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NELI – Act. 3.2

RIS part3 – Inland ECDIS

Vera Hofbauer, via donau

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Inland ECDIS - Definition

- **ECDIS - E**lectronic **C**hart **D**isplay and **I**nformation **S**ystem
- A navigation information system running on a standard PC
- Displays selected information from charts
- Purpose is to contribute to safety and efficiency of inland navigation
- ECDIS are also able to
  - provide positional information from navigation sensors
  - assist the mariner in route planning and route monitoring

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Purpose of Inland ECDIS standard

Inland ECDIS standard provides a uniform basis for the use of **electric inland navigation charts** and for the use of **telematics applications** like Inland AIS transponders or other **methods of identifying, tracing and tracking of vessels** on inland waterways. It contains the technical and operational requirements, testing methods and required test results for inland ECDIS applications!

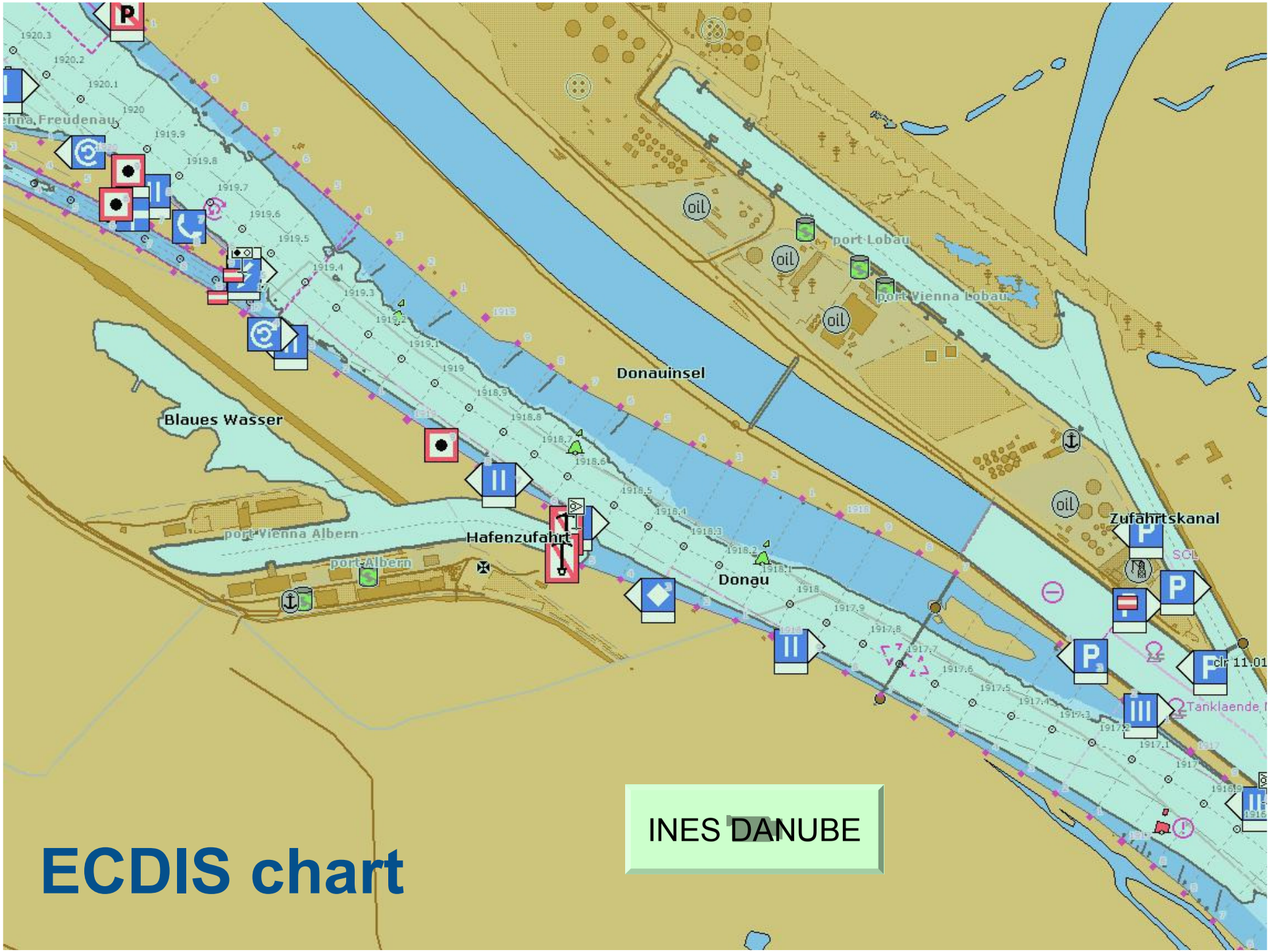
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ECDIS features

