Teledyne CARIS perspectives on S-100

Juan Carballini

CARIS continue support for S-100!

- We are ready to support organizational adoption of S-100
- Embedded in standards development
- Trusted technology partner
- Access tools, training, and professional services



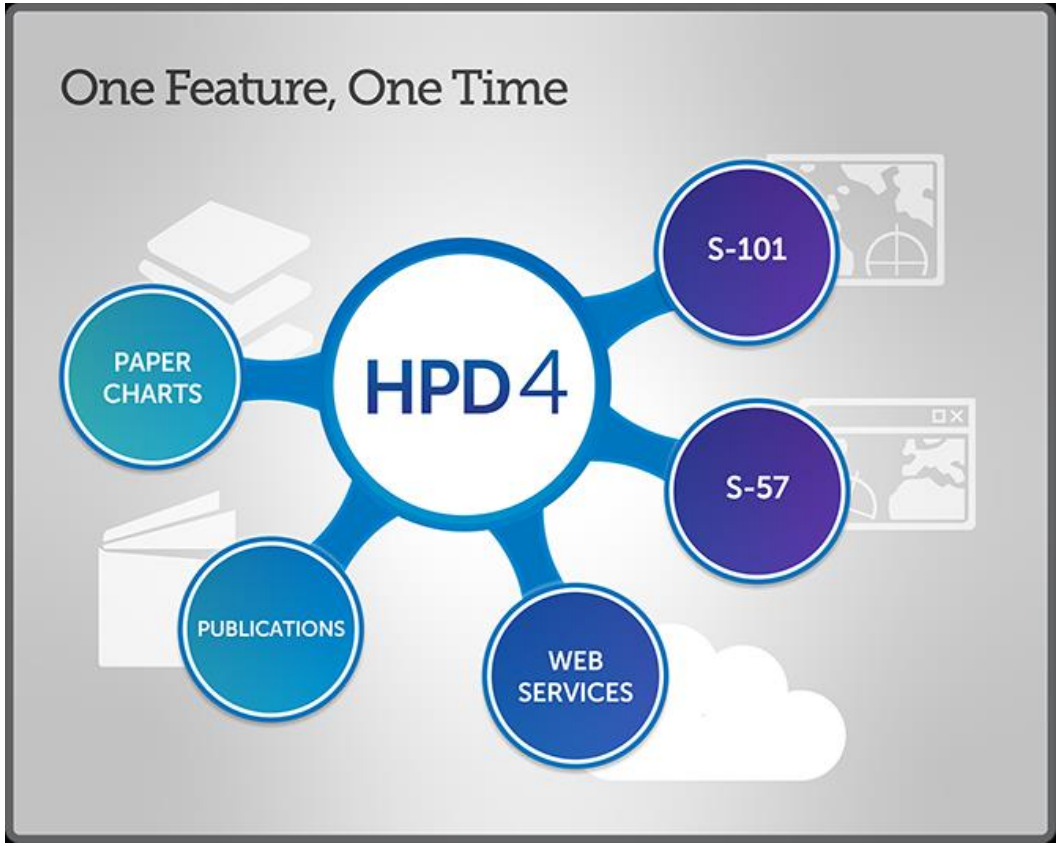

Collaboration & partnership

- Learn from each other - successes and failures!
- Coordinate efforts
- Leverage existing implementation approaches, workflows and infrastructure
- We all need to get there together for this foundation piece to be established

CARIS' Juan Carballini with S-100 workshop participants and SOHMA Authorities

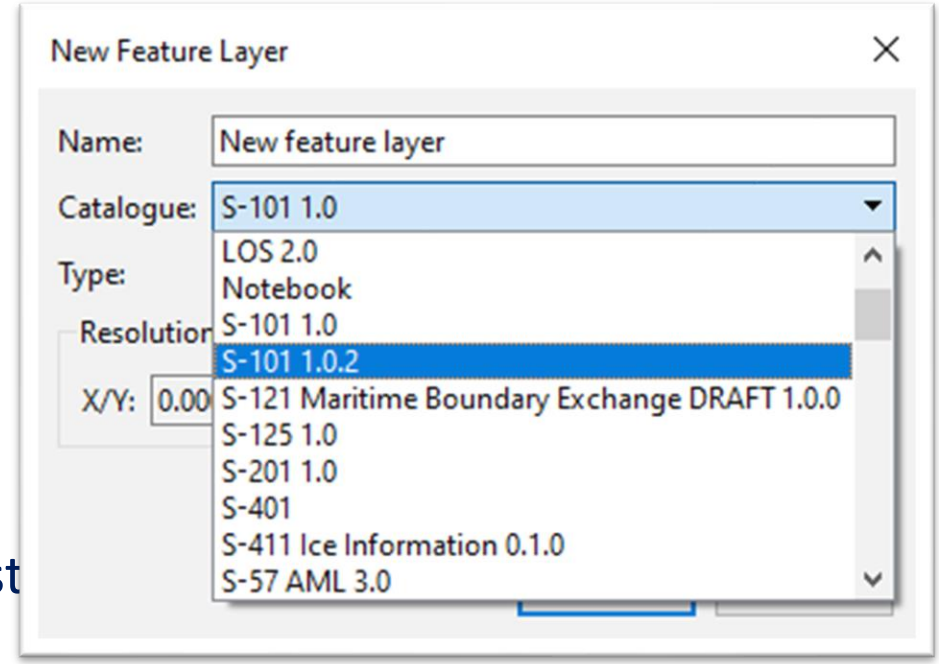
S-100 tools

- Enabling S-100 production
  - HPD needs the S-100 module
  - S-57 Composer needs the S-100 module per application instance.
- Once acquired, S-101 configuration is ready for use, with other specifications easily added to the product folio.
- BDB powers S-102 and other raster overlay product creation



S-100 tools

- S-100 module provides functionality to
  - Edit S-100 vector features
  - Convert S-57 ENC <-> S-101 ENC
  - S-100 vector HPD Source database
  - Export S-101 new editions and updates
  - Create and edit S-101 exchange sets
- BDB & CARIS Cloud provides
  - S-102 datasets
  - Bathy Data Service is the distribution pipeline to push rast
    RENCs and other stakeholders
- Opening S-100 datasets are supported in all CARIS desktop applications

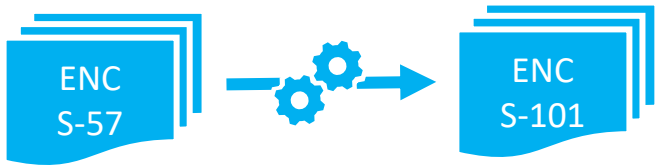


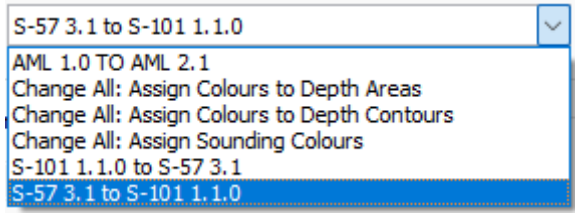
S-100 Migration

To S-101 and beyond

S-100 migration and production

1. Create S-101 from existing data and products
   - Quick and easy using S-100 Composer or HPD
   - Good for testing and to get familiar with S-100/S-101
     - Also since S-101 specification still is under development

