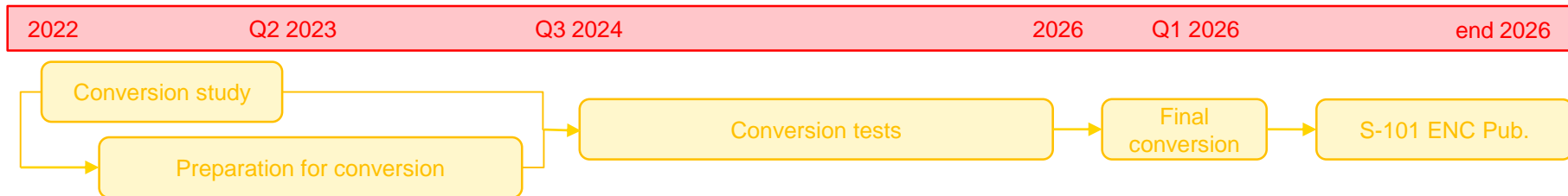# 3.2B NATIONAL IMPLEMENTATION STRATEGY

S-101 - ENC

Shom's plan for S-101

3 objectives for S-101:

- Produce data directly in S-101 (no more S-57) ;

- Publish S-101 Shom ENCs (about 850 ENC cells) when S-100 (dual fuel) ECDIS becomes available ;

- Produce S-57 ENCs (ENs and ERs) from S-101 databases (ENs and ERs) during the DF period (in-house or delegation).

Shom's Roadmap

2022	Q2 2023	Q3 2024	2026	Q1 2026	end 2026

Conversion study

Preparation for conversion

Conversion tests

Final conversion

S-101 ENC Pub.

- Work on conversion (included Caris HPD database conversion) until 2026 :
  → Conversion rules ; software tools and process in S-101 ; database preparation

- Conversion of Caris HPD database in S-101 Q1-2026

- Publication of S-101 ENC until end 2026

Note : update (ER) of S-57 and S-101 ENC will be ensured during the conversion process

Conversion study

Preparation for conversion

Conversion tests

Final conversion

S-101 ENC Pub.
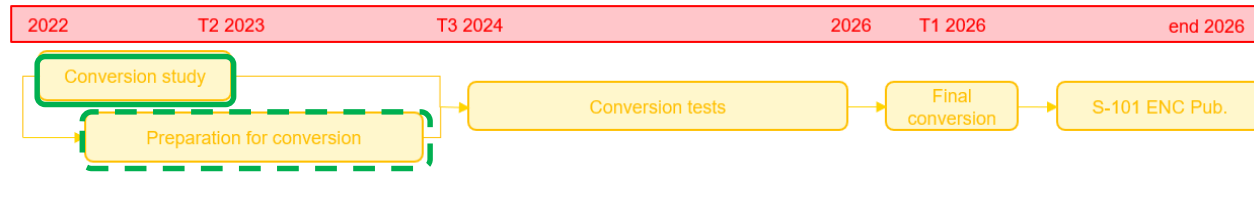
# Shom's progress

- **Conversion study** *(Done)*

The objects and attributes used for cartography at Shom have been studied one by one to see how they will be converted from S-57 to S-101 (rules based on the IHO S-57 to S-101 Conversion Guidance).

S-101 Feature (S-57)	S-101 Attribute (niv. 0)	S-101 Attribute (niv. 1)	Action CA	Commentaire CA.	Etat
Fairway (FAIRWY)	Status		Oui	STATUS = 2 (occasional) ou 5 (periodic) interdit pour cet objet en S-101.	A faire
Fairway (FAIRWY)	Traffic Flow		Non	Peuplé à partir de l'attribut S-57 TRAFIC.	S/O
Fairway (FAIRWY)	Vertical Uncertainty		Non	Attribut complexe.	S/O
Fairway (FAIRWY)	Vertical Uncertainty	Uncertainty Fixed	Non	Peuplé à partir du SOUACC.	S/O
Fairway (FAIRWY)	Vertical Uncertainty	Uncertainty Variable Factor	Non	Peuplé vide lors de la migration en S-101.	S/O
Fairway (FAIRWY)	Scale Minimum		Non	Scale Minimum peuplé à partir du SCAMIN.	S/O
Fairway (FAIRWY)	Information		Non	Attribut complexe.	S/O
Fairway (FAIRWY)	Information	File Locator	Non	Pas d'équivalent S-57. Ne sera pas peuplé lors de la migration.	S/O
Fairway (FAIRWY)	Information	File Reference	Non	Aucun TXTDSC / NTXTDS en base	S/O
Fairway (FAIRWY)	Information	Headline	Non	Pas d'équivalent S-57. Ne sera pas peuplé lors de la migration.	S/O
Fairway (FAIRWY)	Information	Language	Oui	Mapping S-57 vers S-101 : Pour les attributs NINFOM, NOBJNM et NTXTDS, venir renseigner l'attribut S-101 Information > Language à la valeur « fra » lors de la migration.	A faire
Fairway (FAIRWY)	Information	Text	Oui	Reprendre les INFORM / NINFOM de plus de 300 caractères pour les passer à moins de 300 caractères.	Fait