- Object oriented presentation with area objects (e.g land surfaces) line objects (e.g. banks) and point objects (e.g. buoys)
- Arrangement of the objects in a database, making it possible to assign feature data to each object
- There are at least three levels of information density: all – standard – minimum (and user defined)
- Text is always displayed upright independent of the chart orientation
- Radar image can be underlaid with the chart
- Restrictions of depth, width or vertical clearance, network data and operating times of infrastructure can be used by voyage planning applications


Donauinsel
Blaues Wasser
port Vienna Albern
port Albern
Hafenzufahrt
Donau
port Lobau
port Vienna Lobau
Zufahrtskanal
oil
INES DANUBE

ECDIS chart

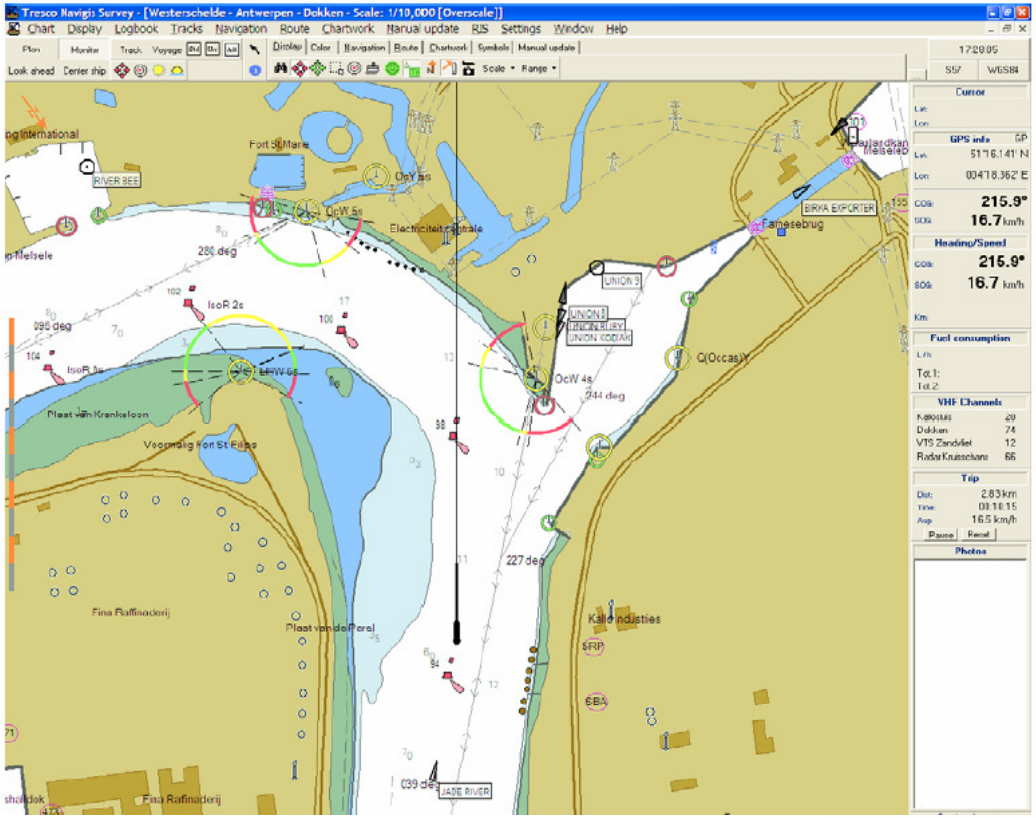
Contents of the electronic chart

- Shoreline (at mean water level),
- Shoreline construction (breakwater, longitudinal control dam),
- Contours of locks and dams,
- Boundaries of fairway (if available),
- Isolated danger spots n the fairway below and above water level, such as subways, bridges, overhead wires, etc.,
- Buoys, beacons, lights, notice marks,
- Waterway axis with kilometer and hectometer indications.

