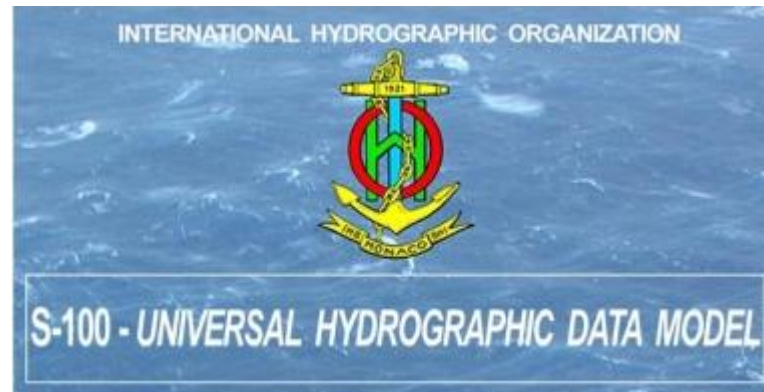






10 questions regarding S-100



Welcome and Introduction

Björn Röhlich LtCdr (GEN), MBA

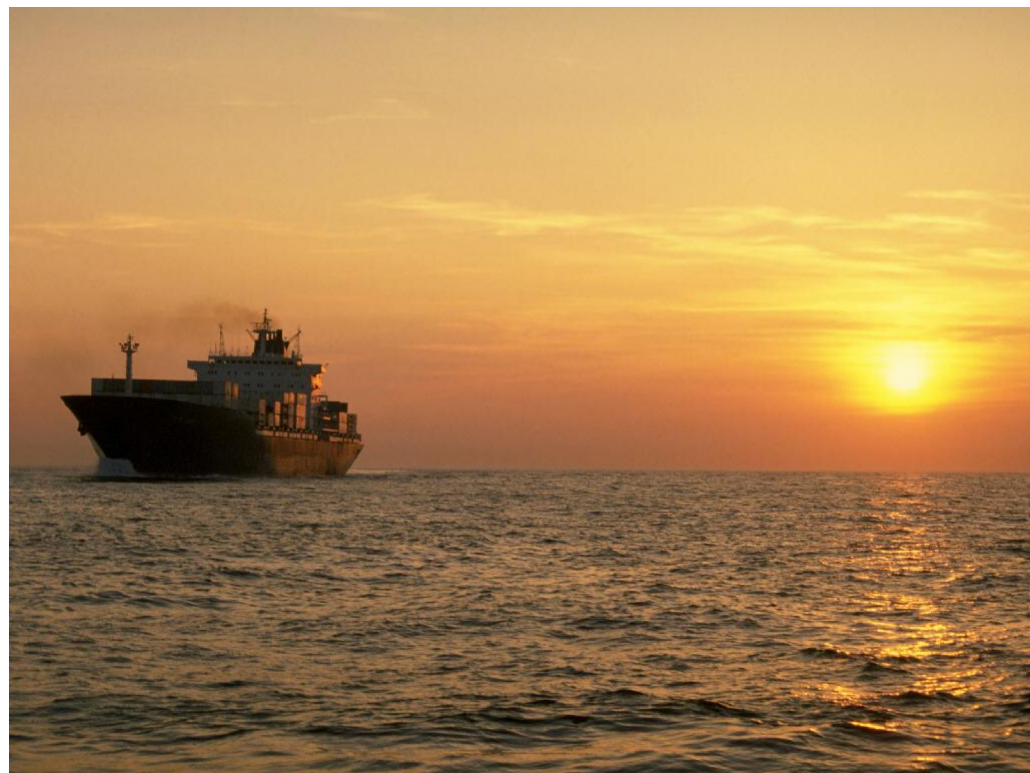
Positions:

-  **Navy Officer**
-  **Training Manager Transas Marine**
-  **Managing Director MSG MarineServe**
-  **Sales Director SevenCs**



