UNECE SC.3/WP.3 session, 19-21.06.2019
Report regarding future aspects of the Inland ECDIS Standard

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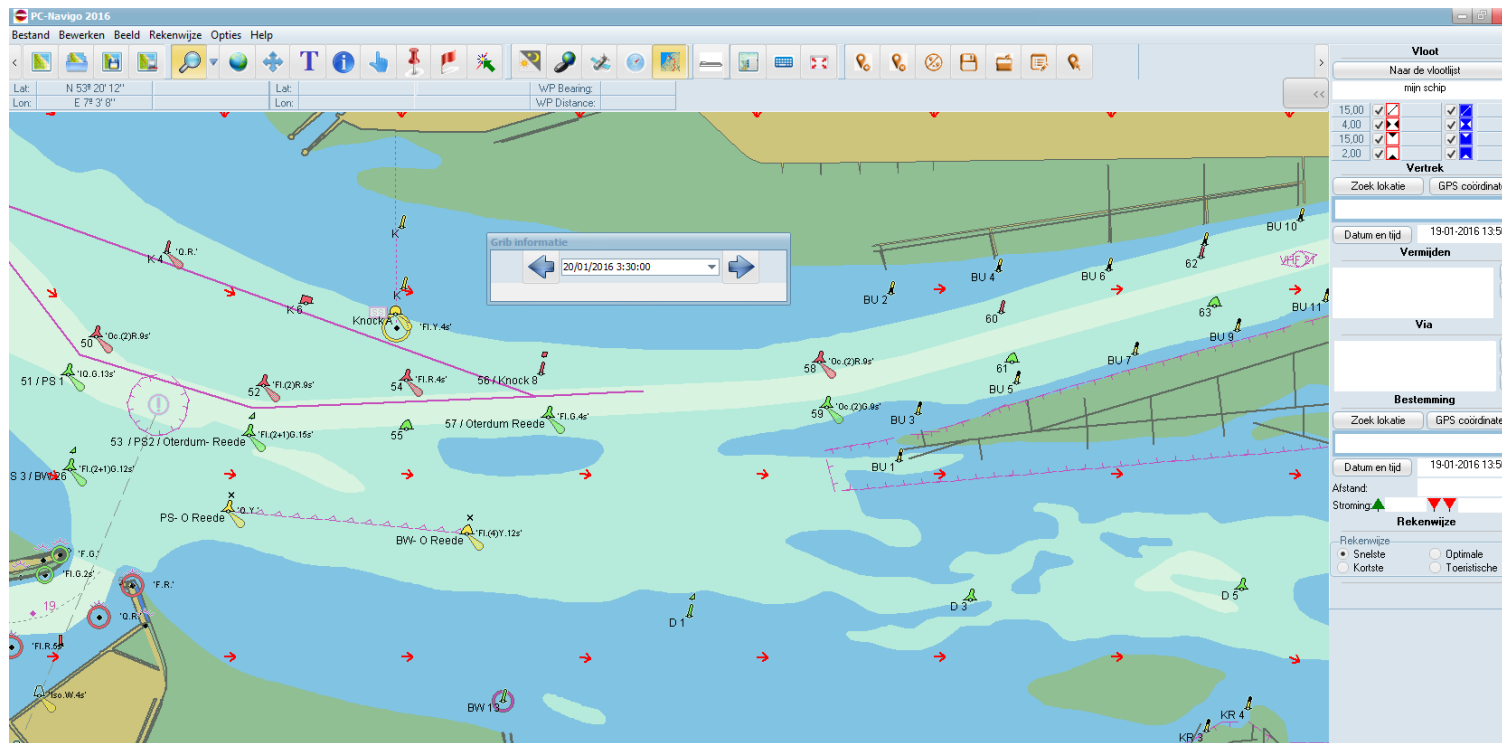
Content, The Inland ECDIS Standard

Worldwide standard for navigation on inland waterways

(Is Inland ECDIS prepared for future challenges?)

