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Proposal to activate the IMO-IHO Harmonization Group on Data Modelling (HGDM)

Submitted by Brazil, South Africa,
the International Hydrographic Organization (IHO),
the International Association of Marine Aids to Navigation and Lighthouse Authorities
(IALA), and the International Harbour Masters Association (IHMA)

SUMMARY

<i>Executive summary:</i>	At the invitation of the Maritime Safety Committee (MSC), this document invites the Sub-Committee to consider and endorse a proposal to activate the IMO-IHO Harmonization Group on Data Modelling (HGDM) to work on the post-biennial output on the development of guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs).
<i>Strategic direction:</i>	5.2
<i>High-level action:</i>	5.2.6
<i>Planned output:</i>	Post-biennial output No. 132
<i>Action to be taken:</i>	Paragraph 13
<i>Related documents:</i>	MSC 90/28/Add.1, MSC 96/23/7, MSC 96/25, MSC 96/25/Add.1 NCSR 1/28, NCSR 4/2

Background

1. As a result of identified user needs, gap analysis and the IMO process leading to the development of the e-navigation Strategy Implementation Plan (SIP), one of the five prioritized solutions uses the concept of Maritime Service Portfolios (MSPs).
2. At MSC 96, the Committee agreed to include in its post-biennial agenda (2018-2019) an output on “Develop guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs)”, with two sessions needed to complete the item, assigning the NCSR Sub-Committee as the coordinating organ.
3. Regarding the proposal in document MSC 96/23/7 to activate the IMO-IHO Harmonization Group on Data Modelling (HGDM) to work on this output, the Committee recalled that MSC 90

had established this group, including its terms of reference, but the aforementioned group has never been formalized. Therefore, the Committee, taking into account the decision to include the output in its post-biennial agenda, agreed to invite the IHO to submit a proposal to the Committee and/or to NCSR to activate the HGDM, to work on this issue and include the modalities, e.g. venue and frequency for consideration at a later session of the Committee.

4. At the invitation of the Committee, the IHO coordinated the preparation of this proposal for the initial consideration of the NCSR Sub-Committee as the coordinating organ of the related output. This proposal has been endorsed by the IHO Hydrographic Services and Standards Committee at its 8th meeting (14-18 November 2016).

Analysis

5. The terms of reference of the HGDM adopted by MSC 90 are provided in Annex 1. They address the need of “some form of overarching coordination to ensure the ongoing management and maintenance of the (maritime information and data) structure” and task the group to “consider matters related to the framework for data access and information services under the scope of SOLAS”. The membership is currently open to “representatives of IMO and IHO Member States and Secretariats, and organizations with an official IMO/IHO observer status”.

6. As part of the improved provision of services to vessels through e-navigation, MSPs have been identified as the means of providing electronic information in a harmonized way. A MSP defines and describes the set of operational and technical services and their level of service provided by a stakeholder in a given sea area, waterway, or port, as appropriate. The relevant services, as currently defined by the SOLAS Convention, cover a broad scope, including aids to navigation, hydrographic services, maritime safety information, meteorological services, pilotage, vessel traffic services, etc.

7. MSPs have been identified in the SIP (NCSR 1/28, annex 7) as the framework for the electronic provision of information related to maritime services in a harmonized way between shore and ships. The agreed output aims to harmonize the format, structure and communication channels used to exchange that information. The intended output is an MSC resolution that provides guidance to Member States, international organizations, data and service providers to implement MSPs in a coordinated and harmonized manner.

8. The development of the MSP guidance will need to be coordinated with the development of the S-100 framework, which was adopted by MSC 90 as the baseline for the Common Maritime Data Structure which is at the heart of e-navigation.

9. The development of the MSP guidance will need to take into account the results of related developments coordinated by the IMO. They include the following outputs of the current biennium (2016-2017):

- Draft Modernization Plan of the Global Maritime Distress and Safety System (GMDSS);
- Additional modules to the Revised Performance Standards for Integrated Navigation Systems (INS) (resolution MSC.252(83)) relating to the harmonization of bridge design and display of information;
- Guidelines for the harmonized display of navigation information received via communications equipment;

- Revised Guidelines and criteria for ship reporting systems (resolution MSC.43(64)).

