S-101PT8 REMOTE MEETING

06-07 DECEMBER 2021

MEETING RECORD

All Papers for the S-101PT8 meeting, including presentations, have been posted on the S-101PT8 meeting page at https://iho.int/en/s-101pt8-2021.

Abbreviations:

Chair	Tom Richardson	(IC-ENC)
Vice-Chair	Alvaro Sanchez	(Australia)
CM	Christian Mouden	(France)
DG	David Grant	(USA – NIWC)
HB	Holger Bothien	(7Cs)
JP	Jonathan Pritchard	(IIC)
JW	Jeff Wootton	(IHO Sec)
RM	Raphael Malyankar	(Portolan Sciences)
YB	Yong Baek	(IHO Sec)

Welcome/Logistics:

- The meeting commenced at 1200 CET. The S-101PT Chair, Tom Richardson, welcomed attendees to the meeting and thanked them for their attendance at the meeting. He acknowledged the continuing challenges of holding substantive meetings in the ongoing situation of the COVID-19 pandemic and thanked those participants that were attending the meeting from substantially different time zones.

- Introductory remarks were then made by IHO Director Abri Kampfer. Thanked all members for their ongoing contribution to the work of the WG and acknowledged that the task is not easy given the requirement to have remote meetings. Mentioned requirement to adhere to the S-100 Roadmap and offered the support of the Secretariat as required, including the resources of the IHO Special Projects Fund, possibly to satisfy the requirement for S-101 test data.

Topics	Document	Discussion, outcomes and actions
06/12/2021 (12:00 to 15:00 - CET)		
Participants	S101PT8-01	List of registered participants **[Chair]** [Docs: S-101PT8 Participants (to be posted after the meeting)] Notes: - The Chair was pleased to acknowledge 50 registered attendees for the meeting. Unfortunately the VTC format for the meeting precluded an "around the table" individual introduction of attendees.
Agenda	S101PT8-02	Meeting starts - duration - 3 hours [Docs: S-101PT8-02 - Agenda] Notes: - The meeting Agenda was approved without amendment. Tom noted the item on the Work Plan which was important to discuss at this meeting in regard to timelines.
HSSC 13 Actions	S101PT8-03	[Chair] [Docs: None] Notes: - The Chair provided an update on the progress of the Decisions and Actions from the HSSC13 remote meeting (03-07 May 2021) affecting the S-101PT. Highlighted the ISO 9001 cell (agenda item 30); and the Duel-Fuel Concept and Governance piece, with input to be provided by Jonathan (draft Governance document) if time allows.