❑ Inland Electronic Chart Display and Information System (Inland ECDIS)

❑ Inland Electronic Navigational Chart (IENC)

❑ Technical standardization and legislation

❑ Why **Inland** ECDIS?

Future aspects of Inland ECDIS (IEEG, CESNI/TI)

❑ Database for on board applications

❑ Additional amendmends regarding navigational restrictions (dynamic data)

❑ Separating the type approval process of Inland ECDIS Systems

❑ Harmonizing the maritime ECDIS (S-101) and the

Inland ECDIS Standard (S-401)

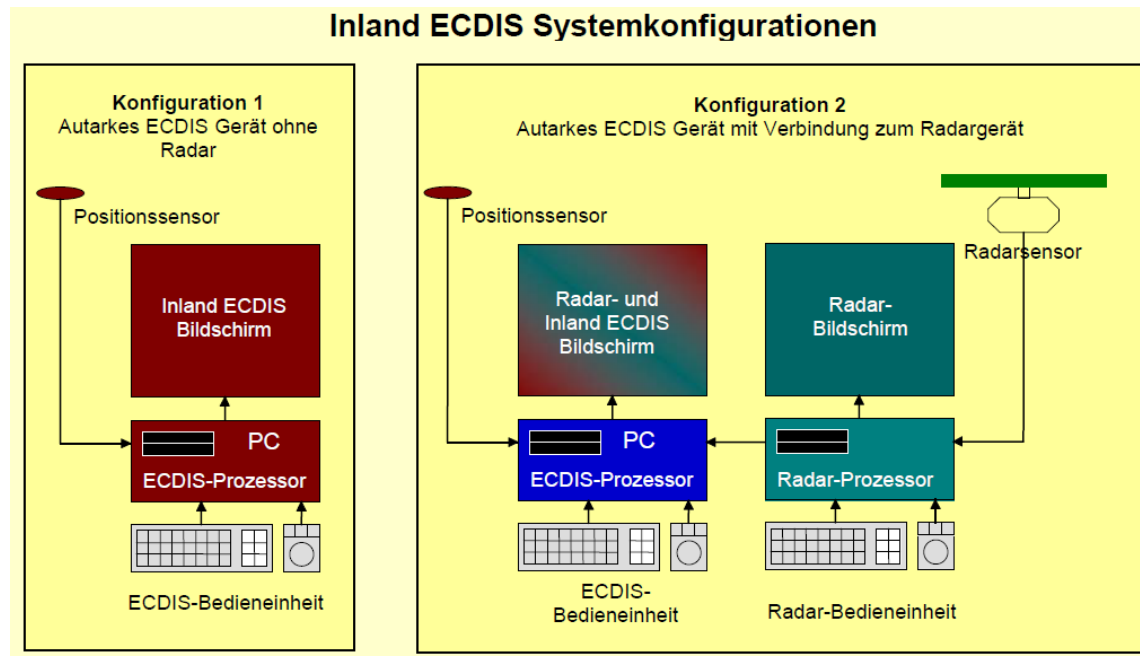# Inland Electronic Chart Display and Information System (Inland ECDIS)

Inland Electronic Chart Display and Information System (Inland ECDIS)

❑ Hardware on board

    ❑ AIS Transponder (own position, connected with the ECDIS-System)

    ❑ At least one screen (Inland ECDIS Chart, better two screens, one for navigation, one for information)

❑ Software on board

    ❑ Visualization of the IENC, head up oriented

    ❑ Use of other sensor data (Heading-Sensor, Radar, Transponder, ….)