10. Subject to the related documents submitted to NCSR 4, the following modalities are proposed:

- .1 March 2017: NCSR 4 to task the appropriate working group to:
 - review the impact of related outputs on the future development of the MSP guidance,
 - review the progress in developing the S-100 framework,
 - draft a work plan for the HGDM on the basis of two three-day plenary sessions respectively in September-October 2017 (to be reported to NCSR 5) and in October-November 2018 (to be reported to NCSR 6),
 - consider the expertise required, including technical, operational and services expertise,
 - agree on the Chair of the HGDM, and
 - report to the Sub-Committee.
- .2 June 2017: MSC 98 to consider approving two meetings of the HGDM in September-October 2017 and October-November 2018, and inviting IMO and IHO Member States to nominate appropriate representatives to the HGDM;
- .3 July 2017: C 118 to consider endorsing two meetings of the HGDM, subject to the approval of MSC 98;
- .4 September-October 2017: first meeting of the HGDM at the IMO Headquarters (three days);
- .5 December 2017: A 30 to consider approving the 2018-2019 biennium;
- .6 [March 2018]: NCSR 5 to consider the interim report of the HGDM;
- .7 [May 2018]: MSC 99 to consider urgent matters emanating from NCSR 5;
- .8 [November 2018]: MSC 100 to consider non urgent matters emanating from NCSR 5;
- .9 October-November 2018: second meeting of the HGDM at the IMO Headquarters (three days);
- .10 [March 2019]: NCSR 6 to consider the final report of the HGDM;
- .11 [June 2019]: MSC 101 to consider the report of NCSR 6.

11. The proposal to activate the HGDM before the output has been discussed first by the Sub-Committee is justified by the need to effectively coordinate the relevant organizations and stakeholders as early as possible in order to develop an appropriate scoping of the MSP guidance for initial consideration by NCSR 5 and further advice so that a robust draft guidance may be developed in time for final consideration by NCSR 6.

12. A draft work plan is proposed in Annex 2 to assist the deliberation of the Sub-Committee.

Action requested of the Sub-Committee

13. The Sub-Committee is requested to:

- .1 endorse the activation of the HGDM in accordance with the modalities proposed in paragraph 10;
- .2 invite the Committee to authorize the activation of the HGDM in accordance with the appropriate work plan based on the outline proposed in Annex 2;
- .3 take any other action it considers appropriate.

ANNEX 1

TERMS OF REFERENCE FOR THE IMO/IHO HARMONIZATION GROUP ON DATA MODELLING (HGDM) (MSC 90/28/Add.1 - Annex 22)

1 In creating an e-navigation architecture, it is important to identify information and data flows, and the interactions between applications and user interfaces. Consequently, there needs to be a data structure to optimize the use, interoperability, flow and accessibility of relevant information and data within the maritime domain (including both ship and shore aspects). It is therefore important to harmonize efforts in data modelling, with the aim of creating and maintaining a robust and extendable maritime data structure. This maritime information and data structure will require some form of overarching coordination to ensure the ongoing management and maintenance of the structure.

2 There may be several management roles to be performed by such a coordinating body, (for example, the maintenance of registries and the development and adoption of product specifications). This management role may be shared between relevant organizations. The structure is a highly important element by which e-navigation can modernize the operational environment of the maritime industry and also fulfil the requirement of document MSC 85/26, annex 20.

3 The HGDM should be constituted of representatives of IMO and IHO Member States and Secretariats, and organizations with an official IMO/IHO observer status.

4 The HGDM should be chaired by an IMO Member State and supported by the Secretariat of the IMO.

5 The HGDM reports to the IMO Sub-Committee on Safety of Navigation (NAV)¹, and to the IHO through the IHB Directing Committee², as appropriate.

6 The HGDM should:

- .1 as requested by the IMO or the IHO, consider matters related to the framework for data access and information services under the scope of SOLAS, using as a baseline IHO's S-100 standard, with a view to harmonize and standardize:
 - .1 formats for the collection, exchange and distribution of data;
 - .2 processes and procedures for the collection; and
 - .3 development of open standard interfaces; and
- .2 review the results of studies by the IMO, the IHO and other related organizations which address aspects of access to information services under the scope of SOLAS, and advise the IMO and the IHO as to whether they are compatible with the e-navigation concept taking into account the identified user needs as they exist at the time.

¹ Now the IMO Sub-Committee on Navigation, Communications and Search and Rescue (NCSR).

² Now the IHO Secretariat.

ANNEX 2

DRAFT WORK PLAN FOR THE IMO/IHO HARMONIZATION GROUP ON DATA MODELLING (HGDM)

- 1 To consider the [definition and management / format, structure and communication channels] of the Maritime Service Portfolios (MSPs) as identified in the e-navigation Strategy Implementation Plan (NCSR 1/28, annex 7) and in accordance with the approved MSC output on “Develop guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs)” (MSP guidance);
- 2 To develop specifications for the architecture, implementation and management of the Common Maritime Data Structure (CMDs) necessary to support MSPs, taking into account the evolving e-navigation needs, [including data streaming], as well as current and future communication means;
- 3 To define, in particular, the role of S-100 and the related Geographic Information Registry and of submitting organizations in the implementation and management of the CMDs in order to ensure the harmonization and interoperability of related product specifications;
- 4 ...
- 5 To identify and propose work items that may require further consideration by the HGDM, under its current or revised terms of reference, and develop recommendations to that effect, if and as appropriate;
- 6 To submit an interim report with an initial scoping of the MSP guidance for the consideration of NCSR 5 by [November/December 2017];
- 7 To submit a report with a draft MSP guidance for the consideration of NCSR 6 by [November/December 2018].