		- JP: Workshops conducted (3 main and a few smaller). First version of the Governance document nearing completion (hopefully completed in next couple of days) and will be submitted to S-100WG6. Noted that there are some areas that have significant gaps. Also mentioned that there is a rationale as to the requirement for dual-fuel. Thanked all for participation in the Workshops. In terms of this meeting the most important issues are the scales and data load/unload strategy.
S101PT7 Report	S101PT8-04	[JW] [Docs: S-101PT8-04 – 101PT7 Report] Notes: - The report from S-101PT7 was approved without amendment.
S101PT Actions	S101PT8-05	Review actions and update as required **[Chair]** [Docs: S-101PT8-05 – S-101PT Actions (at 02 December 2021)] Notes: - All actions listed as completed/closed in the Actions list were confirmed. - All other Actions from previous meetings remain ongoing. The consolidated Actions list has been updated in accordance with discussions at S-101PT7 and can be downloaded from the S-101 section of the S-100WG page on the IHO web site at https://iho.int/en/miscellaneous-10. Actioners were encouraged to review the consolidated Actions list and provide updates to the Chair and IHO Secretariat as required.
DCEG Update	S101PT8-06	[JW] [Docs: S-101PT8-06.1 – S-101DCEG Update S-101PT8-06.1A – S-101 DCEG Draft Edition 1.0.2 Redline S-101PT8-06.1A – S-101 DCEG Draft Edition 1.0.2 Clean S-101PT8-06.1B – S-101 DCEG Change Log S-101PT8-06.1C – Binding Information Complex to Geo Features] Notes: - JW presented the changes made to the S-101 DCEG since the publication of Edition 1.0.1. He went through the changes already approved by the DCEG Sub-Group; changes resulting from actions from the S-101 Portrayal Sub-Group; and other changes that have been applied due to correspondence and other activities. JW further informed the meeting that all changes that are not of a minor editorial nature have been included in the DCEG Change Log spreadsheet. All substantive changes that have not already been approved by the DCEG Sub-Group, as well as items in the spreadsheet flagged as "for discussion" or "to be done" will be posted in the S-101 Documentation and FC GitHub repository as new issues for discussion in the coming weeks. - HB reported that some of the guidance in the DCEG related to the encoding of sounding and vertical datum information was incorrect and required some rework. - JW introduced the proposal that resulted from discussions within the (ENCWG) S-57 to S-101 Conversion Sub-Group to add the attributes **information** and **pictorial information** as allowable attributes for the S-101 geo features. There was general acceptance of the changes, however it was decided after concerns were raised by NO (supported by SE) over the changes in the modelling related to the attribute sectorLineLength to revert this change back to the modelling as in Edition 1.0.1. **Decisions:** **S-101PT8-01: The PT endorsed the proposal to add the attribute information and pictorial representation onto the geo features as outlined in Paper S-101PT8-01C.**

		S-101PT8-02: The PT approved the publication of Edition 1.0.2 of the DCEG and the subsequent creation of Edition 1.0.2 of the S-101 Feature Catalogue, pending the "wind-back" of the change related to the remodelling of the attribute sectorLineLength. **Actions:** **S-101PT8-03: JW to discuss with HB offline the issues related to sounding and vertical datum and apply changes to the draft DCEG Edition 1.0.2 (HB and IHO Sec).** **S-101PT8-04: Final redline and clean versions of the S-101 DCEG Edition 1.0.2 to be prepared and published on the S-101 page of the Product Specification Register within the IHO GI Registry (IHO Sec).** **S-101PT8-05: Final redline version of the finalised S-101 DCEG Edition 1.0.2 to be provided to KHOA for development of the Edition 1.0.2 Feature Catalogue as soon as possible. KHOA to prepare the draft Edition 1.0.2 Feature Catalogue for review (IHO Sec, KHOA).** **S-101PT8-06: All substantive changes applied to the S-101 DCEG Edition 1.0.2 that have not yet been approved by the DCEG Sub-Group to be included as new issues on the S-101 Documentation and FC GitHub repository (IHO Sec).**
Portrayal Update	S101PT8-07	[AS] [Docs: S-101PT8-07 – S-101 Portrayal Update S-101PT8-07.1A – Remodelled Items Spreadsheet S-101PT8-07.1C – S-101 and ECDIS Performance Log] Notes: - (Day 2) The S-101 Portrayal Sub-Group Lead (S-101PT Vice-Chair, Alvaro Sanchez) presented the progress report of the Sub-Group. He explained the rationalisation of the Sub-Group to focus specifically on portrayal aspects; summarised the progress of the Sub-Group since S-101PT7; and outlined the challenges being faced. - The recommendations included in the report were discussed. For Recommendation 4, D-Tech (IHO Sec) stated that a project to seek mariner input to new S-101 portrayal, alarms and indications and ECDIS performance development may be considered as a future project for the Singapore Lab. **Decisions:** **S-101PT8-07: It was agreed that the "S101 Portrayal subWG summary report" spreadsheet was to be refined to include only outstanding items and sent to the S-101PT for review by the end of January 2022.** **S-101PT8-08: It was decided that the timely creation of "native" test data will be included in the work being done to consolidate the S-101PT Work Plan.** **Actions:** **S-101PT8-09: "S101 Portrayal subWG summary report" spreadsheet to be refined to include only outstanding items and sent to the S-101PT for review by the end of January 2022 (Vice-Chair).** **S-101PT8-10: Decisions coming from the "S101 Portrayal subWG summary report" spreadsheet review to be included in the S-101PT master sheet of decisions and actions at the conclusion of the review period (Vice-Chair).** **S-101PT8-11: Continue discussions with the IHO Sec for possible future project related to mariner input to S-101 implementation with the Singapore Lab (Chair).**
Advances in the Development of	S101PT8-07B	[KHOA]

