

# Teledyne CARIS Supporting S-100

**21<sup>st</sup> Meso American-Caribbean Sea Hydrographic Commission (MACHC) Meeting**  
**November 30 to December 2, 2020**

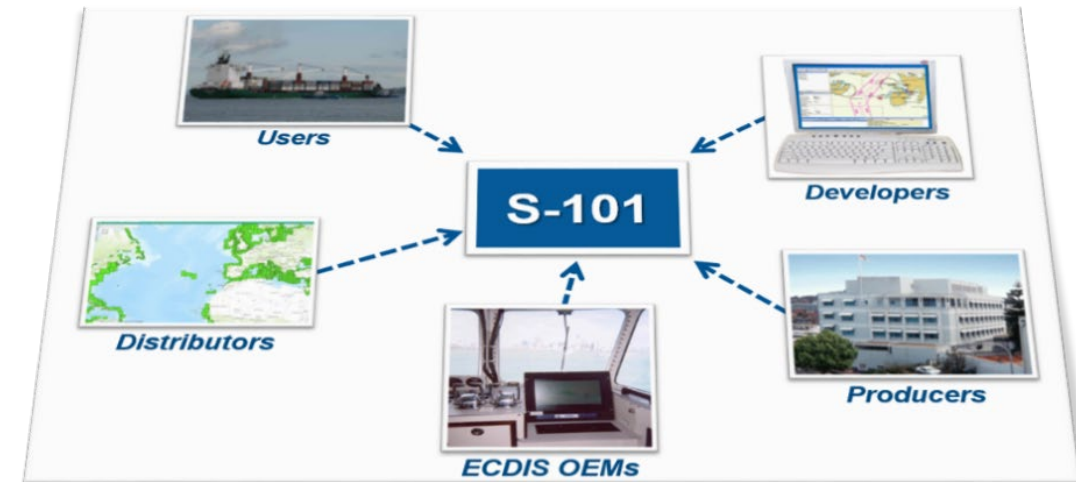
**Presented by Juan Carballini | Regional Sales Manager**

# Introduction

- IHO S-100 Working Group (WG) has objective to develop and extend the S-100 Universal Hydrographic Data Model and S-100 based products
  - To support a greater variety of digital data sources, products and customers
- Examples of CARIS' involvement in S-100 WG include:
  - Development of encoding and portrayal for S-100, including S-101 ENC's
  - Validation checks for S-101 ENC's (equivalent to S-58)
- ~92% of hydrographic offices use CARIS for all or part of their workflow
  - CARIS solutions have been, and continue to evolve to provide agencies with tools to transition to S-100

