

Manage risks and opportunities of S-101 product specification

#### Release history for the document

Date	Comments
21-01-20	Template - first version
21-02-17	Inputs from meeting with DQWG Chair (Rogier Broekman), Hans Engberg and Patrik Nilsson from the Swedish Maritime Administration
16-08-21	Update to refelect decisons made at ISO 9001 cell focus group VTC meeting on 12AUG2021.
16-11-21	Update to refelect decisons made at ISO 9001 cell focus group VTC meeting on 16NOV2021.
03-03-22	Update to refelect decisons made at ISO 9001 cell focus group VTC meeting on 03MAR2022.
28-09-22	Update to refelect decisons made at ISO 9001 cell focus group VTC meeting on 27SEP2022.

#### 1. Purpose

To manage risks and opportunities of the development of S-101 to the operational version 2.0.0 according to the ISO 9001 principles (6.1).

#### 2. Responsibility

*S101PT Chair & S100WG Chair*

3. Risks

					If Evaluation = high or medium			
Description	Origin	Impact	Evaluation*	Date of review**	Actions to reduce risk	Resp. For action	Effectiveness of the action	Action taken and date
Lack of available human resources	internal	Delay in S-101 Ed 2.0.0	High	Sep 2022	-Raise awareness among MS on the importance of allocating the necessary resources	HSSC	Targeted communication to MS	Chair action PLANNED S-101PT Letter 5 of 2021 sought volunteers and indications of capacity. (13012022)  Some improvement in contributions but pool of active contributors remains insufficient.
					-Organize regular remote meetings to maintain a good level of participation	S-101 chair /DQWG chair /NCWG chair	Remote meetings organized	ONGOING Schedule of regular meetings to be set out in Jan 2022.
Delay to draft & validate the different components mandatory for TRL 2,3,4	internal		High	Sep 2022	implement a regular and shared monitoring of actions	S-101 chair	GANTT diagram	PLANNED for Q1-Q2 2022 chair team/ISO cell meet quarterly to review progress.  Regular meetings have taken place and have ensured prioritisation and supported progress but the amount of effort and resources have meant it has not been possible to avoid further delay.
Delay in reviewing S-101 (FC, Encoding Guide, DQ Checks) Ed 1.n.n	internal		Medium	Sep 2022	Harmonize timeframe, program reviewing & allocate resources	DQWG chair	GANTT diagram	PLANNED: DQWG subWG to conduct cross check of FC with S-101 FC when version 1.0.2 becomes available (April 2022)  S101PT Chair considers that 1.1.0 cannot wait for this we will act on comments we get but it should not delay 1.1.0.
Delay in reviewing portrayal catalog	internal	Medium	Sep 2022	Harmonize timeframe, program reviewing & allocate resources	IHO Registry DCB	IHO registry reflects changes introduced in S100 Ed 5.0.0 New proposals are actioned within S-99 established timeframes	HSSC Vice Chair met with IHO Secretariat in Sep 2022 to audit the IHO Registry functions, development and support. The performance of the DCB was highlighted as a risk.  Risk level has been increased until recommendations regarding DCB are in place. The S101PT Chair proposes decoupling the registry submission from the PC preparation to minimise delay in the finalisation of PC 1.1.0. Not ideal but necessary. The issue links to the general resources one at the top.	

