8TH MEETING OF THE HYDROGRAPHIC SERVICES AND STANDARDS COMMITTEE
IHB, Monaco, 15-18 November 2016

Paper for Consideration by HSSC

IMO activities affecting HSSC (including e-navigation)

Submitted by:	IHB
Executive Summary:	This paper summarizes discussions and decisions taken by the IMO since HSSC-7 that may be relevant to the work of HSSC.
Related Documents:	HSSC7-07.2A - *IMO activities affecting HSSC (including e-navigation)* IHO CL 13/2016 dated 10 March - *Report on the 3rd Session of the IMO Sub Committee on Navigation, Communications and Search and Rescue (NCSR3)* IHO CL 24/2016 dated 25 May - *Report on the 96th Session of the IMO Maritime Safety Committee* NCSR 3/9 dated 18 December 2015 - *Guidelines for the harmonized display of navigation information received via communications equipment - Contribution of the IHO S-100 Framework* NCSR 3/28/Rev.1 dated 25 December 2015 - *Any other business - Report on monitoring of ECDIS issues by the IHO* NCSR 3/INF.15 dated 25 December 2015 - *ECDIS-AIS linking with VHF DSC for simplification of addressed VHF radio communication and increasing DSC efficiency* MSC 96/23/7 dated 9 February 2016 - *E-navigation - New output on harmonized Maritime Service Portfolios* MSC.1/Circ.1526 dated 1 June 2016 - *Interim guidelines on maritime cyber risk management* MSC 97/19/9 dated 18 August 2016 - *Work Programme - Proposal for a new output on revising resolutions A.817(19) and MSC.232(82) to provide for an additional connection of ECDIS with communication equipment* III 3/5/5 dated 12 May 2016 - *Measures to harmonize port State control (PSC) activities and procedures worldwide - Poor navigational practices*
Related Projects:	HSSC Work Programme Maintenance of IHO Publications and Services related to ENC and ECDIS.

Introduction

1. The principal IMO activities since HSSC-7 that may affect the work of HSSC arose from the 3rd session of the IMO Sub Committee on Navigation, Communications and Search and Rescue (NCSR 3 - March 2016) and from the 96th session of the Maritime Safety Committee (MSC 96 - May 2016). The IHO, as an accredited observer to the IMO, was formally represented by the IHB at these meetings. A number of representatives drawn from hydrographic offices also formed part of several national delegations.

2. As reported to IHO Member States in the relevant IHO Circular Letters (see related documents) IMO activities relevant to HSSC covered three main subjects:

- E-navigation;
- ECDIS matters;
- Maritime cybersecurity.

E-navigation

Overview

3. MSC 96 agreed to include in the post-biennial agenda (2018-2019) an additional output related to e-navigation on "*Develop guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs)*". Table 1 summarizes the status of agreed outputs related to the implementation of the IMO e-navigation Strategy.

Table 1
Status of agreed outputs related to the implementation of the IMO e-navigation Strategy

Output	Target date	Coordinating Body	Status
Guidelines on harmonization of test beds reporting			*Completed* *MSC.1/Circ.1494 dated 21 November 2014*
Guideline on software quality assurance and human centred design for e-navigation			*Completed* *MSC.1/Circ.1512 dated 13 July 2015*
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	2017	NCSR	On-going China to coordinate a Correspondence Group and report to NCSR 4 (March 2017) See paragraphs 5 and 6
Guidelines for the harmonized display of navigation information received via communications equipment	2017	NCSR	On-going Norway to coordinate a joint proposal from interested Member Governments and international organizations to NCSR 4 (March 2017) See paragraph 8
Revised guidelines and criteria for ship reporting systems (resolution MSC.43(64))	2017	NCSR	On-going Test bed in progress Interested Member Governments and organizations to submit proposals to NCSR 4 (March 2017)
Guidelines on standardized modes of operation	2019	NCSR	Planned (2018-2019)
Guidance on definition and harmonization of the format and structure of Maritime Service Portfolios (MSPs)	2019	NCSR	Planned (2018-2019)

4. The deadline for submitting documents to NCSR 4 (March 2017) are:
   a) bulky documents (more than 6 pages): 2 December 2016,
   b) non bulky documents: 30 December 2016,
   c) documents commenting those referred to in a) and b): 20 January 2017.