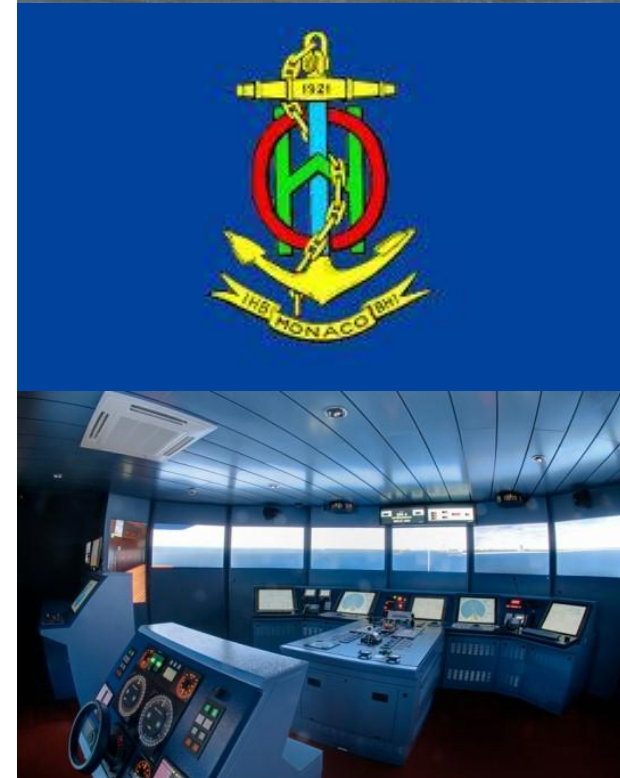
Agenda

- Purpose of this presentation
- Reference documents
- Questions regarding S-100/101
- Questions of the audience



Purpose of this presentation

- On the IHO web-site (http://iho.int/mtg_docs/com_wg/HSSC/HSSC_Misc/S-100_Master_Plan.htm) the Hydrographic Services and Standards Committee (HSSC) published a draft Master Plan for the development and implementation of S-100 and the S-101 Value Added Roadmap.
- This presentation lists some questions (technical, administrative) regarding to S-100/S-101 development that have obviously not been addressed in one of the above publications, yet. The intention of this presentation is not to criticize the current S-100/S-101 initiatives and activities. The aim is to bring these questions to the attention of the involved parties, raise discussions, and find answers.



Reference documents

- ① IHO HSSC, November 2013, Master Plan for the development and implementation of S-100, Draft
- ① IHO TSMAD, May 2014, S-101 Value Added Roadmap, Draft
- ① IHO, IHO Geo Spatial Information Register,
http://registry.iho.int/s100_gi_registry/home.php
- ① IHO HSSC, October 2013, TERMS OF REFERENCE FOR HSSC and Related Working Groups
- ① IHO HSSC, November 2013, HSSC5-051D - Regulatory process associated with the implementation of S-100 based products and services

Questions

S-100 Product Specification Types

The IHO Product Specification Register distinguishes between two types of S-100 based Product Specifications:

- 1. IHO PS i.e. Product Specifications that have been adopted by the IHO
- 2. other PS i.e. Product Specifications that have been developed by other competent organizations

What are the implications on an S-100 ECDIS?

Will ECDIS be limited to use IHO adopted data products only?

Questions

Simultaneous use of different S-100 products in ECDIS

- S-100 Product Specifications provide descriptions of all elements that are necessary to define a specific geo-spatial data product. Among other definitions Product Specifications include data content descriptions and portrayal rules. Section 4 of the S-100 master plan implies that a specific Product Specification contains the definitions of a specific data product.
- An S-100 ECDIS is supposed to be capable of loading different data products simultaneously. In this case it is not sufficient to define individual products independently from others. It will be required to specify rules (e.g. symbology instructions, drawing order) for the simultaneous use of various products.

Has this been considered yet?

Questions

Incorporation of S-100/S-101 in IMO publications (I)

Bullet Point 13 of the HSSC5-05.1D paper states:

[...] the on-going development of S-101 is based on the assumption that the optimum handling of S-101ENC will require significant changes in ECDIS.

This implies, as a minimum, a revision of the ECDIS Performance Standards, and, possibly, of the associated requirements listed in paragraph 2.4 of the current Performance Standards:

- 🌐 IEC Publication 60945 (referred to in IMO resolution A.694(17)),
- 🌐 IMO/MSC Resolution MSC.191(79)
- 🌐 IMO/MSC Circular MSC/Circ.982
- 🌐 IMO Resolution MSC.232(82)

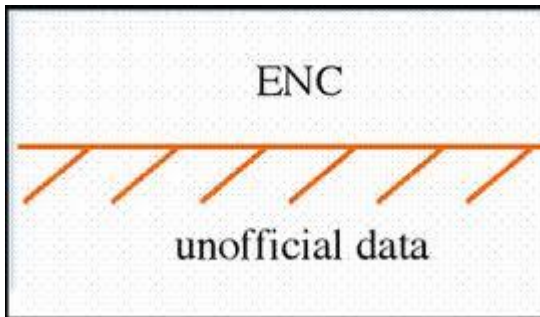
Questions

Incorporation of S-100/S-101 in IMO publications (II)

According to the S-101 Value added roadmap document a S-100 ECDIS would not be authorized for primary navigation if S-100 and S-10x specifications will not be incorporated in IMO/IEC publications.

