

Digital twin of the Oceans: The critical role of Hydrography

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A digital twin is a virtual representation, a digital counterpart, of a physical object or system whose objective is to mirror/twin its real behavior over its lifecycle: past, present or future. The United Nation Decade of Ocean Science for Sustainable Development includes a dedicated global program to stimulate development of Digital Twins of the Oceans (DITTO). The Vision of the DITTO Programme is a world where Digital Twins are used to strengthen ocean protection, governance and a sustainable Blue Economy.

Hydrographic organizations worldwide are the custodians of foundational data needed for digital twins of the Oceans. Thus, while also true in the past, it is increasingly clear that into the future our bathymetric, water level and surface current data will support a lot more than just the production and maintenance of navigation charts and related publications to support safe navigation. Hydrography globally is already on its own transformational path, moving towards data-centric process, products and product delivery. Within our own transformations we must rise to the challenge to build in appropriate access for DITTO and similar initiatives to seamless standardized data coverages and integrated datums.

This presentation will explore both how we as a community can support DITTO and similar initiatives within their development and future maintenance through effective standardized access to our data, meta data and data products, and how we as a hydrographic community can in turn make use of their products to further support and promote safety of navigation.