

**8<sup>TH</sup> MEETING OF THE HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE  
IHB, Monaco, 15-18 November 2016**

**Paper for Consideration by HSSC**

**Comments on paper HSSC8-07.2A - IMO activities affecting HSSC (including e-navigation)**

***Activation of the IMO/IHO Harmonization Group on Data Modelling (HGDM)***

<b>Submitted by:</b>	IHB
<b>Executive Summary:</b>	As announced in paper HSSC8-7.2A (see paragraph 22), this paper reports on the outcome of the consultation of potential co-sponsors of the draft submission to NCSR 4 on activating the IMO/IHO Harmonization Group on Data Modelling (HGDM).
<b>Related Documents:</b>	HSSC8-07.2A - <i>IMO activities affecting HSSC (including e-navigation)</i>
<b>Related Projects:</b>	HSSC Work Programme Maintenance of IHO Publications and Services related to ENC and ECDIS.

1. In paper HSSC8-07.2A, the IHB invited the Committee to consider a draft submission to NCSR 4 related to the activation of the IMO/IHO Harmonization Group on Data Modelling (HGDM) to progress the post-biennial output agreed by the Maritime Safety Committee (MSC) on “*Develop guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs)*”. The paper indicated in paragraph 22 that the draft submission had been circulated to potential co-sponsors in parallel and that the outcome of the consultation would be reported in a subsequent comment paper.

2. The initial draft of the submission (Draft V0) had been circulated on 16 September 2016 to the co-sponsors of the submission to MSC 96 proposing a new output on MSPs (MSC 96/23/7). The following timeline was proposed, in accordance with the timeline for the preparation of HSSC 8:

23 September 2016: closing date for the first round of comments (V0);

26 September 2016: posting of the draft, amended as appropriate (V1), for consideration by HSSC and circulation for a second round;

21 October 2016: closing date for the second round of comments;

24 October 2016: posting of the revised draft (V2) for consideration by HSSC and circulation for a third round;

11 November 2016: closing date for the third round of comments;

14-18 November 2016: presentation of V3=V2+comments and discussion at HSSC;

21 November 2016: circulation of the revised draft (V4) for the final round;

30 November 2016: closing date for the final round;

2 December 2016: final proposal sent to the IMO Secretariat.

3. Accordingly, the draft V1 version at Annex B of HSSC8-07.2A took into account the outcome of this first round of consultation. This version was circulated on 26 September for the second round of consultation. Contact was also established with the IMO Secretariat to seek their view on the draft submission.

4. Annex A reports on the outcome of the second round and the revised version of the draft submission (Draft V2) is attached at Annex B. The final outcome of the on-going consultation with the IMO Secretariat will be reported when available. The outcome of the third round of consultation of the potential co-sponsors will be reported orally to HSSC-8.

5. **The HSSC is invited to consider this paper and any additional comments that may be received before HSSC-8 when discussing paper HSSC8-07.2A.**

***Annexes:***

- A. Preparation of a submission to NCSR 4 on the activation of the IMO-IHO Harmonization Group on Data Modelling (HGDM) - Outcome of Round 2 -26 September - 22 October 2016
- B. Draft submission to NCSR 4 on activating the IMO/IHO HGDM (Draft V2)

**Preparation of a submission to NCSR 4 on the activation of the IMO-IHO Harmonization Group on Data Modelling (HGDM)  
Outcome of Round 2  
26 September - 22 October 2016**

No.	Source (Chronological order)	Comment	Response of the Proposal Coordinator
2-01	<b>Canada</b> E-mail from	Canada reviewed [the paper] and is interested to be added as co-sponsor provided that our comments are taking into account.	See 2-02 to 2-04 hereinafter.
2-02	<i>Pierre D'Arcy</i> dated 14 Oct 2016 17:16:50 +0000	a. Amend the last sentence of paragraph 5 as follows: The membership is currently open to “representatives of IMO and IHO Member States and Secretariats, and organizations with an official IMO/IHO observer status” <u>and should include technical, operational and services experts.</u>	Paragraph 5 describes the current status of the HGDM Terms of Reference. It is proposed to reflect the proposal through two amendments to paragraphs 10.1 and 10.2. See Draft V2.
2-03		b. Considering that the level of service [of MSPs] should be the prerogative of the National authorities or organizations in charge of the service, amend the second sentence of paragraph 6 as follows: A MSP defines and describes the set of operational and technical services <u>and their level of service</u> provided by a stakeholder in a given sea area, waterway, or port, as appropriate.	The definition of MSPs was agreed at NAV 57 (see paragraph 23 of NAV 57/6, paragraph 3.5 of NAV 57/WP.6 and paragraph 6.35 of NAV 57/15). It is the view of the coordinator that including the description of the level of service in the definition of any MSP does not infer any assumption on the prerogatives of the relevant authorities or organizations. Therefore no change is proposed at this stage.
2-04		c. We suggest to remove [data streaming from item 2] of the work plan [see Annex 2] as it may divert the discussion to issues other than the one pursued by this paper. Data streaming may not be well-received by shipowners at this stage. Item 2 should read: 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, <u>as well as current and future communication means including data streaming</u>	Data streaming was mentioned at the request of IALA (see item 1-13 of the outcome of round 1). The words “including data streaming” are placed in square brackets in Draft V2 for further consideration. See Draft V2.

