# Data centric hydrography requires standardization

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# The IHO S-100 Standards Aquarium

# Basics of data chain standardizations

| Need | Activity |
|---|---|
| **Give marine data an identity** | **Associate to the Unified Resource Naming system: Maritime Resource name <http://www.mrnregistry.org/** |
| **Give marine data a nature** | **IHO Guideline on Metadata definition for crowd sourced data** |
| **Give marine data a quality** | **Revision process for IHO Standards for Hydrographic Surveys (S-44) to adopt quality criteria for the widest range of use of survey data (not limited to navigation)** |
| **Give various marine data a consistent model** | **S-100 Universal Hydrographic Data Model according to ISO 19000 series** |

International Hydrographic Organization
*Organisation Hydrographique Internationale*

# Marine data box standardizations

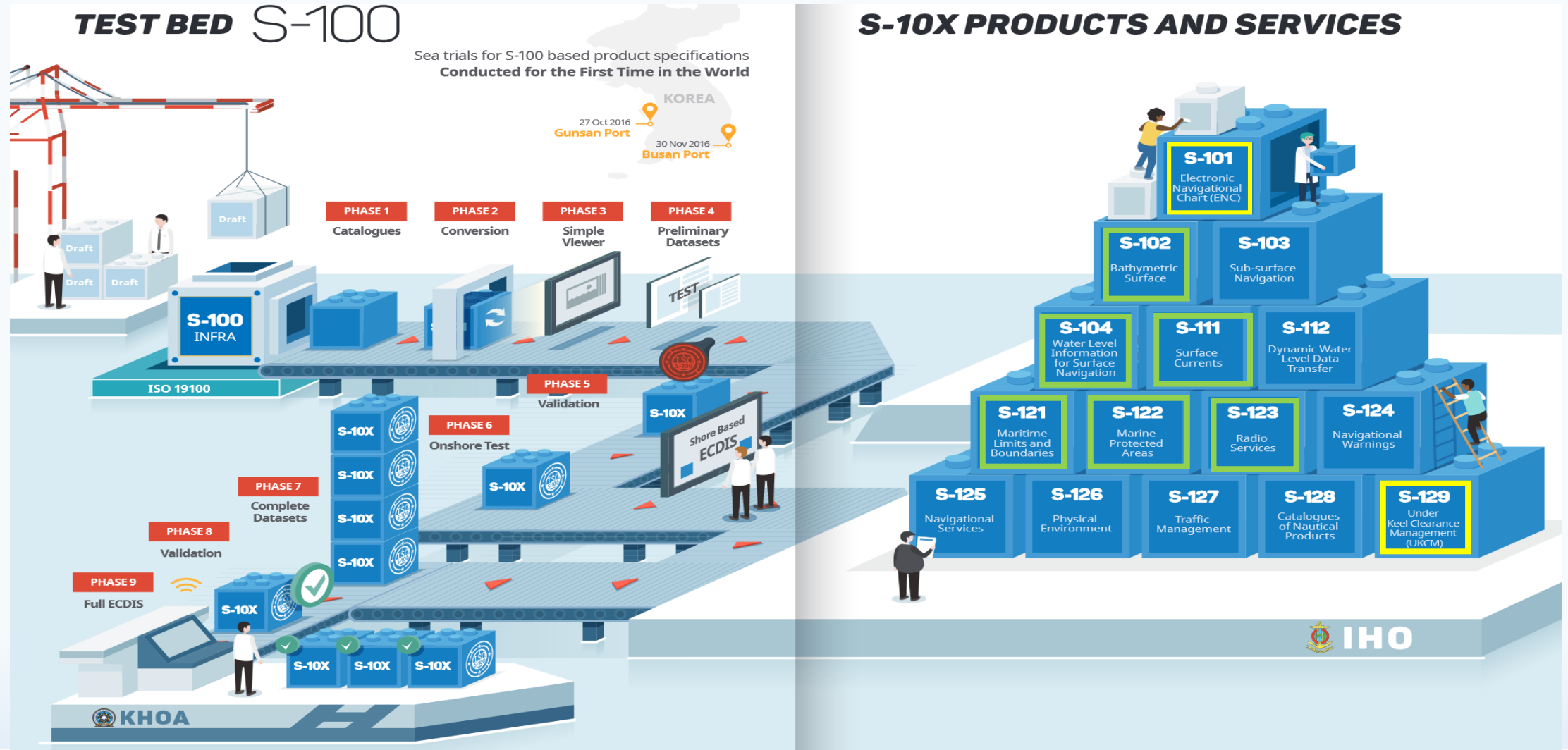| Need | Activity |
|---|---|
| **Give marine data modeler's the option to continuously improve and share their modelling** | IHO Registry consisting of machine readable registers of Features, Attributes, Symbols, portrayal rules |
| **Give marine data boxes individuality** | Support customized machine readable data product specifications (S-1xx → S-4xx) |
| **Give boxed marine data a face** | Machine readable portrayal for basic symbols and coded visualization rules |
| **Enable integration of marine data coming in different S-XXX data boxes** | Set up machine readable interoperability specifications to control visualization and referencing of entities |

# Creation, dissemination and use standardizations

| Need | Activity |
|---|---|
| **Create data sets (semi) automatically** | Handle big data. Process automatic classification, failure detection, generalization and modelling. |
| **Give data sets a common accessible place** | Maritime Connectivity Platform MCD – former Maritime Cloud – an e-navigation concept |
| **Forward data sets to the user (at sea)** | Provision of data streaming: high bandwidth solutions (INMARSAT, VSAT) and low bandwidth solutions (VDES) |
| **Combine interoperable data sets to constitute "the all the physics of the seas" composite at the end users front end** | Use the versatility of maritime data sets in smart Applications<br><br>– Fill the digital aquarium! |

# The IHO S-100 Standards Factory

# How to bring knowledge into effect?

For data centric hydrography, it is (almost) all about standardization!

Thank you!