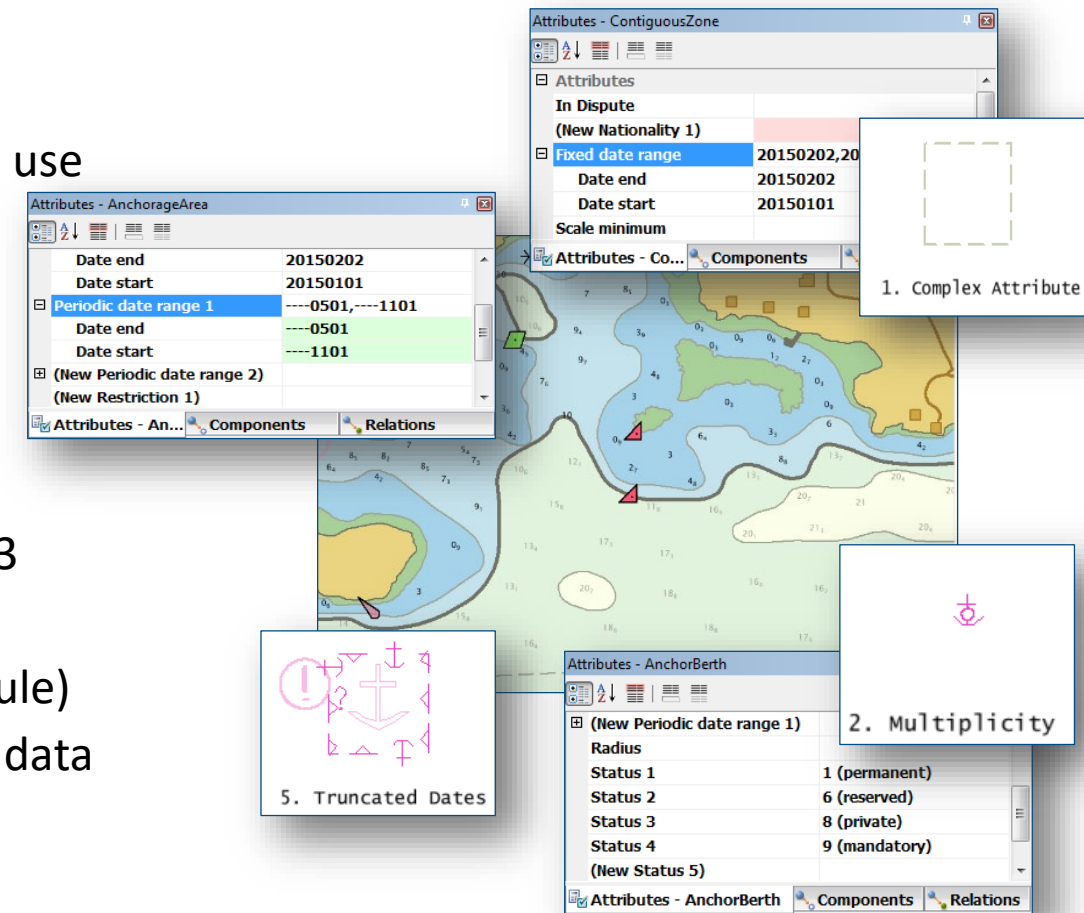
# S-100 Stakeholders

- Different stakeholders are involved
- Examples:
  - Developers / Solution providers
  - Data producers (Hydrographic Offices, Port Authorities, Inland Waterway Authorities, Survey Contractors)
  - Distributors (RENCs, others)
  - ECDIS Manufacturers (OEMs)
  - Users (Pilots, Mariners, Scientists, Marine Researchers, Environmentalists, Coastal planners)
  - ...



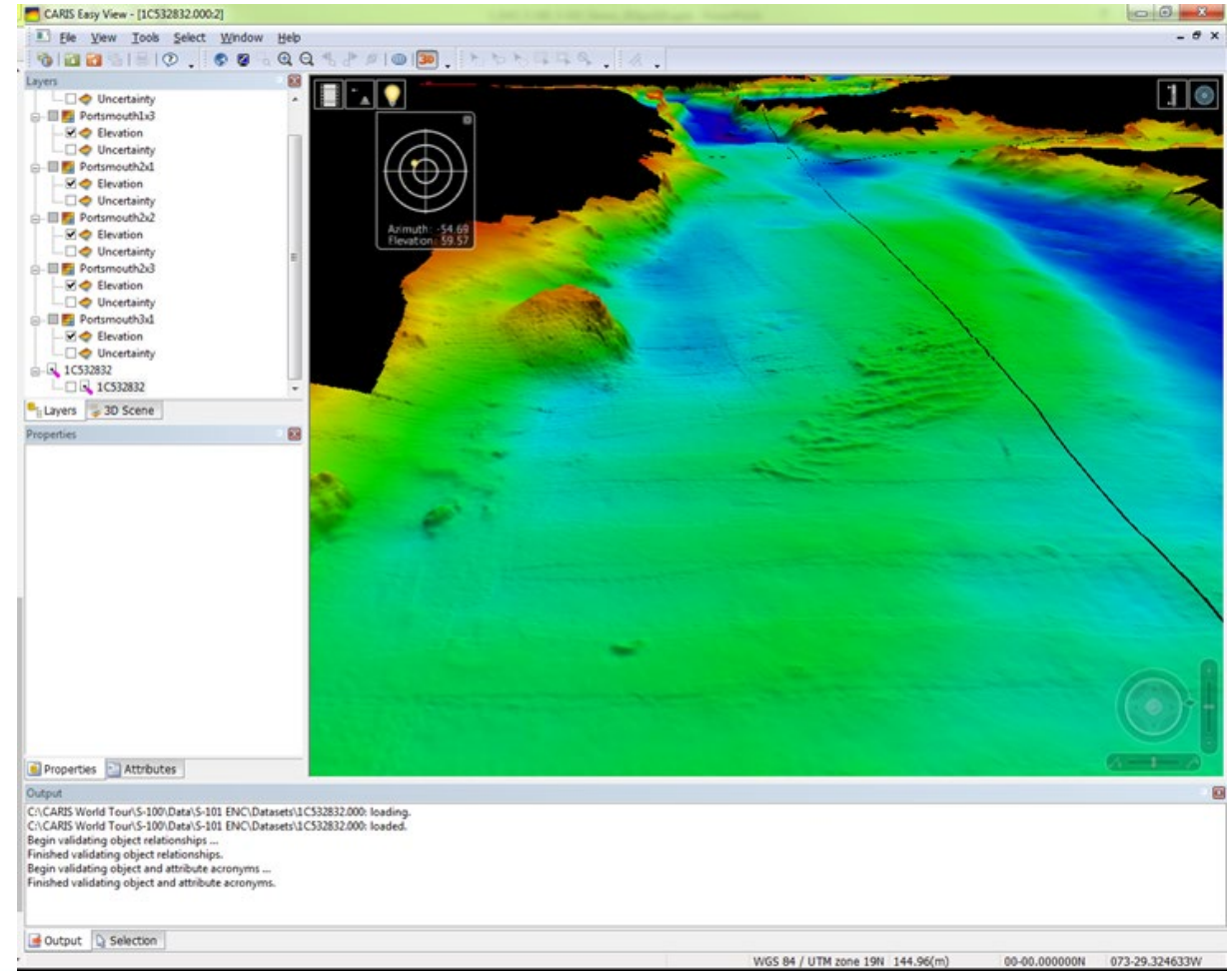
# S-101 Electronic Navigational Chart (ENC)

