

A WEBINAR FOR IHO'S S-100: "AN ALL-EMBRACING DATA MODEL"
Ocean Decade Laboratory, 16 September

Contribution to the IHO Work Programme 2021	
Task 1.3.1	Promote the IHO through publicity and public relations initiatives

The IHO's S-100 "An all-embracing data model" webinar as part of the Ocean Decade Laboratories "A Predicted Ocean" was held as a remote event, on 16 September 2021. The event brought together 44 attendees from around the world. The IHO Secretariat was represented by IHO Secretary General Mathias Jonas, Director Abri Kampfer, and Assistant Director Yong Baek. Ms Julia Powell, Chief of Navigation Services at NOAA and Chair of the S-100 WG, participated remotely as a presenter.

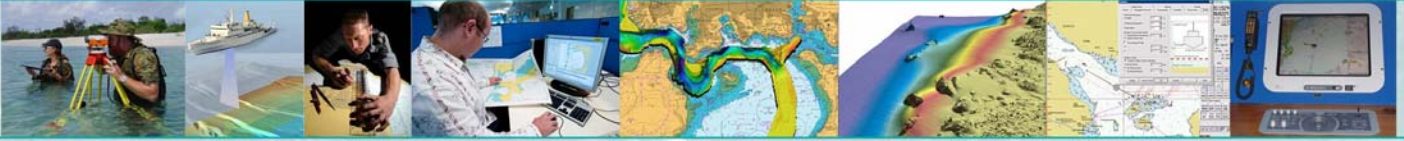
The webinar discussed how the IHO S-100 universal data model can ensure data from different sources is consistent and interoperable, thereby amplifying its impact and increasing the capacity to undertake informed predictions how oceanic parameter will develop.

The presenters argued that IHO Universal Data Model S-100 is like lego blocks for data. This analogy was used to describe S-100 during the event. Just like the different elements in a box of lego, some parts are common and can be used for all constructions. These are compatible and interoperable. Other pieces are specific to certain sets. S-100 aims to do the same with ocean data. It provides the building blocks to develop compatible and interoperable data sets.

S-100, while originally developed for data to support the safety of navigation, can be used by a wide variety of ocean disciplines. Ms Julia Powell provided real world examples of the use of various S-100 products produced by her organization. She mentioned how information on currents, for example, is useful in route planning in navigation. Ships can use this information to choose the most efficient route, taking advantage of the currents as opposed to going against them. By reducing speed by 1 knot, fuel consumption can decrease by 15%. This comment was echoed by a representative from Canada who highlighted that optimised dynamic routes developed thanks to S-100 data can help decrease the carbon footprint of global shipping.

In contrast, using data which is not compatible hinders the provision of real time updates. If all data gatherers and providers developed data sets based on the S-100 framework, information could easily be merged.

Yong Baek introduced and explained the use of the IHO Geospatial Information (GI) Register, which is the portal to join the S-100 Community. The GI Registry contains several Registers, some of which are sub-divided into thematic Domains to host subject-related collections of features which allow the data model for the incoming data to seamlessly integrate data from a multitude of sources. He made an analogy with Google Maps. It provides a map for a specific area, but users can also choose to display restaurants, hotels and other services. S-100 allows the same functionalities in the maritime world. By using data sets based on the S-100 frameworks, users can develop digital representations of the



ocean with Electronic Nautical Charts and can superimpose information on currents, marine protected areas, weather etc. “S-100 allows users to combine, superimpose and amend geoinformation seamlessly in one solution”.



Webinar of the IHO’s S-100 framework: an all-embarcing data model.

In conclusion, IHO Director Abri Kampfer highlighted how improved knowledge of the ocean represented by means of compatible and interoperable data of different ocean science domains can assist to predict future changes.