Inland ECDIS Systemkonfigurationen

Konfiguration 1
Autarkes ECDIS Gerät ohne Radar

Positionssensor

Inland ECDIS Bildschirm

PC
ECDIS-Prozessor

ECDIS-Bedieneinheit

Konfiguration 2
Autarkes ECDIS Gerät mit Verbindung zum Radargerät

Positionssensor

Radarsensor

Radar- und Inland ECDIS Bildschirm

Radar-Bildschirm

PC
ECDIS-Prozessor

Radar-Prozessor
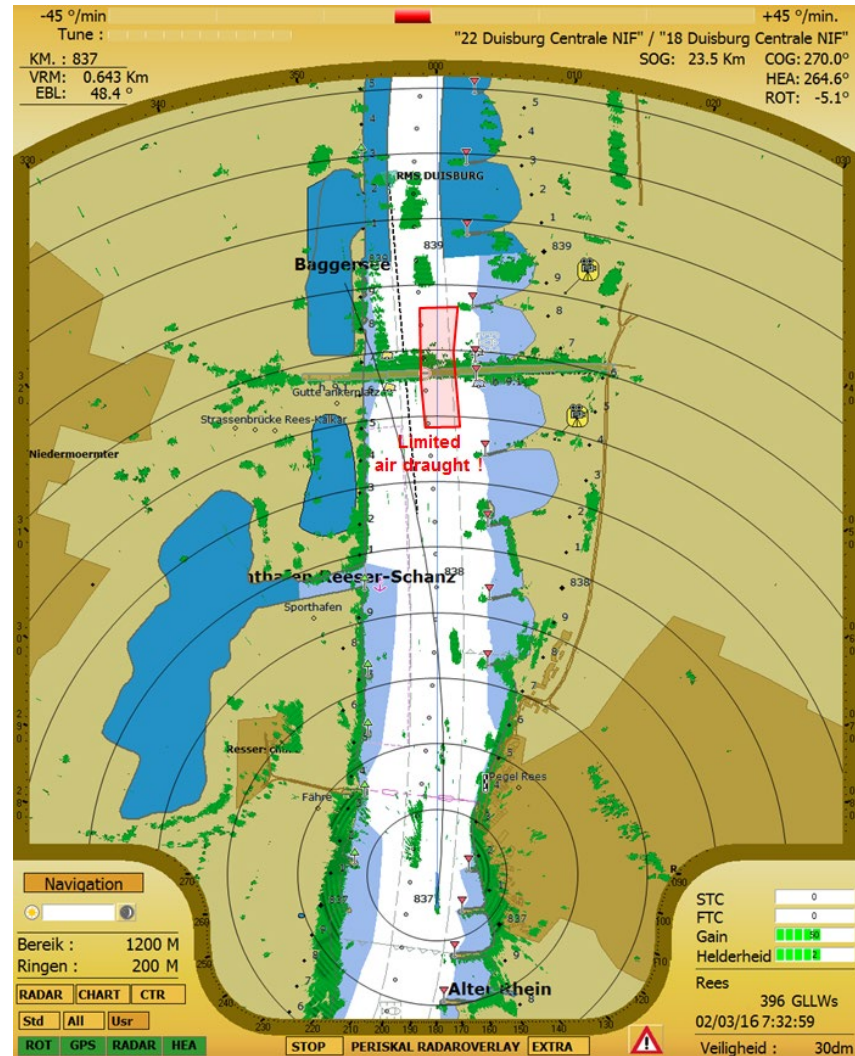
ECDIS-Bedieneinheit

Radar-Bedieneinheit
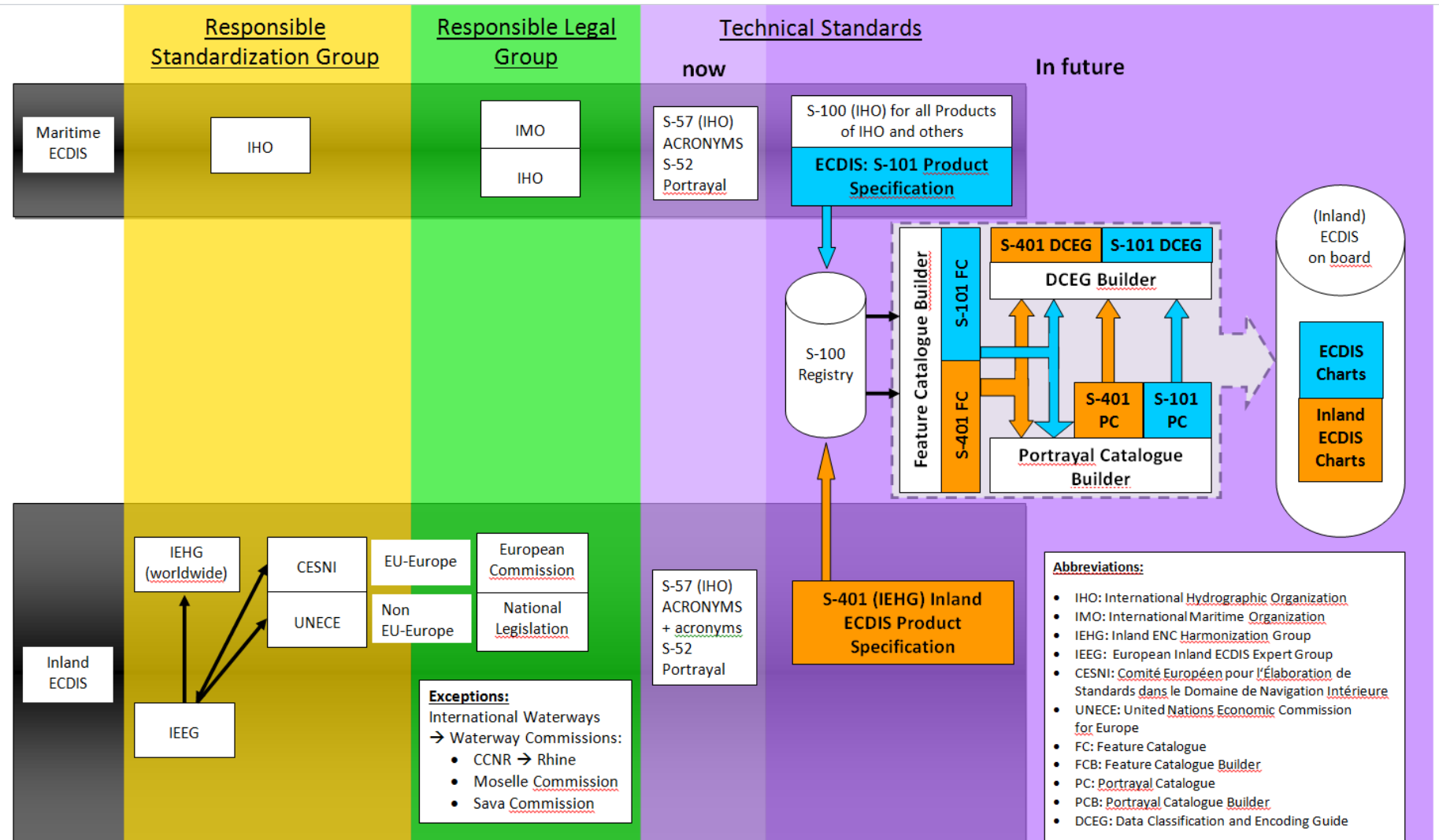
Inland Electronic Navigational Chart (IENC)

Content:

Objekt oriented, digital navigational chart, based on the S-57 Standard of the IHO

❑ Land area: shore line, berth, anchorage areas, shoreline constructions, buoys, notice marks, signal stations, terminals, connection to road and railway…

❑ Water area: fairway, navigable water, depth areas…

❑ Shipping related constructions: locks, weirs, bridges, harbours, crossing pipes and cables, ferries…

❑ Ordering system: waterway kilometers

❑ Additional Attribute can be shown by „Pick Report"

Technical standardization and legislation

Responsible Standardization Group | Responsible Legal Group | Technical Standards

now | In future

Maritime ECDIS — IHO — IMO / IHO — S-57 (IHO) ACRONYMS S-52 Portrayal — S-100 (IHO) for all Products of IHO and others — ECDIS: S-101 Product Specification