Moreover, the Inland ECDIS standard makes it possible to display numerous other object types and to describe them with feature data

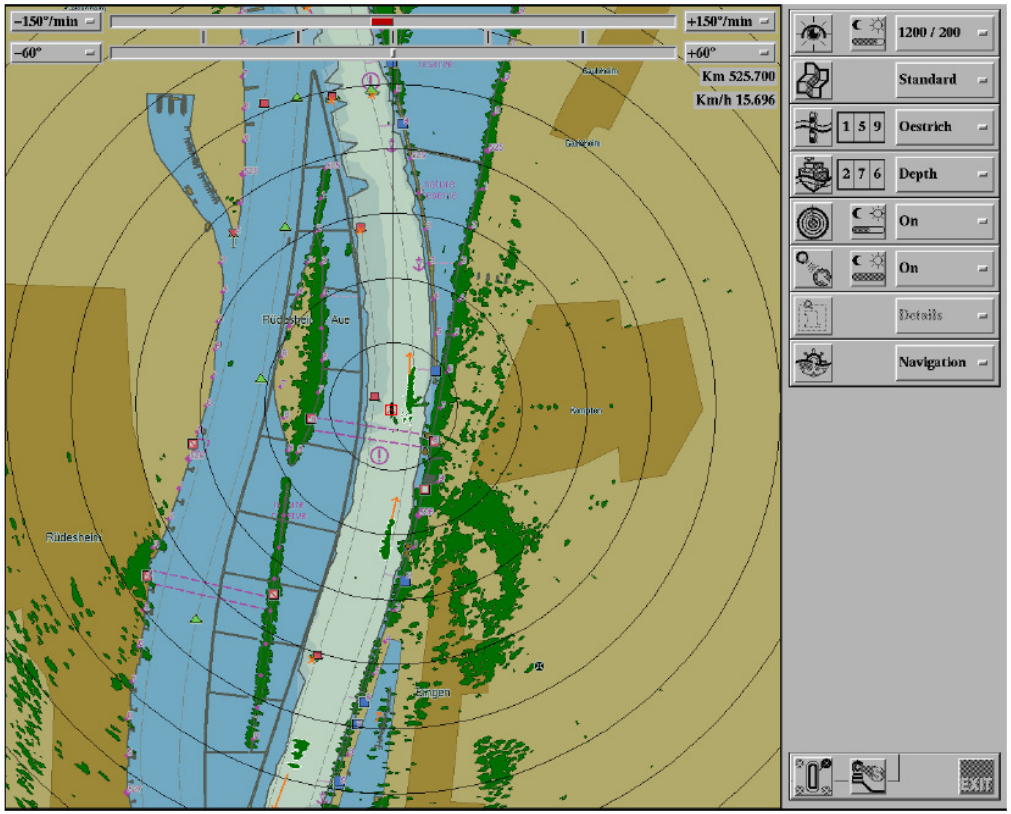
Information mode

- In the Information mode Inland ECDIS equipment acts as an electronic atlas and serves to guide and to provide information about the waterway



Navigation mode

- The use of the Inland ECDIS for conning the vessel by using radar and underlaid chart image