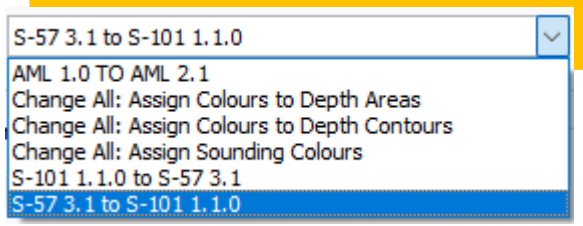




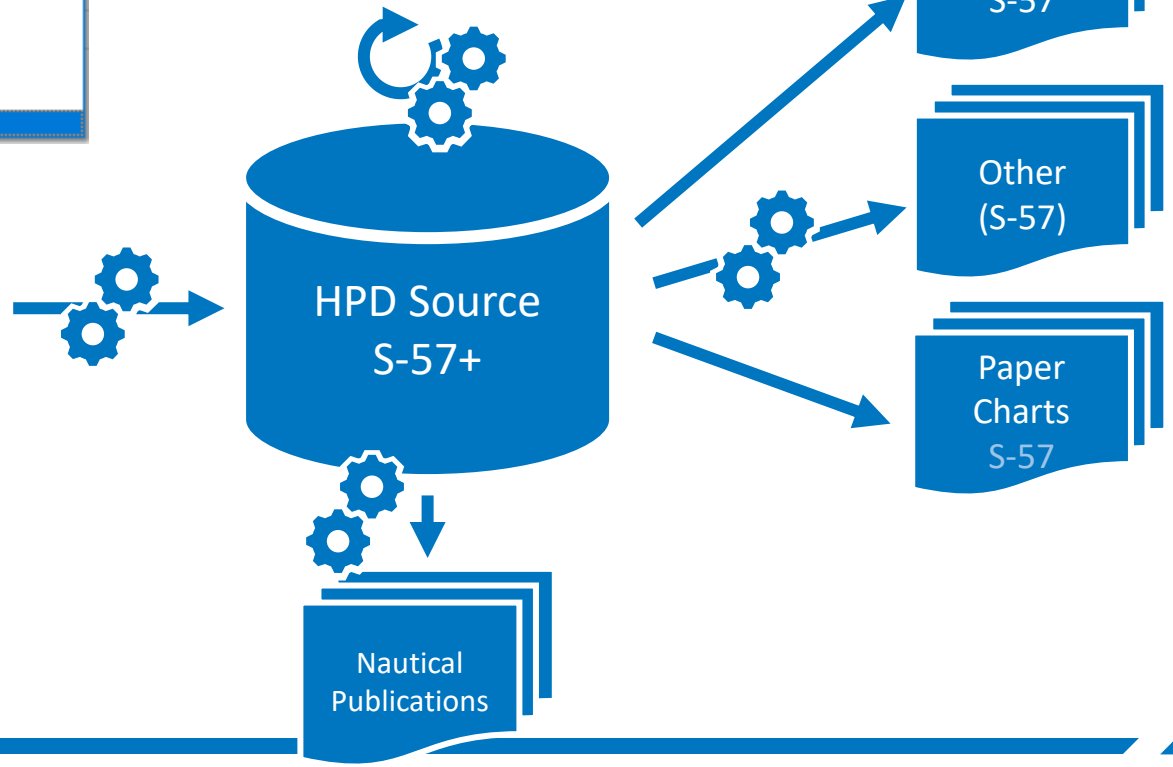
2. Migrate source database to S-100/S-101
   - Convert HPD Source database from S-57
   - Supporting existing products plus new S-100 products
   - Maintain history
     - S-57 features remain as historic data – with link from new S-100 features

Mapping to/from S-57 and S-101

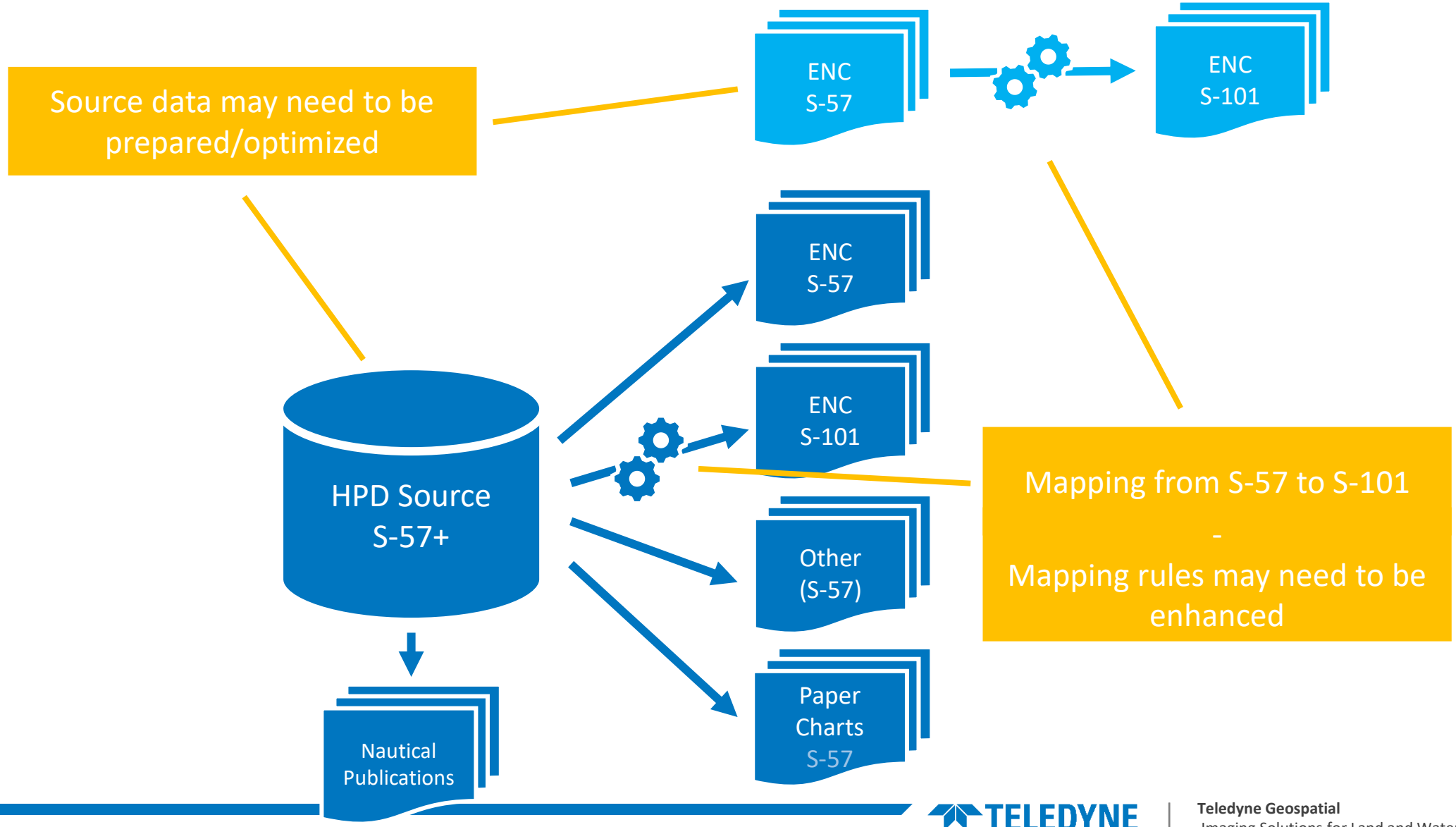
Mapping available:
- During Import
- On existing (source and product) data
- During product creation and updating
- During export



