

**8th meeting of the IHO MASS PT
13th November 2024 – 1100 - 1300 (UTC)**

Proposed Agenda

Ref	Item	Lead
1	Welcome and Introduction	Chair
2	Report from IHO Council and status of Project Team.	Chair
3	Revision of Terms of Reference and Work Plan for Project Team.	Chair/ Member states
4	<p>Review of Action Items from PT7:</p> <ul style="list-style-type: none"> ○ ACTION-PT-7-1: To think and propose candidacy for role of Secretary – All Members ○ ACTION-PT-7-2: To recruit new Member States in areas of MASS activity – Chair ○ ACTION-PT-7-3: Recruit additional MASS industry experts, specifically from Japan and Norway - All Members ○ ACTION-PT-7-4: With industry, develop use-cases and test-scenarios around the use of navigation data - All Members ○ ACTION-PT-7-5: Continue to engage with IALA MASS Task Force – Chair & Member States ○ ACTION-PT-7-6: Engage academia in research and data trials - Chair & Member States ○ ACTION-PT-7-7: Make sample S-100 data sets available to MASS for trials – CHS;NOAA;KHOA ○ ACTION-PT-7-8: Engage with IMO specifically on the MASS Code – Mark Casey ○ ACTION-PT-7-9: Begin planning and engagement of MASS sea trials using S-100 sometime in 2025 – KHOA ○ ACTION-PT-7-10: Begin planning to repeat Discovery and Analysis process for new MASS requirements sometime in 2025 - All Members ○ ACTION-PT-7-11: Set date and venue for next meeting post IHO Council - Completed ○ ACTION-PT-7-12: Republic of Korea is proposing to hold the 1st meeting in person (with a potential virtual option) potentially in April 2025 – Vice-Chair; KHOA 	chair

5	<p>Review of Input Papers / Proposals and future Work Items from members.</p> <p>a. PT-8-Input-1: Proposal on the Development of "Standards for Unmanned Survey Vessels" – China MSA</p> <p>b. <i>ENC for autonomous navigation ENG</i> - A.Sabaidash, GEOPHONE GROUP INTERNATIONAL Oy</p> <p>c. IHO S-100 Phase-2 Product Specs to support Route Planning</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; border-radius: 15px; background-color: #4a7ebb; color: white; padding: 10px; width: 30%;"> <p style="text-align: center; margin: 0;">Phase 1 / Route Monitoring</p> <p style="text-align: center; margin: 0;">Phase 1 Route Monitoring Mode</p> <p style="margin: 5px 0;">S-101 ENC S-102 Bathymetry S-104 Water Level S-111 Surface Currents S-124 Navigational Warnings S-129 UKC Management</p> <p style="text-align: center; margin: 5px 0;">Critical Framework</p> <p style="margin: 5px 0;">IHO Geospatial Information Registry S-98 Interoperability Specification S-100 Universal Hydrographic Data Model S-128 Catalogue of Nautical Products S-164 Test Data Set for S-100 and ECDIS Type Approval</p> </div> <div style="font-size: 2em; color: #4a7ebb; margin: 0 10px;">➔</div> <div style="border: 1px solid black; border-radius: 15px; background-color: #4a7ebb; color: white; padding: 10px; width: 30%;"> <p style="text-align: center; margin: 0;">Phase 2 / Route Planning</p> <p style="text-align: center; margin: 0;">Phase 2 Route Planning Mode</p> <p style="margin: 5px 0;">S-122 Marine Protected Areas S-123 Marine Radio Services S-125 Marine Aids to Navigation (AtoN) S-126 Marine Physical Environment S-127 Marine Traffic Management S-131 Marine Harbour Infrastructure S-411 Ice Information (WMO) S-412 Weather and Wave Hazards (WMO)</p> <p style="text-align: center; margin: 5px 0;">+ S-100 Products used in Monitoring Mode</p> </div> </div>	
6	Any other business	Chair
7	Review of actions	Chair/Secretary
8	Date and format of Next Meeting	Chair

Meeting minutes

1.0 Welcome and Introduction

- Paul Burton (Chair) welcomed members, presented agenda. Round table for presentation of all members;

