



PRIMAR[®]

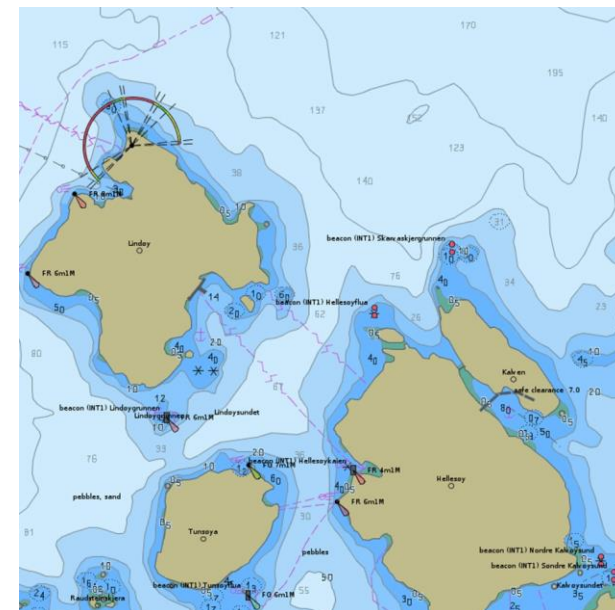
PRIMAR RENC services and updates



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What is PRIMAR?

- PRIMAR is a Regional ENC Coordinating Centre (RENC) located in Stavanger, Norway. In operation since 1999.
- PRIMAR is operated on a non-profit basis by the **Norwegian Hydrographic Service** in close cooperation with the **Electronic Chart Centre (ECC)**.
- PRIMAR operates fully compliant with IHO guidelines, WEND principles and standards.
- PRIMAR has been ISO certified since 2005.



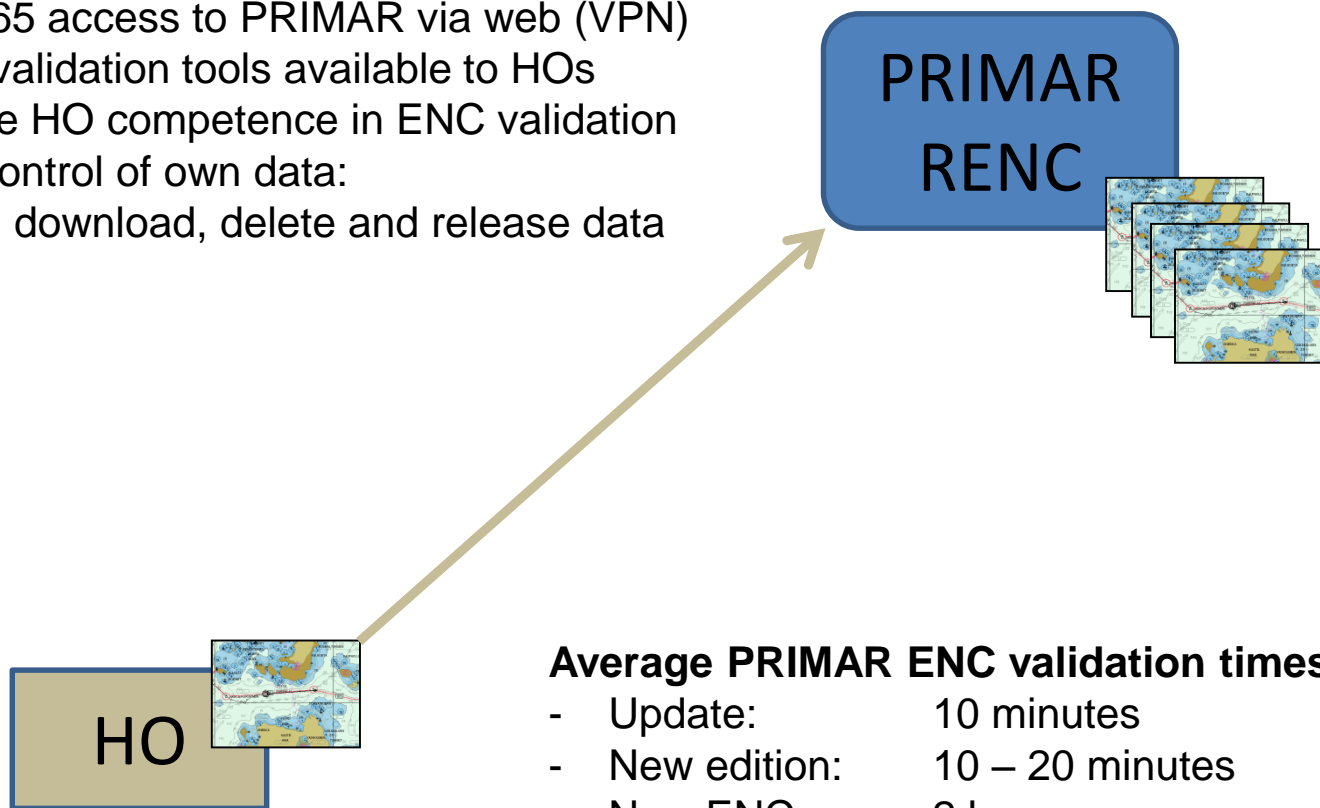
What does PRIMAR?