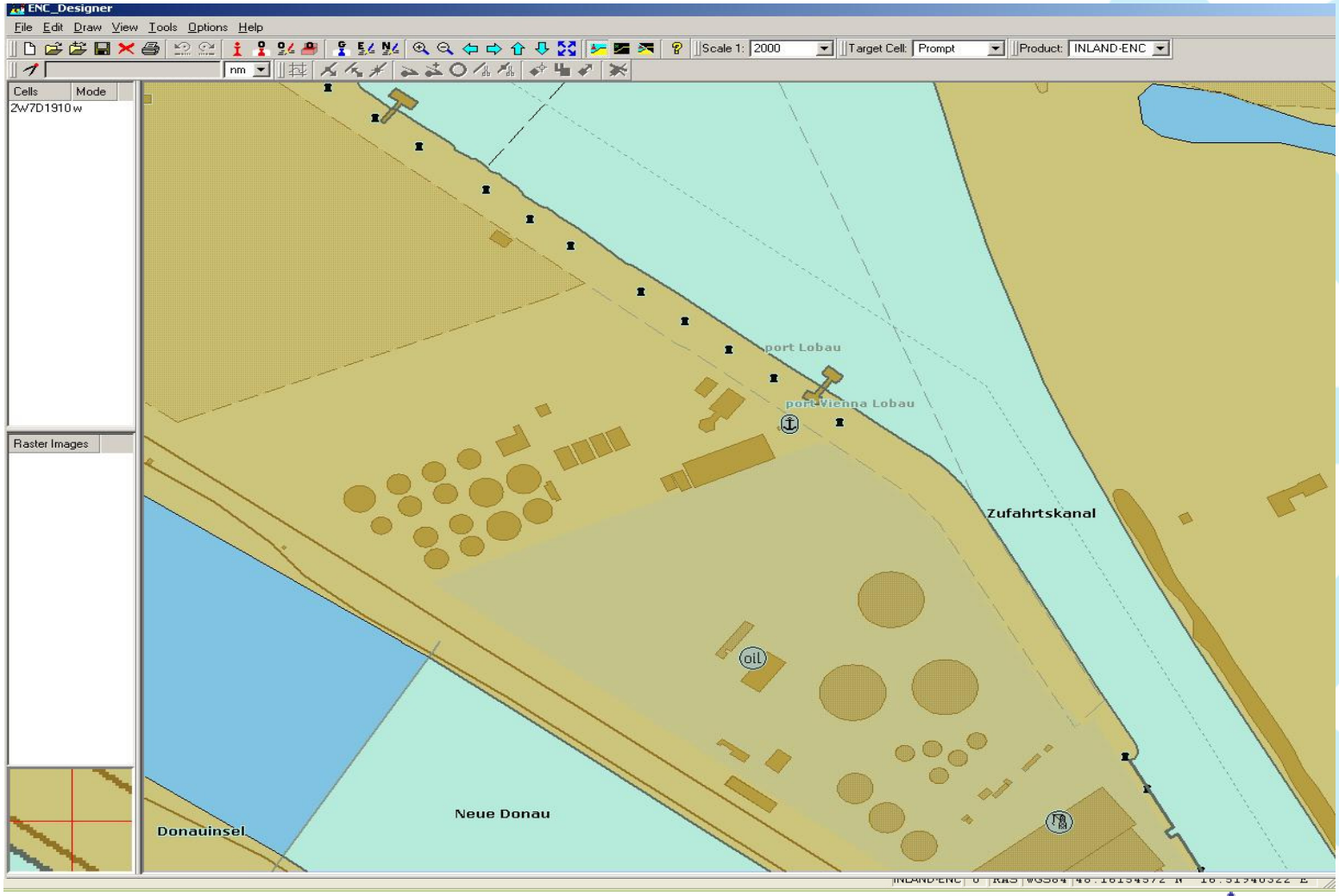


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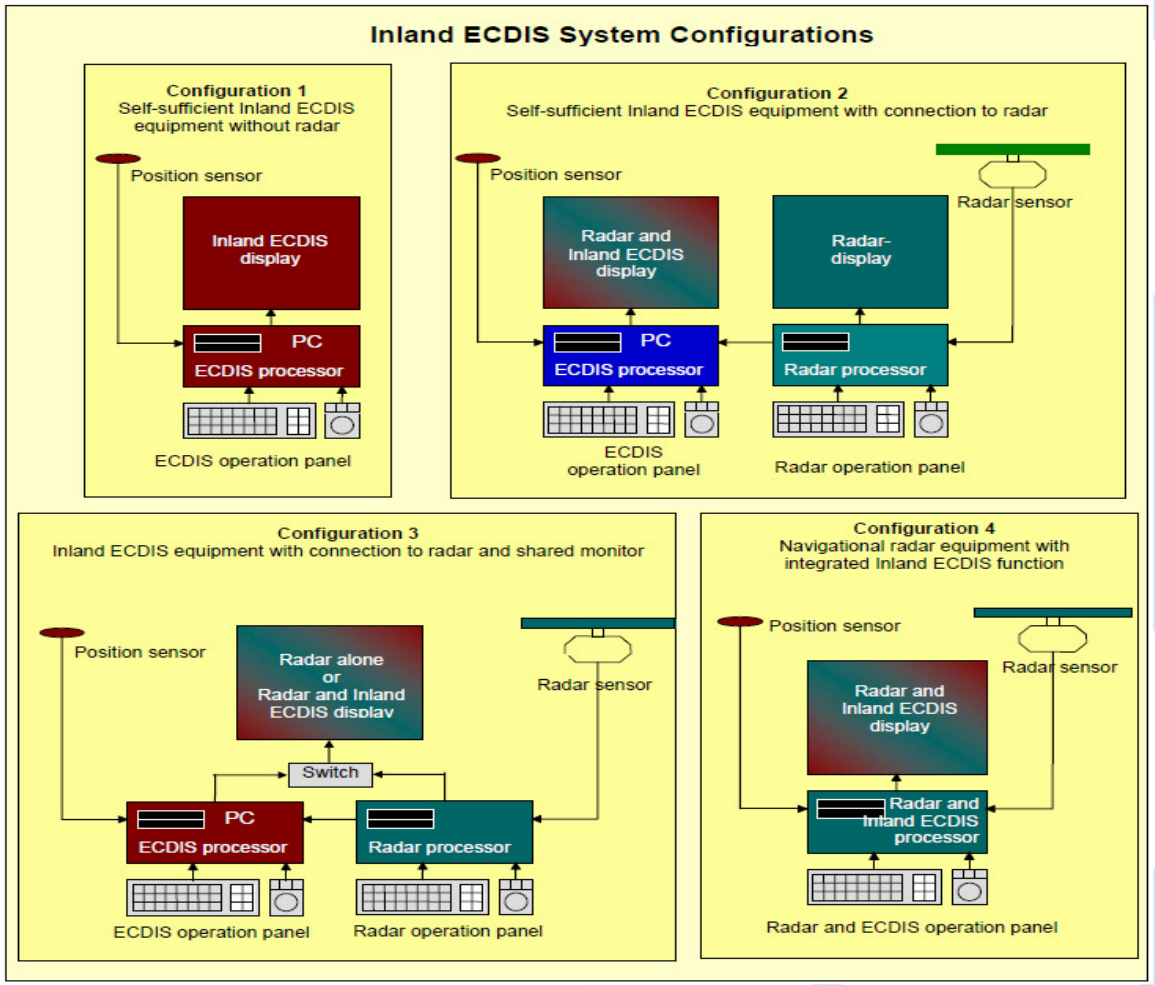
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Data basis for ENCs – Aerial photos



Configurations of Inland ECDIS equipment

With regards to future developments, the standard includes four system configurations



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Used software tools







- SevenCs ENC Designer
  - to create and maintain ENCs
- SevenCs ENC Optimizer
  - to minimise data storage and maximise display performance
- SevenCs ENC Analyzer
  - to check accuracy and encoding consistency
- SevenCs DXF Converter
  - to convert AutoCAD (DXF) files into the S-57 data format
- SevenCs NTX Converter
  - to convert CARIS (NTX) files into the S-57 data format
