MACHC23

News on S-100 implementation

Nov. 30 2022

Ryan Heinz

SevenCs Hamburg

Overview

- Involvement in S-100 Standardization and Testbeds

- S-101 and S-102 in ECDIS

- S-57 to S-101 Conversion with FME

- 7Cs Analyzer Version 5.1

- Conversion-Readiness Checks

- 7Cs Analyzer Service API

- S-100 Data Management System

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Presentation
SevenCs Hamburg

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Involvement in S-100 Standardization and Testbeds

Involvement in S-100 standardization

- S-100 Working Group

- S-101 Project Team

- S-101 Validation

- S-98 Project Team

- Sub-Group on Conversion

- Revision of ECDIS Performance Standard

SevenCs involvement in S-100 testbeds

- IHO-Singapore Lab

  - S-101 Validation

  - Testing of S-101 / S-102 interoperability

  - Provision of ECDIS for S-100 sea trials

- Primar Conversion Task Force

  - S-101 Validation

- UKHO / Shom S-100 ECDIS Collaboration

  - Testing of S-101 / S-102

  - Provision of ECDIS for S-100 for sea trials

**S-101 - S-102 in
eGlobe ECDIS**

S-101 / S-102 in ECDIS, planned activities

- Include Nautilus display engine

- Support of S-101 and S-102 display

- S-57/S-101 and S-102 interoperability

- On-the-fly contour generation

- S-102-based display of safety contour

- ENC 'dual-fuel' capability (S-57 and S-101)

S-102 in ECDIS – 'Proof-of-Concept'
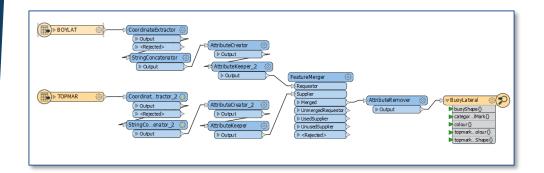
**S-57 to S-101 conversion
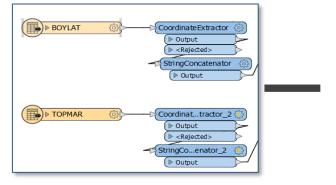with FME**

S-57 to S-101 conversion

- Based on Feature Manipulation Engine by *safe software* (development partner).

- SevenCs provides PlugIns for S-57 export, S-101 import, S-101 export

- Conversion rules aligned with 'Annex B S-57 ENC to S-101 Conversion Guidance

- Different operation modes

  - desktop conversion tool,

  - command line,

  - server-based solution

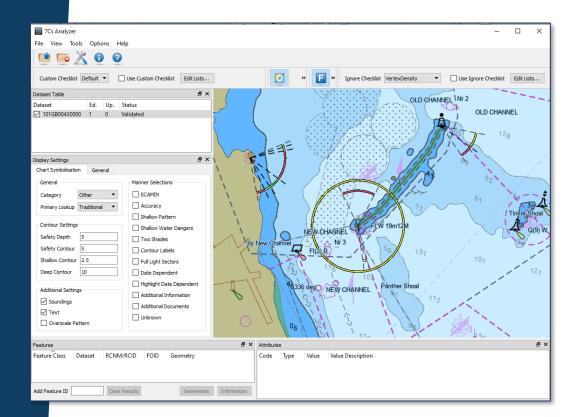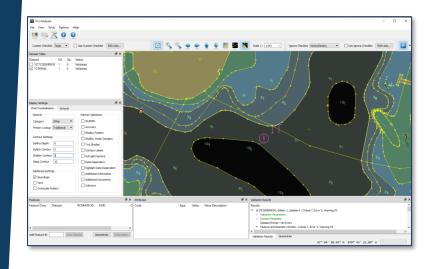**7Cs Analyzer Version 5.1**