- Provide cooperating hydrographic offices with operational and technical support and services in their work to produce, quality control and deliver harmonized ENC's.
- Revenue Management, Marketing and ENC sales on behalf of the HO.
- Provides a consistent and reliable electronic navigational chart (ENC) service world-wide.
- Provide all actors with responsibilities for safety of navigation and protection of the maritime environment with accurate up-to-date maritime geospatial data.
- Has a continuous focus on technology and innovation.

PRIMAR validation and ENC database

PRIMAR ENC validation philosophy:

- 24/7- 365 access to PRIMAR via web (VPN)
- Online validation tools available to HOs
- Increase HO competence in ENC validation
- HO in control of own data:
Upload, download, delete and release data in VPN.



Average PRIMAR ENC validation times:

- Update: 10 minutes
- New edition: 10 – 20 minutes
- New ENC: 2 hours

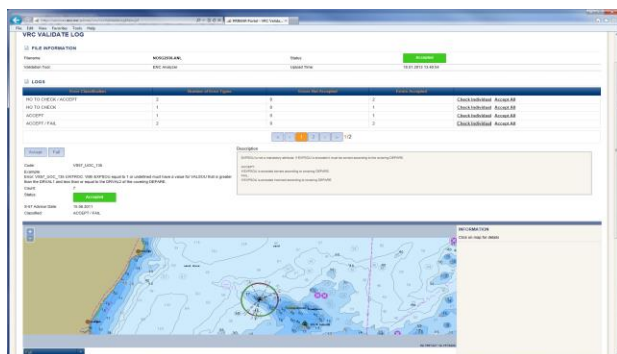


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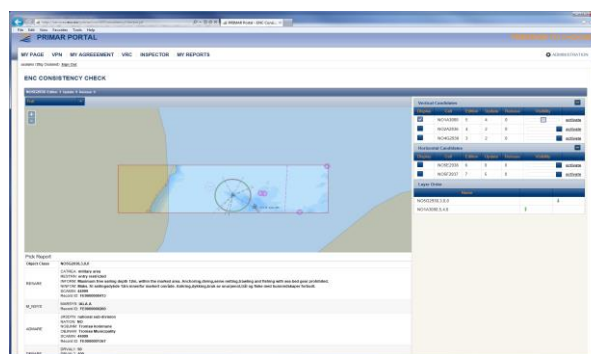
PRIMAR validation and ENC database

