

HSSC15
Stakeholder Session



PRIMARs Future S-100 Distribution

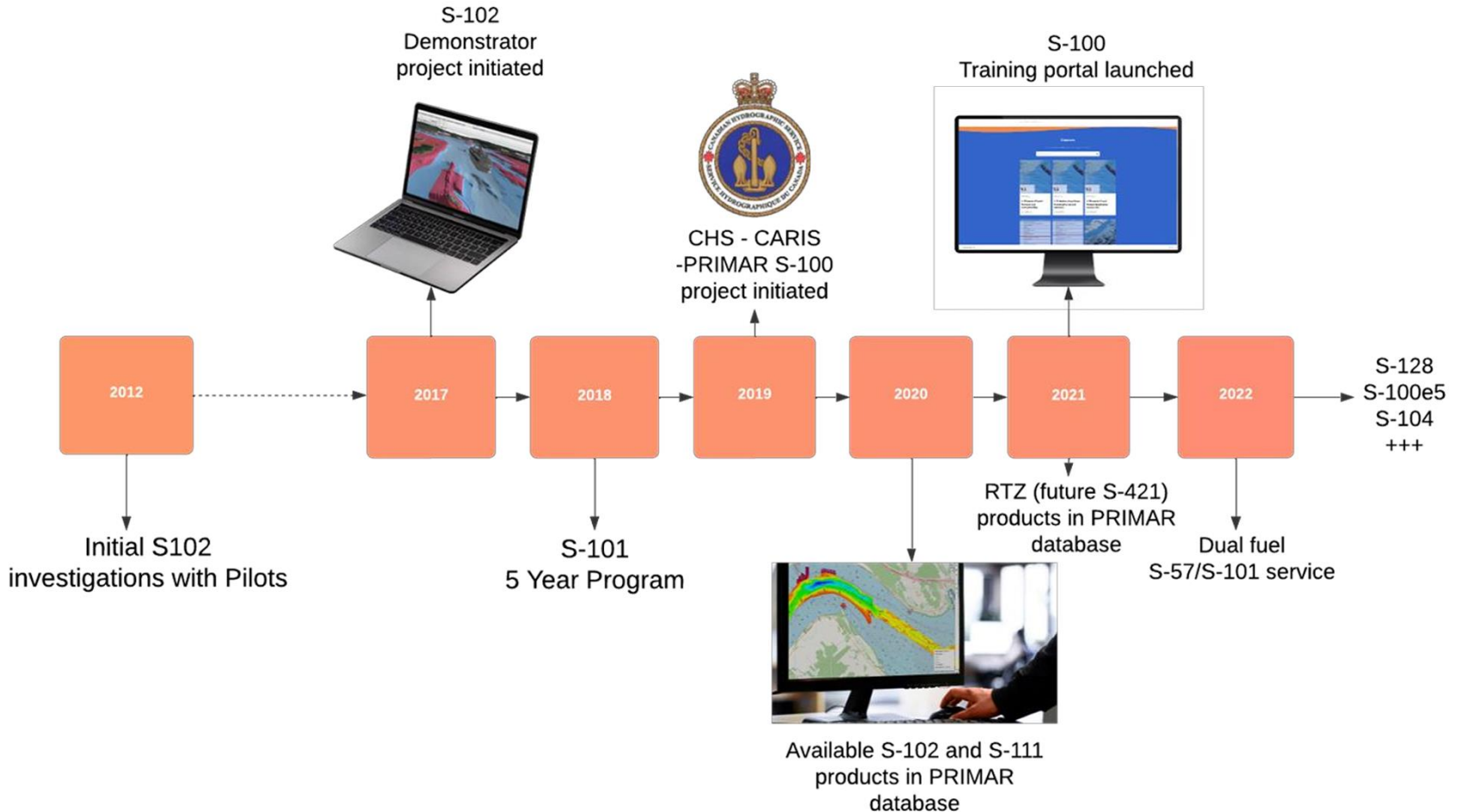
Svein Skjaeveland

Topics



- PRIMAR S-100 Roadmap
- PRIMAR S-101 Service Development and Conversion Project
- PRIMAR S-100 Demonstrator
- PRIMAR S-100 Service
- PRIMAR S-100e5 Multi-fuel Service
- PRIMAR S-128 Project
- PRIMAR Capacity building
- PRIMAR Future activities

PRIMAR S-100 Roadmap



Involvement in R&D Projects:

- <https://s102.no/>
- <https://s-100.no/>



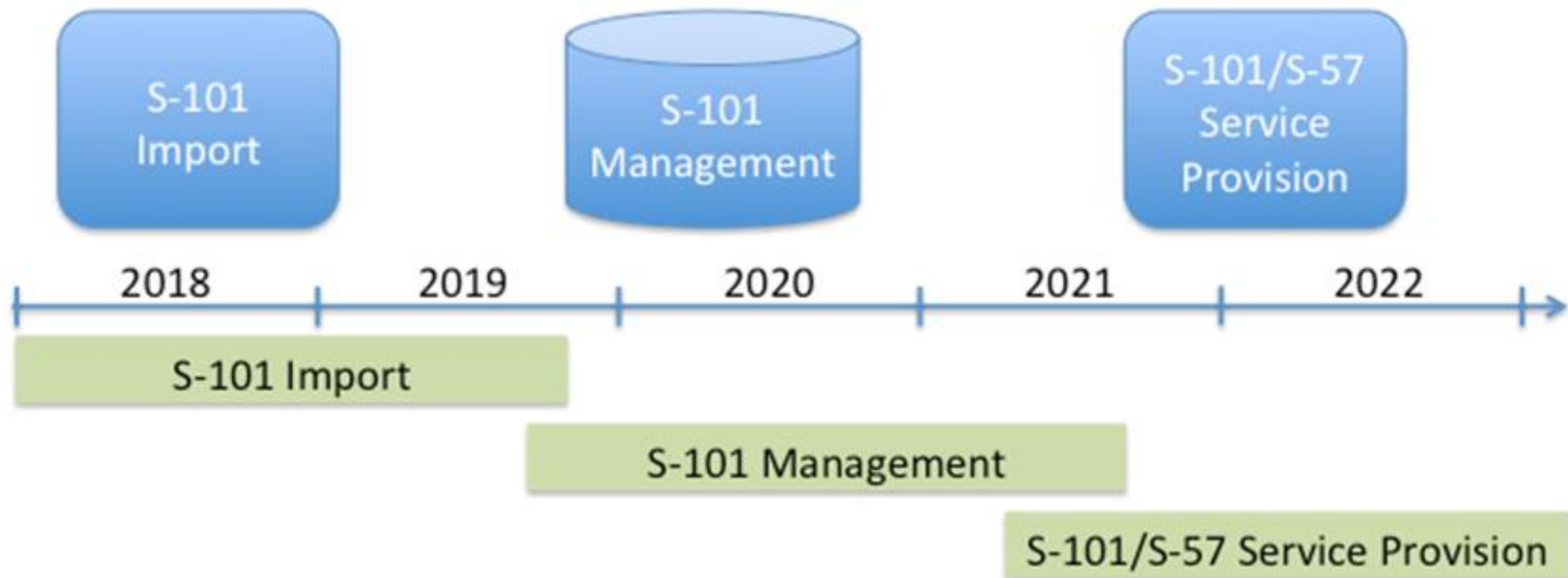
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PRIMAR S-101 Service Development

S-101 Feature Catalogue mgmt
S-101 ENC version mgmt
S-101 Import/release/delete (file)
S-58 validation checks S-101
S-101 Coverage viewer
S-101 text file viewer
S-101 Advisor DB

S-101 Data Import (Exchange set)
S-101 WMS Viewer
S-101 More S-101 functionality
S-101 Overlap Checker
S-58 validation checks S-101
S-101 status reports
S-63e2.0 Data Protection
VRC validation of S-101

B2B support for S-101 ENC
S-101 products Chart Catalogue
S-101 Exchange Set generation
Dual-fuel service generation
Weekly S-101 CD/DVD images
S-58 validation checks S-101
PRIMAR permit generator S-101
HO sales reports
S-101 support in PUT





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PRIMAR Conversion Task Force Project

- Enable PRIMAR MS to prepare for the dual fuel period
- Lead PRIMAR
- Member State participation
- Industry

Systems providers:

- Teledyne-CARIS platform-online converter
- SevenCs-7Cs Analyzer-S-101 ENC validation
- I4 Insight-dKart platform-S-101 Converter
- PRIMAR PORTAL-upload checks, validation and ENC release sandbox

- Available for all members.
- HO does conversion and gain experiences.
- Access to conversion tools.
- Access to validation tools.
- Producer specific feedback.
- Software improvement.
- Experiences shared with IHO working groups.

Setup of
systems and
procedures
(2021-2022)

Data
conversion
and validation
(2022-2023)

Final reporting
(May-July
2023)

S-100 Demonstrator Project

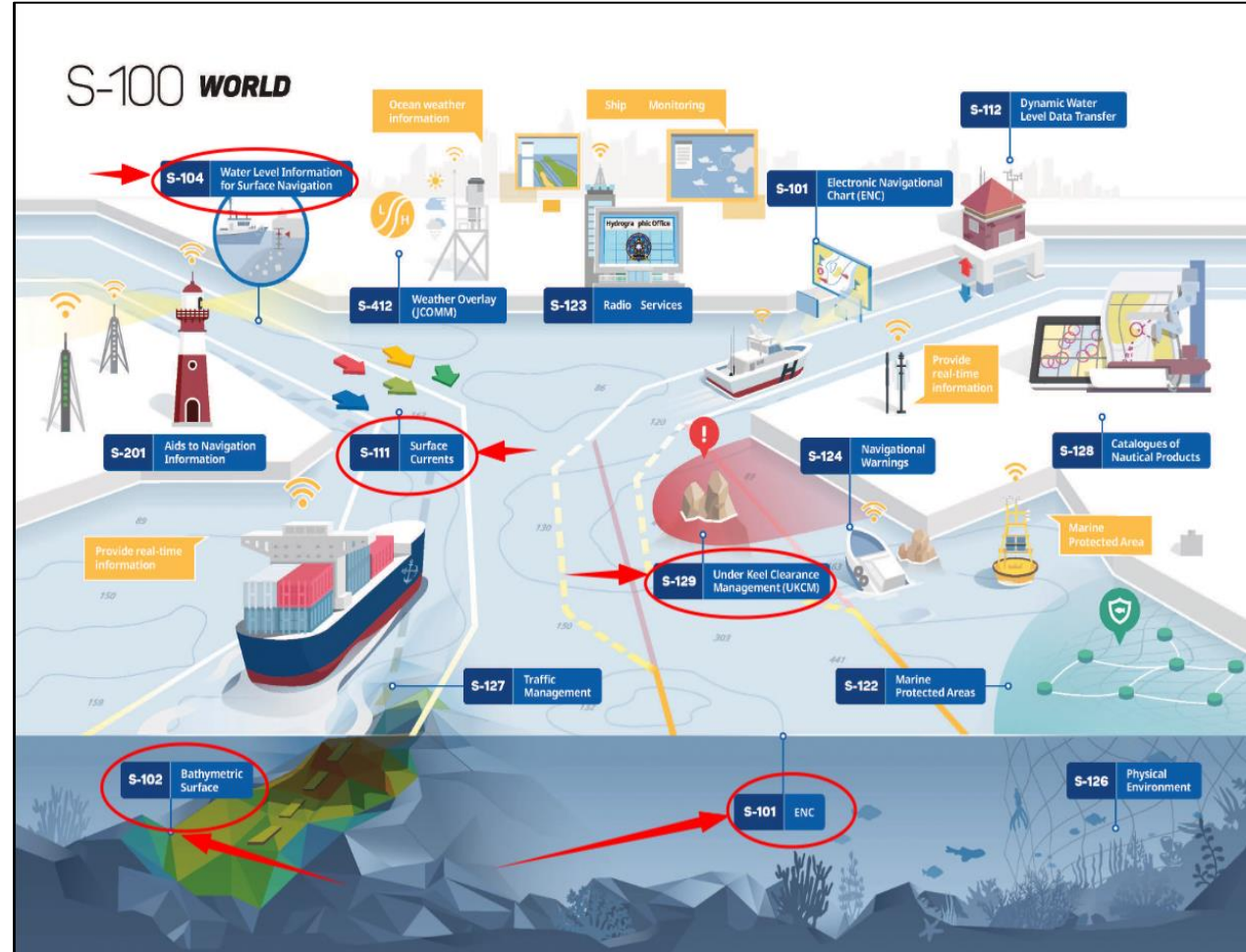
Scope:

To define how the new combined IHO S-100 products can create considerable value for the maritime industry.

Ports, Navy and Coastal Administration

Period:

2019 - 2023



S-100 Demonstrator example data



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In online mode Home Terrain Manage data **Vessel position sources** Stop following vessel

Pilot plug: Host: 10.33.3.4 Manage connections: Username: Password: Position source: Source configuration

Connection settings: Use own vessel NMEA messages Use own vessel AIS messages Adjust NMEA heading Heading offset: 90 degrees Own vessel Other vessels Pilot plug settings

Position types received: AIS NMEA Own vessel: Yes Yes Other vessels: Yes NA Connection information

Scenario: Norway UTM33 SRS: EPSG:25833 102NO00T5UND02M

Mouseover coordinates: Latitude N 68° 33,3562' Longitude E 16° 20,0881' Mouse elevation -1.2 Terrain elevation -1.2

10:48 03 des 2021 10:38 03 des 2021

Own vessel

Vessel manager: Vessel | Simulation | Ais Tracks

Name	MMSI
RouteVessel	--
Own vessel	--
KV FARM	25706920
GRIP SOLAR	25723080

No of vessels: 8

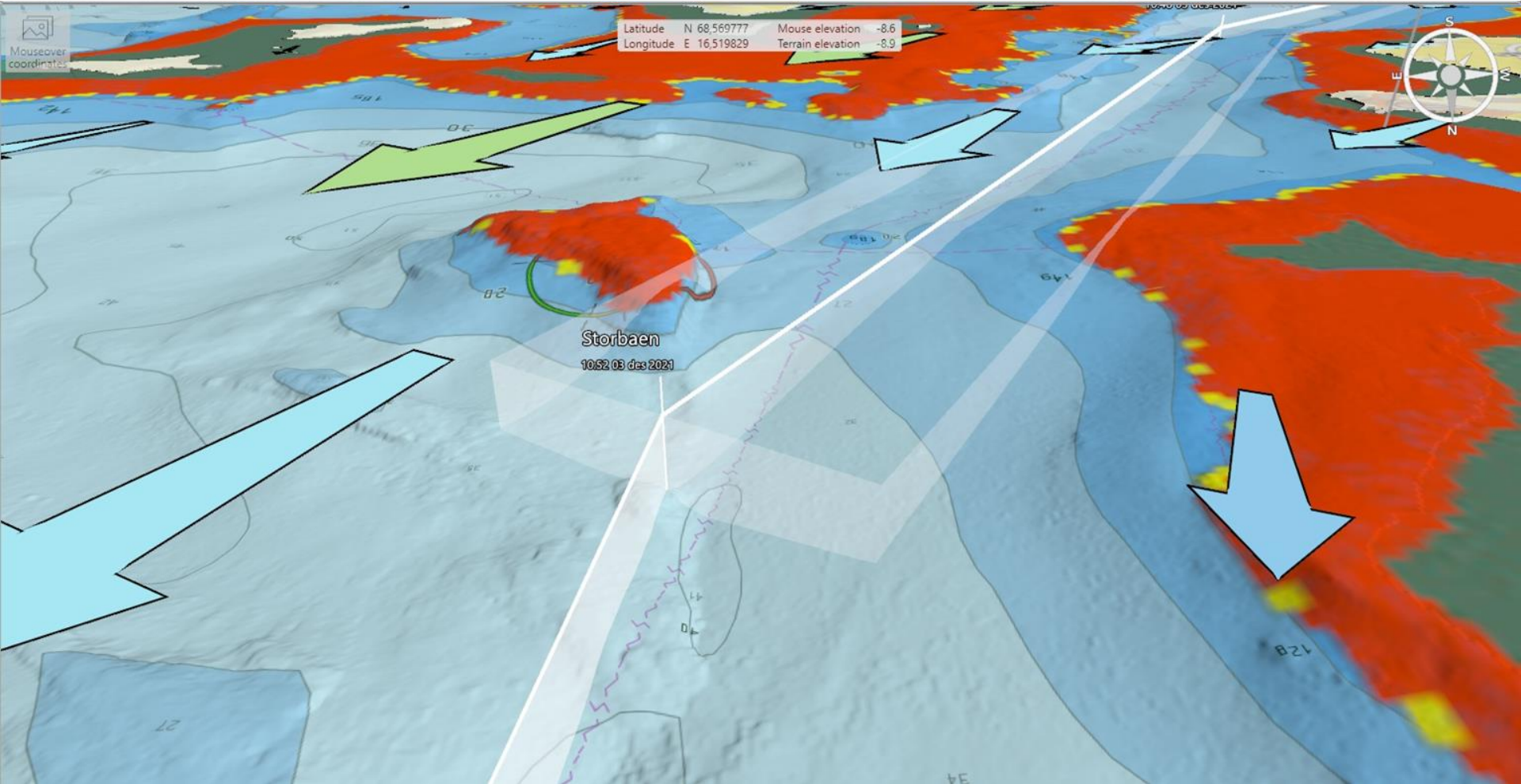
Name: Own vessel N 68° 33,5115' E 16° 24,0797' Heading 102.9 Speed 12.42