S-100 Registry

Feature Catalogue Builder — S-101 FC — S-401 FC

S-401 DCEG | S-101 DCEG — DCEG Builder

S-401 PC | S-101 PC — Portrayal Catalogue Builder

(Inland) ECDIS on board — ECDIS Charts — Inland ECDIS Charts

Inland ECDIS

IEHG (worldwide) — CESNI — EU-Europe — European Commission
UNECE — Non EU-Europe — National Legislation
IEEG

S-57 (IHO) ACRONYMS + acronyms S-52 Portrayal — S-401 (IEHG) Inland ECDIS Product Specification

Exceptions:
International Waterways
→ Waterway Commissions:
- CCNR → Rhine
- Moselle Commission
- Sava Commission

Abbreviations:
- IHO: International Hydrographic Organization
- IMO: International Maritime Organization
- IEHG: Inland ENC Harmonization Group
- IEEG: European Inland ECDIS Expert Group
- CESNI: Comité Européen pour l'Élaboration de Standards dans le Domaine de Navigation Intérieure
- UNECE: United Nations Economic Commission for Europe
- FC: Feature Catalogue
- FCB: Feature Catalogue Builder
- PC: Portrayal Catalogue
- PCB: Portrayal Catalogue Builder
- DCEG: Data Classification and Encoding Guide

Example „Police regulations":

• Rheinschifffahrtspolizeiverordnung
• Moselschifffahrtspolizeiverordnung
• Donauschifffahrtspolizeiverordnung
• Binnenschifffahrtsstraßenordnung
• Seeschifffahrtsstraßenordnung
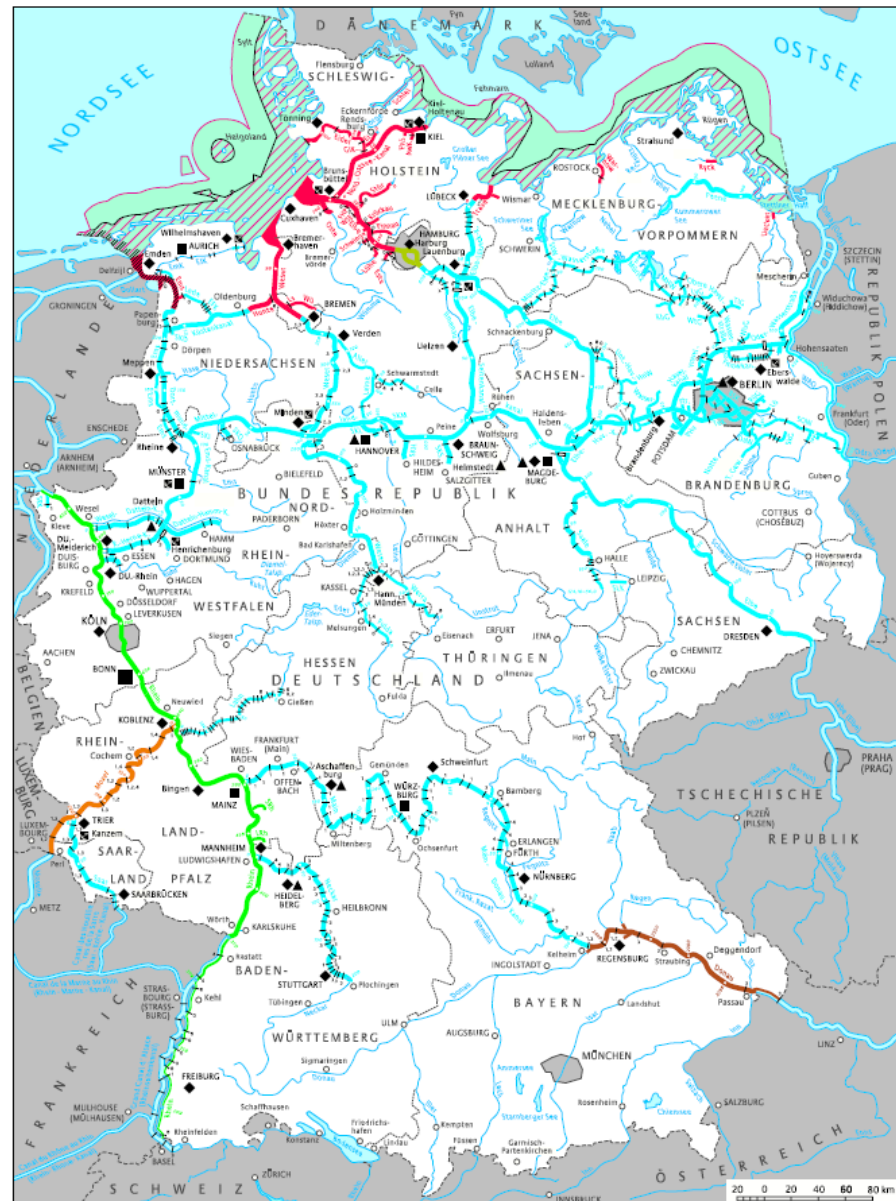
Basics:

Inland:

CEVNI (UNECE)

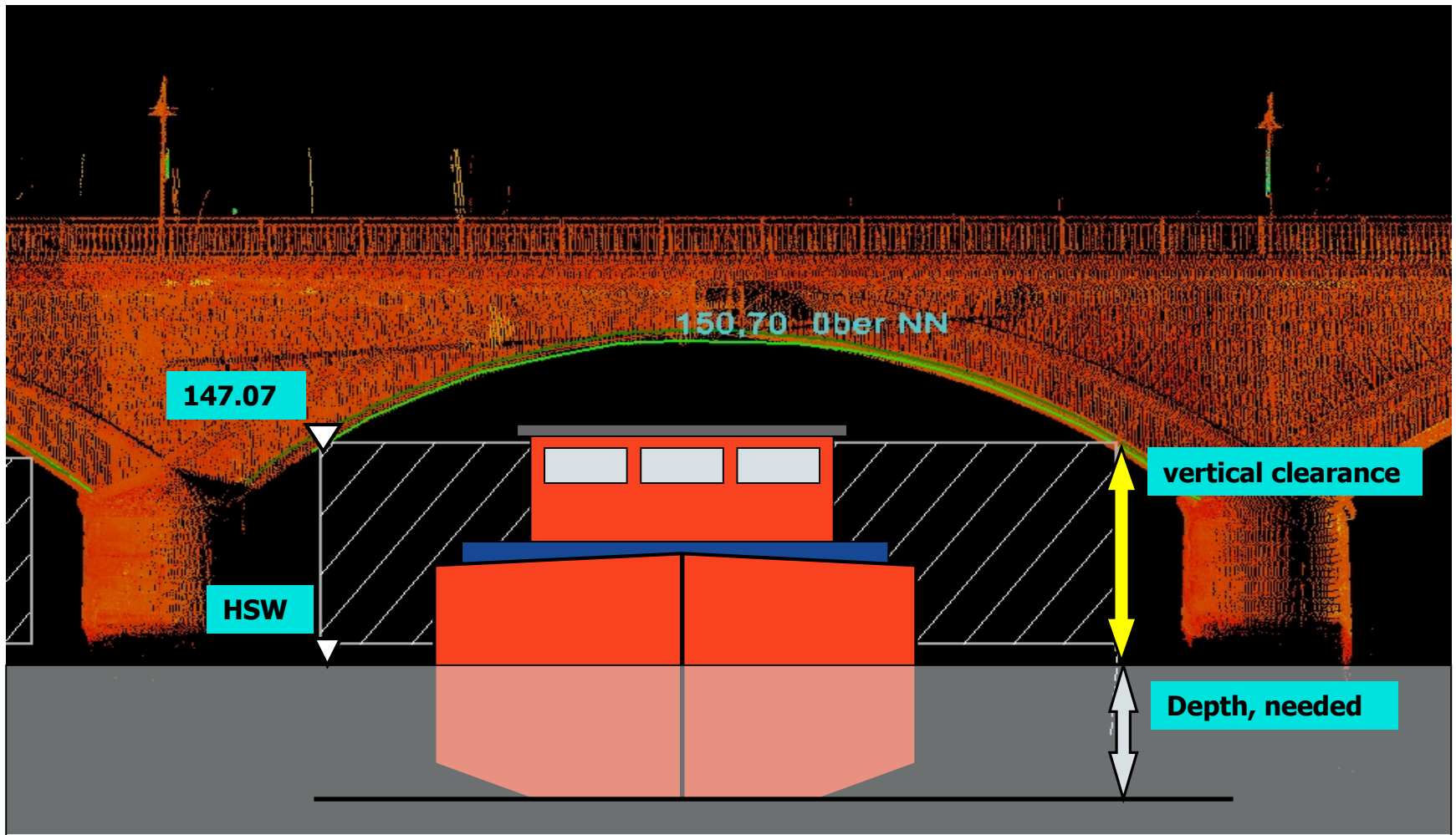(Code Européen des Voies de la Navigation Interieure)