Virtual PRIMAR Network (VPN): Automatic S-58 checks on upload

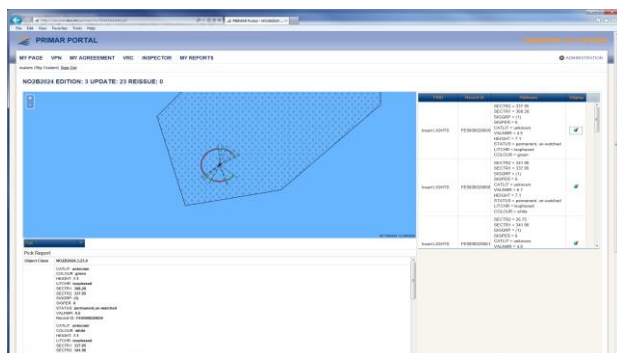
Validation Report Checker (VRC): A validation toolbox for the Hydrographic Office.



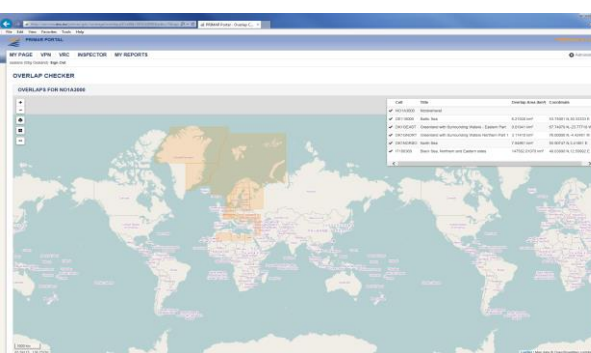
Validate logs (Errors db)



