6th Meeting of the IHO Council

Understanding the Drivers, Solutions, and Enablers, within the Shipping Industry

Agenda Item C6-07.7A.

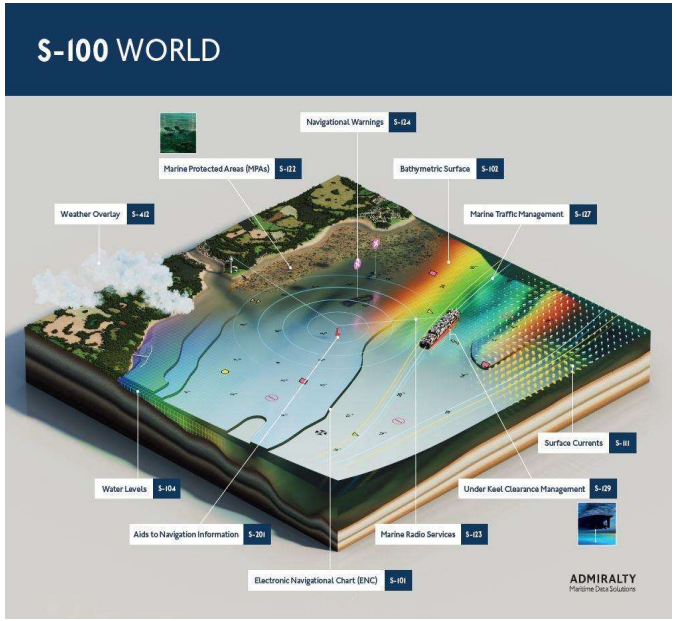
C-6, IHO Secretariat, Monaco, 18 – 20 October 2022

SHIPPING INDUSTRY DRIVERS, SOLUTIONS & ENABLERS

International Hydrographic Organization

Background and Context

- The shipping industry is going through significant change, as are we as a Hydrographic Office community, as we move towards a S-100 world
- White Paper: **Understanding the Drivers, Solutions and Enablers within the Shipping Industry** created at the request of the International Hydrographic Organization to help identify the opportunities, and challenges, we face now and in the future.
- The White Paper is available in IHO Council 6 records here: [Understanding the Drivers, Solutions and Enablers within the Shipping Industry]



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Definition of Terminology

	Drivers	Solutions	Enablers
Definition	An internal or external pressure that shapes change to an organisation or industry, such as changes to regulation, or a business strategy or its operations	An initiative or product/service designed to address a particular problem or need	A person or thing that makes something possible

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Shipping Industry Drivers

- **Two drivers** have been dominating the shipping industry in recent years – **Decarbonisation** and **Digitalisation** – and will continue to dominate in the future with Shipping companies seeking to:
  - **Reduce emissions** in support of decarbonisation
  - **Improve operational efficiency** through investing in technological tools to closely monitor and manage their fleet

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Shipping Industry Solutions

Solutions

Key Themes

- **Environmental Initiatives**
- **Alternative Propulsions & Fuels**
- **Optimisation**
- **Autonomous Navigation**

- Shipping companies are aiming to achieve reduced emissions and operational efficiency through:
  - **optimisation** in the short to medium-term and
  - using **alternative fuels** in the long-term

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Shipping Industry Enablers

Enablers

Key Themes

- **Increased internet connectivity to support real time data feeds**
- **Cyber Security**
- **Training & Simulators**

- For optimisation to be successful, it is imperative:
  - the vessel receives
    - **real-time secure data** feeds, with
      - **increased internet connectivity**
      - and **sufficient cyber security**
  - the **mariner** is **supported** with **training**

