

*Presented at the FIG e-Working Week 2021,
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Ocean's knowledge: the role of the International Hydrographic Organization in the incoming decade

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AGENDA

1. Historical background
2. IHO and the role of Hydrography
3. Ocean's knowledge & protection of marine environment
4. IHO and the incoming decade
5. Conclusion



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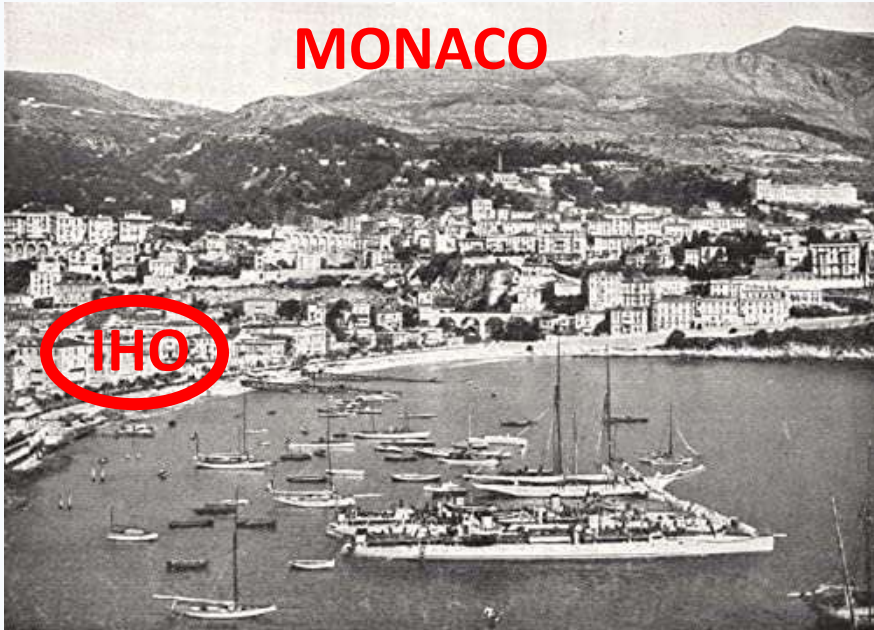
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Historical background (1921 – 2021)

MONACO



IHO celebrates its
100th Anniversary



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IHO and the role of Hydrography



94 Member States

The **International Hydrographic Organization** is an intergovernmental organization which supports:
the safety of navigation
and
the protection of the marine environment



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IHO and the role of Hydrography

“Hydrography is much more than nautical charts”

(Pushidrosal, Indonesia)

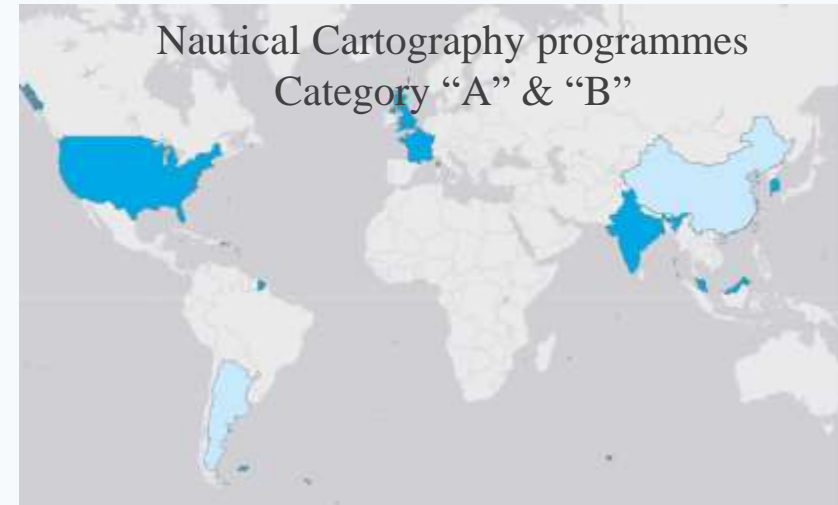


IHO and the role of Hydrography

Hydrography programmes at Category "A"