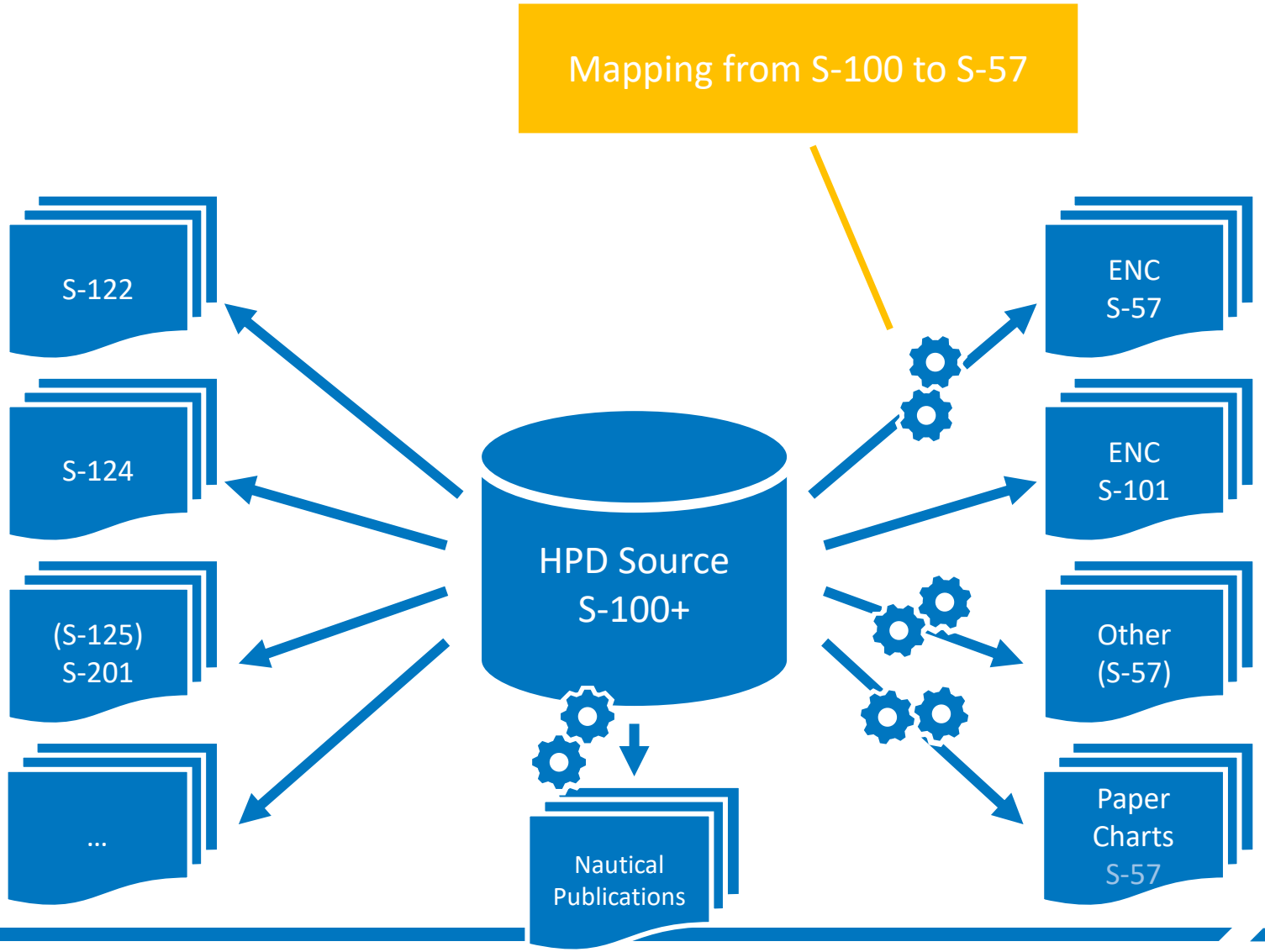
Setup mapping as part of product definition possible
–
Automatically used when creating and updating products



1. Producing S-100 from S-57



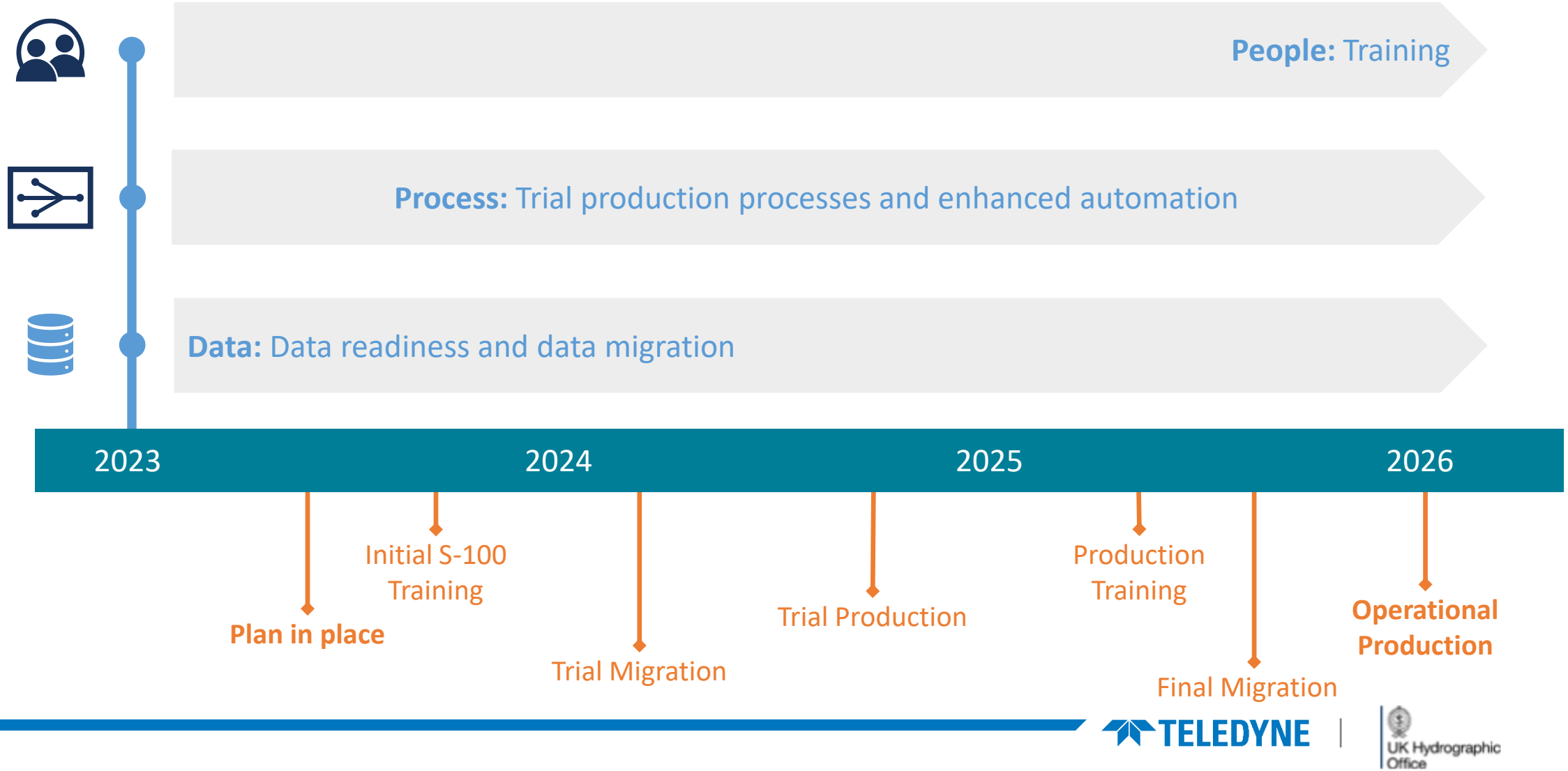
2. More products from S-100 Source



Also possible to add own/other products in CARIS

- Feature Catalogues are customizable
- Product definitions are customizable

Plan to achieve dual-fuel production

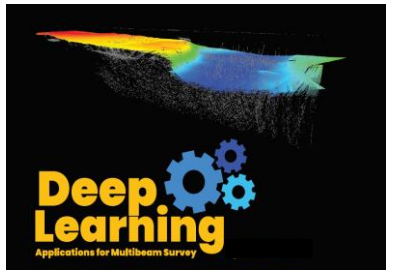


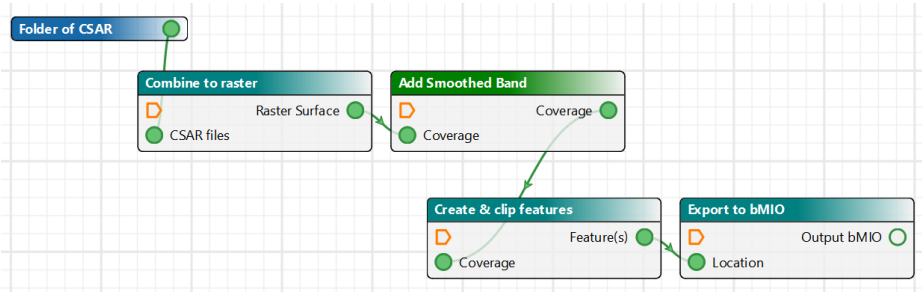
Automation

With more products – The more automation should be considered

Automation

- The goal is to have automation underpinning the entire Ping to Chart workflow
- Automate through:
  - APIs, Process Models and Batch processing
  - Process Server to manage and run CARIS and user defined processes
  - Use of AI techniques
- Benefits
  - Faster and repeatable results
  - On-demand products and services
  - Reduced human effort
  - Produce multi-disciplinary products





