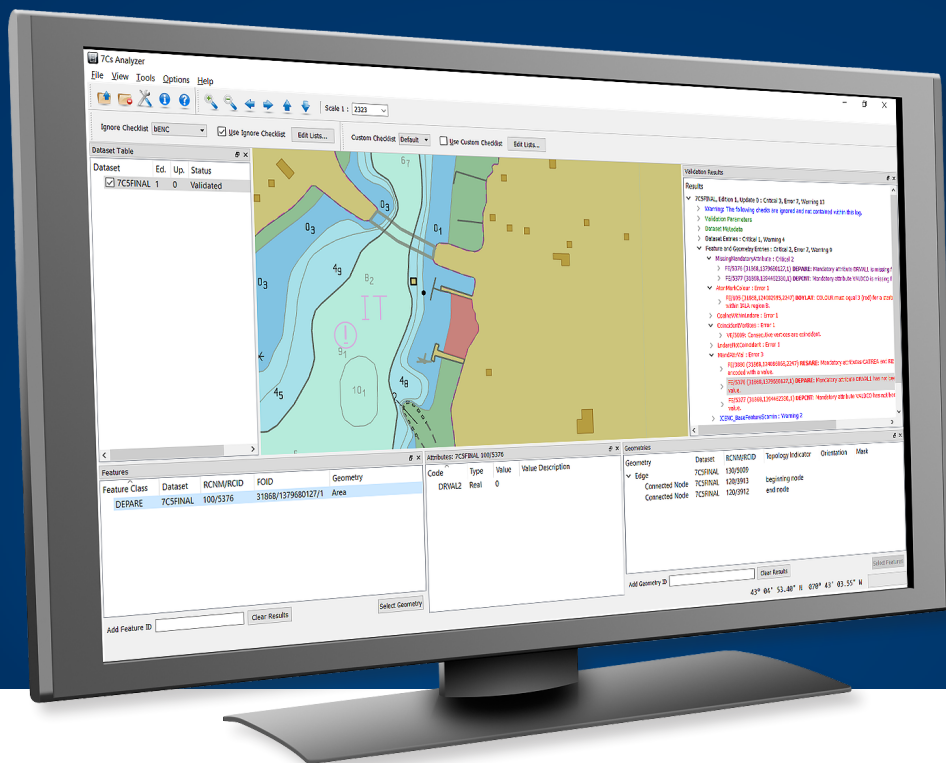


7Cs ANALYZER

The most comprehensive validation tool on the market.



The new-generation solution for validating **S-57** and **S-100/S-101** nautical-chart products.



propelled by
NAUTILUS

7Cs Analyzer is a desktop application used for validating S-57 and S-100 datasets. It provides data producers with the confidence that their datasets comply with the relevant IHO standards.

The tool offers seamless integration with ENC Designer (S-57 datasets only) and the new S-100 Data Management and Validation System, SDMS. SDMS provides efficient workflow management to the data validation procedure using 7Cs Analyzer.

The software is based on our latest ECDIS Kernel technology, called Nautilus. Therefore we consider it to be propelled by Nautilus.

To improve automation of the validation process, customers can integrate the 7Cs Analyzer validation engine into their existing S-57 / S-10x processing workflows, by means of the new 7Cs Analyzer Service API.

7Cs Analyzer was developed in cooperation with Nautical Dimensions, Australia.



PRODUCT HIGHLIGHTS

- Validation of S-57 and S-101 nautical chart products
- Also available as REST API for efficient automation and easy integration
- Compliant with latest edition of IHO S-58 ENC Validation Checks
- Compliant with Recommended Inland ENC Validation Checks
- Advanced editor for user-defined custom checks and definition of checks that users choose to ignore
- Verified against the new IHO S-58 Critical Test Datasets. Every test case presented by these test datasets has been passed.
- Horizontal-Vertical Consistency Module
- Sophisticated display module for in-depth error review

FUNCTIONAL OVERVIEW

During the Quality Control Procedure, data producers and reviewers can use 7Cs Analyzer to validate base files, sequential updates and exchange sets.

VALIDATION CHECKS AND RESULTS

7Cs Analyzer integrates hundreds of individual checks, to identify errors on data files, chart features, and geometries.

VALIDATION IS BASED ON THE FOLLOWING STANDARDS

- IHO S-100 Universal Hydrographic Data Model (Edition 5.0.0, December 2022)
- IHO Publication S-101 Edition 1.1.0 (April 2023)
- IHO S-57 Transfer Standard for Digital Hydrographic Data, Edition 3.1
- S-57 ENC Product Specification, Edition 2.0
- S-65 Annex A, High Density (HD) ENC Production and Maintenance Guidance (Edition 1.0.0, January 2020)
- S-57 APPENDIX B.1 Annex A - Use of the Object Catalogue for ENC, Edition 4.1.0
- IHO S-58 ENC Validation Checks, Edition 7.0.0 (October 2022)
- Product Specifications for Inland ENCs, Editions 2.1, 2.2, 2.3, 2.4, 2.5
- Recommended Inland ENC Validation Checks 2.4, 2.5
- bENC/bIENC 1.0
- AML 1.0, 2.1, 3.0

VALIDATION RESULTS INCLUDE

- Validation parameters (e.g. tolerances, configurations)
- Dataset metadata (Name, Edition, Dates, Reference Datum, Units, etc.)
- Dataset entries (e.g. messages on erroneous record fields)
- Feature and geometry entries (e.g. erroneous feature attributes, corrupt topology, data-model errors, etc.)
- Indication of S-58 severity categories (critical error, error, warning)
- The validation results are presented to the reviewer, together with dataset information, in a hierarchical tree structure, in the order of their importance.
The results are also automatically exported to XML log files.
- Features objects and spatial items (geometry) that are affected are highlighted in the chart display

CHART DISPLAY

The optional Chart Display supports various modes:

- IHO S-52 presentation
- Dedicated Geometry presentation
- Combination of both

CUSTOM-CHECK EDITOR

Users can define their own checks by means of the Custom-Check Editor. Results will be displayed in a separate section of the message log.

- Check datasets for existence of specific feature-attribute combinations
- Check for topological relations of features (overlaps, intersections, etc.)
- etc.

SHAPE-FILE EXPORT

Validation log files can be exported to ESRI shape-file format, for inclusion in third-party production software:

- Export of log messages
- Export of features affected

OPERATION MODES

7Cs Analyzer can be operated in different modes and can even interact with other applications of SevenCs' chart-production suite.

- Use as a stand-alone desktop application
- Integration in ENC Designer and ENC Manager
- Command Line Mode

CUSTOMIZABLE APPLICATION OPTIONS

- Editable tolerances for distances
- Export of full or abridged validation log
- Specification of maximum number of CPU cores that will be used

IGNORE-CHECKS EDITOR

Temporarily, users may only want to focus on particular checks. To do so, they can define checks in order to suppress presentation of specified checks. Using the Ignore-Checks Editor, respective configurations can be easily set up:

- Overview of all tests in alphabetical order
- Function of filtering tests by name
- Straightforward selection of validation checks that users wish to add to the
- ignore-list
- Easy management of multiple-user or organization-specific configurations

OPERATING SYSTEMS SUPPORTED

- Windows 10

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