- Edition 1 (December 2018)
  - Several new editions planned towards full navigational use
- (Eventually) replacing S-57 ENCs
- CARIS Support
  - Early support for draft specification in S-57 Composer 3
  - In **HPD 4** (with S-100 Module for HPD)
  - In **S-100 Composer 4** (S-57 Composer with S-100 Module)
  - Both with **automatic conversion** of S-57 data to S-101 data



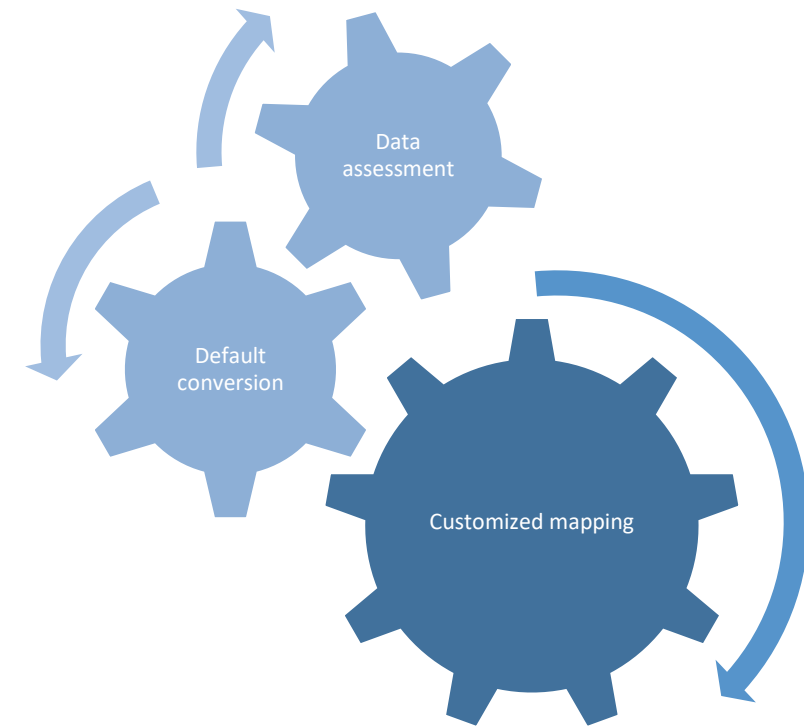
# S-102 Bathymetric Surface

- Edition 2.0.0 (October 2019)
- Tiled bathymetric surfaces and accompanying metadata
- CARIS Support
  - Early support (Editor 1.0) since 2012
  - In Bathy DataBASE and BASE Editor
  - Simple automated process
  - Export with the Raster Product Export tool