New S-101 Symbology		[Docs: S-101PT8-07.1B – Advances in the Development of New S-101 Symbology] Notes: - Dr Sewoong Oh (KRISO) gave a presentation on the process and tools used by KHOA in the development of new symbols intended for implementation in S-101. He reported that there has been significant progress made in the development of new symbology and presented some of these developments, however there was still further work to be done including consultation with the NCWG and more robust testing. - The Chair pointed out that it is important that the S-101PT begin liaising with the NCWG in regard to portrayal issues as there is likely to be parallel work being done. He cited in particular the NCWG task to develop a beseline symbology set to support the process of more automated paper chart generation. - YB stated that there needs to be close cooperation between KHOA and NIWC regarding symbol development and the implementation of portrayal rules in LUA. DG stated that it is very important that official test data is created to facilitate the testing of the portrayal rules. - There was a brief discussion on the allowable differences between the S-52 Presentation Library and S-101 Portrayal in the dual-fuel environment. It was suggested that a spreadsheet should be initiated to record decisions related to this issue; this will be discussed further at a future S-101PT meeting. **Decisions:** **S-101PT8-12: The S-101PT congratulated KHOA on the work that has been done so far in developing new symbols to support S-101 portrayal and endorsed the continuation of this work.** **Actions:** **S-101PT8-13: Chair to initiate a liaison with the NCWG on portrayal issues, including the NCWG task for the development of a "baseline symbology set" for paper charts (Chair).** **S-101PT8-14: Chair to include the subject of determination of allowable differences between S-52 and S-101 portrayal in the dual-fuel environment for a future S-101PT meeting (Chair).**
Validation Update	S101PT8-08	[Chair] [Docs: None] Notes: - The Chair gave a brief verbal report on progress made since S-101PT7 in the development of the S-101 ENC Validation Checks. There has essentially been no progress on the development of S-101 Validation Checks since the presentation of the initial draft Checks at S-101PT7. He stated that the initiation of further work was dependant on having a stable version of the S-101 DCEG and Feature Catalogue; this will hopefully be achieved on publication of DCEG Edition 1.0.2. - The Chair, who is also the Lead of the S-101 Validation Checks Sub-Group, stated that he could no longer act in both roles. **Actions:** **S-101PT8-15: Any member of the S-101PT that is interested in taking up the role of S-101 Validation Checks Sub-Group Lead to contact the S-101PT Chair and JW (IHO Sec) at the earliest opportunity (S-101PT).**
Workplan Update Review and Updating	S101PT8-09	[Chair] (Action PT7-03) [Docs: S-101PT8-09 – S-101 Work Plan] Notes:

		- The Chair gave a presentation on the S-101 Work Plan, beginning with an acknowledgement of the significant work that has been done so far in the development of S-101. He stressed the need to establish a stable baseline for S-101 in order to progress all aspects of S-101 development to achievable timelines. - DG suggested that in order to provide more visibility of S-101 Feature Catalogue development, the Feature Catalogue and related discussions/issues should be included in a GitHub repository. It was further suggested that this repository could also be used to host unit tests for compatibility with other applications – this should be discussed with the S-100WG. - KHOA suggested that the timeframes for Edition 1.0.2 Feature Catalogue development may be difficult to achieve. - NIWC confirmed that they will continue with Portrayal Catalogue development, noting however that this development to date has not utilised the registered portrayal items in the GI Registry. - The Chair reiterated that the stable 1.0.2 version of the DCEG was critical in S-101 Validation Checks development; and early visibility of a stable version of S-100 Edition 5.0.0 was also important for the further development of Validation Checks for S-101 Edition 1.1.0. - The Chair stated that he would prepare a diagram with a critical path for S-101 Edition 1.1.0 for discussion on Day 2. The need for Dataset Discovery Metadata in the Exchange Set Catalogue was also discussed, with the Chair noting that signatures and encryption is not in scope for this stage of S-101 development; if this is a critical requirement the PT may need to go back to the HSSC with a revised Plan. YB reported that the S-100 Open Online Platform Project (S100P) has been tasked with developing a test dataset for implementers; and KHOA has developed tools to assist with this. It was decided that a small group should be established to discuss this issue further in relation to provision of test data. - (Day 2): The Chair presented a proposed outline for the way ahead, noting that a new way of working was required for portrayal development and the decision on Day 1 to establish a Sub-Group to coordinate the development of test datasets (NOTE: This Sub-Group requires a Lead). It was identified that the flow diagram demonstrating the implementation of the proposed Work Program was missing Portrayal Catalogue development, data validation and key milestone dates. - DG stated that it would be useful to have test data sets for Feature Catalogue review; this would be a task for the newly formed Sub-Group. - HB stated that 7Cs had the capability to test new symbology under development if supplied with the SVGs. **Decisions:** **S-101PT8-16: The S-101PT agreed that the Edition 1.0.2 DCEG and corresponding Feature Catalogue will constitute a "baseline" version of S-101 on which to progress development to achieve publication of S-101 Edition 1.1.0 by the end of 2022. Only major changes impacting directly on functionality will be considered for Edition 1.1.0.** **S-101PT8-17: The S-101PT agreed to establish a Sub-Group to further discuss the provision of S-101 test datasets (NIWC, IIC, RM, NGA (US), NOAA (US), Primar, IC-ENC, Caris, 7Cs, DKart, Esri, CA, AU).** **Actions:** **S-101PT8-18: Draft Feature Catalogue and all related discussions/issues to be included in the IHO GitHub (IHO Sec).** **S-101PT8-19: S-100WG to be appraised of the GitHub repository for the S-101 Feature Catalogue as a possibility for the hosting of related "unit tests" development (Chair).**

		S-101PT8-20: Members of the S-101PT to consider nominating to lead the Test Data Sub-Group at the earliest opportunity (S-101PT). **S-101PT8-21: Test Data Sub-Group to discuss the development and provision of S-101 test datasets, including data sets to test the functionality of the Feature Catalogue, and report back to the S-101PT (Test Data Sub-Group).** **S-101PT8-22: Project Team Letter to be prepared and circulated to PT members setting out the proposed Work Plan for endorsement and detailing the proposed Work Flows for Test Dataset and Portrayal Catalogue developments including target dates (Chair, IHO Sec).**
Meeting Closes	N/A	

07/12/2021 (12:00 to 15:00 - CET)		
Opening		Meeting starts - duration - 3 hours
Scales Sub Group Update	S101PT8-19	[CM] [Docs: S-101PT8-19 – ENC Scales and Data Load and Unload Sub-Group Update] Notes: - Christian Mouden (FR) as Sub-Group Lead gave a presentation on the activities of the S-101 Scales and Dataset Load/Unload Strategy Sub-Group. The Sub-Group has held on meeting on 26 November and the record of this meeting and all other associated documents and issues can be found on the "S-101 Documentation and FC" GitHub repository. - There will be proposals to the S-101PT at the next meeting to amend the definitions of items related to ENC scales. CM also reported that discussions were ongoing in regard to the scales at which overscale indications are triggered; and that the Sub-Group had reached consensus that datasets should not be displayed in ECDIS when the Mariners Selected Viewing Scale (MSVS) exceeds the minimumDisplayScale of the data. An action to review the documentation relating S-101 ENC scales has been initiated noting that there is a lack of such guidance in the current version of the S-101 ENC Product Specification. - A small group within the Sub-Group has been established, led by NIWC, to address issues related to data loading and unloading in ECDIS. It was again pointed out that one of the issues holding up progress in this task is a lack of test data. - CM explained that there is an implicit relationship between the values populated for the S-101 attribute scaleMinimum and a minimum list of mandatory ECDIS display scales. The S-101PT is requested to address this issue in consultation with the S-100WG and CIRM as required. - DG raised the additional decision made at the Sub-Group that in terms of the data load and unload strategy ENC datasets are to be considered in their entirety in all cases and not as separate coverage areas where a dataset has multiple data coverage's at different scales. **Decisions:** **S-101PT8-23: The recommendations in Paper S-101PT8-19 were endorsed by the S-101PT, with the Sub-Group and the S-101PT to progress actions as appropriate.** **S-101PT8-24: The S-101PT supported the decision made by the ENC Scales and Data Load and Unload Sub-Group that ENC datasets are to be treated in their entirety in regard to data load/unload, including in cases where the dataset has multiple Data Coverage features.** **Actions:**