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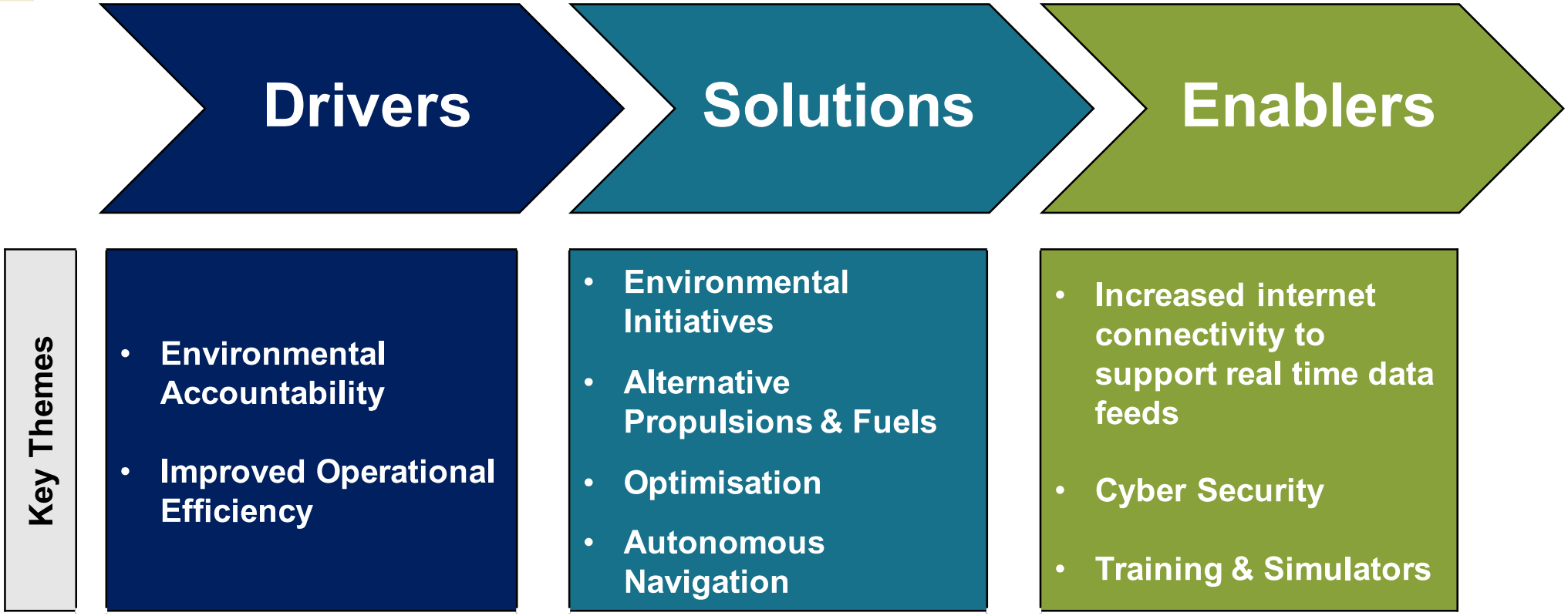
Key findings



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Key findings

- The environment that we deliver our services into is changing, driven by a desire in the shipping industry for decarbonisation and operational efficiency, supported by new technology like the growing availability of high-speed internet at sea, Integrated Bridge Systems, machine learning and Artificial Intelligence.
- Decarbonisation has become a global imperative and a priority for governments, companies and society at large which, in turn, are making commitments and increasing efforts to close the gap to net-zero emissions and create a sustainable shipping industry.
- The internet bandwidth available at sea is increasing and it's cost is coming down, increasing the number of connected solutions being adopted in the shipping industry.

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Impact on Hydrographic Offices

How can we, as a Hydrographic Office community, respond to enable:

- Data sets that support decarbonisation?
- S-100 data standards that are both human and machine readable?
- Standards, and ways of working, to support provision of safe and secure data sets?
- Relevant training for our Hydrographic Office community so we are prepared and ready for the maritime future?