CARIS HPD ENC Automation

S-57 ENCs *and* S-101 ENCs

(*and* other S-100 products)

Automate ENC production and updating straight from HPD Source

- By-pass manual Editor steps – Reducing the need for HPD Product Editor
- HPD Builder license required

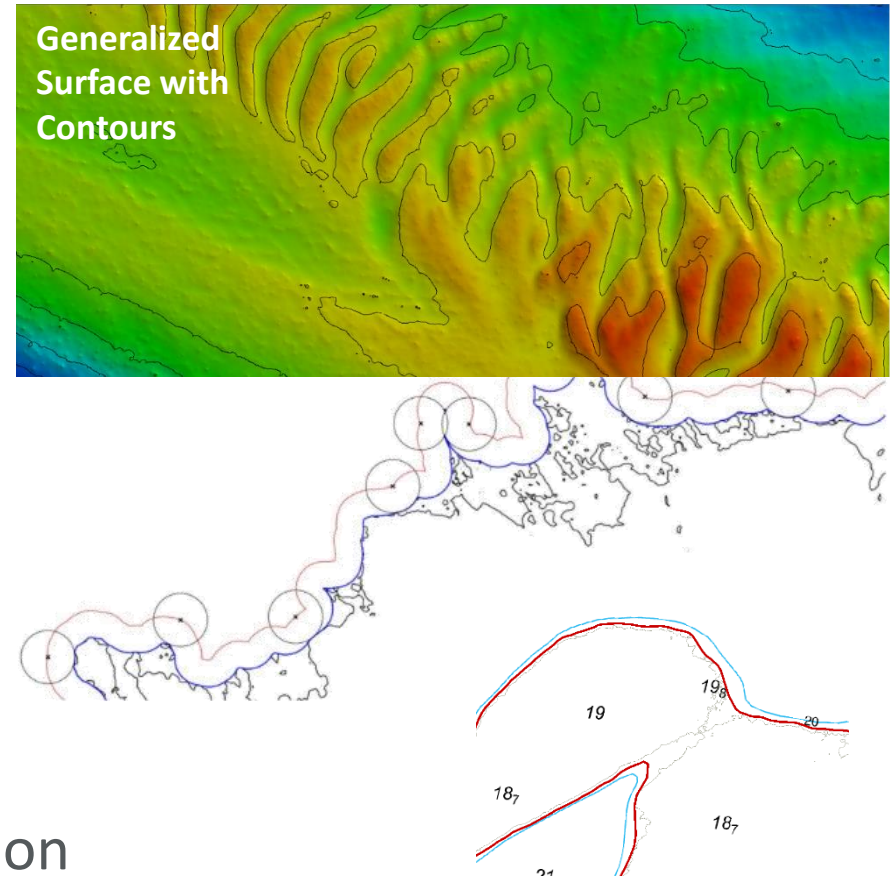
New set of CARIS Processes for ENC Automation

Supports the ENC lifecycle

- Create ENC products
- Update ENC contents
- Manage ENC contents
- Export ENC products
- Process ENC Exchange Sets

Bathy Compilation - Automate chart feature creation

- Produce contours that are ready for charting
- Generalize
  - Surfaces
    - E.g. using Rolling Coin algorithm Developed by the Traficom
  - Features
    - E.g. Contours using safe-side contour smoothing
- Sounding Selection
- Saved as S-57 (or S-101) features ready for production



Automated Paper Charts

Mix automated CARIS portrayal tools with workflow automation and webservices

Advanced (customizable) Portrayal capabilities

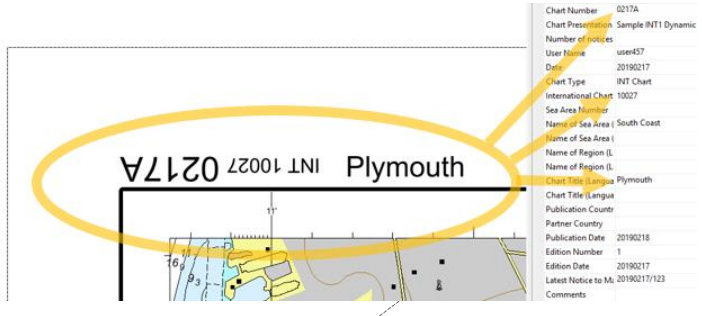
- Automatic INT1 portrayal of S-57/S-101 data
  - \+ New advanced dynamic portrayal capabilities
- Automatic feature labeling/text
- Automatic borders and marginalia
- Automatic masking
- …

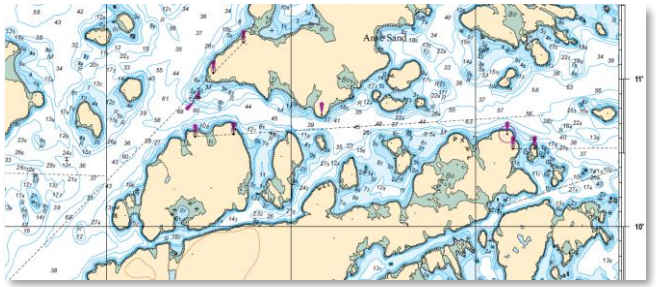
Automated processes/workflows capabilities

- Data from ENCs (S-57/S-101) or HPD source
  - I.e. same source data used for ENCs, INT charts, Small Craft Charts, List of Lights, etc.
- Automatic creation of updated products