7Cs Analyzer 5.1

- Support of S-58 Edition 7.0

- IHO S-57 UOC for ENC, Edition 4.3.0

- Full Nautilus-based S-101 chart display

- S-101 Feature Catalogue selection

  - To support frequent change of FC versions

  - Use of preliminary FC versions

- Currently being tested by the RENCs

Note: S-101 checks have been derived from S-58 and from current status of S-101 validation checks
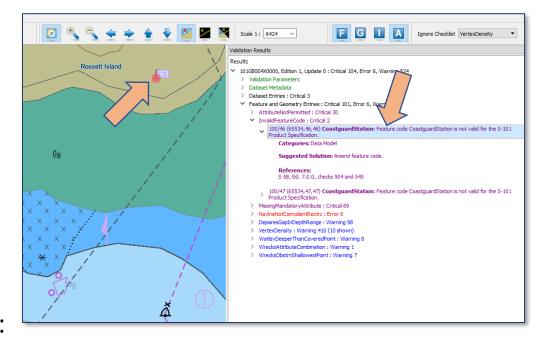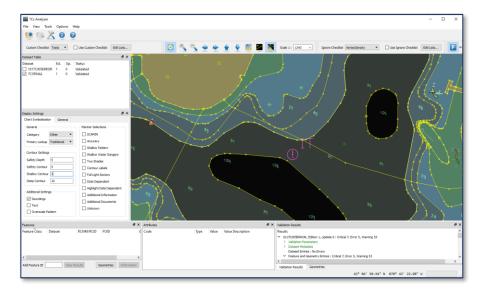
S-101 Validation

- Load, display and validate S-101 dataset(s)

- Review error messages

- On selection of error message, items affected are highlighted in chart display

- Functions for in-depth analysis of reported errors:

  - different display modes

  - review of feature and spatial relations,

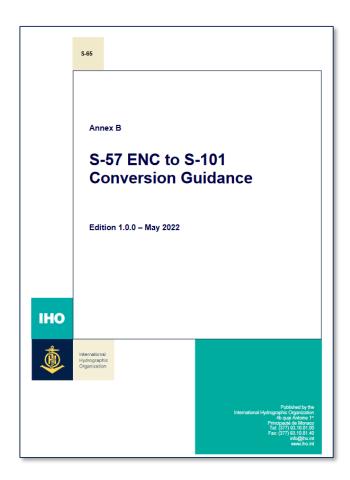 - feature attribution, feature associations

7Cs Analyzer Custom Checks and Conversion-Readiness Checks

Conversion-Readiness Checks

- S-57 ENC to S-101 Conversion Guidance provides recommendations for preparing and finalising S-57 ENC datasets for conversion to S-101

- It provides dedicated S-57 ENC-encoding instructions in support of most effective data conversion

- *Conversion-Readiness Checks* can be useful to verify whether an S-57 ENC is fit for conversion

- 7Cs Analyzer's Custom Check Editor can be used to define such *Conversion-Readiness Checks*

S-65

Annex B

S-57 ENC to S-101 Conversion Guidance

Edition 1.0.0 – May 2022

IHO

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4b quai Antoine 1er
Principauté de Monaco
Tel: (377) 93.10.81.00
Fax: (377) 93.10.81.40
info@iho.int
www.iho.int

