Project Team S-102 - Part 1 Assessment of Project Proposal submitted by Project Team Leader for Consideration by IHO-Singapore Innovation and Technology Laboratory Governing Board

S/No	Description	Summary of Proposal
1	Project objective	The project aims to create a S-100 ECDIS capable of displaying S-102 Bathymetric Surface datasets with on S-57/S-101 ENCs.
2	Indicative budget duration	The budget for this project would be EUR 50,000 comprising of EUR 25,000 in-kind contribution by 7Cs and EUR 25,000 funding support.
3	Duration	6 months
4	Team composition and Project Team Leader	7Cs technical team and sponsoring HO staff from Singapore.
5	Project scope, challenges identified, innovation opportunities and potential benefits.	**Project Scope** a. Production of S-102 data (by sponsoring HO) • S-102 Bathymetric Surface • Production • Generalization • Validation of S-102 dataset • Harmonisation of S-102 with S-57/S-101 dataset b. Interfacing S-102 with S-57/S-101 to explore display options to best match user needs & requirements without cluttering of information (by 7Cs). c. Provision of Test-bed infrastructure or Testbed ECDIS which allows display of S-102 onto S-101/S-57 ENCs; and d. Provision of hardware for Testbed ECDIS **Challenges** a. Creation of suitable S-102 data with consideration of application schema related to tiling scheme, tile size, grid resolution and maximum data file size. b. Harmonisation between S-102 and other datasets and to automate checks to deconflict discrepancy of S-102 dataset and its derived products (contours and/or depth areas) with other data such as S-57/S-101.

		c. Display of S-102 on a Navigation system - A testbed ECDIS to incorporate the various display to allow for optimum portrayal and resolution for S-102 with S-57/S-101.
6	R&D or test-bedding work descriptions	The project will test various datasets produced using the different S-102 datasets, with due consideration of resolution and file size. The schema of the creation of S-102 will be investigated which may be vary in different depth areas. For the display of S-102 datasets on a test bed ECDIS, raster and vector mode will be explored to have optimum representation of the S-102 data. It would enable the user to visualise the dataset intuitively and allow for informed decision making. The project would include investigating the flexibility of an adaptable safety contour and various 3D visual such as sun illumination and various colours depending on safety depth. The safety contour depth would be specific to each vessel draft, safety Under Keel Clearance (UKC) and colour adaptation. 7Cs will be providing a testbed infrastructure whereby S-102 data sets and S-101/S-57 data will be displayed in various options. The result of the project will identify and make recommendations for any follow-up work to be done.
7	Key milestones and deliverables for each milestone	a. Production of S-102 dataset for demonstration area (by HO +5 months) b. Validation of S-102 with S-57/S-101 (by HO +5 months) c. Display of Dataset in testbed ECDIS and Sea trial on stakeholder vessel (by 7Cs + 8 months)
8	Profile and respective of industry partner(s) participating in the industry consortium (if the company is forming a consortium) including their role and contributions (financial or in-kind).	Based in Hamburg, SevenCs develops chart-display Kernels for ECDIS, WECDIS and other maritime applications, ENC production and distribution software, and professional maritime navigation software. SevenCs would be contributing both in-kind via software and expertise to the project. This would include the provision of a Test-bed infrastructure for the display of S-102 with S-57/S-101 dataset. We

		would also contribute 2 x Hardware unit for the display of datasets on the testbed ECDIS. Sponsoring HO will be undertaking the process of production and validation datasets that would be used for the testbed ECDIS.
9	Project risk assessment and mitigation plan	Nil
10	Brief description of the Intellectual Property (IP) arrangements to facilitate eventual commercialisation of the project IP developed	None.
	Recommendations	**This project resulted from the discussion at the S-100 WG meeting. There were concerns on how to integrate the S-102 overlay on S-101 and possible impact when S-104 is introduced. However, the important step forward is to evaluate and testbed the products and examine any possible constraints and different displays, especially on an ECDIS. Worthwhile project to support.**