Webservice for the end users

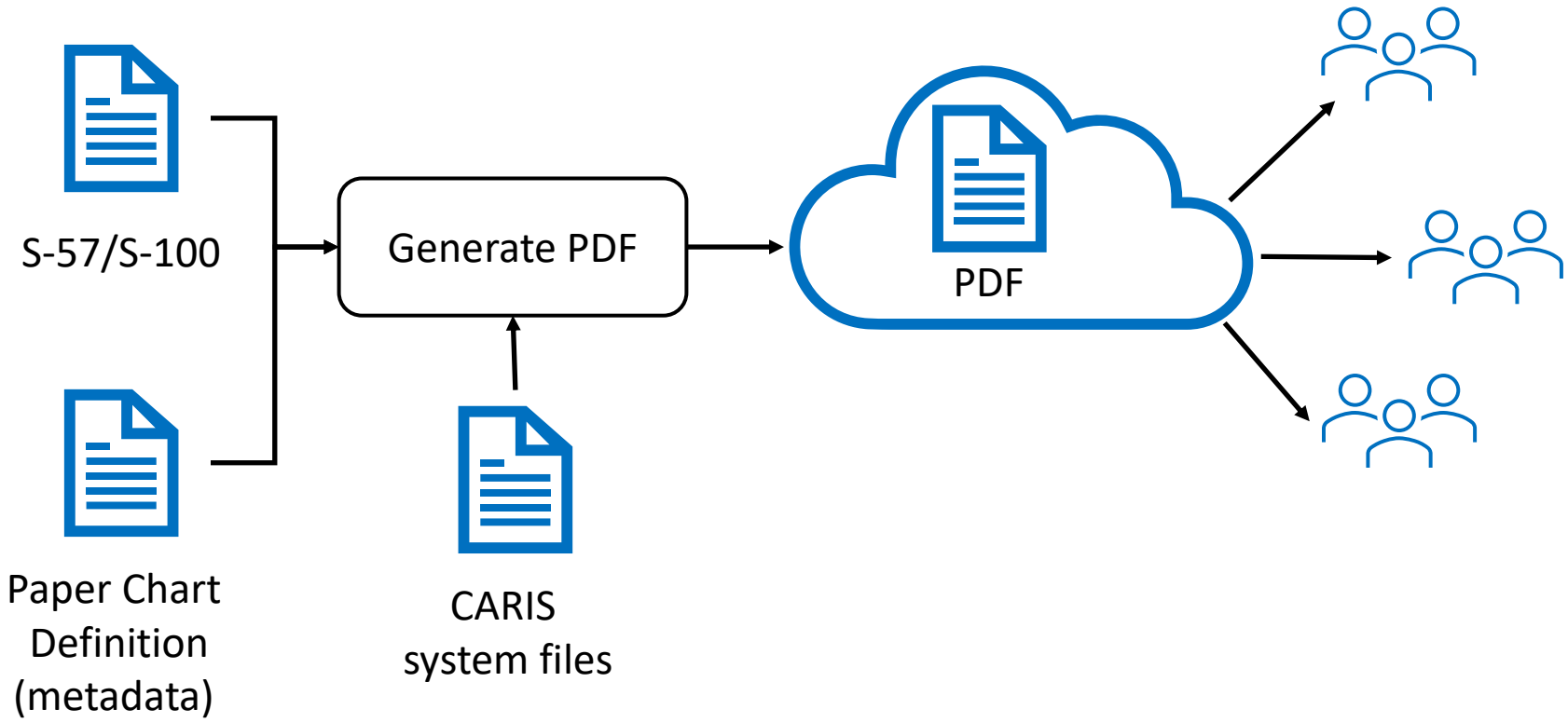
- Controlled access to service
- Allow users to chose their chart and subscribe to updates





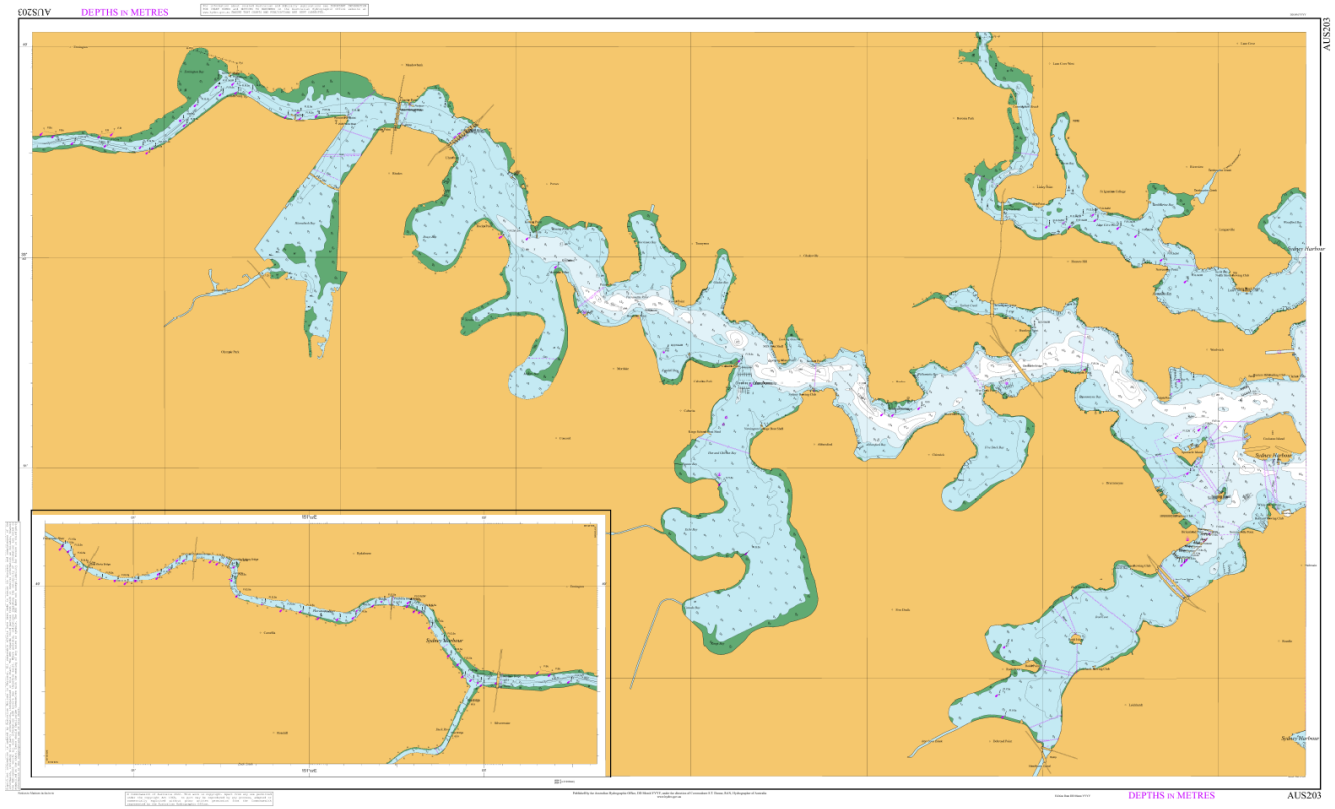
Product on Demand – Automatic paper chart creation

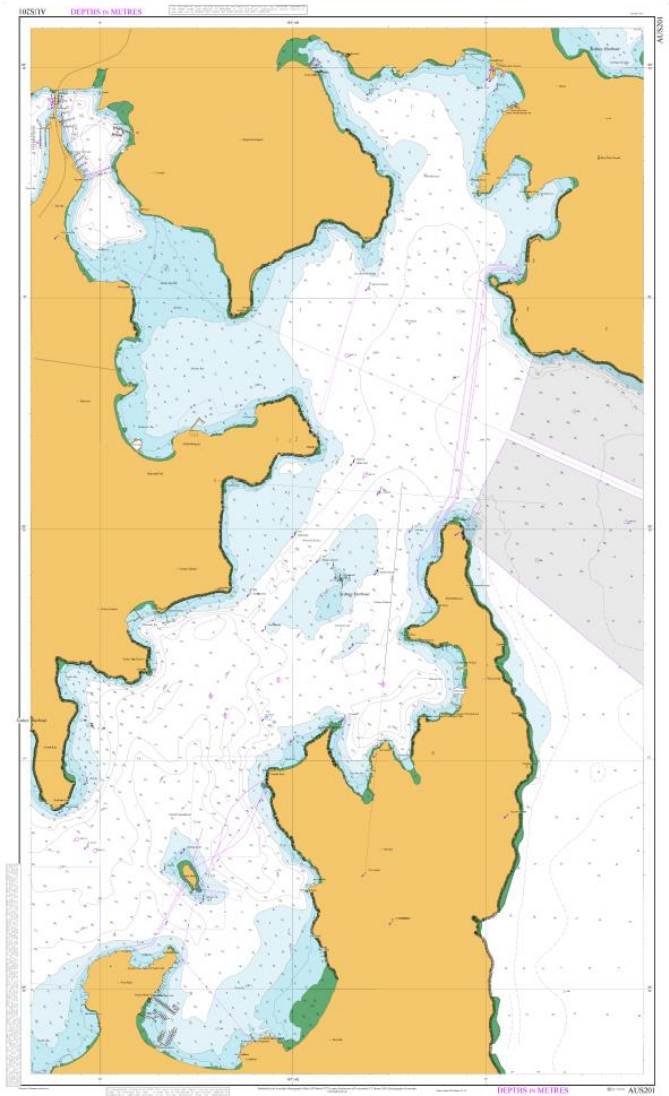
Utilizing CARIS' advanced automated (and customizable) portrayal rules