# Geospatial solutions for S-100

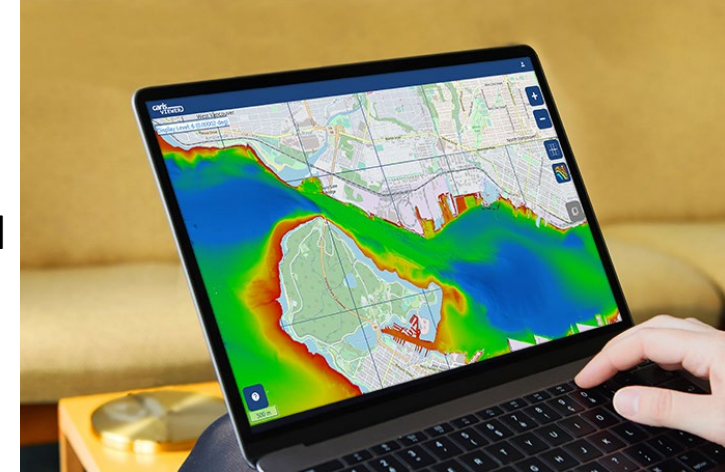
- There are numerous S-100 products, services and stakeholders
- Data producers need access to familiar tools with the ability to create various S-100 products
  - Features, attributes, encoding and metadata
- Desktop and database solutions can be used to facilitate S-100 familiarization, and assessment to transition to S-100
  - Data assessments, conversions and mappings
  - Definition of automated workflows





# Geospatial solutions for S-100

- Data producers have requirements to:
  - Meet current mandates and produce existing products
  - Produce new products to support new data users with the same resources
  - Efficiently deliver products and services to stakeholders and end users...
- Using S-100 products and services with a service oriented and cloud-based approach we can:
  - Upload, host, manage and deliver S-100 data products to end users
  - Minimize the time for S-100 data products to be available for operational use (e.g. for e-Navigation or a part of MSDI)



# Geospatial solutions for S-100

## Teledyne CARIS' commitment

- Remain the leader for S-100 support
- Drive the adoption of new S-100 products and services
- Enable efficient production, management and distribution through automation, and infrastructure
- Evolve products/services and capabilities with partners and co-operation to realize possibilities





# GET STARTED WITH S-100

# S-100 Sandbox

- Off the shelf, no risk deployed cloud HPD instance.
- Allowing you to experiment and evaluate without the overhead of IT expenditure and delay
- Short term agility



# S-100 Sandbox

- Need to separate testing from production environment
- Users with limited resources (both IT Hardware and personnel) to set up test environments
- Agile offering to turn on / off as required
- Easier access (users not in office)
- Many organisations looking into how cloud fits into their IT infrastructure
- Secure
- Multiuser
- Expert Assistance for S-100 questions, built in to the solution
- Customization options
- Short or Long term options

# E-learning

## CARIS S-100 Online Workshop

### CARIS S-100 Online Workshop with CARIS S-57 Composer

Teledyne CARIS is pleased to present this short online training program which looks at the International Hydrographic Organization (IHO) S-100 Standard, and the related S-101 Electronic Navigational Chart (ENC) Product Specification which is being developed to support the creation of next generation ENC products.

This workshop shows examples of creating and processing S-100 products in [CARIS S-57 Composer](#) but no software is required in order to participate.

- Information: workshop [description and requirements](#).
- Length: 8 hours (estimated - completion time will vary).
- Cost: \$300 USD\*\* for 90 days access to the course - [registration information](#).
- \*\*The cost is currently waived for CARIS software users who are part of the [CARIS Subscription Program](#).

Register

Login

## CARIS S-100 Workshop

- Overview of S-100 and S-101
- Theory
- Concepts
- Expert background theory.
- No practical element

# Coming Soon

## CARIS S-101 Production Course

- Learn about S-101 in general, and to learn about creating S-101 ENCs in Composer, using hands-on exercises

### An Introduction to IHO S-101 ENC Production with CARIS S-57 Composer

#### E-learning Course Description

This self-paced online training course introduces the new IHO S-101 format Electronic Navigational Chart (ENC) product specification as it is used to produce next generation S-101 ENCs using the latest CARIS S-57 Composer software. The course covers the same topics and uses the same hands-on practical exercises as the equivalent classroom training course. However, it lets you go through the materials at your own pace, using your own computer with internet access, from your desktop, and without having to attend a classroom-training course in another location.