Additional modules to the Revised Performance standards for Integrated Navigation Systems (INS)

5. The output is coordinated by China Maritime Safety Administration. China initiated the work of the Correspondence Group in June 2016 through circulating two draft additional modules addressing the harmonization of bridge design (module E) and the display of information received via communication equipment (module F) respectively. The IHO input is being coordinated by the IHB in liaison with the Chairs of the ENCWG, NIPWG, S-100WG, WWNWS-SC and S-124CG.

6. The IHO initial comments identified the need to address potential overlap or interference with the concurrent development of guidelines for the harmonized display of navigation information received via communications equipment and on standardized modes of operation (S-mode).

Guidelines for the harmonized display of navigation information received via communications equipment

7. In accordance with action HSSC7/34, the IHB submitted a paper to NCSR 3 on the contribution of the IHO to the harmonized display of navigation information through the S-100 Framework (see NCSR 3/9). The need for coordination between related activities conducted by the IHO and the IMO was highlighted, including the opportunity of activating the IMO/IHO Harmonization Group on Data Modelling (HGDM), which had been previously authorized by MSC 90 in 2012. Expectations that the output would provide a simplified and more user-friendly display of Marine Safety Information were expressed.

8. The development of draft guidelines is coordinated by the Norwegian Maritime Administration. Norway initiated the work in June 2016. The IHB invited the coordinator to liaise with the Chair of NIPWG, in accordance with action HSSC7/35 (see HSSC8-05.4A - Report of the Nautical Information Provision WG (NIPWG)).

Revised guidelines and criteria for ship reporting systems

9. Brazil, Norway, Singapore and InterManager (formerly ISMA - International Ship Managers' Association) reported to NCSR 3 the preparation of a test bed to support the revision of the guidelines and criteria. The test bed intends to demonstrate the exchange of the information reported by a ship departing from Norway and heading for three destinations: a port in EU, a port in Brazil and a port in Singapore. The use of the S-100 framework is one of the options to be considered to explore interoperable solutions. However other options may be considered in relation with the on-going harmonization and standardization of electronic exchange of information under the IMO Convention on Facilitation of International Maritime Traffic (FAL Convention) for which the three preferred options are EDIFACT (Electronic Data Interchange standard developed under the United Nations), XML and Excel.

10. Related submissions from China and the Republic of Korea highlight the importance of using recognized internationally harmonized standards and raise the issue of the overall harmonization and rationalization of IMO documents addressing ship reporting in relation with the development of a single window system in maritime transport which involves not only the MSC but also the IMO Facilitation Committee (FAL) and the IMO Marine Environment Protection Committee (MEPC).

11. **The HSSC is invited to consider if/how it would wish to be involved in the development of the maritime single window concept.**

Interconnection of NAVTEX and Inmarsat SafetyNET receivers and their display on Integrated Navigation Display Systems

12. Although this output was agreed by MSC 92 (2013) independently of the e-navigation SIP, it is directly related to the development of additional INS modules and of guidelines on the harmonized display of navigation information received via communications equipment. Therefore, the IHB endeavours to ensure that the contributions of the IHO to these three outputs are coordinated.

13. The USA proposed to NCSR 3 amendments to the *Revised performance standards for narrow-band direct-printing telegraph equipment for the reception of navigational and meteorological warnings and urgent information to ships* (resolution MSC.148(77)), the *Revised performance standards for enhanced group call (EGC) equipment* (resolution MSC.306(87)) and the *Revised*

performance standards for integrated navigation systems (INS) (resolution MSC.252(83)), related to interconnection, bridge alert management and display of NAVTEX and SafetyNET warnings on navigation display systems. Noting the relation with e-navigation outputs mentioned in paragraph 12 above, the NCSR agreed to invite the MSC to extend the target completion year for this output to 2017, and invited the USA and interested Member Governments and/or organizations, to submit revised proposals, as appropriate, to NCSR 4. MSC 96 endorsed the extension to 2017.

