

SUB-COMMITTEE ON NAVIGATION,
COMMUNICATIONS AND SEARCH AND
RESCUE
5th session
Agenda item 8

NCSR 5/8/X
XX December 2017
Original: ENGLISH

DEVELOP GUIDANCE ON DEFINITION AND HARMONIZATION OF THE FORMAT AND STRUCTURE OF MARITIME SERVICE PORTFOLIOS (MSPS)

IALA Guideline on the Specification of e-Navigation Technical Services

**Submitted by International Association of Marine Aids to Navigation
and Lighthouse Authorities (IALA)**

SUMMARY

<i>Executive summary:</i>	This document comments on the report of the first meeting of the IMO/IHO Harmonization Group on Data Modelling, NCSR 5/8 (Secretariat) and submits a short description of the Guideline that is requested by the Group
<i>Strategic direction:</i>	5.2
<i>High-level action:</i>	5.2.6
<i>Output:</i>	TBD
<i>Action to be taken:</i>	Paragraph 8
<i>Related documents:</i>	HGDM 1/5/2, HGDM 1/5/6, NCSR 5/8

Introduction

1 This document is submitted in accordance with the provision of paragraph 6.12.5 of the *Organization and method of work of the Maritime Safety Committee and the Maritime Environment Protection Committee and their subsidiary bodies* (MCS-MEPC.1/Circ.5) and provides comments on document NCSR 5/8 (Secretariat).

Background

2 IALA had developed a draft Guideline on the specification of e-navigation technical services in order to assist its Members who wished to develop the Maritime Service Portfolios (MSPs) within their remit. The draft Guideline was introduced to the IMO/IHO Harmonization

Group on Data Modelling at its meeting in October 2017 by input paper HGDM 1/5/2 (Australia et al.)

3 IALA informed the Group of the latest work on the development of the draft Guideline by input paper HGDM 1/5/6 (IALA).

4 The Group noted the IALA work and requested IALA to submit the final approved version of this Guideline to NCSR 5 with a short non-technical description of the Guideline (Paragraph. 10.3, annex of NCSR 5/8).

5 The Guideline was approved at the 65th session of the IALA Council meeting of December 2017. The Guideline is available for free download from the Products and Projects\Publications area of the IALA website <http://www.iala-aism.org>.

Comments

6 In reply to the request from the Group, IALA is pleased to submit the description as annexed to this document and refers the Group to the IALA website for the Guideline, which is approximately 80 pages in length.

7 IALA is of the view that the specification of e-navigation technical services is essential for organisations developing MSPs, and the Guideline will become a useful tool for this development and for harmonising the implementation of e-navigation worldwide.

Action requested of the Sub-Committee

8 The Sub-Committee is requested to note the comments, to download the Guideline if desired and to act as appropriate.

ANNEX

Description of IALA Guideline on Specification of e-navigation technical services

Maritime Services are high-level / operational services, such as organising a tug service, VTS service or providing MSI information. Maritime Services are implemented by a set of Technical Services. For harmonisation, the Maritime Services are described by using a common template (ref. HGDM report) uniformly. Part of this template is references to technical services relating in a standardized way to a specific Maritime Service. For harmonisation these technical services should be specified

The specifications is split into 3 parts:

- a **service specification**;
- a **service design description**;
- a **service instance description**.

The (technical) **service specification** covers the technical/digital service on a general level to implement the maritime services. The service specification is still technology agnostic. The service specification should include the following information:

- MRN ID for the service specification;
- Reference to the Maritime Services which make usage of the Technical Services;
- The operational context of the service in (e.g. requirements, use cases);
- The service interface descriptions (operations, parameters);
- The information provided and used by the service (the service data model);
- The dynamic behaviour of the service (sequence of operations, behaviour description);
- Author of the service specification (organisation, contact person).

A (technical) service specification will have one or several associated (technical) **service design descriptions**. Each technical design describes how the service is implemented using a specific technology. Service design descriptions should include the following information:

- MRN ID for the service design description;
- Reference to the service specification;
- Description of the chosen technology (communication technologies, infrastructure ...),
- Detailed description of the used data structures and types (service physical data model, encoding),
- Mapping of the used data structures to the service specification's service data model;
- Author of the technical design (organisation, contact person).

A (technical) service design will have one or several associated (technical) **service instance descriptions**. Each instance description is a reference (endpoint) to a specific service provider for this specific service following the specific design description. The instance description also contains additional information such as coverage area for the service providers instance of the service. A service instance includes the following information:

- MRN ID for the service instance description;
- Reference to the service technical design (and thus, implicitly, to the service specification);
- Information about service provider;

- Access / information (e.g. URL, Frequencies etc.)
- Geographical coverage information.

The relationship between the different levels of service descriptions are shown in this example:

Maritime Service	Technical Service specification	Technical service design description	Technical service instance description
VTS service	Inter VTS information exchange	Web service using REST	Provided by Sound VTS
			Provided by Helsinki VTS
		Web service using SOAP	Provided by Zandvliet VTS
		Other technical design for VTS information exchange	Another instance of that design provided by someone somewhere
	Route exchange ship to shore	Some technical design	Some instance
		Another design	Another instance
	Another technical VTS service
Another Maritime service
...

IALA has developed a detailed guideline for the specification of e-navigation technical services in accordance with the above mentioned structure and information elements (ref IALA guideline). The guideline is intended for use by engineers and developers that are responsible for making specifications of technical e-navigation services.