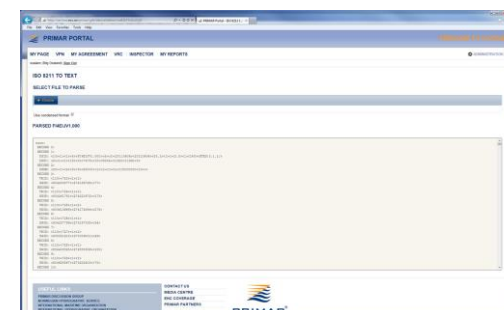
ENC Consistency Check



Check Update

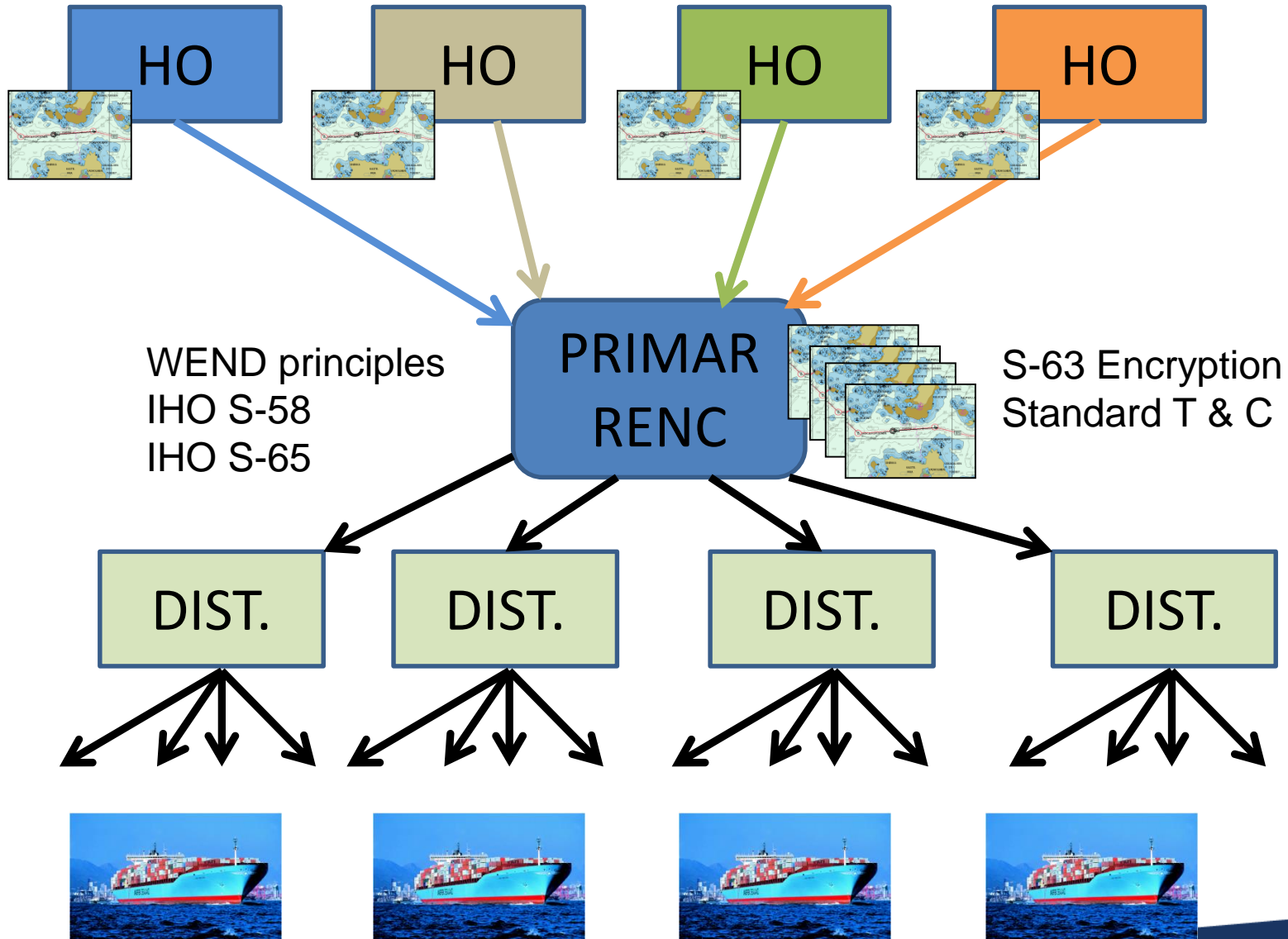


Overlap checker

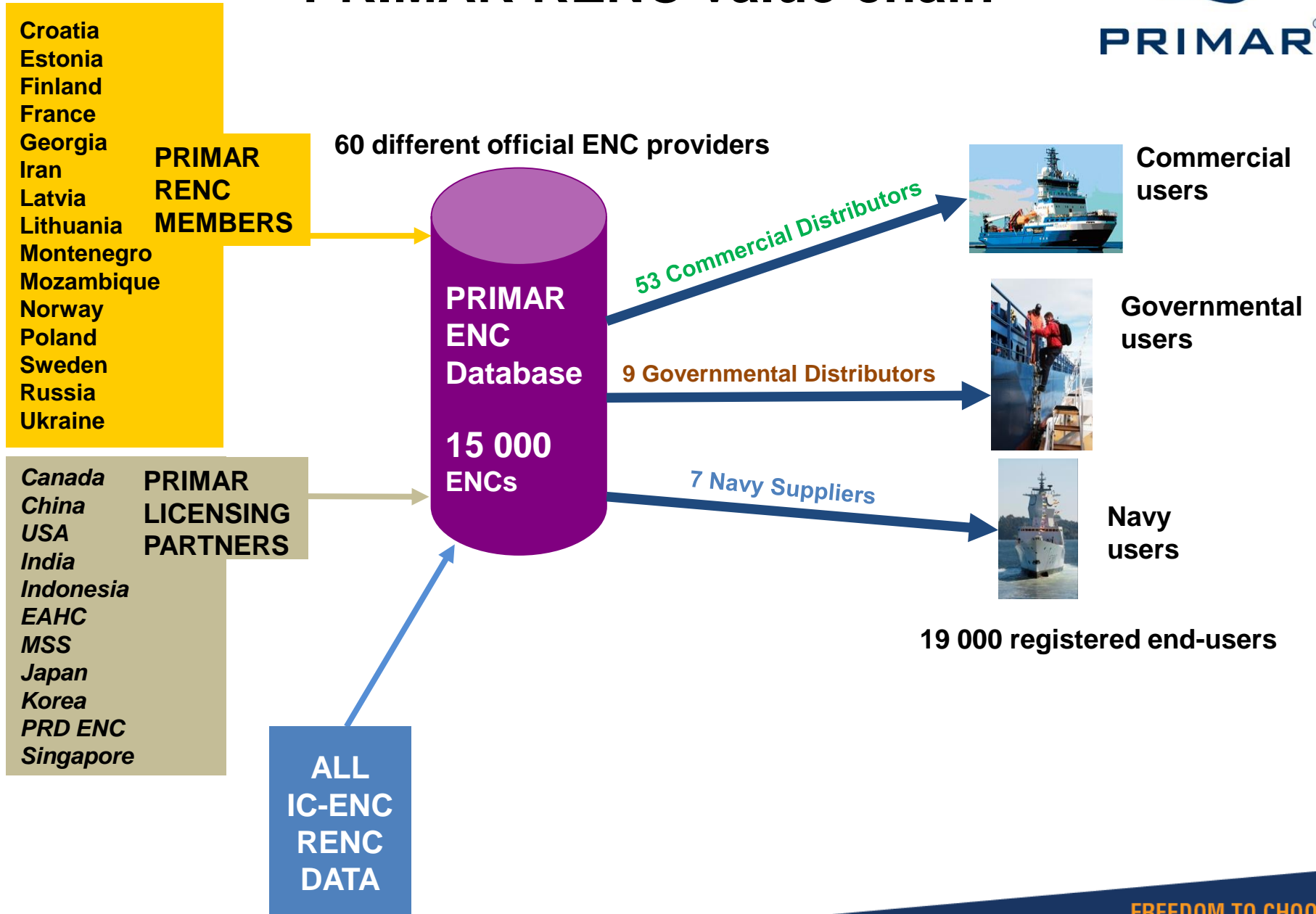


ISO8211 to text

ENC Distribution through PRIMAR



PRIMAR RENC value chain

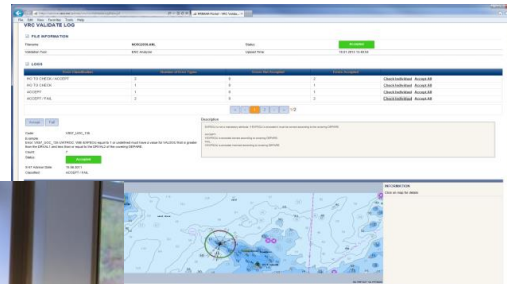




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PRIMAR capacity building

- 6 PRIMAR training courses arranged during 2015 / 2016.
- Training provided in ENC production support and PRIMAR tools for ENC delivery, validation and quality control.
- Training provided for 12 nations with 46 participants in total.
- Technical working group annual meeting