Present:

Brazil	Edson Furtado Magno Cesar Reinert Bulhões de Morais
Canada	Annie Biron (temporary Secretary)
Republic of Korea	IM Namkyun (vice-chair)
UK	Paul Burton (Chair)
USA (NGA)	Frederick Sanders
National Research Council Canada	Ayda Elhage
H2i	Denis Hains
Robosys	Keith Henderson
BLKSAIL	Mohamed Saad
China	Ruiran Wang
Finland	Valtteri Laine
Solent University	Zakirul Bhuiyan

Research Institute of Medium & small Shipbuilding	Shin Hyuksun
IALA	Minsu Jeon
Avikus, Republic of Korea	Hyogyeeong Joo
GeoMAC student, Philippines	Mona Rabino
?	Wilhelm Dorle
?	Felipe Eiras

2.0 Report from IHO Council and status of Project Team.

- Chair summarised the result of the outcome of the IHO Council in October and subsequent meeting with HSSC Chair, Magnus Wallhagen and IHO Director, John Nyberg.
 - The PT would not become a WG at the moment.
 - The PT to continue for the moment.
 - The PT to form new Objectives based on the Objectives defined and agreed for the WG.
 - The PT to continue to work to the 5-year Work Plan agreed for the WG.

3.0 Revision of Terms of Reference and Work Plan for Project Team.

- The Draft TORs, incorporating the Objectives from the WG, were reviewed and accepted without comment. It was agreed to accept the Work Plan as agreed previously.
- Canada (Annie Biron) pointed out that, with the current number of members active in the PT, there may be a need to manage expectations on how much of the Work Plan the group can achieve.
 - **ActionPT8 -1: Chair to submit ToRs to HSSC for endorsement. The TP report to HSSC will include the caveat that the Work Plan may need to be prioritised.**

4.0 Review of Action Items from PT7:

- ACTION-PT-7-1: To think and propose candidacy for role of Secretary – All Members
 - Non one came forward. Waiting for candidacy.
 - **ACTIONPT8-2: Chair to check with IHO Secretariat, whether industry can supply the Secretary role**
- ACTION-PT-7-2: To recruit new Member States in areas of MASS activity – Chair
 - Denis Hains, H2i Consulting suggested contributing a one-side inform piece to the International Hydrographic Review to raise the profile of the PT with HOs and the wider domain.
 - **Action PT8-3: Chair to: a) submit a circular letter to IHO Secretariat for circulation to MS. b) submit a one-page summary of the work of the PT to IHR.**
- ACTION-PT-7-3: Recruit additional MASS industry experts, specifically from Japan and Norway - All Members **On-going item part of work plan**
 - Denis Hains mentioned that the IMPA (international maritime pilot association) is making a research on remote pilotage and we could reach out to increase MASSPT recruitment.
 - **Action PT8-4: Chair to contact IMPA**
- ACTION-PT-7-4: With industry, develop use-cases and test-scenarios around the use of navigation data - All Members **On-going item part of work plan**