Nautical Cartography programmes
Category "A" & "B"



Total 60+
recognized
programmes
&
2 recognized
schemes

Hydrography programmes at Category "B"



Schemes of individual recognition



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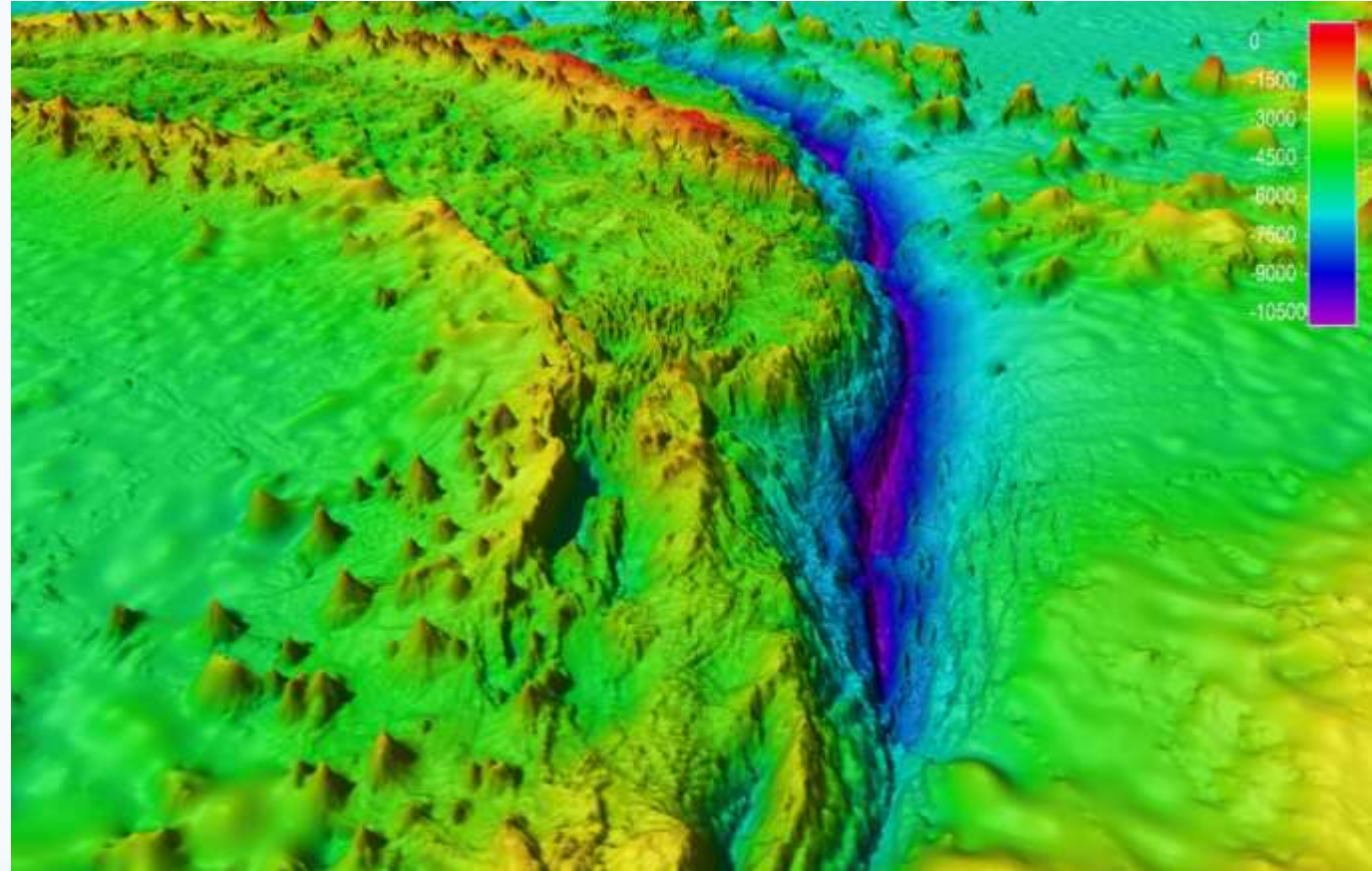
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Ocean's knowledge & the protection of marine environment