No.	Source <i>(Chronological order)</i>	Comment	Response of the Proposal Coordinator
2-05	<b>IMO Secretariat</b> E-mail from <i>Hiroyuki Yamada</i> dated <i>20 Oct 2016 17:13:47</i> <i>+0000</i>	We would like to discuss some details of the Group, in particular on the work plan (annex 2 to your draft) and the modalities/schedule (paragraph 10), in order that the Group would be smoothly agreed upon by NCSR and accepted by the MSC, according to the relevant IMO's procedure and meeting schedule.	It is expected that further discussion with the IMO Secretariat will be held by video conference during the week 24 to 28 October. The outcome will be reported when available.
2-06	<b>Australia</b> E-mail from <i>Nick Lemon</i> dated <i>21 Oct 2016 05:37:36</i> <i>+0000</i>	Australia won't cosponsor the paper. I will however do as much as I can to be in a position to support the paper at NCSR 4.	Noted.
2-07	<b>CIRM</b> E-mail from <i>Richard Doherty</i> dated <i>21 Oct 2016 08:34:05</i> <i>+0000</i>	Our members do not have any comments to make on this version of the draft.	Noted.

No.	Source <i>(Chronological order)</i>	Comment	Response of the Proposal Coordinator
2-08	<b>IHMA</b> E-mail from <i>Anne Carnegie</i> dated 22 Oct 2016 17:05:41 +0100	<p>IHMA would like to comment on the first point of Annex 2 which states:</p> <p>1 To consider the definition and management 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);</p> <p>We are concerned that “to consider the definition and management of the Maritime Service Portfolios” is a very broad statement for a work plan on data modelling and could be interpreted to mean that the descriptions of the MSPs in NCSR 1/28 annex 7 are to be reviewed. We do not think that this is what is intended and could lead the HGDM away from its core work on data modelling. If we are correct in this respect, we suggest the following amendment so that it is clear that the HGDM focuses on the framework for data access and information services. The proposed revision suggested below then leads into point 2 and its focus on the specifications for the Common Maritime Data Structure.</p> <p>1 To consider the <u>definition and management format, structure and communication channels</u> 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);</p>	<p>Item 1 of the work plan reflect the input from IALA (see item 1-10 of the outcome of round 1).</p> <p>As indicated in paragraph 17 of the E-navigation SIP (NCSR 1/28, Annex 7) and reflected in paragraph 7 of MSC 96/23/7, the list of MSPs is a “proposed list” and has not yet been formally agreed by the stakeholders. The proposed change is placed in square brackets in Draft V2 for further consideration.</p> <p>See Draft V2.</p>

SUB-COMMITTEE ON NAVIGATION,  
COMMUNICATIONS AND SEARCH AND  
RESCUE  
4<sup>th</sup> session  
Agenda item 2

NCSR 4/2/xx - Draft V2  
xx November 2016  
Original: ENGLISH

## DECISIONS OF OTHER IMO BODIES

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

Submitted by .. and the International Hydrographic Organization (IHO)

#### SUMMARY

*Executive summary:* 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 relevant agreed outputs related to the e-navigation Strategy Implementation Plan (SIP).

*Strategic direction:* 5.2

*High-level action:* 5.2.6

*Planned output:* [Post-biennial output No. 132]

*Action to be taken:* Paragraph 12

*Related documents:* 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.

### 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 two-day plenary sessions respectively in January 2018 (to be reported to NCSR 5, subject to the Sub-Committee authorizing a late submission if required) and in December 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 January and December 2018, and inviting IMO and IHO Member States to nominate appropriate representatives to the HGDM, subject to the approval of the 2017-2018 biennium by the Assembly;
- .3 July 2017: C 118 to consider endorsing two meetings of the HGDM in 2018, subject to the approval of MSC 98;
- .4 December 2017: A 30 to consider approving the 2017-2018 biennium;
- .5 January 2018: first meeting of the HGDM at the IMO Headquarters (two days);
- .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 December 2018: second meeting of the HGDM at the IMO Headquarters (two 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. A draft work plan is proposed in Annex 2 to assist the deliberation of the Sub-Committee.

#### **Action requested of the Sub-Committee**

12. 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;



.3 take any other action it considers appropriate.

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DRAFT V2

## 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)<sup>1</sup>, and to the IHO through the IHB Directing Committee<sup>2</sup>, 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.

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

<sup>2</sup> 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);
- 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 for the consideration of NCSR 5 by ...
- 7 To submit a report for the consideration of NCSR 6 by ...