Display properties: Heading/COG Line and name Show model Terntank Show box Transparency:

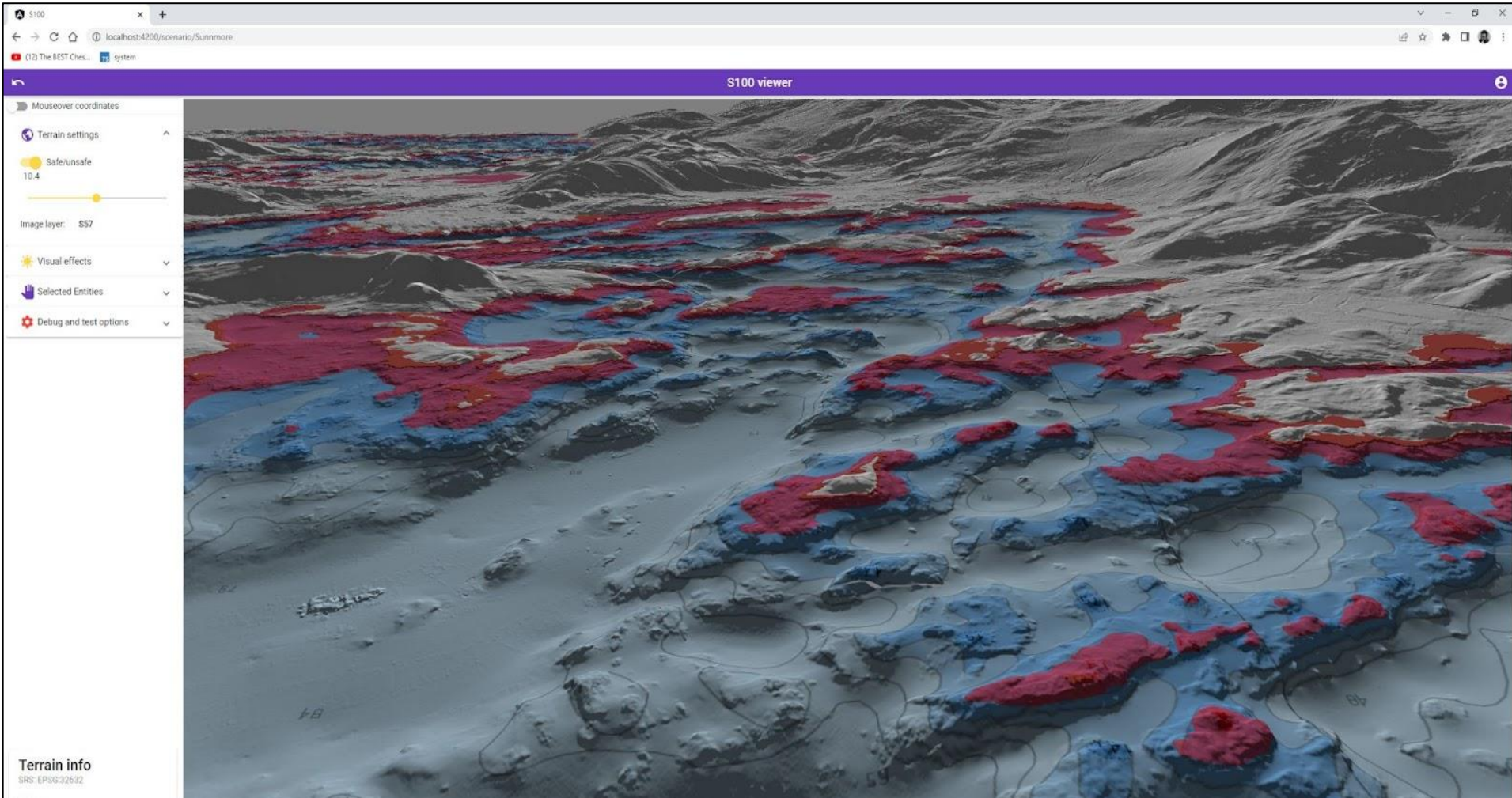
Vessel dimensions: Safety box

Vessel dimensions and position reference: Bow: 73.5 Stern: 73.5 Port: 11 Starboard: 11 Depth: 10.06 Use manual dimension values