- **Preparation for conversion** *(in progress)*
- Shom specific attributes to be added to the Shom S-101 Catalog
- adjustements to be made in Caris HPD S-57 to S-101 conversion file (and S-101 to S-57)
- QC test was implemented in Caris HPD to check conformity for S-101 migration

Next steps

Conversion study — Preparation for conversion — Conversion tests — Final conversion — S-101 ENC Pub.
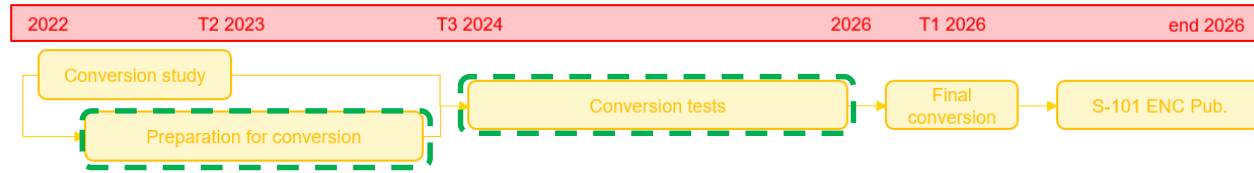
- **Software tools**
- The tools used to produce charts (Caris HPD and other Shom tools) are to be tested in S-101, and adapted to S-101 if required.
- The entire process of producing an S-101 ENC from an S-101 database needs to be studied and validated.

- **Caris HPD Source database migration tests**
- 3 migration tests planned
- First one in Oct. 2024.

S-102 – Bathymetric Surface
S-104 – Water level information
S-111 – Surface currents

Plans for S-102, S-104 et S-111

- Shom already produces and diffuses digital bathymetric models, predictions of currents and water levels in different digital formats ;

- Shom is working to determine the needs of future users of these products and to define their characteristics so that they provide real added value.

- Shom will provide operational S-102, S-104 et S-111 in 2026 (when S-100 ECDIS becomes available).

S-124 – Navigational Warnings French PING project

Towards the production of S-124 navigational warnings

OBJECTIVE

Digitize nautical information

French Government's directive (20th April 2020):

"nautical information shall be digitised whenever possible in order to facilitate its larger diffusion and integration into client systems (ships navigation systems, user systems, etc…). Nautical information data are geo-localised, formatted and supplied following applicable standards and recommendations* in order to be interoperable and accessible according to standard exchange protocols.

(*): In particular, the standards and recommendations developed by the IHO in the framework of the World

Wide Navigational Warning Service"

With the creation of a national platform for nautical information

"a shared information system for the transmission, formatting, digitization and posting on Internet of nautical information."

THE PROJECT

- Launched in 2020 with the support of the European Union funds Interreg (MED OSMOSIS project) and European Maritime and Fisheries Fund (EMFF).

- Following a successful demonstration phase in 2016-2017 reusing Danish Maritime Authority MSI-NM demonstrator.

- Subject: build a web platform with a portal for humans and APIs for systems.

- 3 functional modules:

  - **Navigational warnings:** production and delivery of navigational warnings

  - **Transmission of source information:** way for the stakeholders (maritime services and users) to contribute to the nautical information.

  - **Geo-regulation:** delivery of geo-maritime regulation produced by French authorities

- Creation a mobile app associated to the platform.