14. At the request of the USA, the NCSR instructed the Joint IMO/ITU Experts Group on Maritime Radiocommunication Matters to consider the proposed amendments referred to in paragraph 13 and advise the Sub-Committee as appropriate. The IHB provided input to the subsequent meeting of the Experts Group (IMO/ITU EG 12) in relation with the organization and processes of the World-Wide Navigational Warning Service (WWNWS), the development of S-124 and the need to consider the impact of introducing S-100-based products on existing performance standards.

15. **The HSSC is invited to confirm that the IHB should continue to monitor this output in liaison with the WWNWS-SC and the S-100WG**.

Guidelines on standardized modes of operation

16. The Republic of Korea informed NCSR 3 of the outcome of a workshop which engaged different groups of stakeholders, including ship operators, industry stakeholders and experts, to explore their views on the development of the so-called "S-mode". The interrelation between the development of additional INS modules and the future development of the S-mode was noted.

Guidance on Maritime Service Portfolios

17. The IHB co-sponsored on behalf of the IHO a submission to MSC 96 coordinated by Norway (MSC 96/23/7) proposing a new output on e-navigation to define and harmonize the format and structure of MSPs and to provide guidance on the appropriate communication channels used for the electronic exchange of information between shore and ship, including any necessary coordination mechanisms and transitional arrangements that may be required. The MSC agreed to include in the post-biennial agenda of the Committee (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.

18. The MSC expressed appreciation for the offer made by the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) to contribute to the coordination of the work related to the development of MSPs. The Committee welcomed any future input from other international organizations to this work and agreed to keep the coordination of this subject under the scope of the IMO, through the NCSR.

19. The IHB highlighted the proposal in document MSC 96/23/7 to activate the IMO/IHO HGDM to progress this output. The MSC agreed to invite the IHO to submit a proposal to the MSC and/or to the 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*".

20. The IHB and NIPWG were represented at a subsequent IALA workshop on shore-based maritime services co-hosted by the Norwegian Coastal Administration and the Portuguese Lighthouse Authority in Lisbon, Portugal. The conclusions of the workshop are provided in Annex A. They highlight the underpinning role of the IHO S-100 standard in the development of the format and structure of MSPs and also support the use of the IMO/IHO HGDM as a coordinating organ.

21. The IHB proposes to submit the proposal to activate the IMO/IHO HGDM to NCSR 4 and seek prior endorsement of the Sub-Committee for subsequent consideration by the MSC at its 98th session (June 2017).

22. **The HSSC is invited to consider the draft submission to NCSR 4 proposed in Annex B and provide comments and guidance as appropriate.** The draft submission has been circulated to potential co-sponsors in parallel. The outcome of the consultation will be reported in a subsequent comment paper.

ECDIS Matters

23. As announced at NCSR 3 (see document NCSR 3/INF.15), Ukraine has submitted to MSC 97 (21-25 November 2016) a proposal for a new output on the revision of the ECDIS Performance Standards in order to integrate VHF DSC radio equipment with ECDIS.

24. As indicated at HSSC-7, the IHB submitted to NCSR 3, on behalf of the IHO, a document reporting on the monitoring of ECDIS issues and chart coverage (NCSR 3/28/Rev.1).

25. The IHB reported the request of industry, endorsed by the ENCWG, to extend by one year, until 31 August 2017, the transition period for upgrading existing ECDIS systems to meet the revised set of IHO standards which came into force on 31 August 2015 for new ECDIS systems. The NCSR agreed the one-year extension. Noting the indication in the IHO report of the apparent and inappropriate use of the ECDIS Data Presentation and Performance Check by port State control (PSC) and vetting inspectors, NCSR agreed to invite the MSC to note the issue and refer it to the Sub-Committee on Implementation of IMO Instruments (III).

