

The objectives of the Project Team are:

- a. to identify and prioritize MASS navigation requirements.
- b. to analyse their impacts on current hydrographic standards and services; and
- c. to develop a set of recommendations/issues to be addressed by existing working groups.

To achieve this mandate the following work packages, need to take place in 2 stages.

The first stage is a **Discovery & Reporting** stage to identify and prioritise MASS Navigation requirements in each region. This will then be collated and conclusions drawn to then feed into the second stage.

The second stage is dependent on the first **Discovery & Reporting** stage and cannot commence until the navigation requirements for MASS are fully understood. Therefore, it is expected that this stage will not commence until stage 1 is complete, though there may be opportunities for overlapping of the stages as information and insights become available.

The second stage is an **Analysis & Recommendations** stage which will aim to understand the impacts on current and future hydrographic navigation standards and services, identify issues and make recommendations to the relevant Working Groups for resolving those issues in order to drive the future development of the standards. Reporting up to the relevant working groups will not necessarily wait until the end of this stage, but will happen as and when appropriate. This stage will conclude with a final written report with a set of recommendations based on what has been achieved at the end of the time frame and what remains outstanding from the Project Team's work.

Stage 1 - Discovery & Reporting:

WP1: Revisit the IMO scoping study into autonomous shipping, considering the four defined degrees of autonomy, identify any gaps in its findings and for the MASS PT to then make recommendations to HSSC to be considered for submitting to the IMO by the IHO.

WP2: Identify and report what test bed activities are happening in each region and which degree of autonomy is predominantly used – all PT member states.

WP3: Report on what data MASS operators and MASS navigation systems are using today – all PT member states.

WP4: Report what navigational data each PT member states' regulators are specifying should be used for MASS navigation in either trials or operations of MASS - all PT member states.

WP5: To what degree are PT member states involved in MASS trials or operations and what data are they currently providing – all PT member states.

WP6: Report on what trailing has been done with new navigation standards (e.g. S100) for MASS, or what research into machine readable data has been carried out in each region? – all PT member states.

WP7: Whilst conducting the **Discovery & Reporting** each PT member state should advocate the use of official data in MASS trials and operations.

WP8: conflation of reports and synthesis of detailed navigation requirements for MASS - Volunteer PT member state.

Stage 2 - Analysis & Recommendations:

WP9: Analysis of S101, S104, S111 and S102 (in their current state) for all IMO Degrees of Autonomy and highlight gaps and make recommendations to resolve for MASS navigation - Volunteer PT member state.

WP10: Analysis of the wider S100 standards for all IMO Degrees of Autonomy and highlight gaps within the standards themselves or identify where new standards are required and make recommendations to resolve for MASS navigation - Volunteer PT member state.

WP11: Analysis of the S57/S100 data protection schemes to determine if appropriate for all IMO degrees of Autonomy and highlight gaps and make recommendations to resolve for MASS navigation - Volunteer PT member state.

WP12: Analysis of the S57/S100 data update policy and process to determine if appropriate for all IMO degrees of Autonomy and highlight gaps and make recommendations to resolve for MASS navigation – Volunteer PT member state.

WP13: Create and submit a MASS PT agreed final report and recommendations for next steps to HSSC – Chair of the MASS PT