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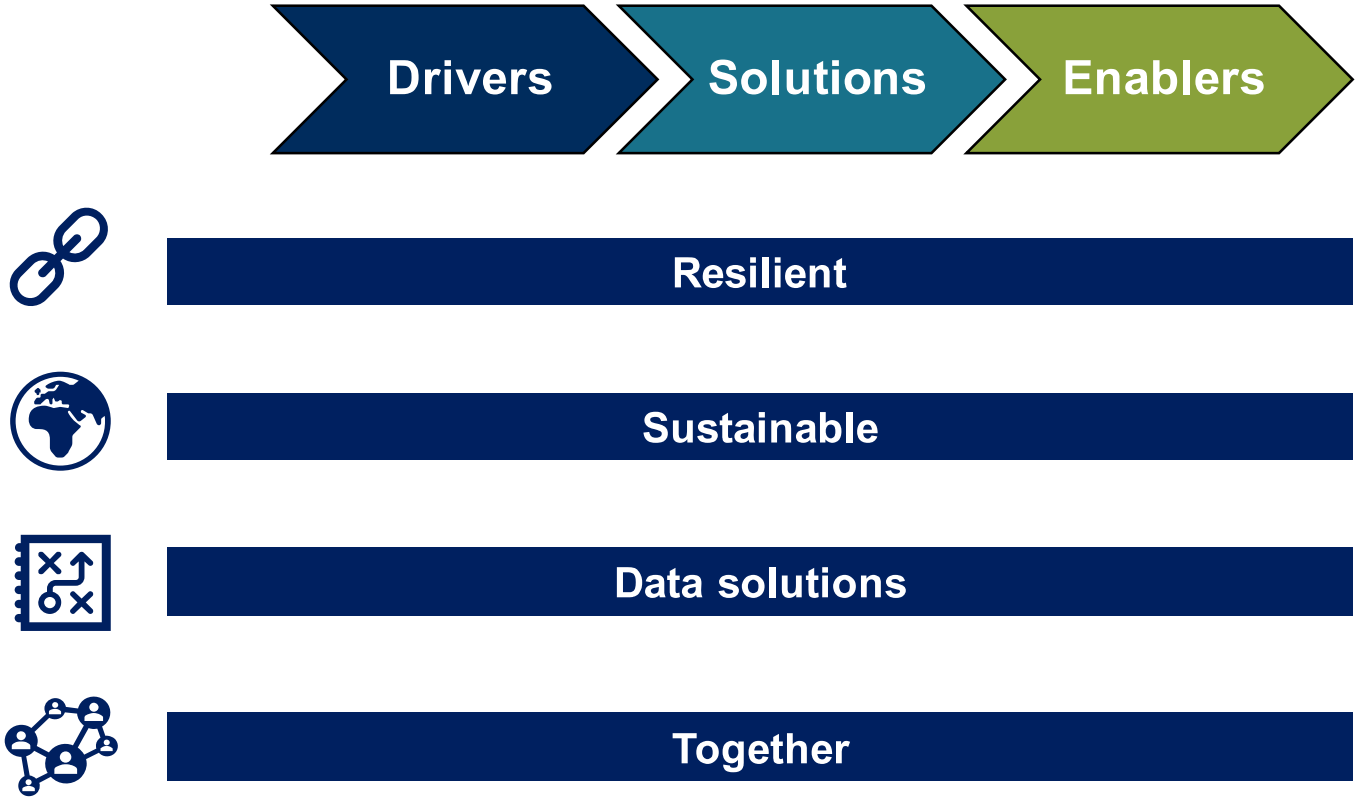
How the UK Hydrographic Office is responding



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How the UK Hydrographic Office is responding

- We are strengthening, stabilising and evolving our navigation data solutions to create assured, secure and reliable services to support mariners today and tomorrow.
- We are reducing the carbon footprint of our navigation products and services to safeguard the ocean environment and as an organisation are making progress towards our net-zero target to operate in a sustainable way.
- We are building, measuring and learning how to unlock the potential of S-100 data services in collaboration with industry partners and users and sharing our learnings with our Hydrographic Office partners and maritime stakeholders to prepare for the future together.
- To deliver these solutions and enablers we have begun a phased exit from paper chart production, and are working with the Maritime & Coastguard Agency to evolve regulations and are collaborating with industry partners and users with the transition to digital alternatives.