		S-101PT8-25: Revised definitions for maximumDisplayScale, minimumDisplayScale and a new definition for Viewing Scale to be submitted to the S-101PT9 meeting (CM). **S-101PT8-26: S-101PT to liaise with S-100WG and/or CIRM to try to come to an agreement on a minimum list of mandated viewing scales in ECDIS systems, so that the scale minimum policy as described in the DCEG can be efficiently implemented (Chair/CM).**
Alerts and indications and S-101	S101PT8-20	[Chair] (Action PT4-07) [Docs: S-101PT8-20 – Alerts and indications and S-101] Notes: - The Chair presented on ECDIS alarms and indications and S-101; and their importance for consideration in moving forward with S-101 development. He cited for reference the recently conducted MAIB investigation on ECDIS application and usability (Paper S-101PT8-INF01). The Chair also postulated that during the dual-fuel period, there may need to be a significant level of consistency between the alarms and indications between S-57 data and S-101 data. From this perspective he suggested that the alarms and indications as set out in the S-52 Presentation Library should be used as a starting point for alarms and indications in S-101. DG stated that this is the methodology that has been implemented in the NIWC Portrayal Catalogue. **Decisions:** **S-101PT8-27: The S-101PT endorsed recommendation A in Paper S-101PT8-20, with all other recommendations to be discussed in the S-101 Portrayal Sub-Group based on this agreed way forward.** **Actions:** **S-101PT8-28: Recommendations B-F of paper S-101PT8-20 to be discussed within the S-101 Portrayal Sub-Group based on the way forward proposed in Recommendation A (S-101 Portrayal Sub-Group).**
ECDIS Safety Study MAIB/DMAIB	S101PT8-INF01	[Chair] [Docs: S-101PT8-INF01 – ECDIS Safety Study MAIB/DMAIB]
S-101 Versioning	S101PT8-21	[Chair] [Docs: S-101PT8-21 – S-101 Versioning] Notes: - The Chair presented on S-101 versioning, including proposed tables for inclusion on the S-101PT web pages to list the latest published versions of S-101 documentation and Catalogues, both during the development phase and post-operational. - The Paper generated significant discussion, in particular the appending of dates to the version numbers and the requirement to establish a relationship between a version of S-101 and its Catalogues. **Decisions:** **S-101PT8-29: While considered to be a good starting point, it was agreed that the tables included in Paper S-101PT8-21 required further refinement.** **Actions:** **S-101PT8-30: The versioning tables included in paper S-101PT8-21 are to be refined, with discussion with relevant stakeholders as required (Chair).**