26. At its 3rd session (18-22 July 2016), III noted the outcome of NCSR 3 and a related submission by Australia regarding observed poor navigational practices and difficulties in operating electronic navigation equipment on some vessels visiting Australian ports (document III 3/5/5). Australia proposed that additional guidance be developed for PSC officers on the topic of electronic navigation systems. III noted the intended future conduct of a "Concentrated Inspection Campaign" (CIC) by the Paris and Tokyo PSC MoUs on SOLAS Chapter V, including the ECDIS-related requirements, and the recent development of PSC Guidelines on ECDIS. III acknowledged the need to seek concurrence of the MSC and the associated technical support by the NCSR and HTW Sub-Committees for early input, should PSC Guidelines on ECDIS be developed by the Sub-Committee. III invited the Paris MoU to consider submitting their guidelines on ECDIS to III 4 (July 2017) and other relevant IMO bodies. The USA supported the proposal to develop PSC guidelines on ECDIS and indicated its intention to make a relevant submission on this matter.

27. In view of the draft report of III 3, the IHB contacted the Secretariat of the Paris MoU to obtain a copy of their PSC guidelines on ECDIS. The IHB was advised that "*the provision of Paris MoU internal information is assessed on an individual basis and based on a policy agreed by the PSC Committee*". Therefore, the request will be considered at the next meeting of the PSC Committee in May 2017. Meanwhile, the IHB will monitor the documents submitted to III 4 and consider attending that session if appropriate.

28. **The HSSC is invited to consider the merit of issuing a CL inviting HOs to liaise with their national Maritime Administration and provide feedback on PSC issues related to the carriage and operation of ECDIS for further consideration by the ENCWG at its next meeting.**

29. The discussion of ECDIS issues at NCSR 3 was also informed by an off-session presentation coordinated by INTERTANKO, the International Association of Independent Tanker Owners. The presentation reported the wide variations in the skills of "certified ECDIS users", a prevalent lack of awareness of software maintenance requirements and a lack of appropriate procedures aboard ships. The presentation questioned the relevance of some provisions of the IMO ECDIS Performance Standards related to display options. The presentation highlighted the lack of flexibility in setting the safety depth and the difficulty to optimize the anti-grounding function due to the insufficient density of contour lines in most Electronic Navigational Charts.

30. **The HSSC is invited to consider tasking the ENCWG to reflect the requirement for denser contour lines in ENC in the revision of the guidance for ENC producers (IHO Publication S-65).**

31. The number of ships' reports on ENC/ECDIS Data Presentation and Performance Check received has continued to increase in 2016 as shown in Table 2. This is probably due to the promotion of the checks by various organizations in conjunction with the wider use of ECDIS.

Table 2
Outcome of ENC/ECDIS Data Presentation and Performance Checks for Ships

Period	1 Aug 2011 15 Apr 2013	15 Apr 2013 15 Apr 2014	15 Apr 2014 1 Dec 2014	1 Dec 2014 1 Dec 2015	1 Dec 2015 1 Sep 2016
Number of reports	1,042	76	74	1,318	2,853
% of reports indicating no problem	22%	43%	55%	73%	85%
% of reports indicating no anomaly in the display of "new objects"	60%	91%	95%	95%	92%

32. The results indicate a continuing improvement in the updating of ECDIS software. No new issue has been identified.

33. **Subject to the outcome of action HSSC7/38, the HSSC is invited to consider the future of the ECDIS check data set**, noting that the relevant section in the IMO Circular MSC.1/Circ.1503 - *ECDIS - Guidance on good practice* may be affected by any substantive changes.