NAVWARNINGS MODULE OVERVIEW
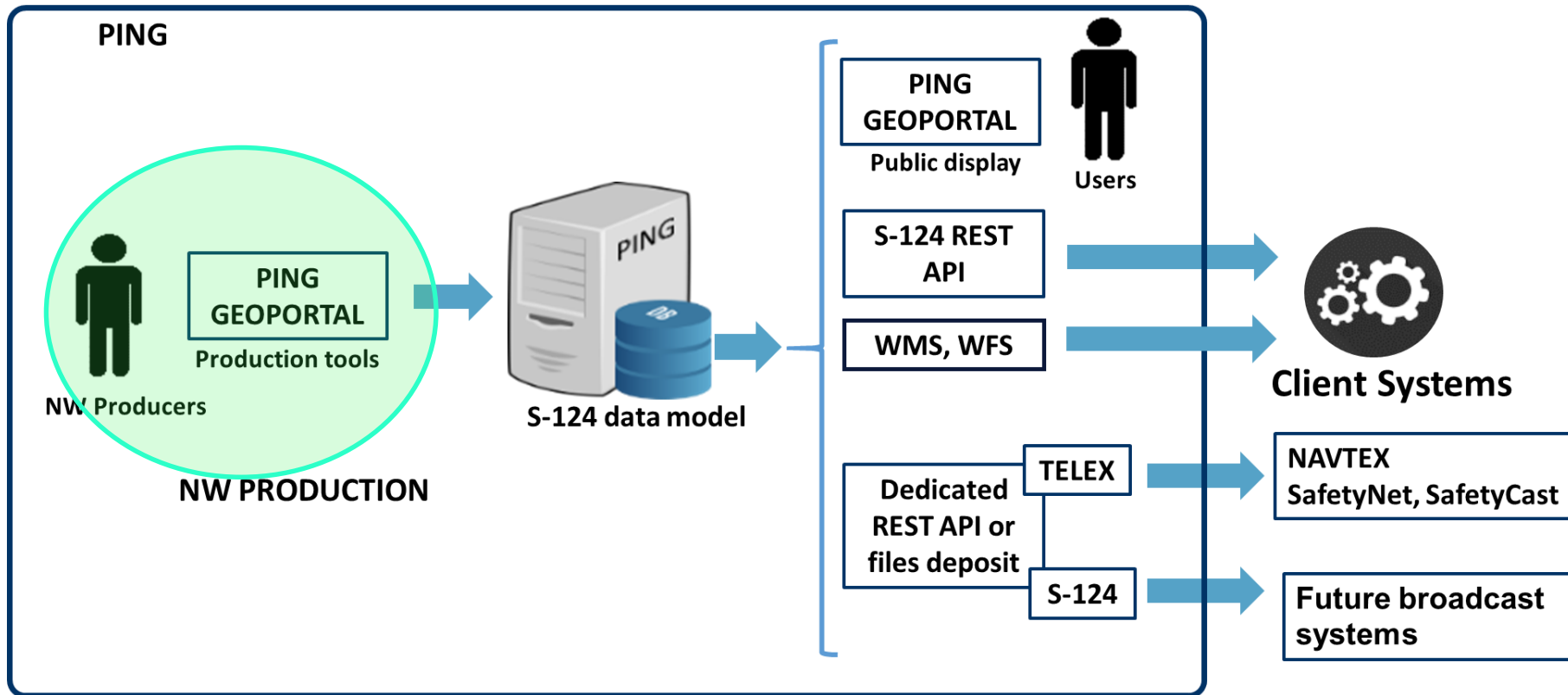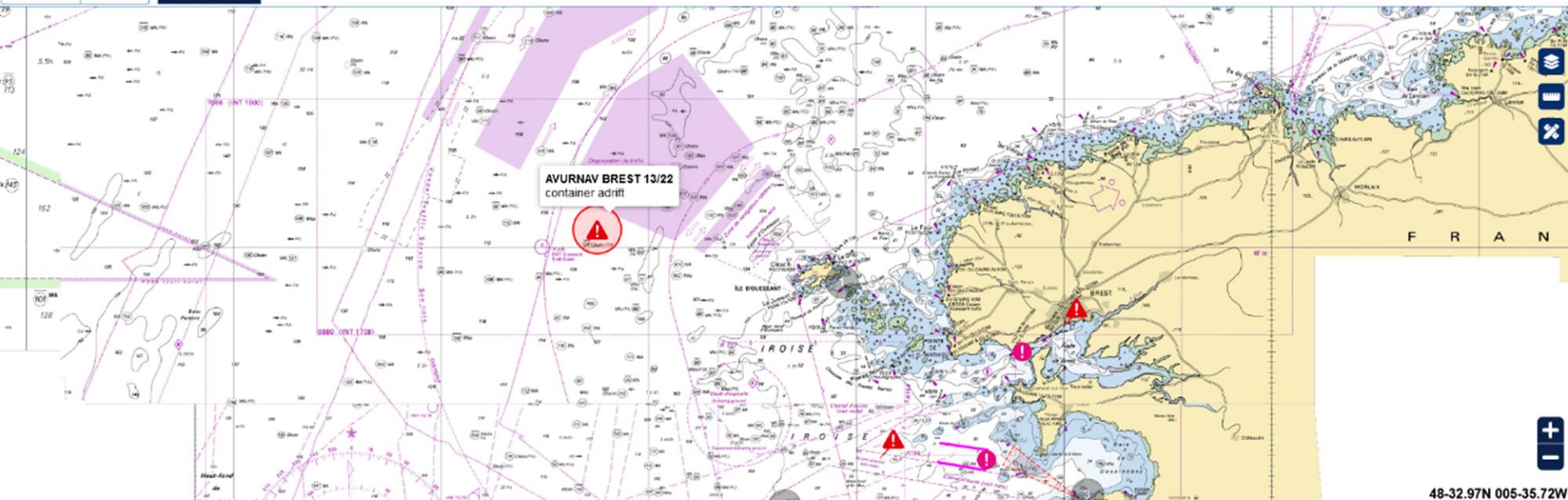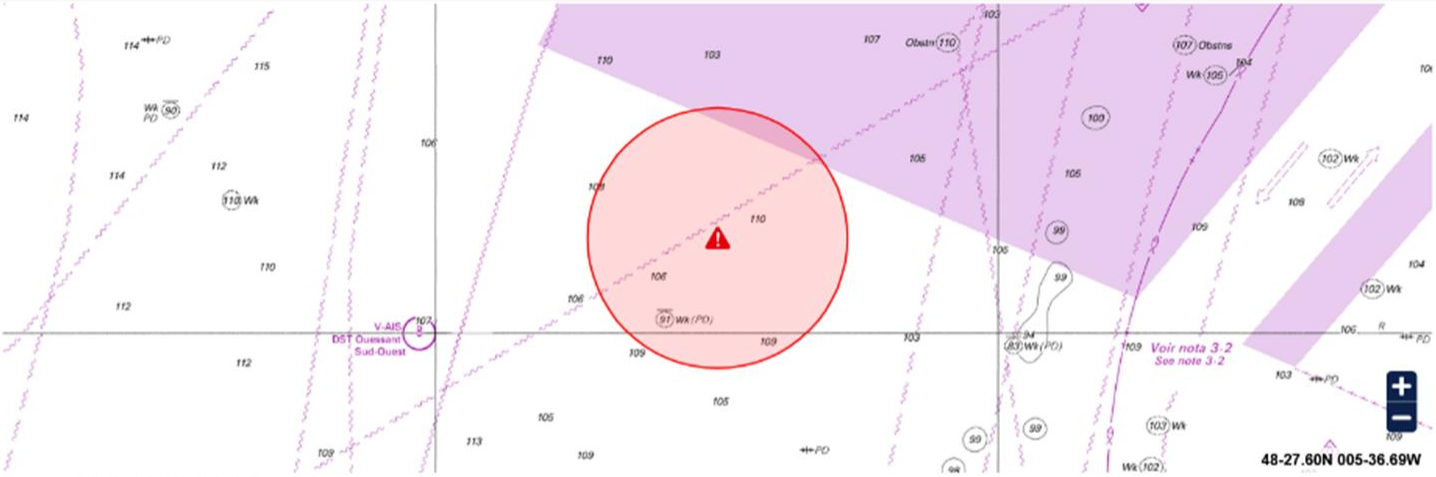
GEOPORTAL – PUBLIC DISPLAY