- We currently know the surfaces of the Moon and Mars better than we know our own ocean floor
- Lack of knowledge of the marine environment prevents progress and economic development in most coastal states, with a negative impact on the exploitation and sustainable management of the seas and oceans



The Mariana Trench – 10.920 m



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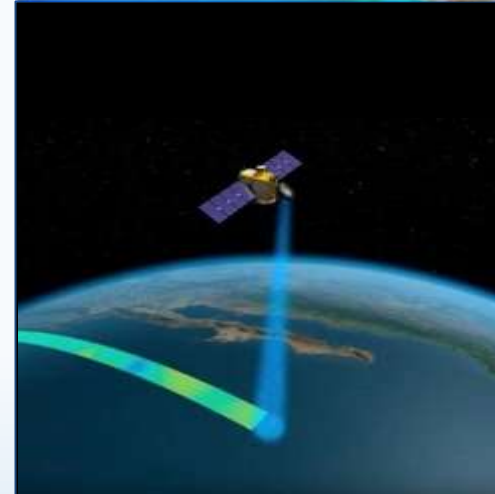
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Ocean's knowledge & the protection of marine environment

- Nautical charts
- Oil, gas, & mineral exploration
- Safety and storm surge/tsunami inundation models
- Ecosystem identification and management
- Emergency response
- Satellite verification models
- Climate modeling
- Ocean circulation/pollution
- Coastal and Marine Spatial Planning
- Coastal Hazard Assessment
- Ocean Exploration
- Coastal Change Analysis
- Sea Level Rise Mitigation
- New Energy Siting
- Marine heritage



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Ocean's knowledge & the protection of marine environment



2021-2030 United Nations Decade of Ocean Science for Sustainable Development



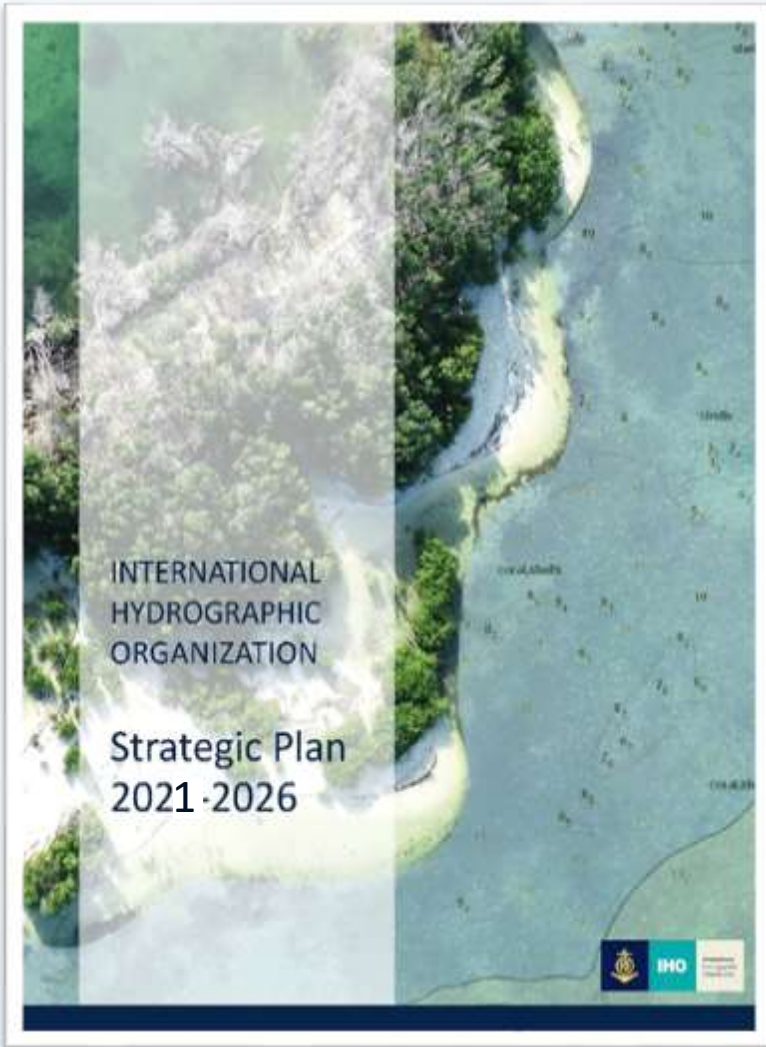
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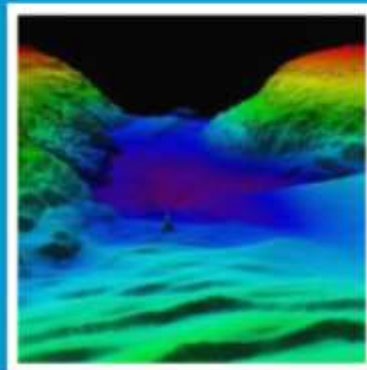
Ocean's knowledge & the protection of marine environment



