Inland ENC Harmonization Group

10 - 12 October 2017
Niteroi, Brazil

Welcome, introduction, organization

Many thanks to Director Carlos Augusto C. L. Silva for the hosting of the meeting and to Flavia for the organization!

Introductions

Organizational details**:**

please copy your presentations to the USB-stick

All presentations will be published at http://ienc.openecdis.org

Inland ENC
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Agenda

1. Welcome, introduction of participants, organizational details
2. Inland ENCs and IEHG: status of implementations in the regions
3. Inland waterways, navigation and cartography of new participants
4. Inland ENC applications
5. Working methods of IEHG
6. Core Group, election of chairs, S-100 representatives, amendment of ToR
7. Updates to the Encoding Guide and Product Specification
8. Update intervals and processes
9. Quality standards for Inland ENCs
10. Status of S-99, S-100, S-101
11. Alignment of the Inland ENC Product Specification with S-101 (S-401)
12. Portrayal domain and specification for Inland ENCs
13. S-57 to S-100 converter development
14. Use of USAGE and SCAMIN in Inland ENCs
15. Annual report to HSSC
16. Information document on Inland ENCs
17. Future operation of ienc website and discussion forum
18. Any other business
19. Next meeting

Agenda

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Time schedule

Tuesday, 10 October, to Thursday, 12 October

- 09:00 - 10:30   morning session
- 10:30 - 10:50   coffee break
- 10:50 - 12:00   midday session
- 12:00 - 12:45   lunch
- 13:00 - 15:00   afternoon session
- 15:00 - 15:30   coffee break
- 15:30 - 17:00   continuation of afternoon session

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Inland ENCs and the Inland ENC Harmonization Group (IEHG)

Inland ENCs

Update on the legal and organizational background and the status of implementation

Brazil

China

Europe

USA   USA

- **Planned** (names of waterways & no. of km)
- **Completed** (names of waterways & no. of km)
- **Available** (e.g., from website)

Overview

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Open action points

- Please provide an email to Bernd containing updates to the [information on Inland ENC coverage](#).

- The IEHG website contains a [list of both National Organizations and Private Companies involved with IENCs](#). If not listed, please provide web address to Bernd for inclusion on the website.

Inland ENC applications

Caris

ESRI

IIC Technologies Inc.

Jepessen

Moris Ltd.

Periskal

List of IENC applications:
http://ienc.openecdis.org/?q=content/links

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The Inland ENC Harmonization Group

- **Objective**: to develop and to maintain a harmonized standard for Inland Electronic Navigational Charts (IENCs) suitable for inland navigation that is based on the standards of IHO for 'maritime' ENC

- **Goal**: to agree upon specifications for Inland ENCs that are suitable for all known inland ENC data requirements for safe and efficient navigation in European, North and South American, Russian Federation and Asian inland waterways.
  - It is further intended that IENC standards meet the basic needs for Inland ENC applications, worldwide

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IEHG - recognition

❧ As the competent international technical group on Inland ENC technical standards development, implementation and maintenance, IEHG is recognized by:

- Europe - European Union, Economic Commission for Europe of the UN and the Central Commission for Navigation on the Rhine
- North America – US Army Corps of Engineers
- Russian Federation - Russian Ministry of Transport
- Brazil, Peru and Venezuela – Hydrography and Navigation Services
- Asia – Ministry of Transport of PRC and KHOA of Republic of Korea
- International Hydrographic Organization (IHO)

❧ Since there are several countries with Inland Navigation that are not Member States of IHO, IEHG does not intend to become a member of IHO.

❧ Instead, IEHG supports, advises and provides input to IHO regarding Inland ENC matters as a recognized NGIO.

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IEHG – recognition (2)

- In 2009, IEHG has been recognized by IHO as a Non Governmental International Organization (NGIO) with observer status

- Current members of IEHG are all European countries with connected inland waterways, the Russian Federation, the United States of America, Brazil, Peoples Republic of China, Republic of Korea, Peru and Venezuela

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IEHG – composition and organization

Composition - IEHG is a combined government/non-government technical group

Regions – IEHG regions are comprised of countries within a continent (North America, South America, Asia) or a recognized social-economic region (Europe, Russian Federation).

Organization – By simple majority vote, chairpersons, vice-chairs and technical coordinators are elected.

ToR

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IEHG – membership

All the members of IEHG should have current expertise in the field of Inland ENCs.

Participants – Anyone who is involved in the production of Inland ENCs or the production of Inland ENC applications and representatives of user groups can participate in IEHG, make proposals and take part in the discussions.

Members - Representatives of competent authorities involved in the provision of Inland ENCs are entitled to become members. If proposed by a competent authority, membership can also include expert contributors.

ToR

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IEHG – procedures

Meeting Schedule - The IEHG normally meets once per year. If required, there can be an additional meeting or the meeting can be postponed.

Discussion Forum - The IEHG uses the internet as a discussion platform in the time between the meetings. Every participant of IEHG is entitled to start a new discussion topic and to take part in discussions about Inland ENCs.

Task Groups - The IEHG may decide to form a task group for the drafting of specific proposals.

Proposal Submission and Review: see Terms of Reference

ToR

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IEHG – formalization of standards

The IEHG submits Inland ENC standards for formalization to:

- Interested international organisations like IHO, the European Commission (EC), the Central Commission for Navigation on the Rhine (CCNR), the Danube Commission (DC), the Economic Commission for Europe of the United Nations (UN/ECE) and the Mekong River Commission

- National waterway authorities (e.g., United States Army Corps of Engineers (USACE), Russian Ministry of Transport) and

- National Hydrographic Services (e.g. Directorate of Hydrography and Navigation of the Brazilian Navy (DHN))

ToR

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What can IEHG do for you?