Depth Resolution in S-101 ENCs	S-101PT8-22	[JW] [Docs: S-101PT8-22 – Depth Resolution in S-101 ENCs] Notes: - JW gave a presentation on issues relating to the resolution of depths currently included in S-101 as the sounding Z dimension resolution and as attribute resolutions. He reported that at its recent NCWG7 meeting the NCWG had reaffirmed the current S-4 convention that the units of measure for depths on charts are to be retained as metres and decimetres; and the inconsistencies that currently exist within S-101 relating to this convention. - Discussion favoured the option to amend the Z coordinate resolution for the data rather than to address the problem in portrayal, noting that addressing the issue in portrayal may introduce some inconsistency in ECDIS performance. - There was some discussion regarding the resolution of measured depths (such as sounding Z value and attribute valueOfSounding) vs regulatory depths (such as maximumPermittedDraught), with confirmation that for some regulatory requirements the depth is quoted to the nearest centimetre. - The issue of resolution for vertical and horizontal clearances was also raised, however it was considered that this was outside the scope of the Paper. **Decisions:** **S-101PT8-31: The S-101PT agreed that the inconsistency between the sounding resolution in S-101 and the convention in S-4 should be addressed in the encoding rather than the portrayal. As such, it was agreed to amend the [CMFZ] to {10} for S-101 Edition 1.0.1.** **S-101PT8-32: The S-101PT instructed that the resolutions of depth- and clearance-related attributes is to be discussed in the S-101 DCEG Sub-Group (recommendations 3 and 4 of Paper S101PT8-22).** **Actions:** **S-101PT8-33: Amend the [CMFZ] to {10} in the draft S-101 Edition 1.1.0 Main document (IHO Sec).** **S-101PT8-34: The resolutions for depth- and clearance-related attributes to be discussed in the S-101 DCEG Sub-Group (S-101 DCEG Sub-Group).**
Loxodromic Interpretation in S-101 ENCs	S-101PT8-23	[IIC Technologies] [Docs: S-101PT8-23 – Loxodromic Interpretation in S-101 ENCs] Notes: - Due to lack of time, this Paper was not discussed. **Actions:** **S-101PT8-35: Paper S-101PT8-23 to be included as an Agenda Item for S-101PT9 (IHO Sec).**
Improvements to Encoding Maritime Jurisdiction Features in S-101	S-101PT8-24	[UK] [Docs: S-101PT8-24 – Improvements to Encoding Maritime Jurisdiction Features in S-101] Notes: - Due to lack of time, this Paper was not discussed. **Actions:** **S-101PT8-36: Paper S-101PT8-24 to be included as an Agenda Item for S-101PT9 (IHO Sec).**

HSSC ISO 9001 Cell Update	S101PT8-30	[AS] [Docs: S-101PT8-30 - HSSC ISO 9001 Cell Update] Notes: - The Vice-Chair gave a presentation on the establishment and progress of the HSSC ISO 9001 Cell in his capacity as the S-101 Project Control Officer. He reported that the Cell had agreed that the ISO 9001 principles will be experimented on the development of the Product Specification for ENCs S-101 Edition 2.0.0 and summarized the progress to date. The next report of the HSSC ISO 9001 Cell will submitted to the HSSC14 meeting in May 2022. - The Chair noted the good progress made by the HSSC ISO 9001 Cell and suggested that it would be useful of the Cell could share some of its documentation with the S-101PT. This will be further discussed with the Vice-Chair offline.
S-101 Roadmap	S101PT8-31	[Chair] [Docs: S-101PT8-31 – S-101 Roadmap] Notes: - Due to lack of time, the S-101 Roadmap was not discussed.
S-101 Implementation Plan	S101PT8-32	[Chair] [Docs: None] Notes: - Due to lack of time, the S-101 Implementation Plan was not discussed.
Date and Location of Next Meeting	S101PT8-33	[Chair] [Docs: None] Notes: - Noting that the S-100WG will be meeting from 10-14 January and the requirement to prepare any input to HSSC14 before the end of March 2022, it was agreed that the next meeting of the S-101PT (S-101PT9) will be held during February 2022 (date to be determined).
AOB		[Docs: None] Notes: - None.
Meeting Closes	N/A	[Chair] [Docs: None] Notes: - The Chair thanked all attendees for their attention and input.