Maritime:

IALA

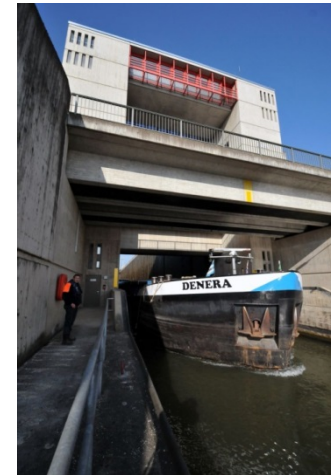(International Association of Lighthouse Authorities)

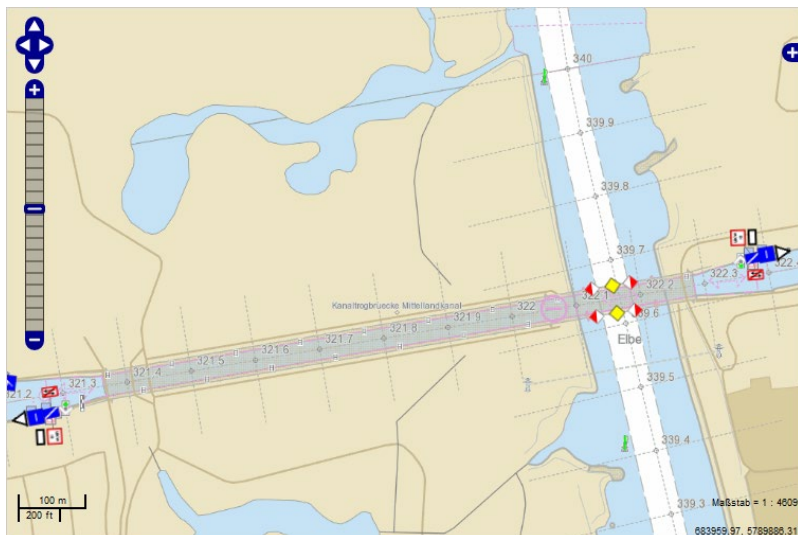# Why <u>Inland</u> ECDIS?

Narrow conditions at bridges

Narrow conditions at locks and ship lifts

Inland specific objects

Why <u>Inland</u> ECDIS?