STANDARD

Goal 1

Evolving the hydrographic support for safety and efficiency of maritime navigation, undergoing profound transformation



Goal 2

Increasing the use of hydrographic data for the benefit of society



DATA

KNOWLEDGE

Goal 3

Participating actively in international initiatives related to the knowledge and the sustainable use of the Ocean



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IHO and the incoming decade



OBJECTIVE 1:

Identify required knowledge for sustainable development

Data portals - IHO: MSDI

Open data approach - IHO: Standard

Global ocean observing systems - IHO: Tides, Currents, micro-plastic monitoring

Partnering to develop and maintain new technology - IHO: SDB, Autonomous technologies

Integrate local knowledge IHO: RHCs



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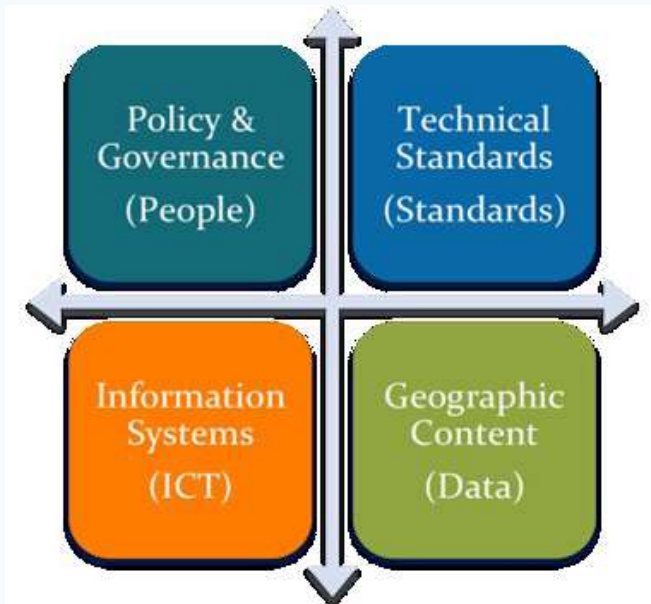
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IHO and the incoming decade

NAZIONAL GEOPORTALS IN THE WORLD (Spatial Data Infrastructure – SDI)

M S D I



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OBJECTIVE 2:

Generate comprehensive knowledge and understanding of the ocean

Ocean Mapping - IHO: GEBCO and SubCommittees, Data Centre for Digital Bathymetry (DCDB)

Collection and use of the maritime version of the citizens science - IHO: Crowdsourced Bathymetry

Expanding scientific and technical capability IHO: Capacity building (Gender equality)



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% OF OCEAN'S SEAFLOOR MAPPED



