Speaking about recent advances in ship automation and specifically how to build a regulatory framework
- Output directly usable in WG

---

**The industry and States want IMO to  
iron out a regulatory framework for  
MASS**



## The agenda in brief

- Panel 1: Practical perspective of operating MASS
- Panel 2: Industry perspective: Status report on MASS technology and outlook for future MASS operations
- Panel 3: Research and development
- Panel 4: Regulating MASS within the framework of UNCLOS
- Panel 5: Operating MASS: Legal issues related to communication and enforcement



## Panel 1: Practical perspective of operating MASS

- Technological development is incremental
- MASS should interact with conventional vessels and services eg VTS, VHF.
- We need to decide what we mean by MASS in order to make a decision on the scope of a MASS code.
- In practice, in the situation nearing a collision navigators use VHF to communicate with the other vessels, something which is not even contemplated by COLREGS.
- How can the remote operator “feel” the same responsibility as the navigator on board?
- Many concepts need revisiting, eg, master, responsible of navigation, ordinary practice of seamen, proper look-out.
- The Vienna Convention on the Law of Treaties (art 17) says treaties should be interpreted with the intention in mind but MASS were not in the mind of the drafters.



## Panel 1: Practical perspective of operating MASS (cont'd)

- Some countries are leading, many do not have a strategy.
- Seafarers are already affected in their work by sweeping technology.
- Seafarers are undergoing stress from new technology installed on ships and they do not have adequate training or even recognition from companies.
- International instruments regarding maritime labour and human element do not address technostress adequately.
- A collaborative approach is called for between international organisations and non-governmental organisations. IMO cannot do it alone.
- It's not the ship that will be affected, but all the system, including the port, RCC and other parties.
- There is a lot of focus on new tech, but enough on mixed traffic. There should be common rules.

**'Chicken and egg situation – Would you foresee, that the commercial shipping will drive the regulatory development, or the other way around? Standard contracts for autonomous shipping are already in place, and more than a handful of commercial projects are ready for operation. Are MASS regulation behind reality?' (BIMCO)**

---



## Panel 2: Industry perspective: Status report on MASS technology and outlook for future MASS operations

- Regulatory development is the biggest obstacle now, eg, COLREGS.
- Survey and certification need to be thought of.
- Using already a lot USV in ocean observation.
- One of the reasons for the frustration with the IMO Work, is that the IMO deals with ships in international trade which are above a certain size (typically GT 500 or L > 24 meter). Most of the presented USV are smaller, in national trade or attached to a larger ship.
- Are there standardised test and evaluation methods (verification and validation V&V) ? - No! They have internal systems and testing standards, eg, sound and visual lookout. The latter is particularly unaligned from one standard to another.



## Panel 3: Research and development

- Huge research reported on including highful successful trials.
- Japan developed guidelines for MASS trials and development.

**'CIn the context of automation and autonomy we accept assertions of superior performance. In many other spheres (e.g. subdivision of passenger ship, LSA) we require extensive formal safety assessments before taking action. As some of the other questions highlight, automatic and autonomous are not perfect. Another reason for the pace of action is a lack of objective data openly highlighting the emergent risks which IMO should be managing for each level of autonomy (however defined).'** (IMPA)

---



## Panel 4: Regulating MASS within the framework of UNCLOS

- LOS has always been responsive to technology, eg, canon shot. UNCLOS is not all LOS, there is also customary law.
- The first two degrees of ship autonomy pose no problem for LOS since there are crews.
- No definitions of 'ship' or 'vessel' in UNCLOS.
- For MASS to be considered a ship or vessel is not an issue!
- Reliance on definitions in generally accepted international rules and standards (GAIRAS) adopted by IMO under UNCLOS is sufficient.
- Flag states decide on registration of ships and they have obligations as flag, coastal and port states.
- We could assume that the persons in control of the ship remotely have to have qualifications developed by IMO (Art 94(4)(b)).



## Panel 4: Regulating MASS within the framework of UNCLOS (cont'd)

- The genuine link has to be considered carefully.
- Will it be OK to situate the remote controllers outside the territory of the registration of the vessel.
- IMO should take up this issue, not UN as a whole.
- References to aerial devices
- UNCLOS needs to be interpreted in an evolutive way.
- Whether UNCLOS is an umbrella or a regulatory convention.
- Role of ICJ and ITLOS



## **Panel 5: Operating MASS: Legal issues related to communication and enforcement**

- Key challenges



## Panel 6: National MASS regulatory and technological development

- UK
- Singapore
- It is not about crewless ships, it should be more about automation of tasks.
- UK is envisaging a number of creative solutions, eg, remote control centres offshore. They would benefit from some signals from IMO.
- Singapore would like detailed MASS code from IMO, even non-mandatory to start with since industry has all sorts of ways of doing this.
- The difference between autonomous and non-autonomous operations is the fall-back state.
- It should not be assumed that everything in place will apply to MASS. Things may have to change.

---

**What is the contribution of the seminar?**



## What is the contribution of the seminar?

- Real solutions and inventions presented
- Dialogue between science/research/technology and policy/law
- Suggested a structure for the MASS code, including seafarers, and MARPOL. IACS is developing its own MASS code.
- IMO Member States talk to other stakeholders on an equal footing.

---

# Conclusion



## Conclusion

- We cannot expect UNCLOS to be changed and the development of a regulatory framework is not insurmountable.
- The master can be on shore, eg, remote master in UK suggested legislation.
- It is important to have legal and technical people working together like at this seminar.