New development aiming at reducing manual work

Using existing national colour and symbols

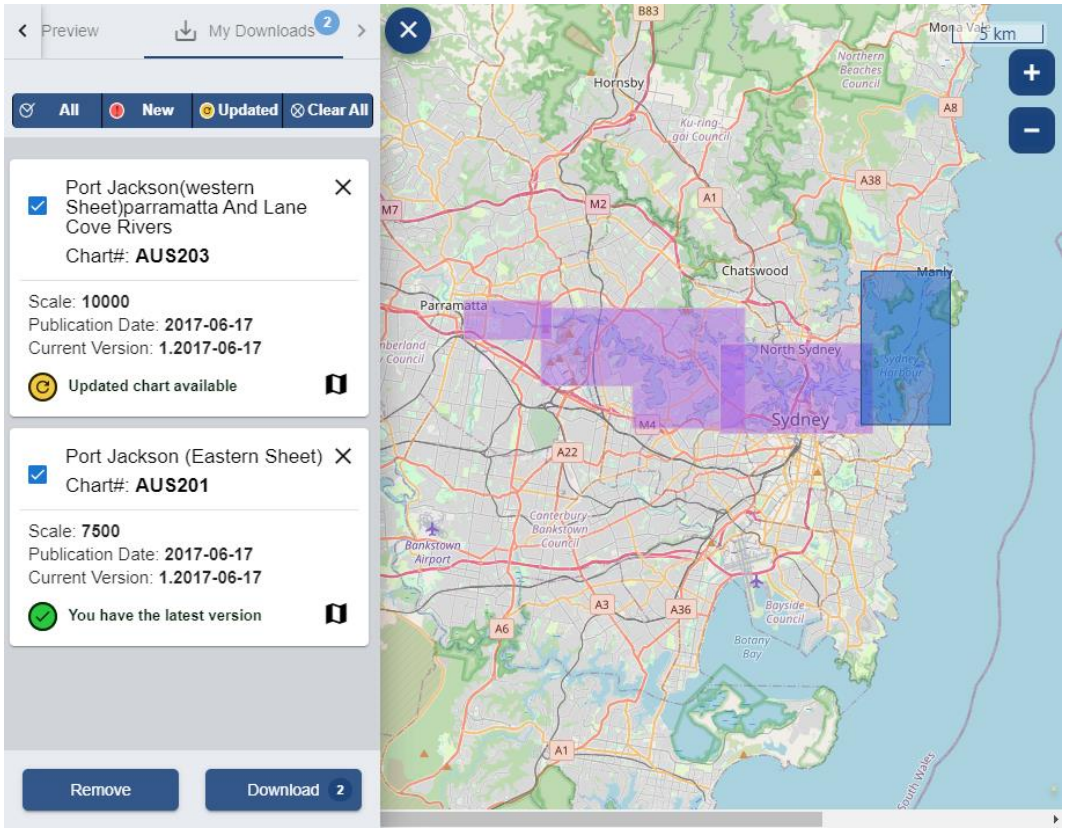




Self-service download

Possible to utilize HOs chart catalogue

- E.g. use existing chart boundaries, scales
- Ensuring products are suitable for navigation



Users subscribe to products

Allowing users to subscribe to the charts

- Getting notified about updates

Updated Charts Notification

N noreply@teledynecaris.com
To Barbeau, Julien (INT)

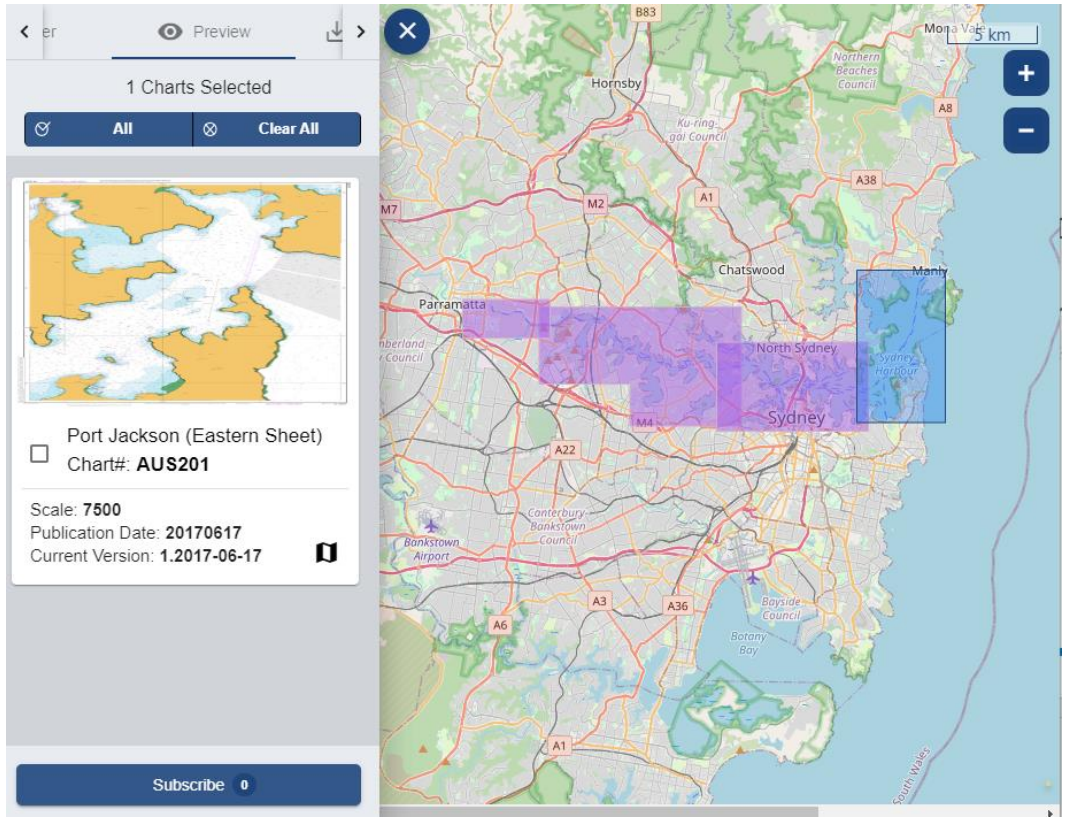
---External Email---

Hello julien.barbeau@teledyne.com,

The following chart products that you have subscribed to were updated this week:

* AUS203

Head to https://stg.cds.teledynecaris.com to updated your charts



CARIS Cloud

Accelerate Delivery through Automation

Bathymetry, Currents, ENCs, Paper Charts & more

February 2023

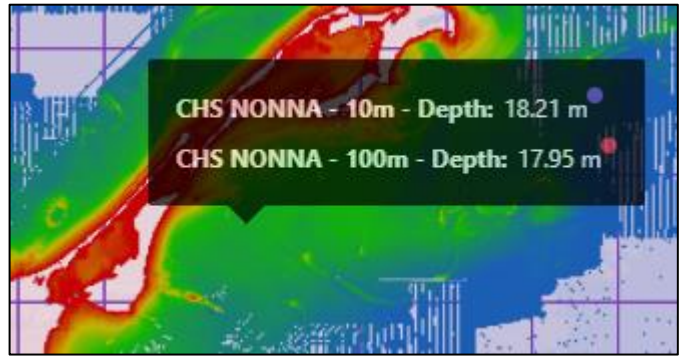
CARIS Bathy Data Service

Cloud hosted service for data services

- Including OGC standard services WMS, WMTS, WCS, WFS

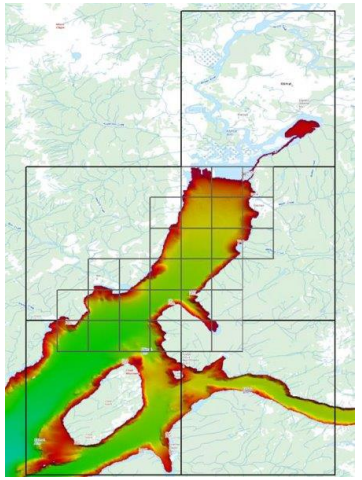
Product and download services

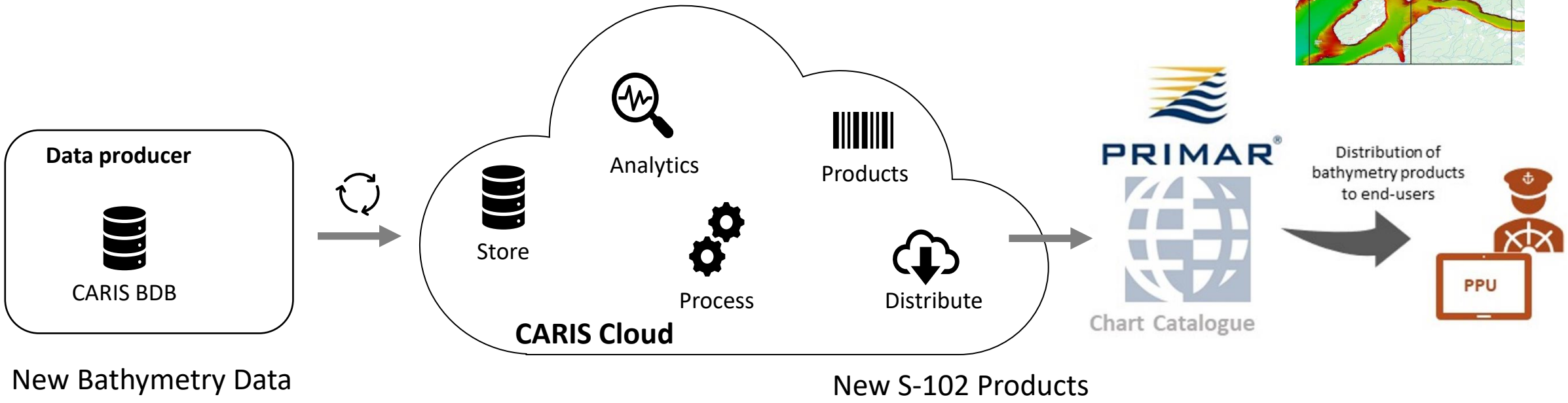
- S-100 support including
  - S-101 (and S-57) ENCs
  - S-102 Bathymetry Surface products
  - S-111 Surface Currents
  - …
- Combined bathymetry in BAG, ASCII, CSAR, GeoTIFF



