[S-100WG6_8.1D

Paper for Consideration by S-100 WG

Use of IHO S-102 Bathymetric Surface in 'S-57 ECDIS'

Submitted by:	SevenCs / ChartWorld (2021-12-16)
Executive Summary:	Outlining the benefits for use of S-102 in 'S-57 ECDIS' prior to the introduction of S-100 ECDIS.
Related Documents:	S-98 (Draft), S-100 (Part 16), S-102 PS 2.1, S-52 6.1.1, S-64 3.0.3., MSC 232.(82), IEC 61174:2015
Related Projects:	ECDIS Dual Fuel workshop

Introduction / Background
IHO (S100WG) have worked together closely with CIRM, IEC, and ECDIS OEMs to ensure that the revisions to the IMO PS are consistent with the needs of a full S-100 ECDIS. Given that various bodies (IHO, IMO, IEC, MS) are involved in the standardization processes related to this, much is still to be done until an S-100 ECDIS Performance Standard is available and compliant ECDIS are introduced into the market. Realistically, we are talking about a time frame between 2026 and 2030.

Analysis/Discussion
For a long time, mariners have voiced complaints about insufficient representation of detailed depth information in S-57 ENCs. Data producers have been encouraged by IHO to produce High Density ENCs but remain very reluctant to do so. As of today, 3 producing agencies have produced HD ENCs for 5 locations (22 cells in total).

S-102 gridded bathymetry could solve this problem. Producing the data for this does not entail labour-intensive cartographic processing. S-102 can be more or less directly extracted from the existing bathymetric data held. Unfortunately, due to current ECDIS regulations, the data required for this service cannot be made available to SOLAS vessels for use in ECDIS. This means mariners would have to wait until the end of this decade before they can use high-density bathymetry in ECDIS.

Conclusions
The availability of S-102 data for ECDIS users could be accelerated dramatically if that data were to be integrated into 'S-57 ECDIS'. It is not necessary to go through a lengthy process of revising the IMO ECDIS PS if relevant IHO standards are amended. MSC (232) and IEC 61174 as such would not be affected by those amendments because they refer to the relevant IHO standards.

Recommendations
It is recommended to extend IHO S-52 and IHO S-64 to include the minimum requirements for **optional** use of S-102 data in 'S-57-ECDIS'. They should be extended to define the interoperability of S-102 with S-57 ENCs. The minimum requirements can be adopted from S-98. Amendments should clearly define how S-102 data is put to use in conjunction with ECDIS functions.

Justification and Impacts
The proposed approach would make high-density bathymetry data available to the SOLAS market much earlier, without compromising the current S-100 ECDIS PS activities. This interim step will help to improve safety of navigation, satisfy mariners' needs, and contribute to a much better overall acceptance of S-100.

Action Required of S-100 WG

The S-100 WG is invited to:

a. discuss this proposal
b. endorse this proposal in order for it to be formally submitted to HSSC
c. seek HSSC approval for this proposal
d. note SevenCs' willingness to get involved in the activities of such a work item