Hydrographic Data, the IGIF and Digital Twins of the Oceans

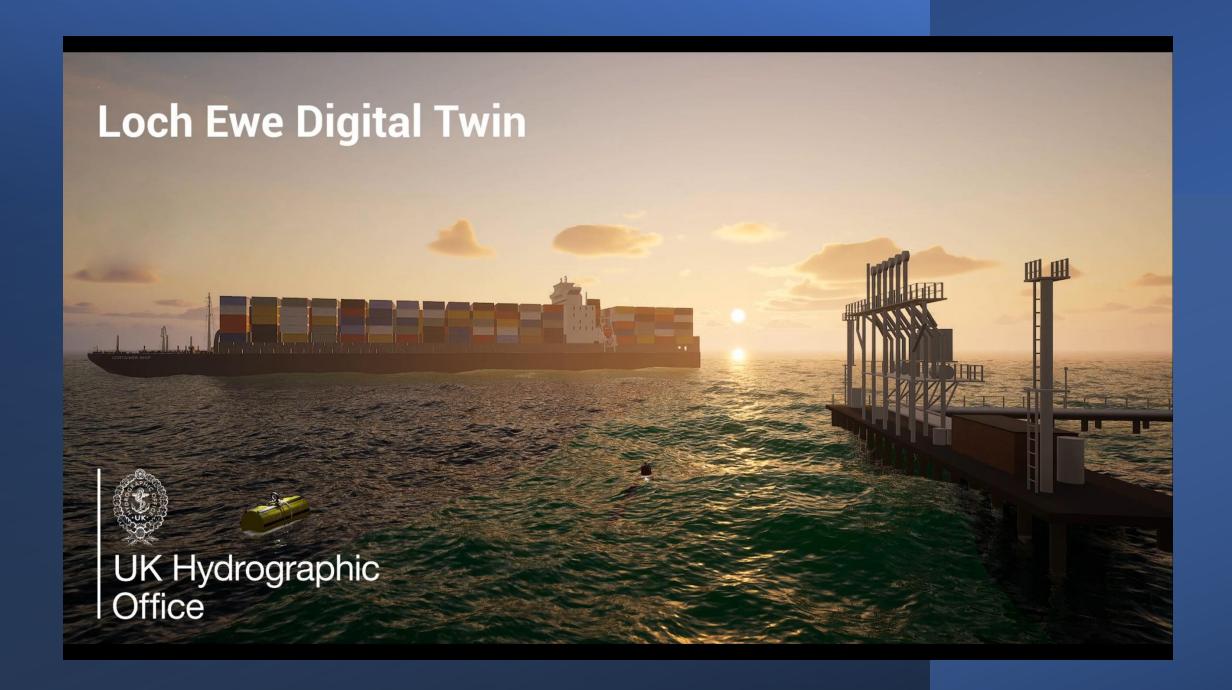
James Carey
Mphil FIMarEST CMARTech

Deputy CDO
UK Hydrographic Office



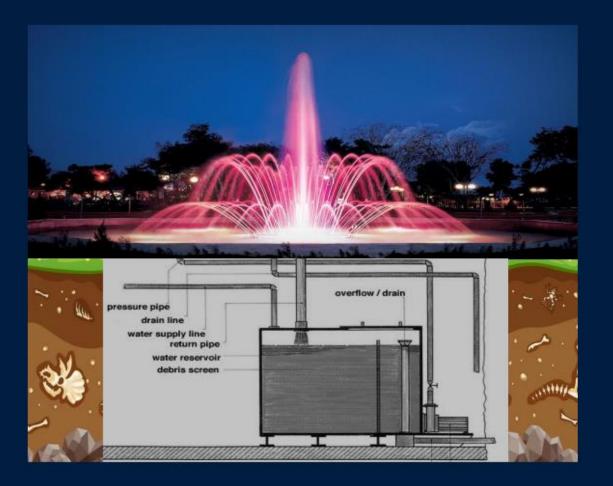






What is a Digital Twin?

