Alignment with S-101

Nanjing, 2015 10 14

Inland ENC Harmonization Group

CoRISMa

TEN-T RIS Enabled Corridor Management

Agenda

1. Alignment with S-101
    a. Portrayal
    b. Feature Catalogue
    c. Main document

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Alignment with S-101

- S-101 will ensure that maritime ECDIS will be able to display Inland ENCs correctly
- But Inland ENCs have to be aligned with the Universal Hydrographic Data Model of S-100 and the Product Specification for Inland ENCs has to be aligned with S-101, the ENC Product Specification of IHO
- The display of inland specific objects – which was regulated by each region separately up to now – will become part of the international standardization by IEHG

Alignment with S-101: CoRISMA

- The European CoRISMa project on RIS enabled corridor management is providing funds for the alignment with S-101
- In 2013 IEHG agreed to use the funds of the CoRISMa project for the work on the alignment with S-101
- CoRISMa is developing proposals for the alignment, but the decisions have to be made by IEHG
- The documents that are developed by CoRISMa are posted on the IENC discussion forum and every member of IEHG is invited to contribute to the discussions

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Alignment with S-101: Portrayal, situation

- IEHG has to agree on portrayal, because it will become part of the Inland ENCs
- This will ensure that maritime applications will be able to display Inland ENCs correctly
- IEHG has
  - Decided to follow S-52/S-101 for “maritime” features
  - Adopted the proposal of CoRISMa (which was based on the European Presentation Library) and the proposal of Brazil for the symbolization of Inland specific features
- The Inland ENC Encoding Guide is already containing screenshots of the European and the Brazilian symbolization as a guidance
- The standard has to allow different displays of the same objects depending on the region (e.g. notice marks with the same meaning have different designs in different regions – even within Europe)

Portrayal: vector symbols

- The portrayal section of S-100 edition 2 is containing vector symbols in SVG format
- Pro: defined symbol size independent of the resolution of the display
- Con: same absolute symbol size on all sizes of displays
- Approach of IEHG: define optimal size for standard navigation display and a minimum viewing distance of 1 m
- It has to be clarified whether it will be possible to include the display size in the calculation of the symbol size and to use user settings (like for text size)
- Germany has offered to produce SVG symbols
- Status: ?

Portrayal: display priorities and conditional symbology

- How will S-101 deal with display priorities within one feature class (e.g. a notice mark with a prohibition should have a higher display priority than a notice mark with an information)?
- Is S-101 going to use Conditional Symbology Instructions?
- Will Conditional Symbology Instructions be hard coded or part of the Portrayal Catalogue?
- Will it be possible to define inland specific user settings (e.g. general notice mark symbols or detailed notice mark symbols)?

- S-100 Part 9
- Wieland
- Screenshot 4000 m range

Portrayal: tasks

- Production of the symbols in SVG format
- Symbol size, Conditional Symbology: investigation, discussion and decision
- Establishment of an Inland ENC Portrayal Domain in S-100:
  who is able to do this?
- Registration of all inland specific symbols
- Development of the portrayal rules (based on the current Lookup tables and Conditional Symbology Instructions
- Creation of a Portrayal Catalogue with the PC builder

Feature Catalogue: situation

- The IENC FC is based on the S-57 FC
- It is containing those elements of the S-57 FC which are needed for IENCs and in addition inland specific elements
- The S-101 FC will not merely be an ISO compatible version of the S-57 FC, but will contain a lot of new elements, even for existing features (e.g. LIGHTS will have a different structure)
- IEHG has decided to follow S-101 as far as possible to ensure compatibility
- IHO will provide a FC builder which will allow to create a FC from the elements registered in S-100
- A test version of the FC builder is currently tested and will be improved

Feature Catalogue: general approach

- IEHG has used the Encoding Guide as the central element of standardization and only the attributes and enumerations mentioned in the EG were included in the FC
  Pro: chart producers cannot use elements which are not described in the EG
  Con: if a country wants to use a S-57 element which is currently not in the EG and the FC, it is necessary to amend the EG and the FC, the international standards, the chart production software and all applications on the vessels
- IEHG decided to
  - include only those features of S-101, which are described in the EG or are requested by an IEHG member for the future, but
  - all attributes and enumerations of these features
  If someone wants to use an element which is not described in the EG it will technically be possible. The EG will have to be amended, but not the FC

Feature Catalogue: status

- We have been informed that the draft FC of S-101 might be completely replaced by a new draft
- Work on an amendment of the existing draft would be lost
- CoRISMa is therefore not going to provide a draft XML-FC
- Word documents with the elements of the FC are already available and have been accepted at the last IEHG meeting in Berlin

Discussion document on S-57 object classes

FC_2.3_corr2_S57_elements_S_101_Features

FC_2.3_corr2_Inland_spec

FC_2.3_corr2_S57_elements_S_101_Attributes

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Feature Catalogue: update of the S-100 registry