Works seamlessly with CARIS database solutions

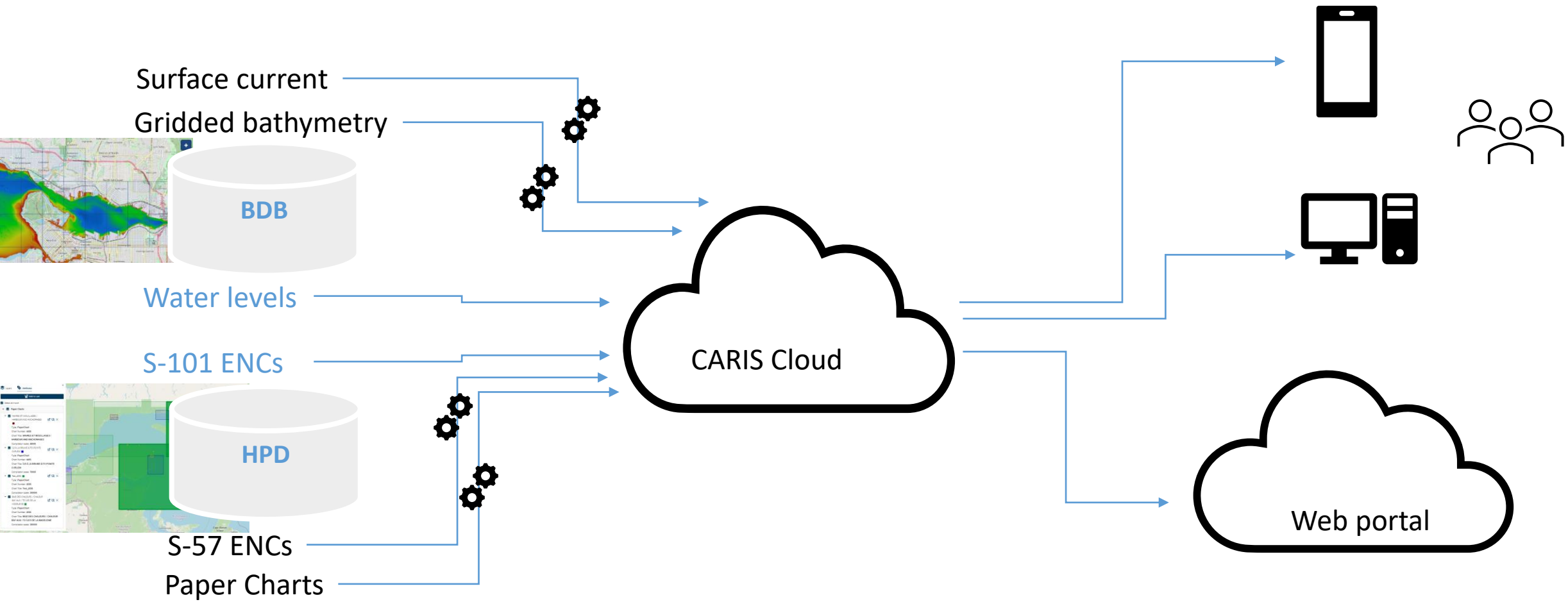
S-100 as a Service





Automated Products Pipeline

Turn-key production to cloud services connection



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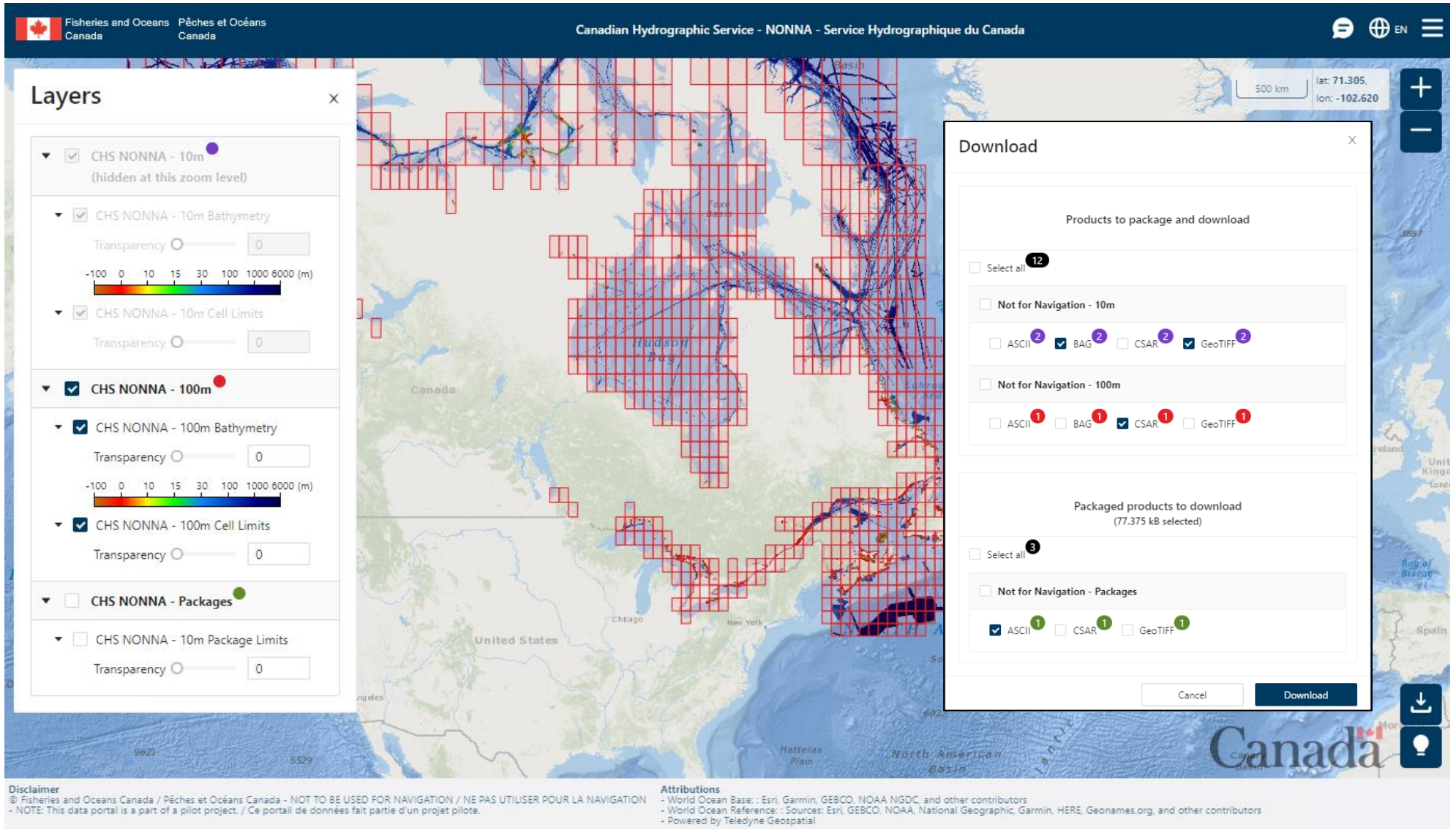
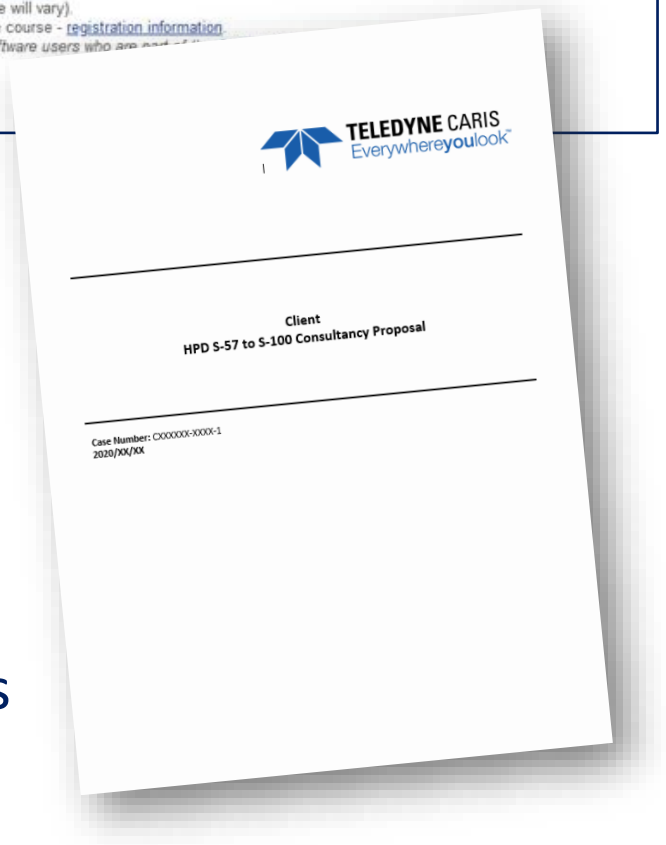
Example of Branded Viewer: CHS NONNA



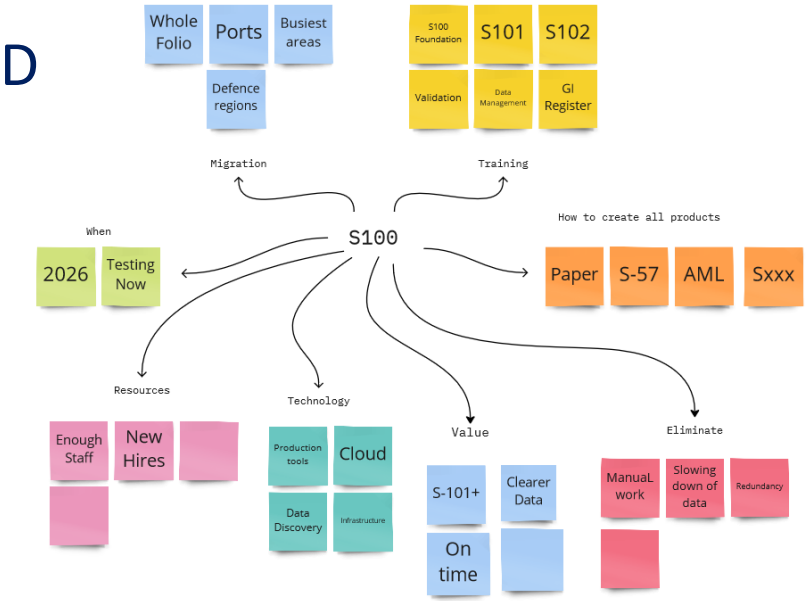
Training and consulting

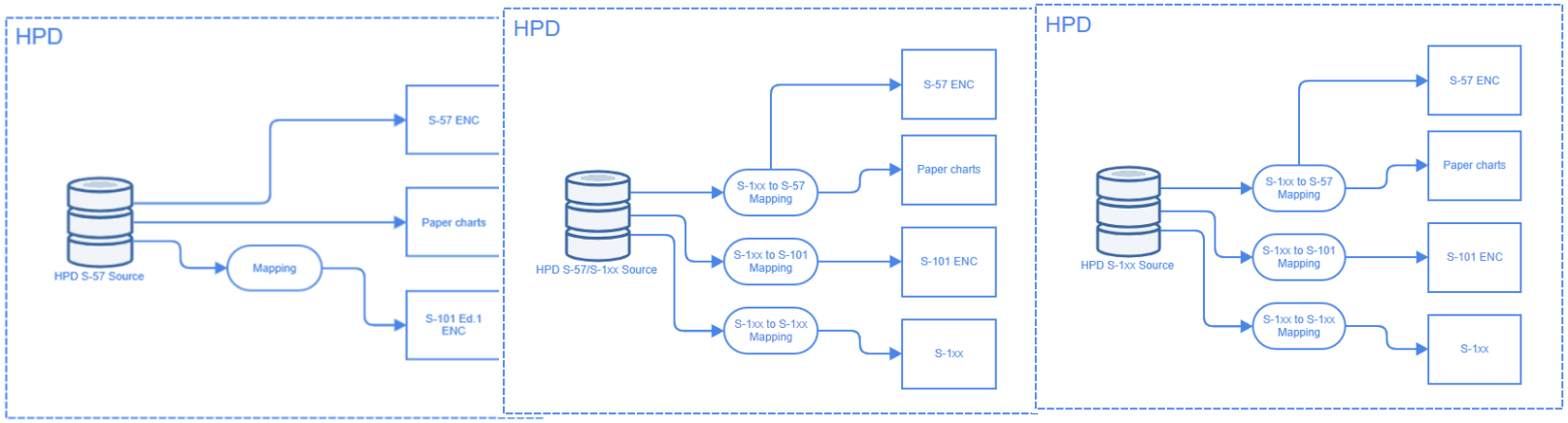
- Instructor led courses
  - Onsite or remote
  - HPD, S-57/S-100 Composer, Workflow Automation
- E-learning
  - S-100 theory and concepts workshop
  - **S-101 Production Course**
- Webinars
  - Recent ones for Automating ENC and Paper Chart workflows
- Consulting



S-100 Sandbox

- A Cloud based, secure environment for S-100 enabled HPD
- A customizable environment that we manage for you
  - With relevant to your CARIS system files
  - Your test data and data model
- Subject mater expert guide to facilitate your S-100 aims
- Single or multi use environments





Thank you!

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