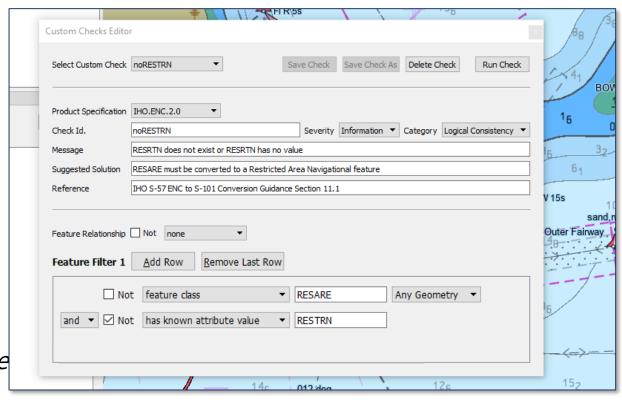# 7Cs Analyzer Custom Check Editor

- Wizard to define the logic of a custom check

- Users can add descriptive information that will be displayed when a custom check raises an error
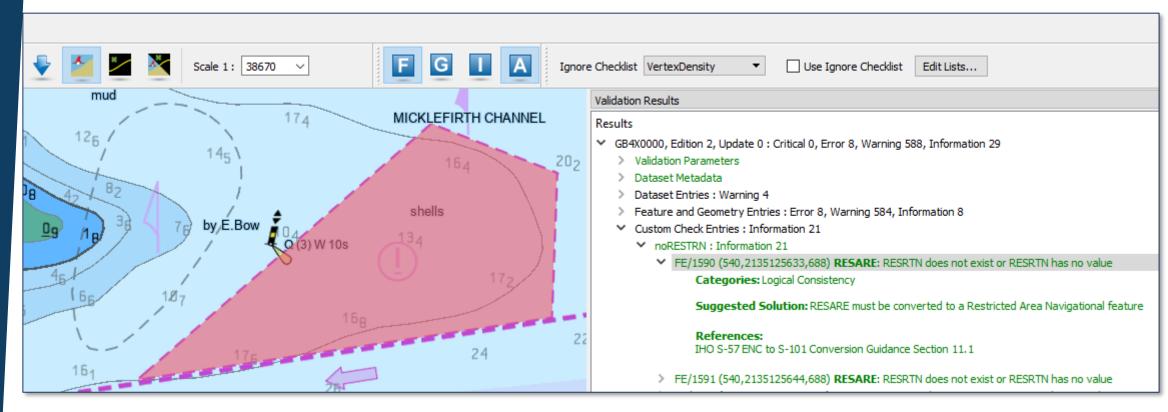
- Descriptive information includes:
  - Check Id
  - Message
  - Suggested solution
  - Reference

- Custom-Check Example:

finds RESARE without RESTRN attribute
and RESARE with empty RESTRN attribute

7Cs Analyzer Custom Check Editor

- Example of Custom-Check: *finds RESARE without RESTRN attribute and RESARE with empty RESTRN attribute*

Feature Highlight   Result of Custom Check
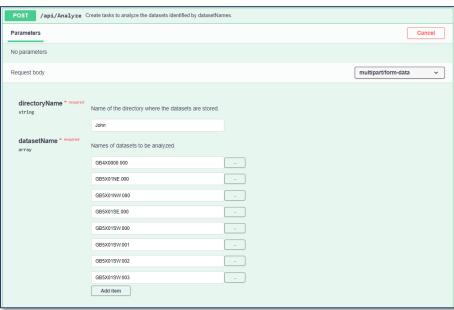
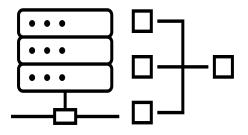# 7Cs Analyzer Service API

7Cs Analyzer Service API

- Provides a method for operating 7Cs Analyzer without human interaction

- For integration into new or existing workflows that require S-57 and/or S-10x validation

- The validation service can be accessed by other applications, via a REST API

- Includes User Authentication and Authorization (JWT)
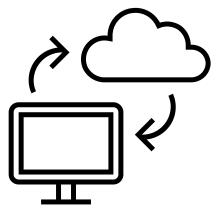
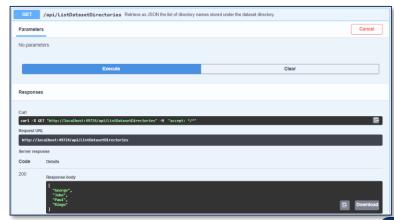- Management of multiple organizations

7Cs Analyzer Service API

- Can be operated by organisations in local network or in the cloud,

- SevenCs will also provide service hosting

- Supports organizations in automation of workflows

- Validation can be smoothly integrated at an early stage of the production process

