Deliverable D1.20
MCP Standardisation Plan

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1. Introduction

IALA coordinated a Workshop on Implementation of the Maritime Connectivity Platform (MCP) in November 2017 and took an action to prepare a plan for the international standardisation of the MCP.

2. Background

The Maritime Connectivity Platform concept has been developed as "A communication framework enabling efficient, secure, reliable and seamless electronic information exchange among all authorized maritime stakeholders across available communication systems", based on the IMO e-navigation strategy.

Amongst the conclusions of a Workshop on Implementation of the MCP held in November 2017 were: 'There is a need to investigate the most appropriate way to promote the MCP in international bodies.'; 'To ensure all-important trust in the identity registries, the root–level identifier and related rules would ideally be established and maintained by ITU.' and 'Getting attractive services and "apps" on the platform is critical in the short term. In the long term the MCP must be included in key frameworks by e.g. the IMO and ITU'.

This paper has been prepared by IALA as part of EfficienSea 2 WP1 to provide an initial plan for standardization of the MCP.

3. Relevant Organisations

Organisations that need to be considered in the standardisation of the MCP include ITU, IMO, IEC, IHO, ISO and IALA.

ITU- The International Telecommunication Union (ITU) is the United Nations specialized agency for information and communications technologies. The ITU Telecommunication Standardization Sector (ITU-T) is the sector which coordinates standards for telecommunications.

IMO - The International Maritime Organization (IMO) is the UN specialized agency with responsibility for the safety and security of shipping and the prevention of marine pollution by ships. IMO sets the performance standards for systems and onboard equipment, based on established user requirements.

IEC - The International Electrotechnical Commission (IEC) is the international standards and conformity assessment body for all fields of electrotechnology. IEC provides the requirements and test specification for the onboard user equipment, based on the output from IMO and ITU.

IHO - The International Hydrographic Organization (IHO) is the inter-governmental organisation representing hydrography. The IHO Universal Hydrographic Data Model (S-100) has been adopted as the baseline for the e-navigation Common Maritime Data Structure.

ISO - The International Organization for Standardization (ISO) is an international standard-setting body composed of representatives from various national standards organizations.

IALA - The International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) is an international, non-governmental technical association. IALA sets operational and performance recommendations and guidelines for service providers and system manufacturers.

The procedure for introducing new subjects or systems for discussion in each of these organisations will be discussed in the sections that follow.

3.1. ITU

The Standardization Sector, ITU-T is probably the most appropriate sector for the MCP. ITU-T provides standards for Information Systems and the Internet of Things. The MCP is not known to be under discussion at present in ITU and the procedure for introducing a new subject is a Question. This needs to be submitted by an accredited body, such as a national telecommunications agency, industrial or academic institution member. However, a faster option may be to submit information in response to an existing question, if a relevant one exists. Therefore the first action should be to search for a relevant question. Information on the MCP can then be submitted to the Working Group dealing with that question. That Working Group may in response decide to convert that information into a Report. In turn, after due consideration, that Report may be turned into a Recommendation, which would go to the next (four-yearly) Assembly for approval. ITU-T also deals with international numbering systems, so the Recommendation could include setting up a registry to manage the identity registry for the MCP.

3.2. IMO

The work of IMO is handled by a number of Committees and Sub Committees. Those of most relevance to the MCP would be the Maritime Safety Committee (MSC) and its Sub Committee on Navigation, Communications Search and Rescue (NCSR). These bodies work to a biennial programme. In order to introduce a new subject, such as MCP it is necessary to get it on the work programme (WP). Again, if there is a relevant subject already in the WP, inputs can be made to the related agenda item and this would avoid a two year (minimum) delay. If there is general support for the introduction of a new system, such as MCP, it can become the subject of a Resolution. However, if this involves mandatory carriage of equipment this process can take several years and may not succeed at all. Therefore finding a suitable work item to address and introducing it as guidance, rather than a requirement may be the key to success.

3.3. IEC

The performance requirements and test specifications produced by IEC are based on outputs from ITU and IMO, so the IEC process generally follows on from the approval of documents by these bodies. The action required to initiate work in IEC is approval of a new Work Item. This would normally take place at a Technical Committee meeting, the most relevant being TC 80 Maritime navigation and radio-communication equipment and systems. There are also ISO/IEC Joint TCs, of which JTC 1 Information Technology and its sub-committee SC6 Telecommunications and information exchange between systems could be relevant.

3.4. IHO

S-100 is a standard for a Universal Hydrographic Data Model, rather than a Maritime Information System, however data exchange formats standardised to S-100 are likely to be used for many of the applications within the MCP.

3.5. ISO

There are several standards under the heading 'Telecommunications and information exchange between systems' mentioned above, that could be relevant to the MCP.

3.6. IALA

Currently a non-governmental technical association, IALA plans to become an inter-governmental organisation and publish standards. The standards heading most appropriate to the MCP would be Information Services. In the interim IALA is supporting development of the MCP through its e-Navigation Committee. A Guideline on Technical Service Specifications has been approved, underpinning the e-navigation structure that will be served by the MCP.

4. Action Plan

There are two aspects to standardisation of the MCP: firstly there is a need to identify standards with which alignment would be beneficial, for example IHO S-100 and ISO/IEC 8072, 8073, 8473; secondly new standards may be required to ensure recognition of the MCP within international bodies, in particular ITU and IMO.

A priority action for standardisation of the MCP is to find a suitable question in ITU which can be addressed (through national representatives on the relevant Study Group) with information about the MCP, to be followed up with a report including the need for management of the identity register. This could eventually be developed into a recommendation. The most appropriate Study Group appears to be SG 20 IoT. Likely questions include Q1/20: End to end connectivity, networks, interoperability, infrastructures and Big Data aspects related to IoT and SC&C; Q4/20: e/Smart services, applications and supporting platforms; Q6/20: Security, privacy, trust and identification for IoT and SC&C;

In parallel an input should be prepared to the IMO NCSR Sub Committee under the e-navigation agenda item, drawing attention to the potential of the MCP in making information available for maritime services. This could initially take the form of an Information Paper, but substantial inputs could also be submitted (by national members and international bodies) to NCSR, MSC and possibly HGDM.

The IALA e-navigation Committee may be a suitable conduit for preparing such inputs and at a later stage the IEC/ISO Joint Technical Committee could be the body to carry out the detailed work of preparing the specifications.

The timeline below indicates the initial activities, related to the relevant meetings of these organisations.

5. MCP Standardisation Timeline

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