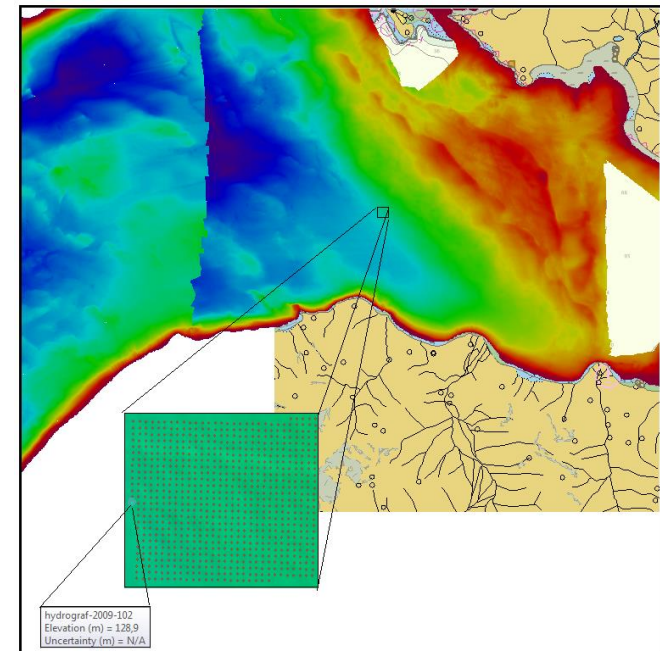
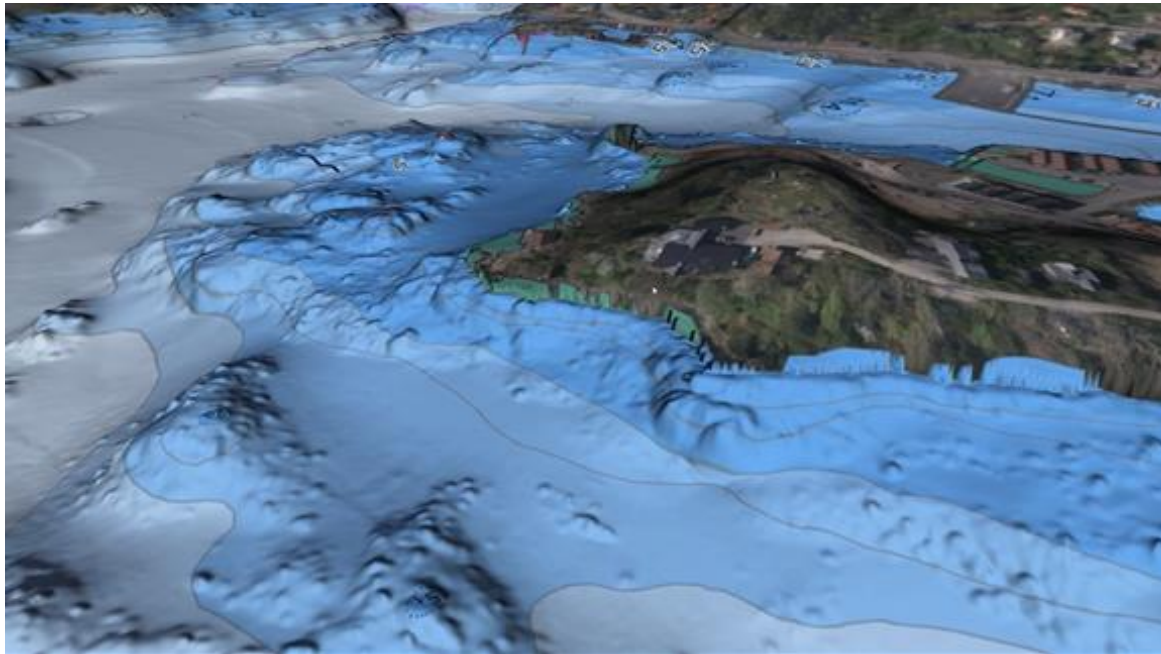


PRIMAR S-102 project

- Expanding the PRIMAR ENC service with distribution, sales and customer support for bathymetric data on the S-102 format.
- Protecting the S-102 service with the new edition of IHO S-63 for access control and authentication.
- Allowing a Hydrographic Office to distribute its S-102 data to governmental and commercial end-users through PRIMAR.
- Development and testing of upload, validation, viewer, encryption and distribution modules ongoing.
- Cooperation with HOs, system manufacturers and end-users.