When is IMO going to adjust/change the ECDIS relevant publication to account for S-101 changes?

Is the risk of IMO not incorporating S-100 as a mandatory requirement into their standards real?



Questions

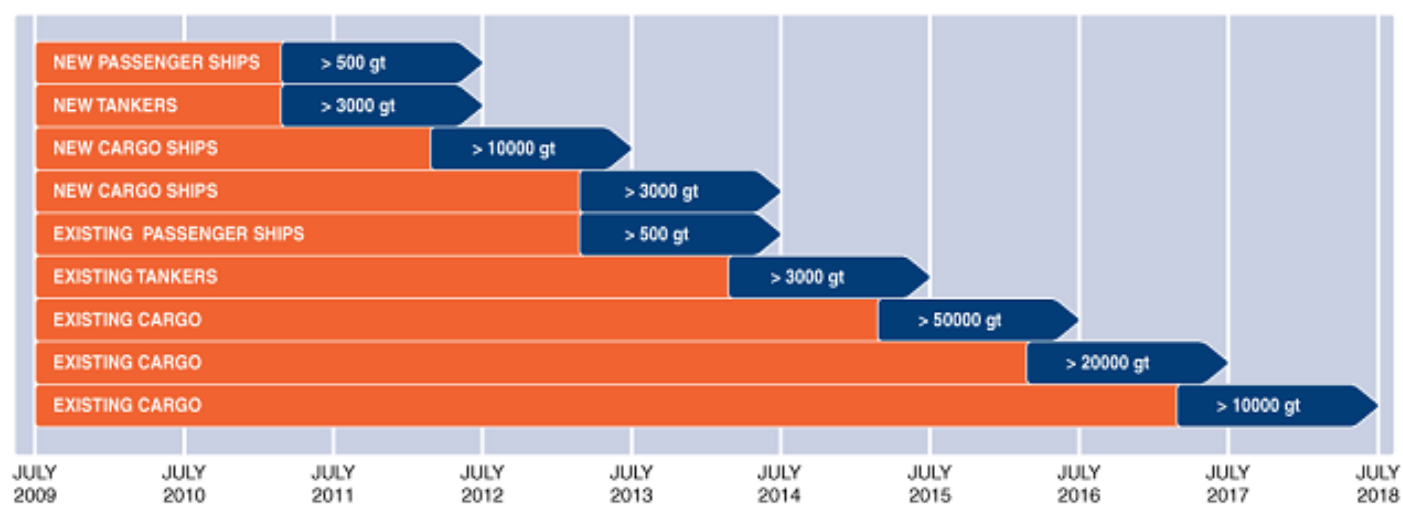
Costs vs. advantages for OEMs and end users (I)

Advantages of S-100 ECDIS:

- Improved chart loading strategy (better control of display and scale of data),
- more useful and easier to understand pick reports, easier to find data updates
- reduce over use of caution areas (introduction of information types),
- simplified representation of light features
- better placement of text to reduce clutter
- easier integration of supplementary products which enable S-100 ECDIS to become an interoperable component within an e-navigation environment
- ECDIS can automatically be updated to support new versions of feature and portrayal catalogues

Questions

Costs vs. advantages for OEMs and end users (II)



Which significant benefit does S-100 offer the user on-board to justify the procurement of new equipment, which has just been purchased?