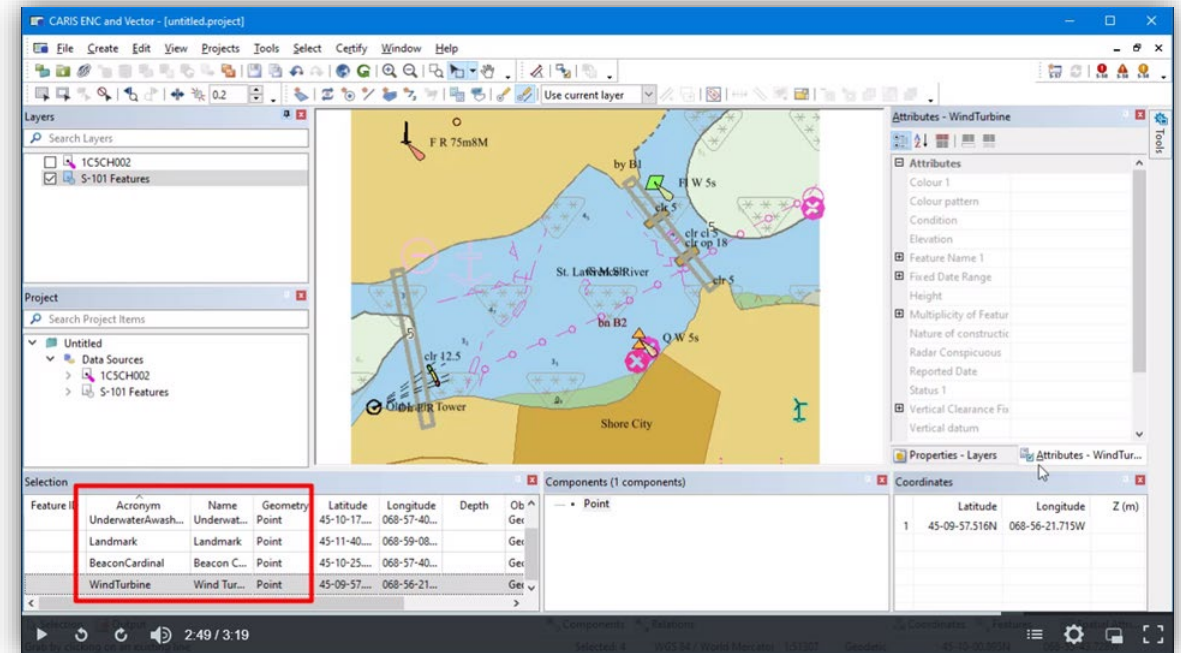
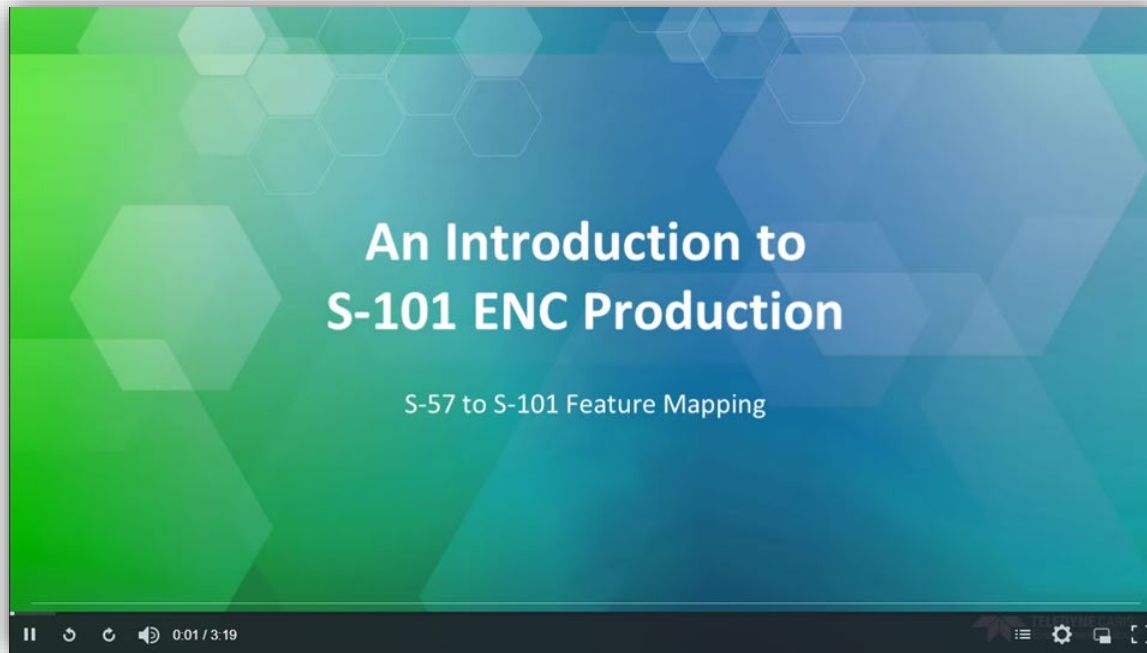
**Length**  
24 hours (estimated – completion time may vary based on experience).