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Inconsistencies in Feature catalogue between S-101 and S-1xx	internal		Medium	Sep 2022	Cross check review	DQWG chair	Cross check review reports	PLANNED: DQWG subWG to conduct cross check of FC with S-101 FC when version 1.0.2 becomes available (April 2022) Note engagement with IHG reps and need to engage with NIPWG also.
Overreliance on external support for the implementation and maintenance of the S100 GI Registry	External		High	Sep 2022	IHO to enter in more formal arrangements with KHOA in order to be able to influence requirements and UAT. It may require financial investment.	HSSC	IHO can influence design and functionalities of the IHO managed S100 GI Registry. IHO staff performs UAT and approves the release of enhancements and/or new versions.	HSSC Vice Chair met with IHO Secretariat in Sep 2022 to audit the IHO Registry functions, development and support.
Overreliance on external support for Test bed tools development and maintenance	External		Low	Sep 2022	IHO to enter in more formal arrangements with key stakeholders in order to guarantee the existence of S100 prototype tools to guarantee the continuous and comprehensive testing and development of different S100 products and their display and performance in navigation systems. It may require financial investment.	HSSC	S1nn Project Teams have access to testing tools to support the timely testing and development of products all the way until they reach their operational status.	<ul style="list-style-type: none"> <li>A contract has been signed between the IHO and IIC to develop test cells.</li> <li>KHOA's S100OP development continues</li> <li>NIWC continues its 'on-shore' ECDIS development.</li> <li>Production and Validation tools continue development alongside the PS.</li> </ul> <p>The risk level has been downgraded to Low. Note that IHO's PT/WG members need to retain sufficient understanding to guide developments and not be led by industry.</p>
Insufficient clarity in the DF-ECDIS performance.	Internal		Medium	Sep 2022	Approve and publish clear guidelines	HSSC	S-101PT is able to progress or delay the development and implementation of new proposals in a timely manner.	DF-Governance document has been endorsed by HSSC13. Practical implementation is still to be tested.
Insufficient time to test Dual Fuel concept in S100 ECDIS prototypes	External		Medium	Sep 2022	Allocate resources to develop DF-S100 ECDIS able to ingest and manage S-57 and S-101 ENC by mid 2023.	S100TSWG; HSSC	DF-S100 ECDIS exists and is utilized in a rigorous testbed environment by June 2023.	
Insufficient time to test S-98 interoperability in S100 ECDIS prototypes	External		High	Sep 2022	Allocate resources to develop S100 ECDIS able to ingest and manage all S100 route monitoring products and interoperability catalogue by the end of 2023.	S100TSWG; HSSC	S100 ECDIS, necessary products and interoperability catalogue exist and are utilized in a rigorous testbed environment by December 2023.	It is still unclear who would build the S-98 catalogue and, for S-101 2.0.0, what products must be supported.

\*Evaluation = high / medium / low

\*\* to be reviewed at least annually

**4. Opportunities**

Description	Benefits	Actions (to seize opportunities and limit risks)	Responsible	Deadline	Effectiveness of the action	Action taken and date
Participation in the various Uses Cases organised in collaboration with the OEMs	Integrate feedbacks during development	Promote Uses cases	HSSC	-	Positive feedback from OEM Meeting deadlines (no extensive re-testing due to late consideration of feedbacks)	
Establish long term mariners review service agreement with IHO-Singapore Innovation laboratory in support of proposed new S-101 ECDIS portrayal and performance requirements in both, DF-ECDIS and post S-57 ENC retirement.	Objective, transparent and user driven process to accept/discard proposals related to the look and behavior of S-101 ENCs and the performance S-100 ECDIS.	Prepare and stablish long term support task with clear workflows and agreed timeframes for reporting findings and recommendations. Action S-101PT8-11 also refers.	IHO Sec.	March 2022 (?)	Request are processed within agreed timeframes.	

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### 5. Performance indicators of S-101 PS process

Progress on milestones from S-101 Ed 1.0.0 to Ed 2.0.0		
Goal	Monitor progress to meet deadlines	
Measurement field (KPI)	<b>Milestones</b>	<b>Progress Status</b>
	Submit Edition 1.1.0 for S100WG Approval by December 2022	On Track
	Submit Edition 2.0.0 for HSSC Endorsement by May 2024	At Risk
Method and presentation of results	GANTT Diagram	
Update periodicity	3 months	
Accountable	S101PT Chair & S100WG Chair	

**Commented [TR1]:** Given the time to conduct testing of 1.1.0 and to prepare 2.0.0 May 2024 does not seem a realistic timeframe at this stage. Although possible insufficient time will exist for trials and end user input.

### GANTT Diagram

Currently managed in MS Project