S-100 Demonstrator example data



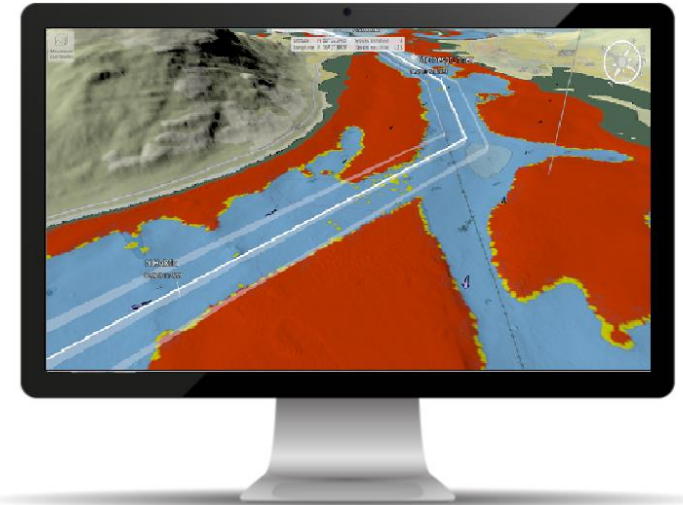
Future... "PRIMAR S-100 Simulator"



Experiences

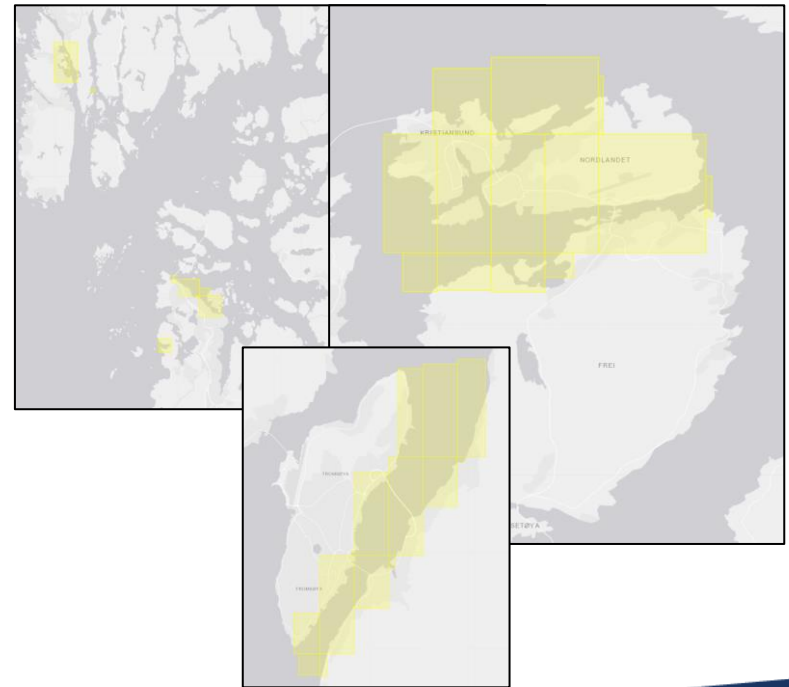
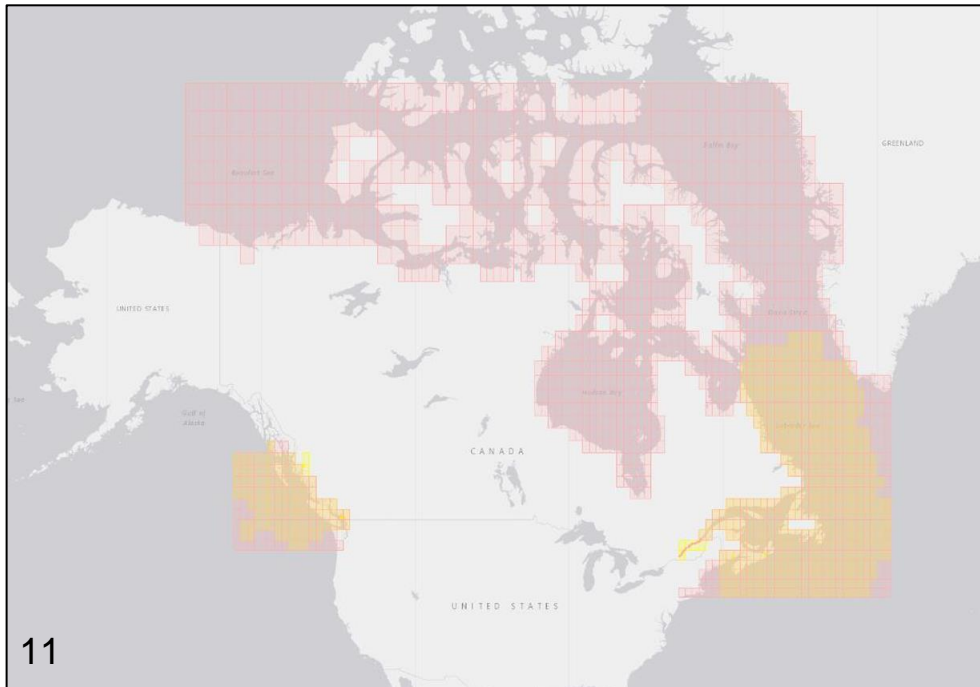


- Knowledge of S-100 and data formats
- Usability
- Advantages
 - Economical
 - Environmental
 - Navigational Safety
- Service development
- Multifuel dissemination