The sparkly fountain



Presented by Terry McConnell Fugro DITTO22

Digital Twins:

Are the visible part of a complex digital data eco-system

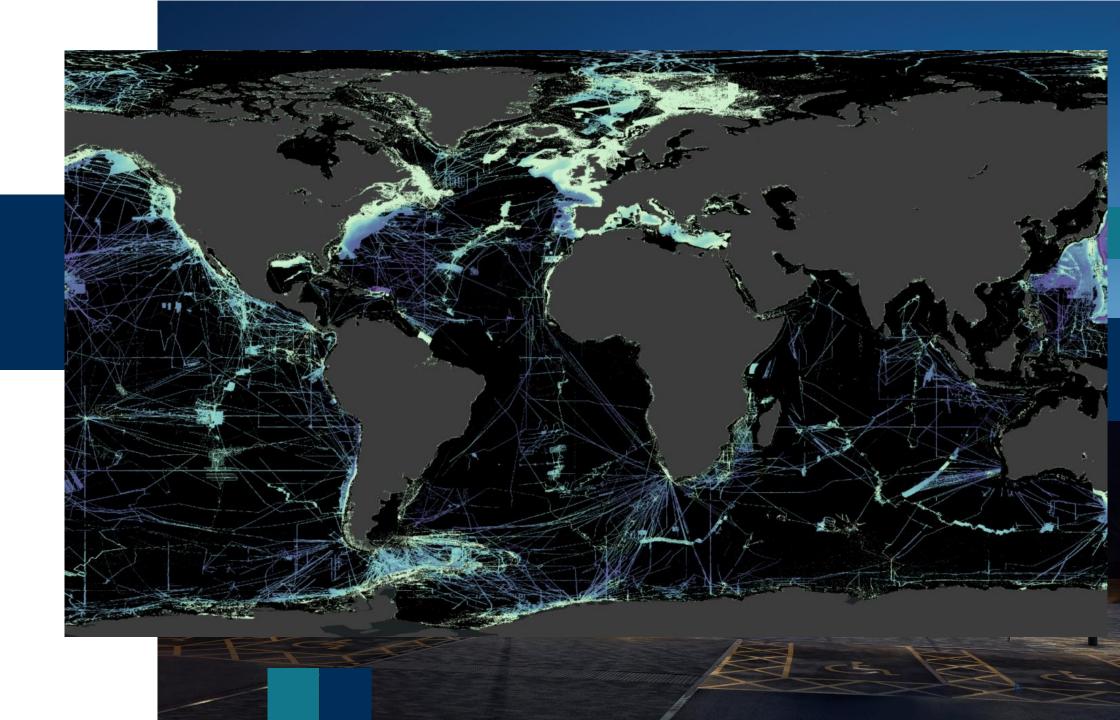
Are empowered by that digital data eco-system

and

Dictate the design of the digital data eco-system.



Seabed 2030





Q-FAIR: Quality

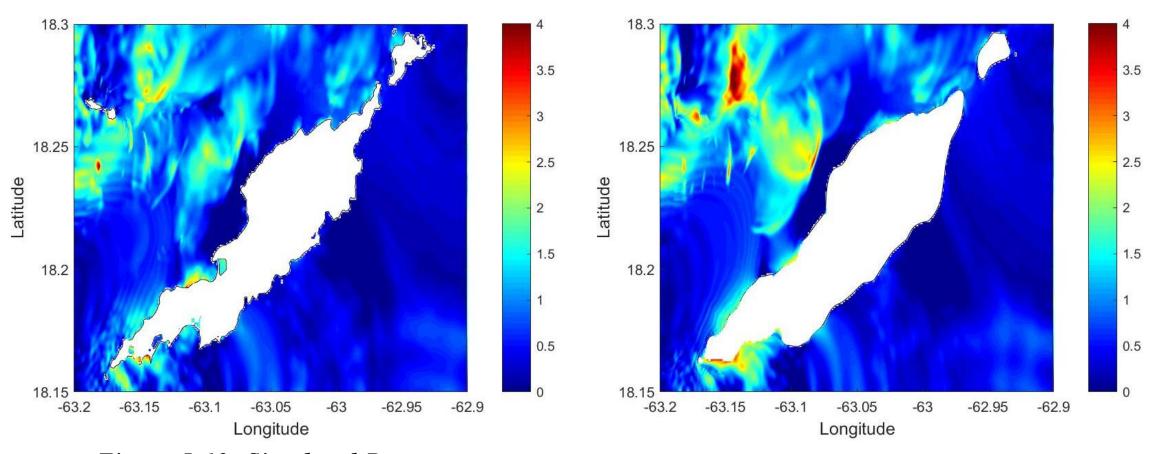


Figure 5-13: Simulated Run-up heights along Anguilla coast (source LA2 with 10m bathymetry)