**Audience**  
Anyone involved in ENC production who wants to be introduced to S-101 ENC Production using CARIS S-57 Composer software. This includes people who will be managing, compiling, checking, exporting and updating S-101 ENC datasets within a hydrographic department or other organization or company. It is also of interest to students and others wanting to learn about S-101 and Composer.

- Topics**
- ✓ What is S-100, why is it needed, and what are its benefits?
  - ✓ What is an S-101 ENC and how does it relate to S-100?
  - ✓ How will S-100, S-101 impact hydrographic organizations, users?
  - ✓ The S-101 ENC Product Spec, and the related Encoding Guide
  - ✓ A quick overview of the CARIS user interface and basic operations
  - ✓ Introducing basic S-101 concepts and terminology
  - ✓ Complex attributes, multiplicity, information types, system attributes
  - ✓ Comparing S-57 and S-101 feature encoding
  - ✓ Learning more about S-101 similarities and differences with S-57
  - ✓ S-101 ENC product creation workflow starting with S-57 ENC data
  - ✓ Defining new S-101 ENC products and new metadata values
  - ✓ Automated S-57 to S-101 feature mapping and conversion steps
  - ✓ How to customize the default S-57 to S-101 feature mapping process
  - ✓ Post-import processing and possible cartographic intervention steps
  - ✓ Further S-101 feature coding examples
  - ✓ New S-101 nautical information, spatial quality, text, update features
  - ✓ S-101 minimum scale attributes, grouped soundings and validation
  - ✓ Exporting S-101 ENC products to the official S-100 file format
  - ✓ Updating S-101 ENC products with new information
  - ✓ Additional discussion about implementing S-101 ENC production
  - ✓ A brief look at of some other new and planned S-100 based products

# Videos

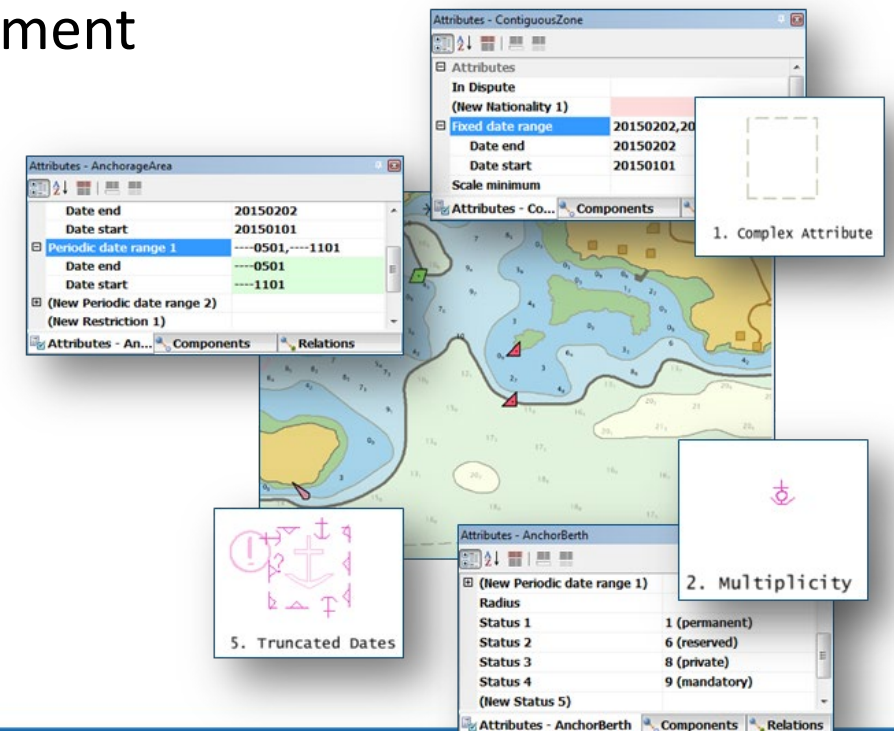
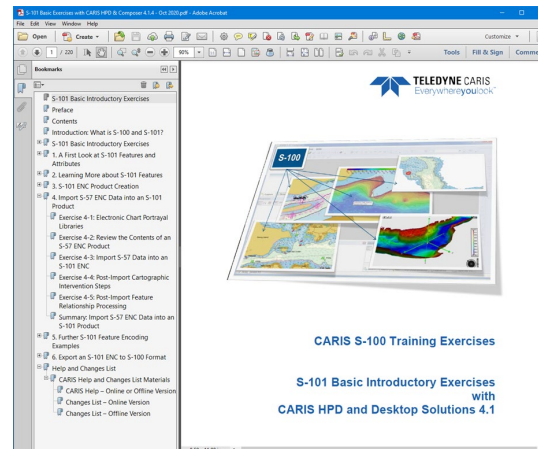
- Short introductory videos cover theory and examples





