

IALA COUNCIL
76th session



12-16 December 2022
Rio de Janeiro
Brazil

10 - TECHNICAL ACTIVITIES

10.5 – VTS Committee

10. 5.19 Implications of MASS from a VTS Perspective

Note by the VTS Committee

1 INTRODUCTION

The advent of MASS will have significant implications for how VTS contributes to the safety of life at sea, safety and efficiency of navigation, and the protection of the environment within the VTS area by mitigating the development of unsafe situations.

This includes how VTS will manage ship traffic and the interaction between VTS, ships (both conventional and autonomous), allied services and RCCs through mix of traditional VHF voice, digital communications, and automated data exchange to mitigate the development of unsafe situations by:

- Providing timely and relevant information on factors that may influence the ship's movements and assist onboard decision-making.
- Monitoring and managing ship traffic.
- Responding to developing unsafe situations.

The Committee commenced *Task 1.2.5 – Develop guidance on the Implications of Maritime Autonomous Surface Ships (MASS) from a VTS Perspective* at VTS50. A key component in undertaking this task has been the preparation of a Discussion Paper to assist the Committee achieve a common understanding of MASS and its implications on the provision of VTS.

2 DISCUSSION

The Discussion Paper is seen as pivotal to gaining a common understanding of the implications of MASS from a VTS perspective and provide the foundation for preparing guidance to assist VTS providers contribute to the safety and efficiency of vessel movements in the VTS area with the advent of MASS. The document:

- Focusses on the “operational requirements” for managing ship traffic and the interaction between VTS, ships (both conventional and autonomous), allied services and RCCs through mix of traditional VHF voice, digital communications, and automated data exchange; and
- Aims to clearly and concisely identify:
 - Trends and opportunities presented by MASS.
 - Issues / challenges / expectations for the management of ship traffic in a VTS area.
 - Options, policies, and strategies for VTS to embrace / influence MASS.

IALA COUNCIL
76th session



12-16 December 2022
Rio de Janeiro
Brazil

- Implications for the regulatory and legal framework for VTS.
- Implications for IALA Standards relating to VTS.

The Discussion Paper has been prepared based on the following assumptions:

- MASS will be required to participate in VTS. That is, subject to the same:
 - regulatory reporting requirements; and
 - obligations with regards to the issue of advice, warnings and instructions as deemed necessary.
- MASS will be subject to COLREG, as amended.
- MASS will be required to broadcast status as to who/what is in command at any time (Master/automated onboard command system/Remote Control Center).

The paper focuses on key operational considerations for managing ship traffic, including:

- What is required to manage ship traffic and the interactions between conventional and autonomous ships, VTS and RCC's, such as:
 - The role of human operators in transitioning from the traditional means of vessel navigation, ship traffic management and communications, to more highly automated voyage planning, data exchange, and ship traffic management.
 - Ensuring the intent of messages conveyed to actors, including allied services, is the same, irrespective of the technology used to deliver it (e.g., voice/digital/automated data exchange)
 - This includes the provision of information and issuing advice, warnings, and instructions to achieve the purpose of VTS.
 - How VTS receives, assimilates, and processes data and information from MASS.
 - How does VTS interact with MASS and the entity in command of the ship (RCC/automated systems), including managing interaction with multiple RCC's.
 - How VTS responds to the development of unsafe situations involving MASS.
 - Knowing the degree of MASS for individual ships at any time.
 - Responding to situations where a ship needs to be contained / controlled.
- Standards for digital communications, both autonomous and conventional ships, including how:
 - "Ships" provide reports and information required by a VTS.
 - VTS provide "ships" with information on factors that may influence ship movements and assist "onboard decision-making".
- The role of VTS and interaction with RCC's and autonomous ships.

**IALA COUNCIL
76th session**



**12-16 December 2022
Rio de Janeiro
Brazil**

Recognizing that much of the advent of MASS is within the remit of other international organizations, particularly the IMO, there is a rapidly emerging need for the VTS community and IALA to engage in the change process. This includes participation in the development of a goal-based instrument for MASS (IMO Maritime Safety Committee) to communicate the functional / operation requirements to manage ship traffic.

In this regard the Discussion Paper also explores how to communicate with stakeholders and engage in the development of a goal-based instrument for MASS using the Road Map approved by IMO (MSC 105).

3 THE COUNCIL IS REQUESTED TO

Note the Discussion Paper and bring it to the attention of their competent authorities, VTS providers and relevant stakeholders to encourage engagement with IALA and IMO in the development of the goal-based instrument for MASS.

4 ANNEX

C76-10.5.19.1 Discussion paper – Implications of Maritime Autonomous Surface Ships from a VTS Perspective.