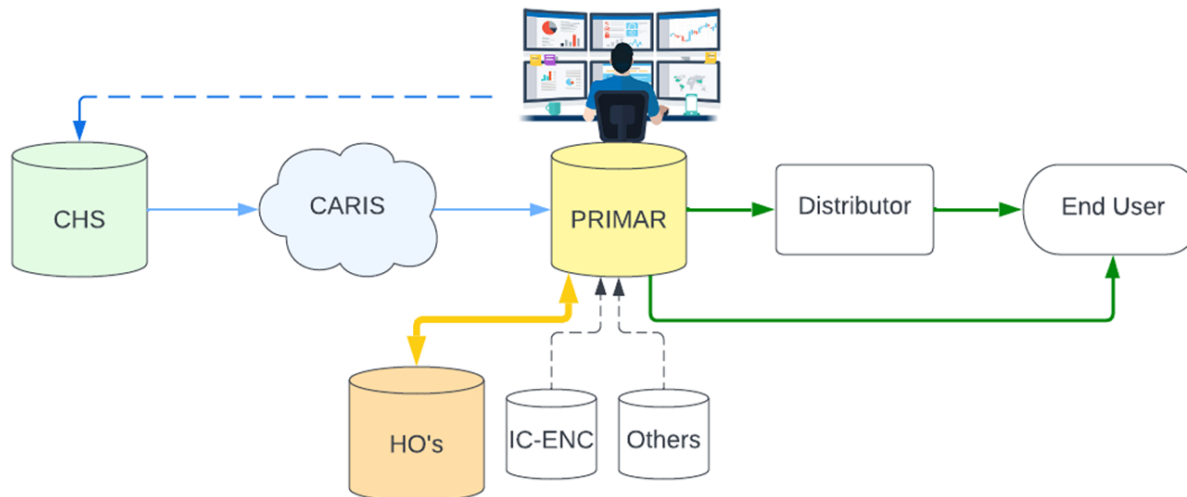
PRIMAR S-100 Service

- The PRIMAR S-100 Service was launched July 2020.
- 2650 S-102/S-111 datasets from CHS and 81 S-102 datasets from NHS.
- Encrypted by S-100 Part 15.
- Automatic upload through CARIS cloud or manual through PRIMAR VPN.
- Push of data through the PRIMAR Remote Update Protocol.



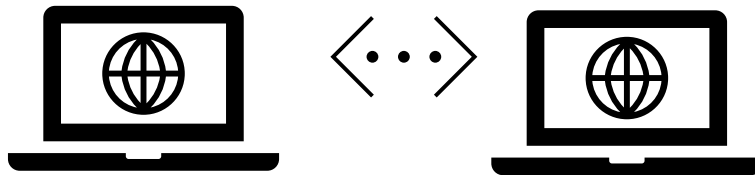
PRIMAR S-100 Service

- Further scope and milestones:
 - Continue the cooperation between PRIMAR, CHS and CARIS related to production, management and distribution of S-100 products.
 - Expand the S-100 Service with data from other nations/producers.
 - Expand the type of S-100 products in the service.
- Develop support for S-104 in PRIMAR S-100 Service
- Include delivery of the S-57 ENC via the same cloud-based value chain.
- Automation of the validation process at upload.

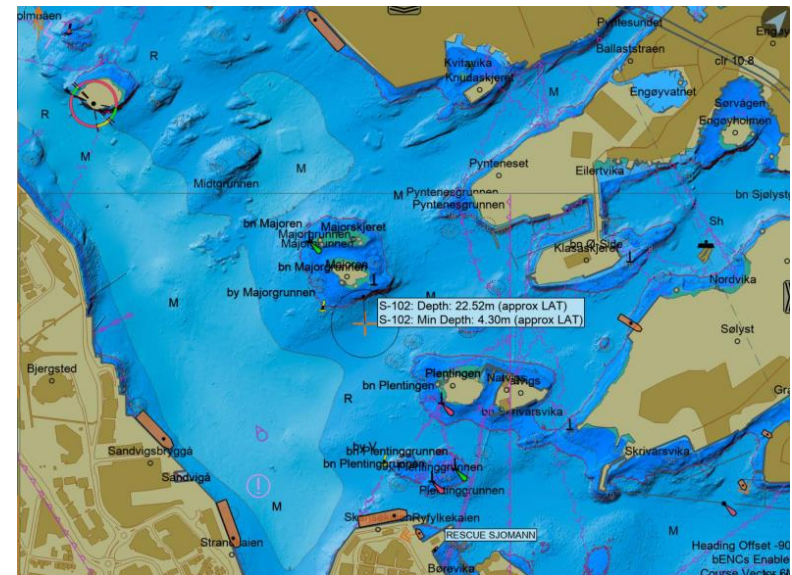


IP based data transfer

- **Efficient, especially for dynamic datatypes!**
 - Consider data provision enabling API solutions.
 - Enable service providers easy access to collecting data for dissemination.