# Instructor Led Training

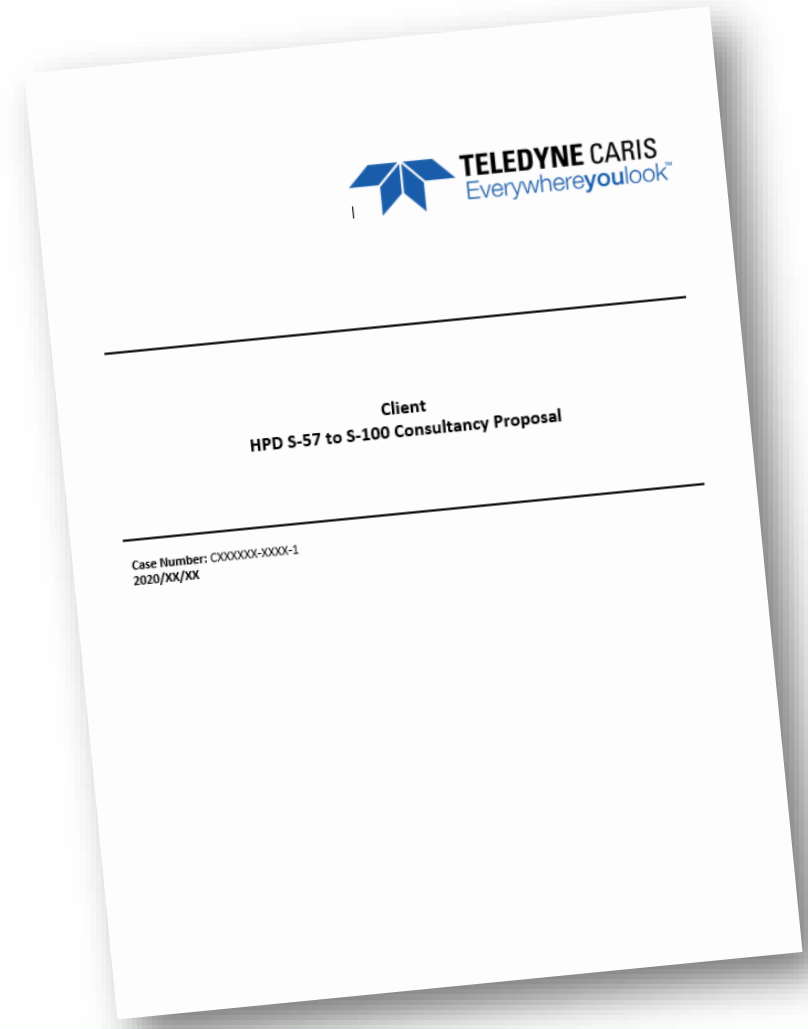
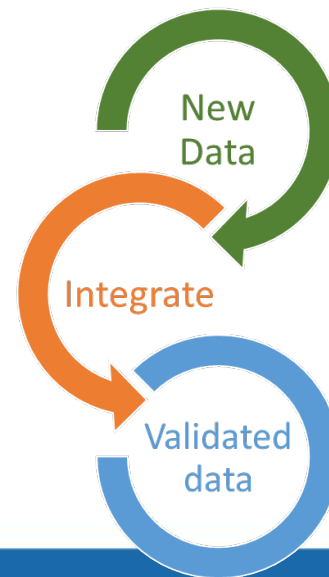
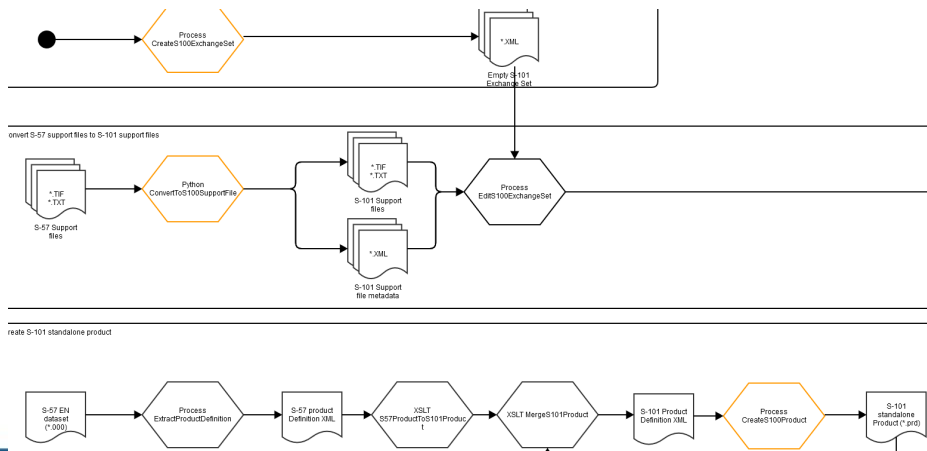
- World Class Training staff
  - Actively participating in IHOs development of the S100 standard
  - Assisting organizations on S 100 product development
- Onsite
- Remote
- Via AWS