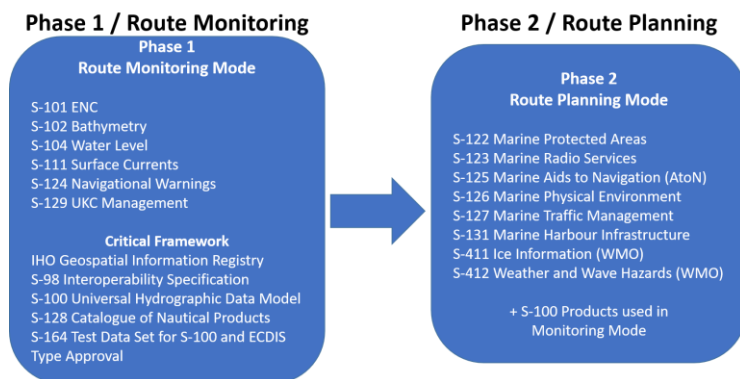
- IM Namkyun (vice chair) mentioned that he had a project with industry that could be presented at a future meeting.
- See PT7-7 seabed trials. Industry could take advantage of Canada's S-100 sea trial to develop and test scenarios.
- ACTION-PT-7-5: Continue to engage with IALA MASS Task Force – Chair & Member States
 - Chair presented the work of the group IHO MASS PT at the last IALA MASS TF. Links between the two groups are established and Minsu Jeon, of IALA, is a member of this PT.
 - **Complete.**
 - We will have a standing Agenda Item covering liaison with IALA MASS activity.
- ACTION-PT-7-6: Engage academia in research and data trials - Chair & Member States
 - Zakirul Bhuiyan, Solent University, UK offered to present the work the university has done in support of MASS initiatives.
 - **Action PT8-5: Chair to add an Agenda item for next meeting for Academia presentation.**
- ACTION-PT-7-7: Make sample S-100 data sets available to MASS for trials – CHS;NOAA;KHOA
 - Canada (Annie Biron) summarised the work they are doing to provide Trial datasets of the S-100 Phase 1 Products, covering the St Lawrence River. All members were invited to an Information Session on this initiative on 14 Nov 2024 (Link was provided in the meeting chat).
- ACTION-PT-7-8: Engage with IMO specifically on the MASS Code – Mark Casey
 - A summary was given of the development of the IMO MASS Code, in particular Chapter 17 – Navigation. The proposed wording “Electronic Navigation Data Service (ENDS)” was not adopted but the draft wording makes reference to data having to be provided by “electronic means” and “in a machine readable format”.
 - **Closed**
 - Discussion around sailing directions. Some are in an electronic nautical publications but not machine readable (structured information) per se.
- ACTION-PT-7-9: Begin planning and engagement of MASS sea trials using S-100 sometime in 2025 – KHOA
 - Korea gave a presentation on trials they have undertaken, including a voyage from Korea to the Philippines which was conducted autonomously for significant periods of the passage. Mixte voyage: autonomous and manned portions. They used S-57 but plan to use S-101 in 2025, along S-104,S-102, S-129. Tests provides information of dangers along planned routes.
 - **Action PT8-6: Korea to provide abridged presentation to Chair.**
 - Zakirul Bhuiyan mentioned that for MASS developers, training on S-101 is essential as well as feedback from end users.
- ACTION-PT-7-10: Begin planning to repeat Discovery and Analysis process for new MASS requirements sometime in 2025 - All Members
 - On going
- ACTION-PT-7-11: Set date and venue for next meeting post IHO Council – **Completed,no-action**
- ACTION-PT-7-12: Republic of Korea is proposing to hold the 1st meeting in person (with a potential virtual option) potentially in April 2025 – Vice-Chair; KHOA
 - 2 propositions were presented to members (location Seoul or Busan):

1. After June 2025 (September/October) with potential sea trail test vessel visit. A virtual meeting would be planned late spring/early summer.
2. April 2025 with a potential experimentation laboratory visit

Action PT8-7: Members are requested to come back to chair with preferences via email prior to December 6 2024.

5.0 Review of Input Papers / Proposals and future Work Items from members.

- a. **PT-8-Input-1: Proposal on the Development of "Standards for Unmanned Survey Vessels" – China MSA**
 - China presented their paper. The group agreed that this did not fall into the remit of this PT but may be applicable to the IHO Hydrographic Survey WG.
- b. *ENC for autonomous navigation ENG - A.Sabaidash, GEOPHONE GROUP INTERNATIONAL Oy*
 - This paper was briefly discussed. Although the intent of the paper was understood the consensus was:
 - S-102 is the identified solution to this problem.
 - Most users / industry implementations are asking for more depth areas and less spot soundings.
 - Many HOs will struggle to have the capacity to implement a revised sounding density, especially retrospectively to products and data already produced.
- c. IHO S-100 Phase-2 Product Specs to support Route Planning



- This was briefly explained as Phase 2 S-100 products being the potential priority for assessment of the group following the direction of HSSC Chair.

6.0 Any other business

- none

7.0 Review of actions

- Actions were not reviewed during the meeting, but off line by secretary and chair.

8.0 Set date and venue for next meeting post IHO Council

- See **Action PT8-6**
- Chair thanks all members and closes the meeting at 13:10 (UTC).