GEOPORTAL – PUBLIC DISPLAY

WHERE WE STAND

- Major software developments completed (based on a draft version of S-124)

- System temporary hosted at Shom (no high availability)

- System and operators running in since December 2022

- Data capture of existing data completed (existing navigational warnings, notices to mariners, geo-regulations)

- **Today, in French mainland, most of the NWs are made by using PING**

NEXT

- PING to be consolidated with S-124 ed. 1 May 2023

  ➢ Finalized the delivery (file based Exchange Sets)

- New cyber standard SECOM (IEC 63173-2) to be considered

  ➢ Secured communication and standardized REST API

- Operational hosting by Ministry of transport with high availability

- Connection to the new NAVTEX/NAVDAT stations

- PING open to the public in 2024 in mainland France, then in French overseas territories

- With Nav&Co app associated

- PING will be available in open source
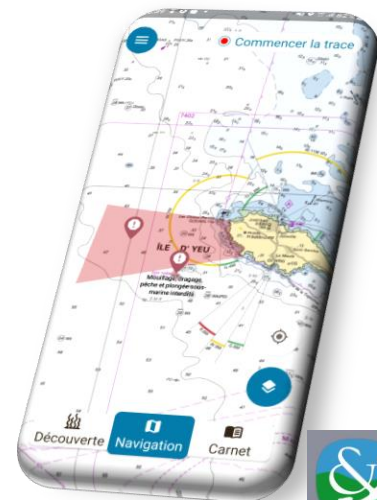
S-128 - Catalog

WHERE WE STAND

- Studying the possibility that S-128 might be produced by RENC for S-1xx (PRIMAR).

- Ensure availability of S-1xx product metadata in product CATALOG.xml (in accordance with product specifications) required for the production of S-128 catalogs.

Experimentations

S-100 across the Channel

Project as a risk assessment on the Dual Fuel mode of ECDIS

High level goals

- Develop S-101/102/104/111/S-124 understanding, from data production to ECDIS display;

- Safety case to support IMO approval of the S-100 ECDIS systems;

- Develop RENC capability and support industry on S-100 ECDIS;

- Build a testing framework for similar S-100 ECDIS testbed project.

Test data sets