- SevenCs ENC Referencer
  - to add the geographic frame to raster image files

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ECDIS Viewer - Producer

- Periskal
  - http://www.periskal.com/
- Tresco
  - http://www.tresco.be/
- Innovative-Navigation
  - http://www.innovative-navigation.de/

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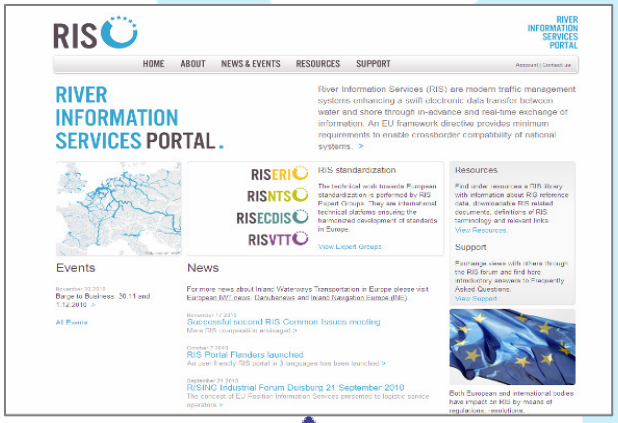
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References, Documents

- CCNR 2008, Leaflet Inland AIS (www.ccr-zkr.org > Documents for downloading > River Information Services) available in English, French, Dutch and German
- River Information Services Portal: www.ris.eu
- Recommendations regarding the use of ECDIS / Danube Commission – Budapest 2011: www.danubecom-intern.org





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