- Data availability
- Automated quality assurance
- Seamless data transition



PRIMAR S-100 Service

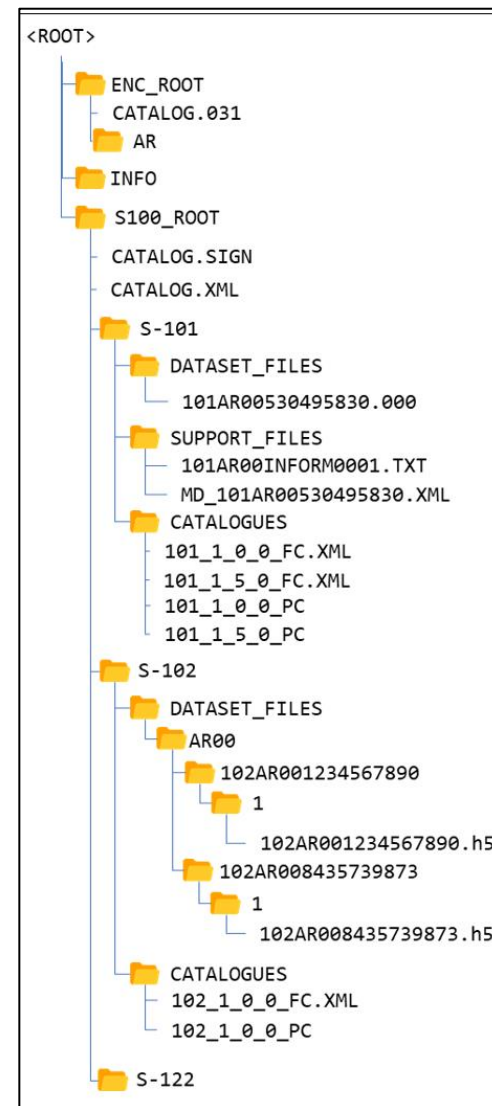
- S-57/S-101 Dual Fuel Service
- Develop support for S-100 data model in PRIMAR services and functionality.
- Establish dual fuel S-57 & S-101 distribution.
- Online HO services for QC and Data management support.
- Provide testdata and service interface to manufacturers developing support for S-100/S-101.
- Automation of the validation process at upload.



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PRIMAR S-100e5 Multi-fuel Service

- Work in progress to support S-100e5/ S-101e1.1
- Will deliver S-100e5 Exchange Sets
 - Main target to support e5 only for delivery of data.
 - Still able to receive e4 data, will be packaged in e5 structure.
 - e4 support cut-off date to be determined.

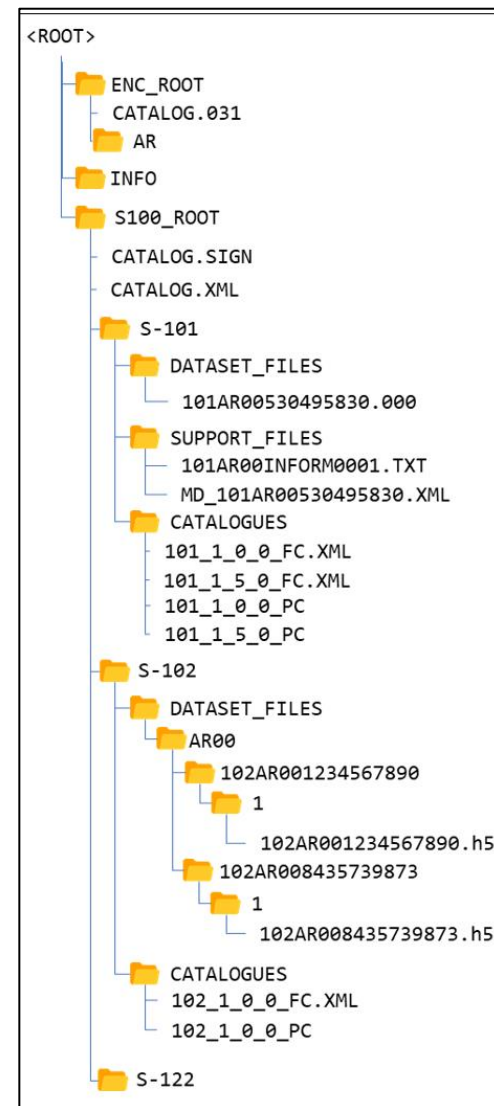




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PRIMAR S-100e5 Multi-fuel Service

- Focus on developing support for delivering product independent services compliant with S-100e5 exchange sets.
- Import and export of exchange set and dataset metadata (automation).
- Include dynamic datasets and distribution services.
- Technical and public PRIMAR service description document.
- Testdata.

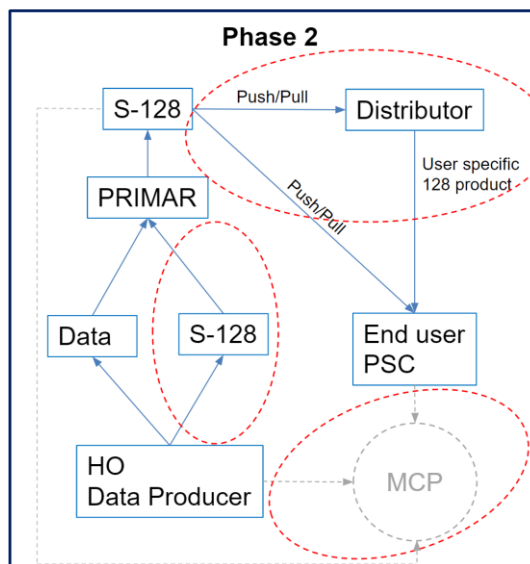




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PRIMAR S-128 Project

- Establish catalogue services compliant with S-128.
- Deliverables:
 - Convert PRIMAR Chart Catalogue content to S-128 datasets.
 - Exchange Catalogue packaging
 - IHO feedback
 - Prepare for distribution and dissemination analysis.