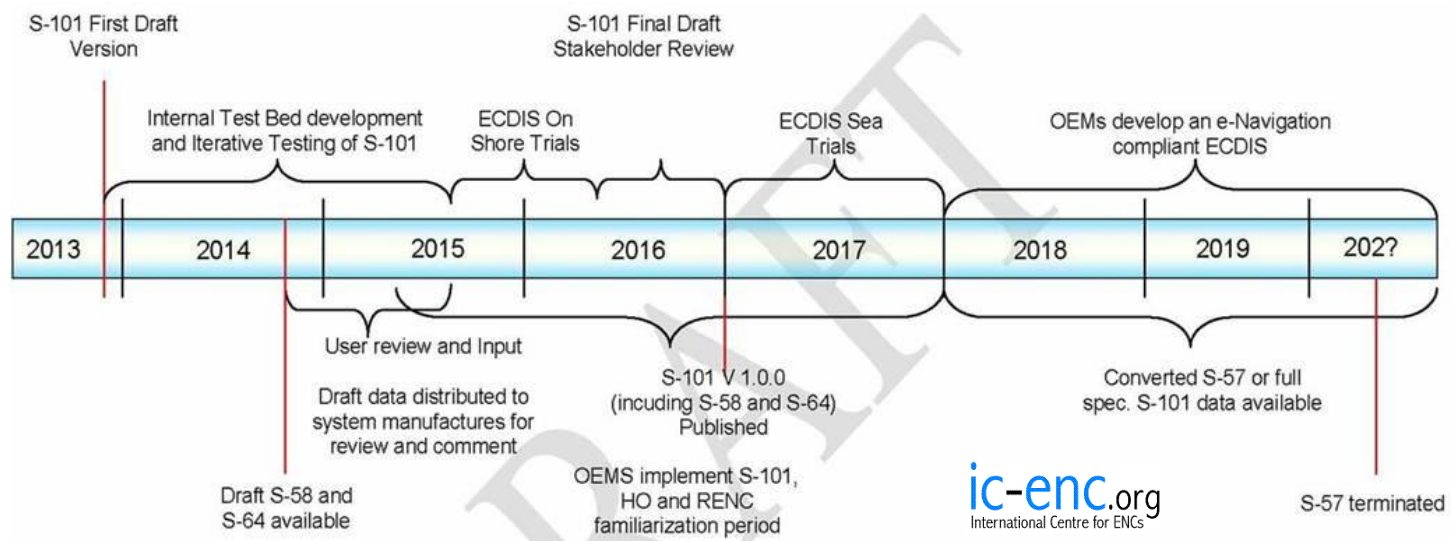
Has there been a case study reflecting the costs and benefits of S-100 introduction?

Questions

Involvement and coordination of testbed activities

The S-101 Value added roadmap document presents an S-101 Development and S-100 Testbed Timeline. A variety of activities is listed. Responsible parties are:

- HOs,
- OEMs
- TSMAD
- DIPWG



Who exactly is involved in the individual activities and what is the current status?

Questions

Involvement and coordination of testbed activities

IHO seeks voluntary support from OEM community for participation in test bed activities:

- **extension of production systems**
- **development of S-100 ECDIS**
- **extension of distribution systems**
- **execution of tests**

Who is responsible for the overall coordination?

What are the measures to avoid gaps, overlaps, and unnecessary duplication in testing procedures?

Have test procedures been defined?

Are procedures in place for reporting of test results?

Is funding made available?

Questions

Introduction of S-101 data

Until 2018 most SOLAS vessels will utilize S-57 compatible ECDIS only.

- S-101 producing nations will be forced to keep up S-57 production
- RENCs and VARs need to supply both formats

Is S-100/S-101 going to be introduced via push (mandate) or pull (added value) to the shipping industry?

Will every S-57 cell have an S-101 equivalent?

Will it be possible to have mixed license of S-101 and S-57 on-board of one ship?

Will a S-101 to S-57 conversion be required?

Questions

Survey

Currently hydrographic surveys are defined in the S-44 standard

- S-44 requires a revamp to take all the advantages in bathymetric and topographic data collection into account
- Hydrographic agencies are more and more interested in showing the land/sea interface

Can S-100 and S-102 offer solutions which will be incorporated in a rework of S-44?

Will S-100 reflect the necessary topographic data collection coverage and density and accuracy standards required?

How far are the S-10x products aligned with existing data in accordance with ISO 19000?

Questions

Encryption

Currently S-63 1.1 is used for the encryption of data

- S-63 1.1 encryption requires a big “overhead” in the distribution process
- S-63 uses digital signature and copy protection technology
- S-101 does not necessarily require a new encryption method
- Additional S-10x products might not be protected via S-63

Will there be a new digital signature and copy protection system which can be used with all S-10x products?

Is the encryption schema for S-101 ENC's going to be simplified?

Questions

Data size

Bandwidth of SOLAS ships is still very limited

- For 100 licensed S-57 ENC's 1 MB of updates needs to be transmitted per week
- One MB received via SATCOM is charged with approx. 3 USD
- The maximum file size of one S-57 ENC should be below 5MB
- S-101 data may be as big as 10MB with updates of 200kb per cell

Does this mean that there will be more information or only more volume?

Is there a risk that the existing infrastructure on-board can not handle the new potential data volume?

Which base medium should be used in the future?

Questions of the audience