- **2017: 6%**
- **2020: 19%**
- **2021: 20,5%**
- **2030: TARGET=100%**



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IHO and the incoming decade

Empowering Women in Hydrography



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IHO and the incoming decade



2021
2030 United Nations Decade
of Ocean Science
for Sustainable Development

OBJECTIVE 3:

Increase the use of the
ocean knowledge

Implementation of e-navigation and new standards - IHO: S-100 Universal Data Model

Develop and disseminate analytical tools to predict human and environmental interactions based on multiple stressors

- IHO: Existing means for navigation in Arctic waters, S-101 next generation ENC, other Product Specifications for maritime services in IMO, IALA, WMO and others



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- S-100 Universal Data Model
- Modern technology for safe and efficient navigation
- Interoperability and multitude of services



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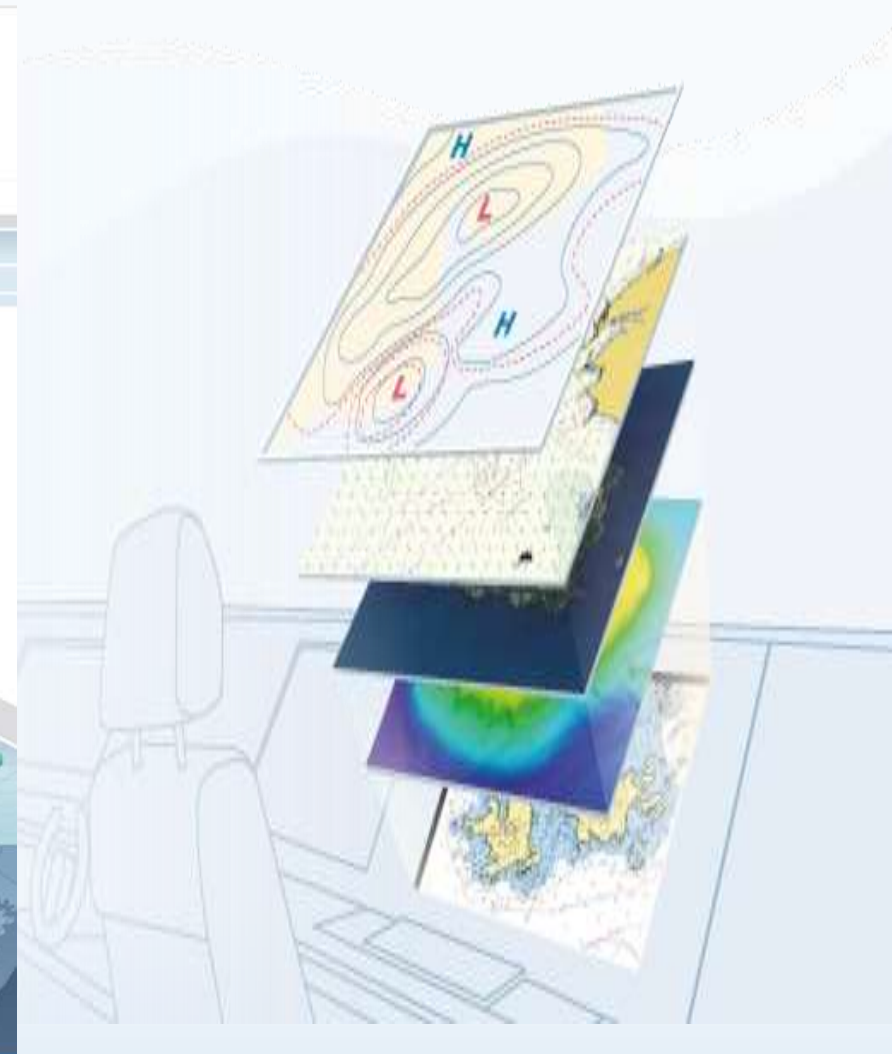
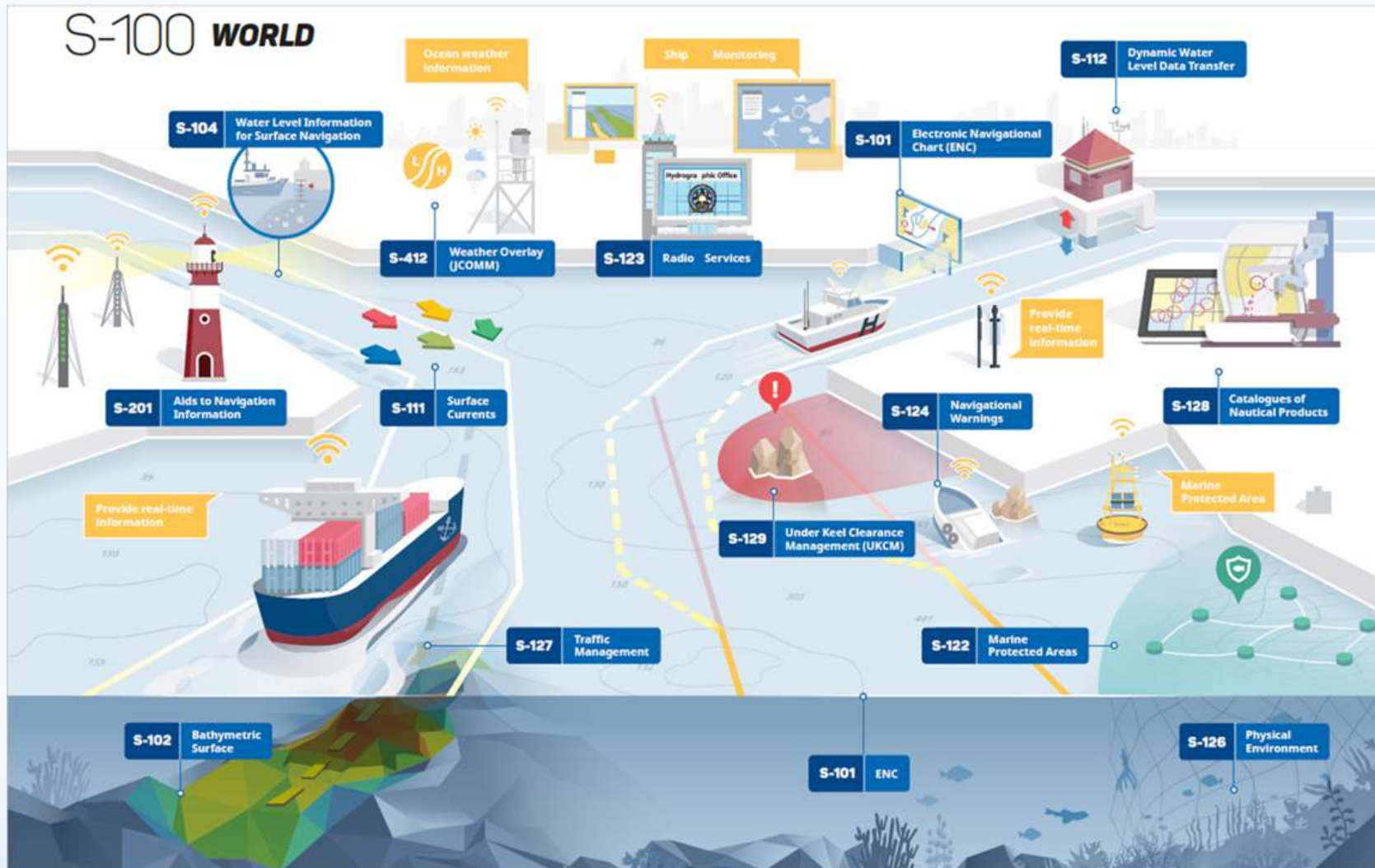
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S-100 WORLD