Maritime cybersecurity

34. Using the Guidelines on cybersecurity on board ships generated by shipping industry stakeholders and information on national regulations provided by China, MSC 96 developed a draft MSC Circular on Guidance on Maritime Cyber Risk Management. It was widely agreed that industry was awaiting such guidance to enable it to start implementing appropriate cyber risk management processes, particularly in the environment of increased use of internet connectivity for ship borne operations and navigation. It was also agreed that the guidelines should be high-level and allow for regular updating to accommodate emerging cyber threats. The MSC approved the draft guidance (MSC.1/Circ.1526) for use as interim MSC Guidelines that would be forwarded to the 41st meeting of the IMO Facilitation Committee (FAL 41 - April 2017) for further consideration and finalization with a view to issuing a FAL/MSC Circular.

35. The guidelines provide high-level recommendations for maritime cyber risk management. They are intended for "all organizations in the shipping industry".

36. **The HSSC is invited to request the DPSWG to continue monitoring the development of guidance on cybersecurity and advise on appropriate actions within the scope of the IHO.**

Action required of HSSC

37. The HSSC is invited to:

a. **Note** this report,

b. **Consider** the following recommendations:

- Paragraph 11: consider if/how it would wish to be involved in the development of the maritime single window concept;
- Paragraph 15: confirm that the IHB should continue to monitor the output on interconnection of NAVTEX and Inmarsat SafetyNET receivers and their display on Integrated Navigation Display Systems in liaison with the WWNWS-SC and the S-100WG;
- Paragraph 22: consider the draft submission to NCSR 4 proposed in Annex B and provide comments and guidance as appropriate;

- Paragraph 28: consider the merit of issuing a CL inviting HOs to liaise with their national Maritime Administration and provide feedback on PSC issues related to the carriage and operation of ECDIS for further consideration by the ENCWG at its next meeting;
- Paragraph 30: consider tasking the ENCWG to reflect the requirement for denser contour lines in ENC in the revision of the guidance for ENC producers (IHO Publication S-65);
- Paragraph 33: consider the future of the ECDIS check data set, subject to the outcome of action HSSC7/38;
- Paragraph 36: request the DPSWG to continue monitoring the development of guidance on cybersecurity and advise on appropriate actions within the scope of the IHO.

c. **Take any other actions** considered necessary.

Annexes:

A. Conclusions of the IALA workshop on shore-based maritime services

B. Draft submission to NCSR 4 on activating the IMO/IHO HGDM

Conclusions of the IALA Workshop on Shore-based Maritime Services
From Theory to Practical Use
Lisbon, Portugal
24 - 26 May 2016

1. *The draft IALA Guideline on MSPs should be coordinated with other relevant international organisations and be proposed as a starting point to develop IMO guidelines supporting the output on MSPs agreed at MSC96.*

2. *IALA should participate in the IMO-IHO Harmonization Group on Data Modelling (HGDM), using as a baseline IHO's S-100 standard framework to harmonize and standardise formats for the collection, exchange and distribution of data, processes and procedures for the collection and development of open standard interfaces.*

3. *IALA should define the format and structure for those MSPs within the remit of IALA, engaging with other organisations as required. Development of some other MSPs will require IALA to engage with the responsible authorities / service definition owners.*

4. *The current list of 16 MSPs requires further refinement and should not be seen as the definitive/finalised list of MSPs.*

5. *Phased implementation should be used to further develop and implement MSPs, with the first phase being based on existing technology and systems and the second phase being introduction of additional equipment based on benefit rather than mandate.*

6. *Security, including ship-borne, cyber and shore-side, should be taken into account in the development and deployment of MSPs.*

7. *Product specification developers across all domains should promulgate draft and completed S-100 product specifications to make them available from a single location on the S-100 GI Registry on the IHO web site.*

Note: The report of the workshop is available at:

http://www.iala-aism.org/products/publications/262907161/workshop-on-shore-based-maritime-services---from-theory-to-practical-use

INTERNATIONAL MARITIME ORGANIZATION

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

NCSR 4/2/xx - Draft V1
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),
- 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, 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.

***

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 Committee[2], 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 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;

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 …