# Expert Led Consultancy

- Data model Assessment
- Migration planning/Assistance
- Workflow and Automation Services
- Best Practice analysis



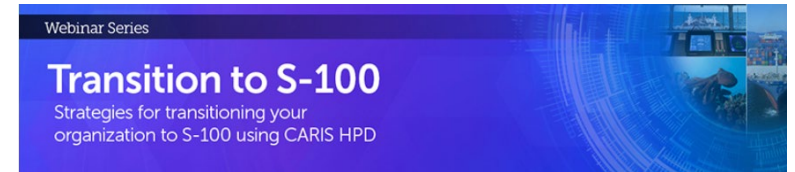
# Support

- Webinar Series "Transition to S-100"
- Social Media postings
- support.teledynecaris.com
- User Group Meetings

## Welcome to CARIS Online Customer Services (OCS)

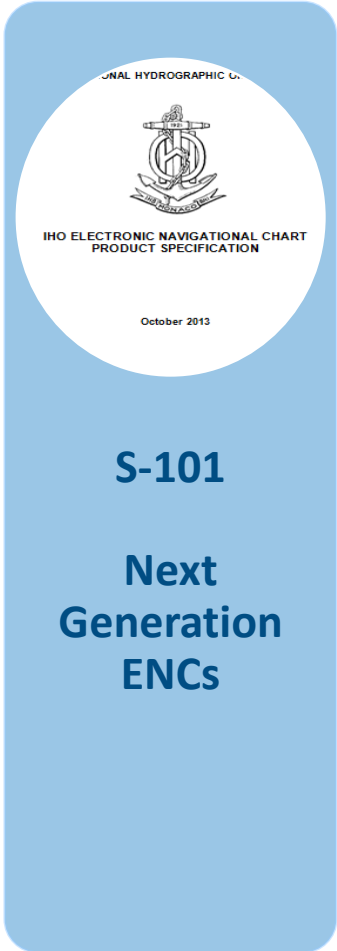
Explore these pages to:

- view information about new and past CARIS releases
- download software updates
- request assistance from Teledyne CARIS Technical Support Consultants via the [Teledyne CARIS HelpDesk](#)
- review all [Service Requests](#) entered by your organization
- view your organization's current [licence information](#) and subscription status
- [update your licence key](#) by downloading the most current licence file



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# Summary: S-101



- S-101 Edition 1.0.0 (Dec 2018) – for implementation, testing
- S-101 will impact different stakeholders
- Numerous other S-100 based products are proposed
- CARIS users can produce S-101 ENCs
  - From a database application HPD 4.0
    - S-57 ENCs, paper charts and other products could be produced from the same S-100 data
  - From a standalone application Composer 4.0
  - From existing ENCs or from scratch
- S-101 production testing environment available
- Different training options available



# Questions?

## Thank You!