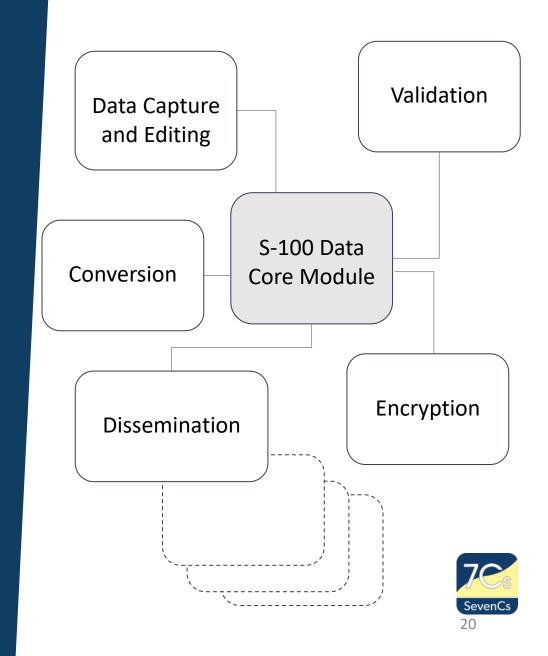- Currently IC-ENC is in the process of testing the Service API
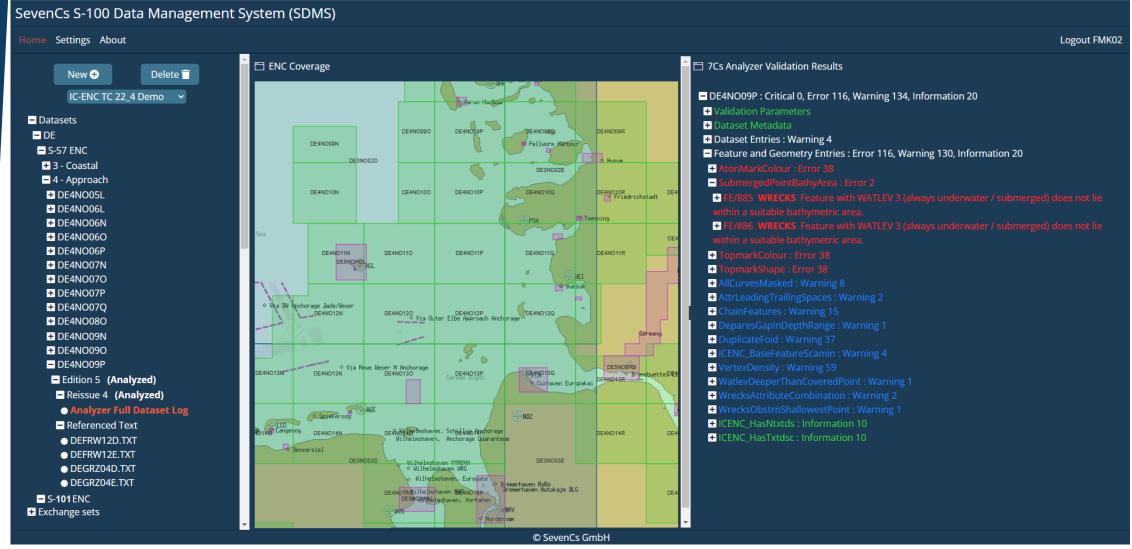
S-100 Data Management System

S-100 Data Management System

- Status-driven management system for S-100-processing workflows

- Comprised of following components:
  - Core Module (data management)
  - Function Modules (data processing)
  - Workflow Management
  - Database, application server, web-client

- Works as cloud service or in a local network

- SDMS already interacts with 7Cs Analyzer

- First release Q1 2023 (will include the validation module)

- First version will support S-57 and S-101

Data Capture and Editing

Validation

Conversion

S-100 Data Core Module

Dissemination

Encryption

S-100 Data Management System

SDMS Web-Client

Thank You

contact: ryan.heinz@sevencs.com