• Figure 5-15: Simulated Run-up heights along Anguilla coast (source LA2 with GEBCO bathymetry)







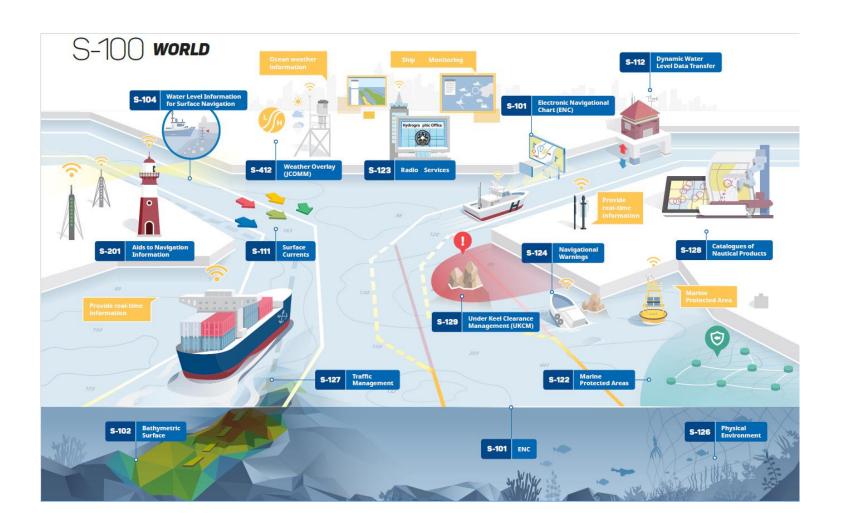




Q-FAIR: Findability and Accessibility

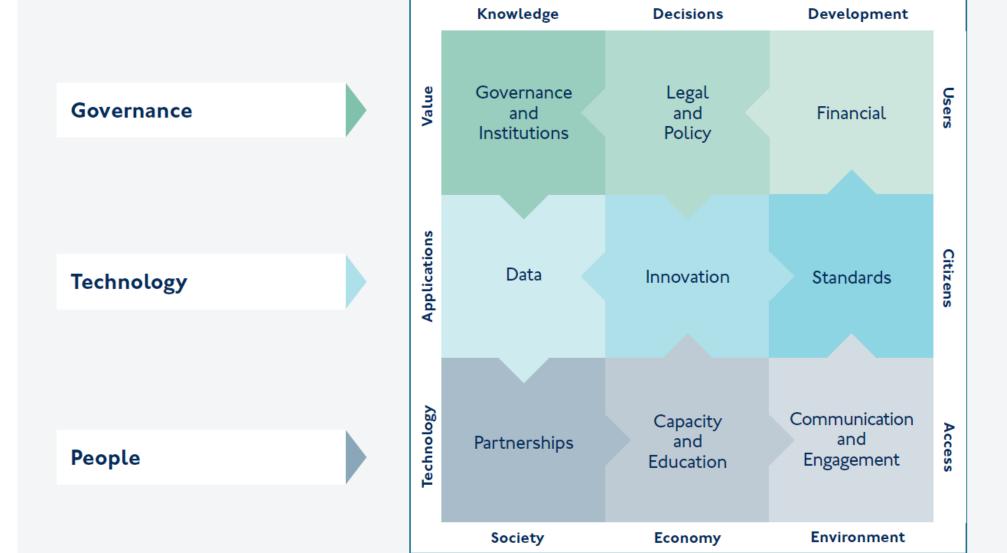


Q-FAIR: Interoperability and Reusability



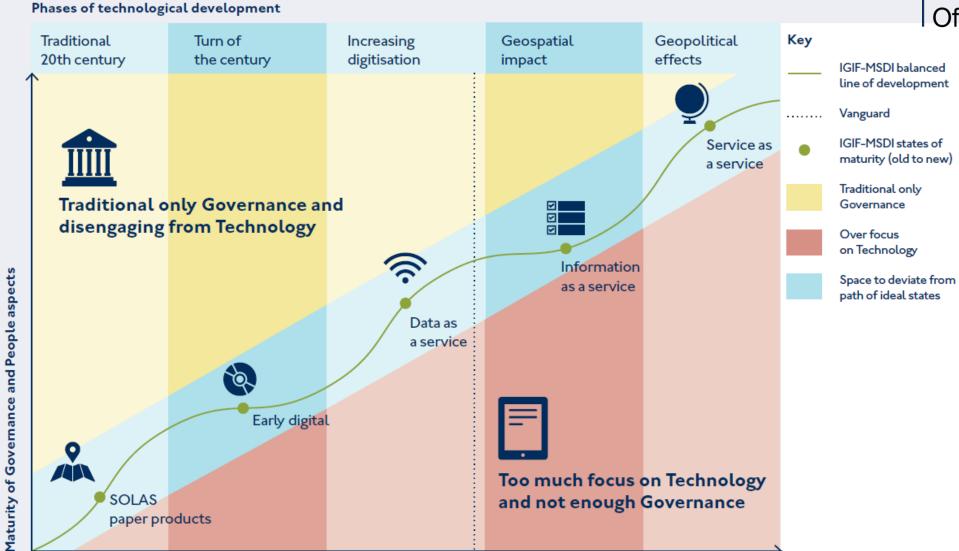
The UN-GGIM IGIF Nine Pathways model





IGIF-MSDI is a Pathway, Maturity is a State

UK Hydrographic Office



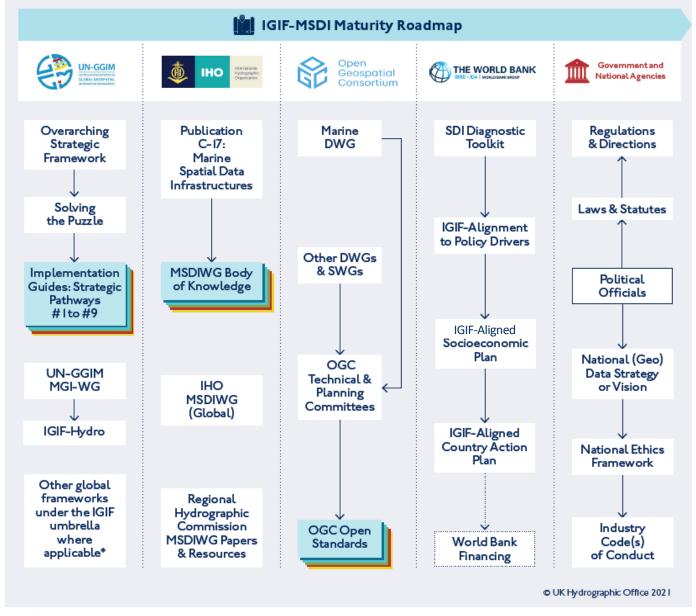
Intensity of focus on pure Technology

Embedding an IGIF-Aligned MSDI into wider Geospatial considerations





(Simplified) Ecosystem of IGIF and MSDI Resources



^{*}Including the Fundamental Geospatial Data Themes and the Global Statistical Geospatial Framework



The Context of the UN-GGIM, IHO, OGC, and World Bank

WHY?

Socio-economic motivations and inclusive benefits from global geospatial information management



Developing a spatial data infrastructure suited for unlocking the value in marine and maritime data

HOW?

Implementing OGC Standards to maximise the capabilities of Tech via the cost benefits of interoperability



Foundation Elements: Financing &

National Ecosystem

Organisation







Solving the Puzzle



Implementation Guide: 9 Strategic Pathways



Country-Level Action Plans (Incl. When? Who?)





International Hydrographic Organization



Representation at UN-GGIM MGI-WG and OGC Marine DWG



Publication C-I7 on the MSDI Concept



MSDIWG Body of Knowledge









SDI Diagnostic Toolkit

THE WORLD BANK

Alignment to Policy Drivers

Socio-Economic Plan

Country Action Plan Laws & Statutes

National Geodata Policies

Industry
Ways of
Working

Holistic Approach to an IGIF-Aligned MSDI











WHY?