Different conditions in different regions

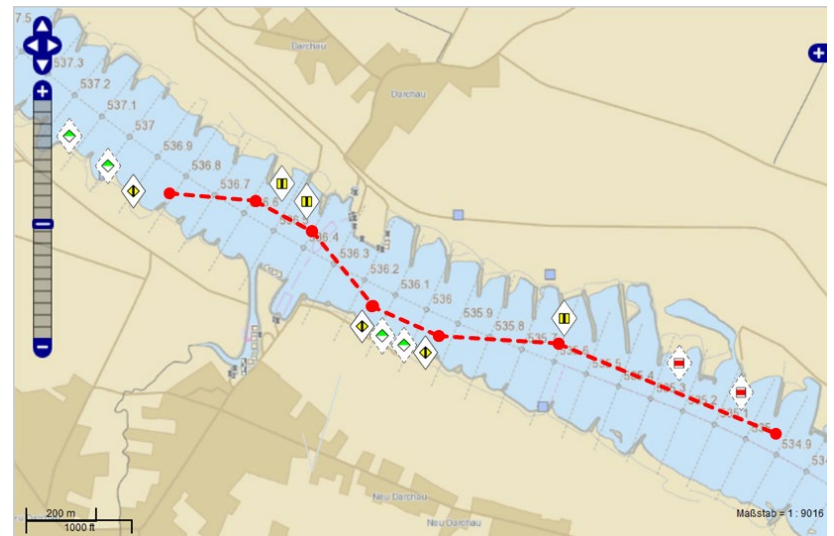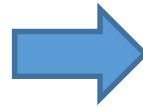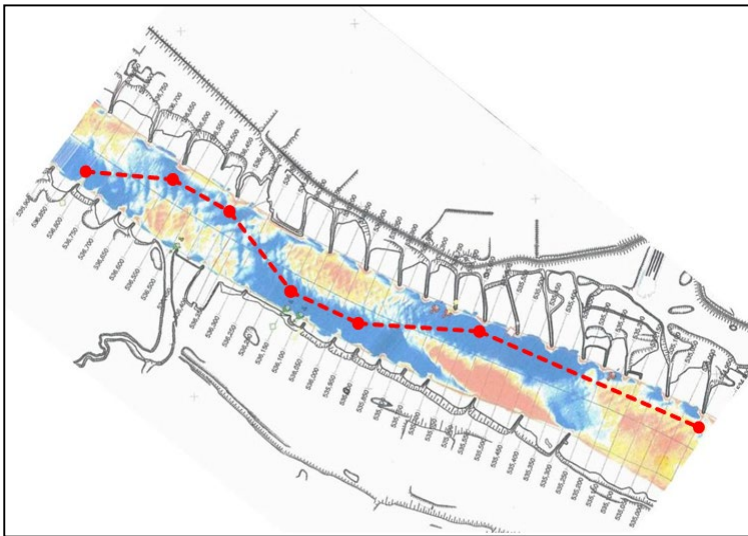# Future aspects of Inland ECDIS?

Database for on board applications

❑ The shipmaster as well as an IT system for navigational assistance (autonomous sailing) has to make their own decisions on board. These autonomous decisions need:

- ❑ Static information (from Inland ECDIS)
- ❑ Dynamic information (from on board sensors, from off shore)

❑ Inland ECDIS is well prepared to be the on board database also for IT systems in future, but has to be extended.

Future aspects of Inland ECDIS?

Additional visualization of navigational restrictions (dynamic data)

❑ A first step is the integration of information regarding navigational restrictions, received by AIS AtoN messages

❑ We plan this for the next standard version: IES2.5

Future aspects of Inland ECDIS?

Separating the type approval process

❑ The requirements for Inland ECDIS type approval are part of the product specification, but distributed over the document

❑ During the last few years test standards, based on standardised methods, have been established, e.g. the AIS test standard was provided by CESNI

❑ **It would be useful to have also an according test standard for Inland ECDIS**

❑ We like to reach this in two steps:
  ❑ First: Summarizing all type approval related requirement in an appendix of the next standard version (IES2.5)
  ❑ Second: Forwarding it to CESNI in order to provide an own Inland ECDIS Test Standard for the following IES version (S-401)

Future aspects of Inland ECDIS?

Harmonizing the maritime ECDIS (S-101) and the

   Inland ECDIS Standard (S-401)

❑ This is done within RIS COMEX and includes:

   ❑ Product specification

   ❑ Feature catalogue

   ❑ Portrayal catalogue

   ❑ Data classification and encoding guide

❑ This standard version reaches in the period of the next CESNI/TI work program

Thank you for your kind attention!

Schleusung zu Tal ⇨

Hub- Senktor geöffnet

Stemmtor geschlossen

Einfahrt des Schiffes

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