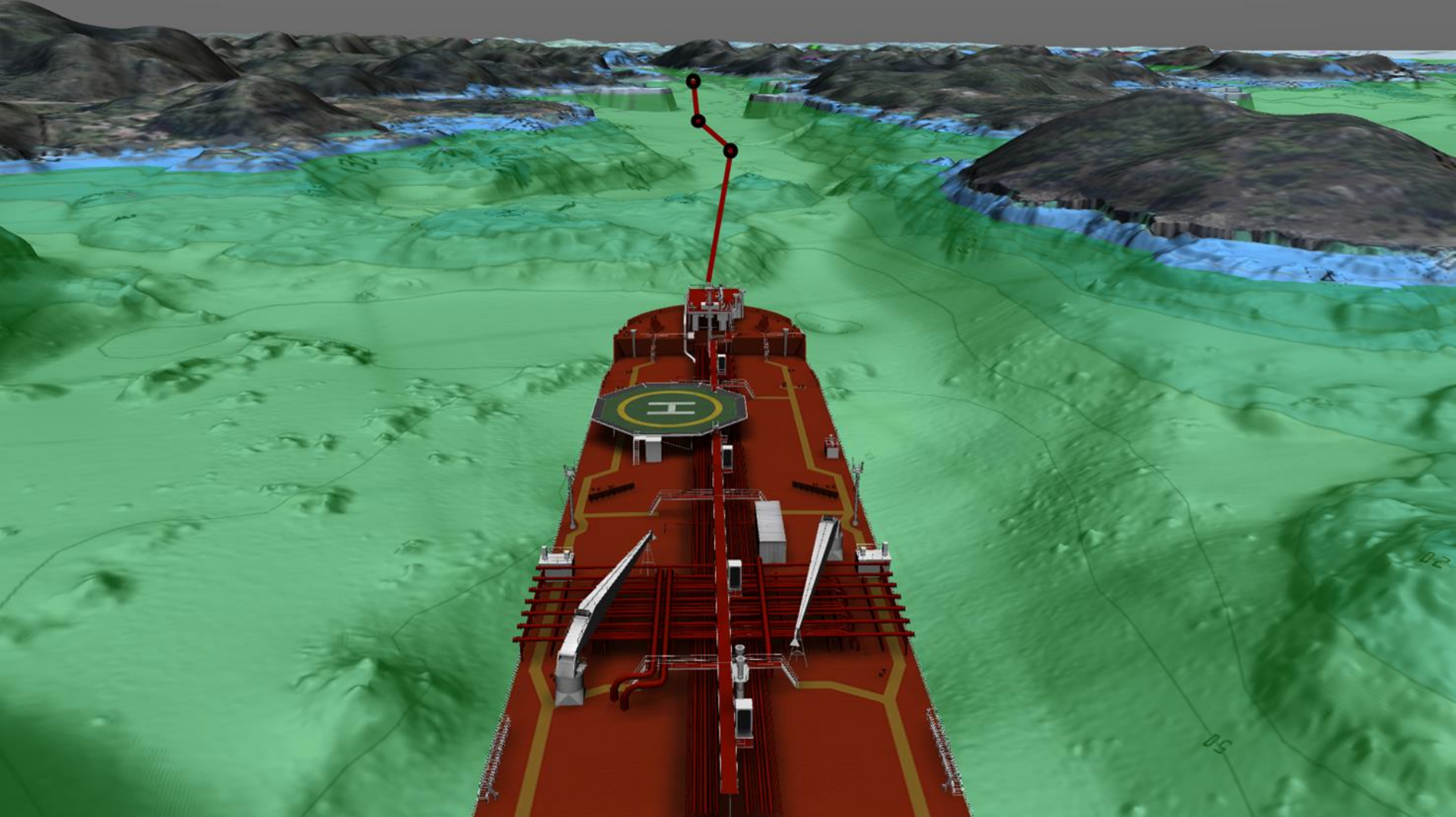
S-102 Product

- **Main purpose:** To support safe navigation as a supplementary aid.
- **Product:** High resolution gridded bathymetry – bathymetric model.
- **Usage:** Navigational and planning purposes
(safe depth, anchorage areas, Under Keel Clearance)
- **Innovative:** Allows ECDIS to calculate contour intervals on the fly.



PRIMAR S-102 project

S-102 data in combination with ENC. End-user test system.





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Thank you for your attention
Questions?

www.primar.org