Socio-economic motivations and inclusive benefits from global geospatial information management



Developing a spatial data infrastructure suited for unlocking the value in marine and maritime data

HOW?

Implementing OGC Standards to maximise the capabilities of Tech via the cost benefits of interoperability

FINANCING?

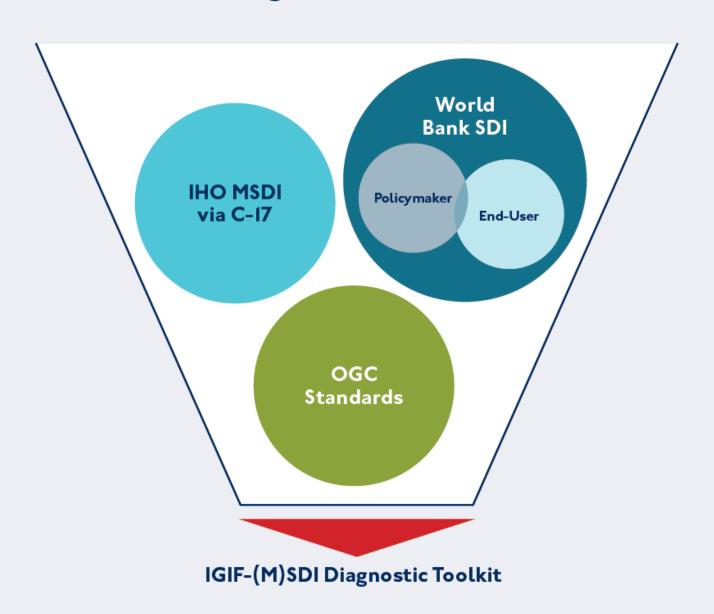
Defining and measuring socio-economic benefits to justify and/or monitor the use of financial resources

Strategic Iteration

Fixed review period (5 or 10 year), linked to political cycle(s), or external triggers (geopolitical, technological, or environmental)

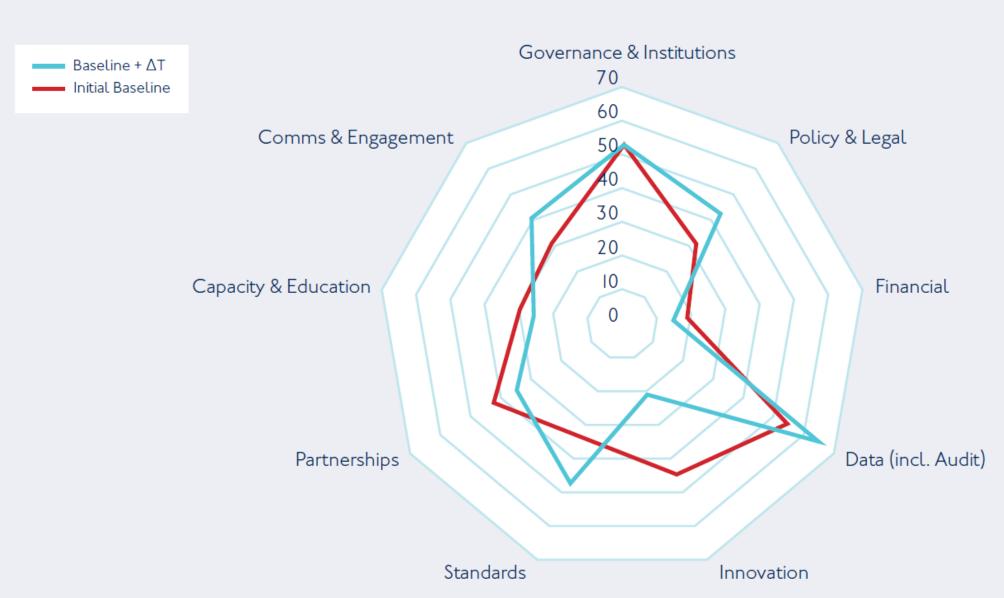
Components of the IGIF-(M)SDI Diagnostic Toolkit





IGIF-MSDI Maturity Assessment





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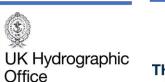
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OGC CEO Nadine Alameh

ISO/TC-211 Chair Peter Parslow



Next Steps

- A. Publish following feedback from reviewers
- B. Secure commitment from countries to pilot its value in use and refine

Thank you