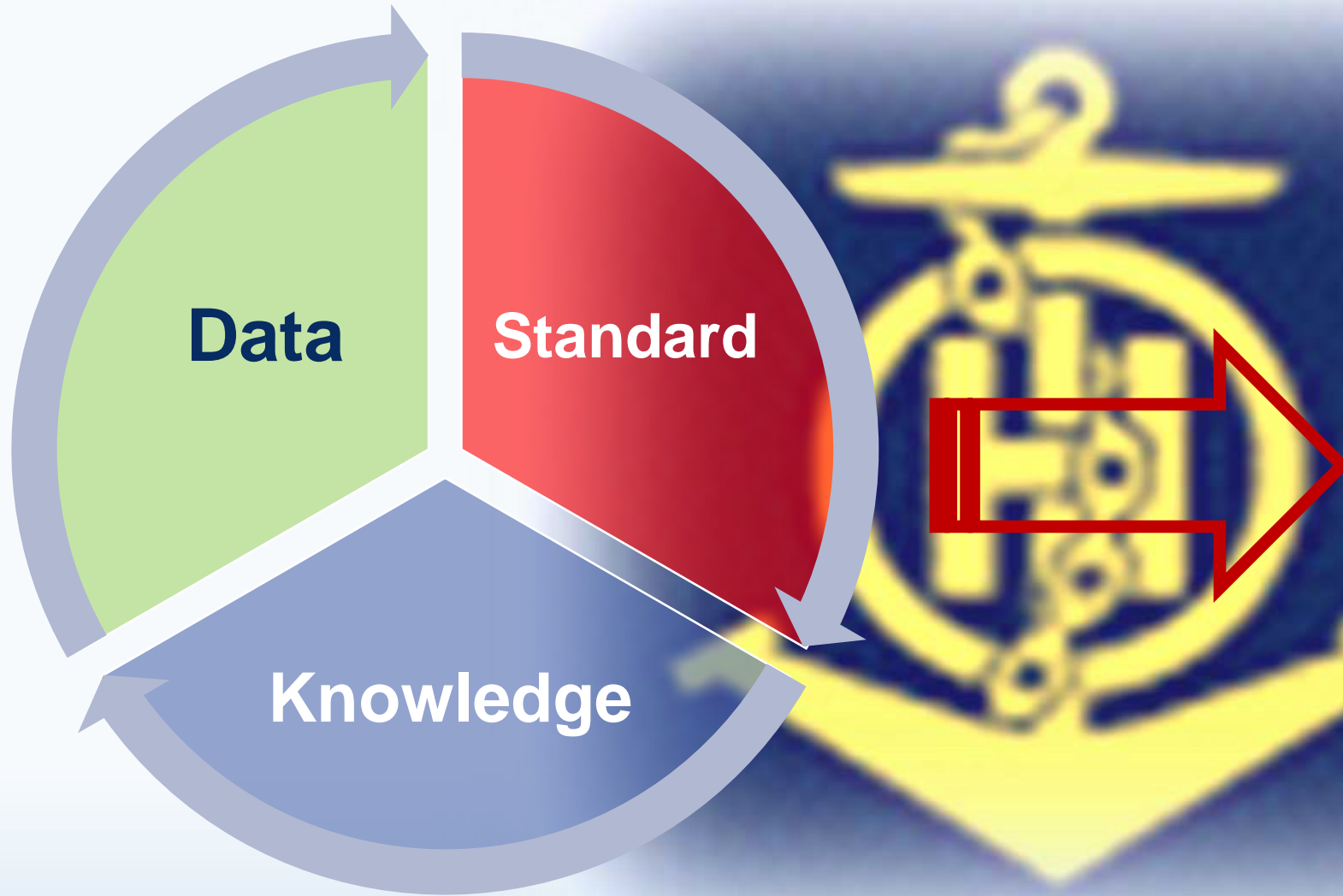
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CONCLUSIONS



**IHO'S ACTIVE
ROLE IN THE
DECADE (2021-
2030) DEDICATED
TO THE OCEANS**



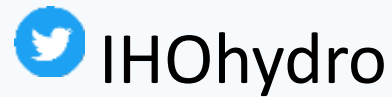
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Thank you for the attention!



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