- There are two types of inland specific (small case) elements in the registry:
  - Copied and amended S-57 elements
  - New inland specific elements
- The inland specific elements of copied features and attributes have to registered in the respective HYDRO features and attributes
- The “new” Inland specific elements have to be registered as CamelCase elements in the Inland ENC domain
- Discrepancies have to be solved

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Feature Catalogue: tasks

- Registration of all inland specific elements
- Draft of the new XML-Feature Catalogue for Inland ENCs

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Main document

- IEHG has decided to use S-101 as a basis and to make the necessary amendments for inland ENCs
- CoRISMa has developed a draft of the main document
- Some questions have already been posted on the discussion forum:

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“Official Inland ENCs”: situation

- In the maritime area official ENCs can be identified by the producer code
- Official Inland ENCs are currently not only produced by authorities with official producer codes, but also by authorities with non-official producer codes and by private companies on behalf of the competent authorities
- In Europe the competent authorities have to publish a list of the official Inland ENCs on their website. This allows the skipper to distinguish between official and non official data.
- But applications will only be able to distinguish between official and non official data automatically if machine readable information is available

“Official Inland ENCs”: possible solutions

One of the following options could be defined in S-401:

- we could add a flag in the cell header,
- we could require different producer codes for official and non official data (a private company could have two producer codes in this case),
- we could require that private companies that are producing official Inland ENCs have to use the producer code of the authority,
- we could require that application providers have to collect the information about official Inland ENCs from the various websites and integrate it in their applications (which would require continuous updating), - or we could decide that the skipper has to check manually which data is official.

“Official Inland ENCs”: proposed solution

IHB has confirmed that it is possible

- to assign an official Producer Code to an authority of a non IHO member state,
- to assign an official Producer Code to an authority of an IHO member state who is not the official HO (e.g. the USACE),
- to use official Producer Codes for IENCs that are produced by private companies on behalf of the competent authorities.

It would therefore be possible to use the IHO System of official and non official Producer Codes to identify official IENCs. This solution would be in line with the maritime Standards and would guarantee that there are no problems for applications on maritime vessels.

“Official Inland ENCs”: questions

The producers of official Inland ENCs who are currently using non official Producer Codes (e.g. the German WSV or the Austrian authorities) would have to apply for official Producer Codes before they start to produce S-401 IENCs.

Are there any objections against the proposed approach?

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Exchange sets

- Should it be possible to include maritime S-101 datasets and inland specific S-401 datasets in one Exchange Set?
- According to S-101 an Exchange Set may only include S-101 datasets
- But we could allow that S-101 datasets are included in S-401 exchange sets
- Is there a need for this option? Or is it always possible to produce separate exchange sets for S-101 datasets and for S-401 datasets?

“Inland ECDIS”?

- The draft of the S-101 Product Specification defines the purpose of an ENC as follows: "The purpose of an ENC dataset is to provide official navigational data to an Electronic Chart Display and Information System (ECDIS) for the safe passage and route planning of vessels between destinations."
- The European side would propose to replace "ENC" with "IENC" and "ECDIS" with "Inland ECDIS“
- The US would propose to add “or an Electronic Chart System (ECS)” (without differentiation of maritime and inland)
- “The purpose of an IENC dataset is to provide official navigational data to an Inland Electronic Chart Display and Information System (Inland ECDIS) or an Electronic Chart System (ECS) for the safe passage and route planning of vessels between destinations on inland waterways.”

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Deviations from the portrayal requirements

- S-101 allows the application builders to implement some deviations from the standardized portrayal rules (text)
- We have a different approach in the European Inland ECDIS standard at the moment: the application builders are obliged to implement the standardized portrayal, but they are allowed to implement a different portrayal (e.g. other colours, other symbols) additionally. The skipper must be able to select the portrayal that he prefers. This approach guarantees on one hand that a skipper who is working on different vessels will find the same standardized display on every vessel and on the other hand skippers who are only working on their own vessel can decide to use a different portrayal, if they prefer e.g other colors.

Deviations from the portrayal requirements

1. Do you prefer to have only one portrayal which might deviate slightly from the standardized portrayal, or do you prefer to allow even more different portrayals, as long as the standardized portrayal is also available?

2. Will it technically be possible to build S-100 based applications which allow the user to select from different portrayal catalogues?

Units of speed

- The Product Specification for Inland ENCs allows nautical miles, statute miles and kilometers as units for distances. It does not define the units for speed.
- S-101 defines the units for the display of speed as knots or decimal knots. It's clear that we will need km/h for S-401. But which other units of speed are necessary for navigation on inland waterways?
- Is it sufficient to add km/h and Statute miles / hour?
- Discussion

Main document

- draft of the main document

- Feedback is neccessary and welcome!

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Next steps and next meeting

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Thank you for participation
and your contributions!

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