



# CIRM

**Addressing the limited  
resolution of depth data  
available in  
S-57-based ECDIS**

**Richard Doherty, CIRM**

**IHO ENCWG meeting, February 2022**

## The underlying issue



# Depth data in current ECDIS

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- **The limited resolution of bathymetric data in ECDIS is a long-standing concern and cause of frustration for mariners and shipping companies**
- **Limited depth data undermines efficiency of operations and impacts upon safety**
- **Higher resolution data would improve density of safety contours and provide better information about navigable areas**
- **Recent joint MAIB/DMAIB study highlighted this. Safety-contour issues are present throughout the report, e.g.:**

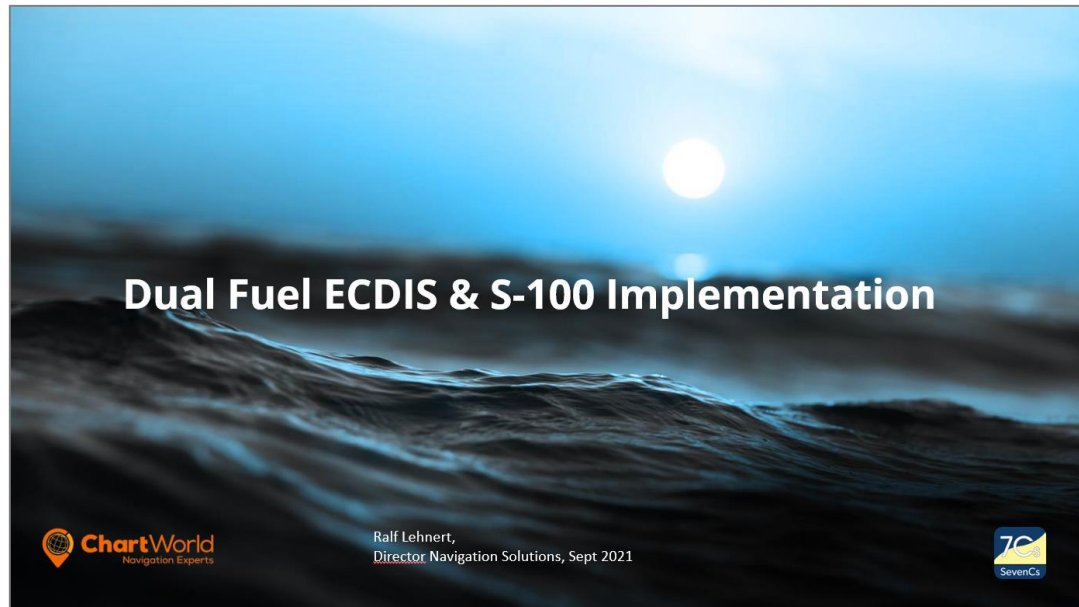
*Comments from officers responsible for voyage planning reflected a frustration at the ECDIS frequently defaulting to a safety contour that did not separate safe from unsafe water due to insufficient contour density.*

**“Application and usability of ECDIS – a MAIB and DMAIB collaborative study on ECDIS use from the perspective of practitioners”, page 24**

**Permitting use of S-102 data in S-57 ECDIS  
(ChartWorld / SevenCs proposal)**



## Amend S-52 & S-64 to enable integration of S-102 gridded bathymetry in existing S-57-based ECDIS



S-100WG6\_8.1D

Paper for Consideration by S-100 WG

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

<i>Submitted by:</i>	SevenCs / ChartWorld (2021-12-16)
<i>Executive Summary:</i>	Outlining the benefits for use of S-102 in 'S-57 ECDIS' prior to the introduction of S-100 ECDIS.
<i>Related Documents:</i>	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
<i>Related Projects:</i>	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

# Evaluating the proposal

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- **CIRM's ECDIS Working Group reviewed ChartWorld/7Cs proposal in Dec 2021**
- **Intention behind proposal appreciated, addressing the depth data issue but...**
- **Proposal would take some years to be implemented; not quick-fix**
- **Integrating S-102 in current ECDIS will cause confusion in the market, take focus away from overall implementation of S-100**
- **Will make "*is my ECDIS up to date with latest IHO requirements?*" question even more difficult to answer**
- **Increasing production of HD-ENCs seems a more practical and appropriate solution... e.g. no need for existing ECDIS to be updated**

- **Following comprehensive review of proposal to amend S-52 & S-64 to enable integration of S-102 gridded bathymetry in existing S-57-based ECIDs, CIRM's position is to oppose the proposal, on the basis that a more appropriate solution could be implemented**

# Addressing the issue: HD-ENCs





- **CIRM agrees that limited resolution of bathymetric data available in current ECDIS is a persistent shortcoming that should be addressed**
- **CIRM welcomes efforts in IHO to encourage increased production of HD-ENCs, viewing this as a practical solution to the problem**
- **HD-ENCs can be used in current ECDIS without a need to upgrade the system**
- **This solution keeps S-100 ECDIS & “legacy ECDIS” separate, avoiding confusion in the market**

# CIRM

**Thank you!**

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