Phase 1

PRIMAR
Chart Catalogue

S-128 Extraction

- Complete
- Product specific
- Producer specific
- Area specific
- End User specific
- Temporal specific

PRIMAR eLearning Portal

<https://primar.learnworlds.com>



PRIMAR Training Platform

A wide range of training material, courses and support instructions is under development to empower you to benefit from all our services.

Hydrographic Offices

Enable your ENC and GIS experts to get an in depth understanding of the S-100 data model and new S-101 ENC Product Specification. Many courses include practical exercises. Courses are free for PRIMAR Member States.

PRIMAR Distributors

We are developing video support instructions showing how the interfaces to PRIMAR are operated to simplify your order processing and customer support.

OEMs and Others

Get an introduction to the differences between S-57 and S-100 to get a head start on developing functionality supporting the new S-100 series of chart standards developed by IHO.

Hydrographic Offices

Enable your experts to get an in depth understanding of the S-100 data model and the S-102 Bathymetry Surface and S-111 Surface Current Product Specifications. Many courses include practical exercises. Courses are free for PRIMAR Member States.

Great reduction on S-100/S-101 course bundle (6 courses) Do not miss this time-limited offer!

Show me this offer!

Great reduction on S-102 course bundle (5 courses) Do not miss this time-limited offer!

Show me this offer!

Great reduction on S-111 course bundle (5 courses) Do not miss this time-limited offer!

Show me this offer!



Hans Chr. Lauritzen

PRIMAR Director



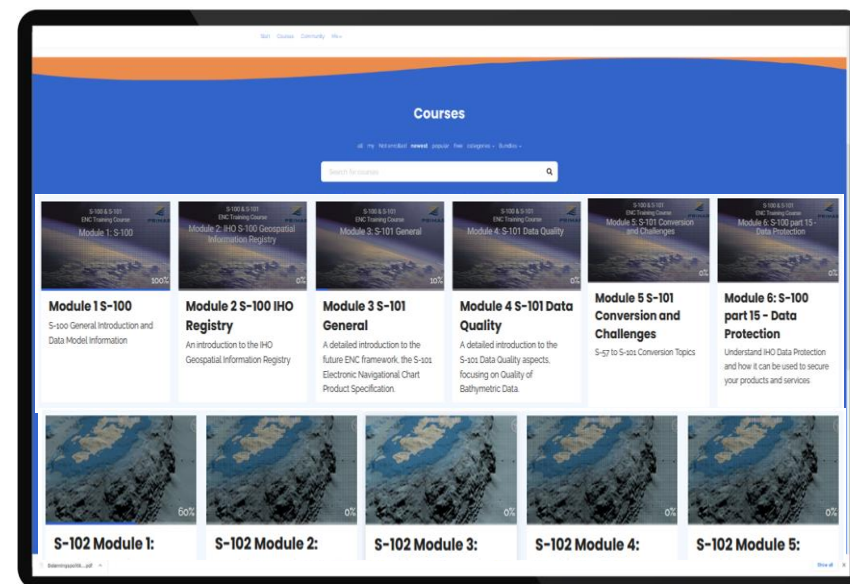
These are the same courses offered internally to train staff in PRIMAR and in the Norwegian Hydrographic Service to learn all aspects about the new S-100 standard, including the data model and for S-101 ENC production. More courses will be added to the training platform.



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PRIMAR eLearning Portal – Summary

- 350 users
 - 17 training modules
 - 20h of video
 - 265 Q&A questions
 - 50 exercises
 - 200+ certificates
-
- Free of charge for all member states/appointed organisations
 - Collective knowledge building and sharing of experiences



Future and ongoing development

- PRIMAR involved in S-100 testbeds and planned sea-trials internationally.
- Continued S-100 capacity building with PRIMAR Member States.
- Dual-fuel service in operation and ready when first S-101 datasets are available.
- PRIMAR S-100e5 Multi-fuel service.
- PRIMAR SECOM project.

Future and ongoing development

- Empower IHO to operate as S-100e5 protection Scheme Administrator in accordance with S100e5 protection scheme policies.
- Provide S-100e5 Scheme Administrator application.
- Offer training in standards and operational procedures for IHO staff.
- Continued support after 2023.

It is recommended that IHO adopt the following certificate policies which will be reflected in operational procedures and their Scheme Administrator application:

- a) The IHO shall issue a S-100e5 root certificate at earliest convenience in 2023 to encourage stakeholders to develop support for S-100e5. The S-100e5 root certificate shall be published on the IHO web site.
- b) The IHO S-100e5 root certificate shall have a duration of 40 years. Any renewed S-100e5 root certificate shall be issued minimum 3 years before the current root certificate expires. IHO will establish appropriate procedures to secure its private key information.
- c) S-100e5 Data Server certificates shall be issued with a duration of 5 years.
- d) All S-100e5 certificates shall encode the X.509 information fields in compliance with document [S-100WG7-06.7 S-100 Part 15 Identifiers and Procedures](#)
- e) IHO will obtain a separate IHO S-100e5 Data Server certificate which will only be used when IHO needs to digitally sign files.
- f) New IHO Data Servers will for an interim period receive both S-100e4 and S-100e5 Data Server certificates. IHO will contact existing S-100e4 Data Servers to issue a S-100e5 Data Server certificate.
- g) IHO will only issue digitally signed files which are compliant with the S-100e5 protection scheme. The signed files will be delivered in a S-100e5 compliant exchange set.
- h) IHO shall work with protection scheme stakeholders to encourage and ensure a rapid transition to S-100e5.



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Thank you for your attention

www.primar.org

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