- Europe had developed an Inland ENC standard based on Edition 3.0 of S-57 (with inland specific amendments)
- Edition 3.1 of S-57 used the same enumerations for different purposes
- The "European Inland ENC standard" became incompatible with the maritime standard, had to be revised, and all existing Inland ENCs had to be corrected
- This was an update without backward compatibility!
- IEHG and the use of the Product Specification for Inland ENCs guarantees that all inland specific elements are taken into account by IHO for new developments

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What can IEHG do for you? (2)

- When IEHG has established a portrayal register in the S-100 registry and a S-101 compatible Product Specification: S-100 based ECDIS and ECS on maritime vessels will be able to read and display Inland ENCs correctly

- IEHG provides the possibility to participate in the developments of IHO

- IEHG provides a forum for chart producers and application builders for exchange of experiences and knowledge

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Election of the Core Group

By simple majority vote, chairpersons, vice-chairs and technical coordinators are elected.

- Chair – Two persons (co-chairs) each from a different region. Only representatives of waterway authorities can become chairpersons.

- One vice-chair from each region, which is not already a chair.

- Technical Coordinators - One technical coordinator for each region.

- Core Group – The two Chairs, the vice-chairs and Technical Coordinators.

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Election of chairs

- Chair – Two persons (co-chairs) each from a different region. Only representatives of waterway authorities can become chairpersons.

- One vice-chair from each region, which is not already a chair

  Current co-chairs:

     Denise LaDue (USACE, North America)
     Bernd Birklhuber (MoT of Austria, Europe)

  Current vice-chairs:

     Flavia Mandarino (DHN, South America)
     Weijun Fei (WTI, Asia)

  Proposals for the coming period?

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Election of technical coordinators

Technical Coordinators - One technical coordinator for each region

Current technical coordinators:

Cameron Mcleay (CARIS USA, North America)

Pieta Kluytenaar (Serendipity, Europe), resigned

Vladimir Sekachev (Russia)

Angel Terry (South America)

Yong Baek (KHOA, Asia)

Proposals for the coming period?

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Election of representatives for S-100

- IEHG has to nominate representatives for the Domain Control Body and the Executive Control Body of the S-100 registry
- Current representatives:

    Denise LaDue and Pieta Kluytenaar (resigned)

- Information from IHO

    ToR, Annex B

- Proposals for the coming period?

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Amendment of the ToR

🌐 The Terms of Reference have to be amended to take into account the new representatives

ToR

Adopted documents

Product Specification for Inland ENCs, edition 2.4

Inland ENC Encoding Guide, edition 2.4.0

Inland ENC Feature Catalogue, edition 2.4corr2   XML

Online Inland ENC Feature Catalogue

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Questions on the discussion forum (1)

Posted 5/30/16 by ReneVisser

Unknown⬚or⬚UNKNOWN⬚

Dear all

We found out that the encoding guide is not that consequent with the use the attribute value⬚unknown⬚Sometime in uppercase and sometime in lowercase.

Is there a reason for? Or should we go to one case?

BR René

drladue on 5/31/16 12:08

 Dear René,

There is no reason for the inconsistency other than a mistake on my part when populating those attributes in the database.

Best regards, Denise LaDue

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./.

Questions on the discussion forum (2)

Posted 4/10/17 by renevisser

TXTDSC & NTXTDS

In EU, a lot of the TXTDSC files (facility scheme s) contains information in a national langue. I should be in the English language . Is it useful to incorporate the NTXDS attribute again? BR René

Bernd Birklhuber on 4/11/17 2:04

Dear René, the attribute NTXTDS is one of the attributes that are associated with all geo object classes according to part B - General Guidance, section B, of the Encoding Guide. It is available in the Feature Catalogue. It is not mentioned in the Object Encoding on the individual pages of the Encoding Guide, because we decided that it is available, but not recommended for use.

./.

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Questions on the discussion forum (2)

[…] Do you want to include it in the Object Encoding as a recommended attribute? If yes: should it be added on all pages of the EG, only on the pages that are mentioning TXTDSC at the moment, or only on some specific pages? And do you have a proposal for an Encoding Instruction in that case?

Best regards Bernd

Thank you Bernd. You're right. In the EG 2.4 it's written down properly. In the EG 2.3.6 this information is missing. And indeed ntxtds is part of the FC. So the issue is solved. Kind Regards René

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Questions on the discussion forum (3)

Posted 4/10/17 by ReneVisser

encoding high rising buildings as landmark

Encoding high rising buildings is important in ie estuaria. According the EG we only encode a single building if the building has a nautical/navigational function. It is stated in the EG we should encode such a skyscraper as a landmark. The feature landmark misses a catlmk value like high rising building. Remark : high rising building = value 5 of the attribute BUISHP for the maritime S57 feature BUISGL. Attribute BUISHP is not part of the Inland Ecdis standard.

So we could propose: Add high rising building as a catlmk , but this has to be done in corporation with IHO, I suppose; Skip the idea that BUISGL should only be encoded if the building has a navigational function plus add the maritime BUISHP attribute (5)

Ideas ? BR René   ./.

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Questions on the discussion forum (3)

Reactions:

Bernd Birklhuber on 4/11/17 2:24

 Dear René, the real world picture on page G.1.2 of the Encoding Guide is showing such a high rising building. It is standing in Vienna and we have encoded it as CATLMK 17 (tower). It is a building containing offices and apartments and it is called "Millenium Tower", so it was an easy choice to use the attribute value "tower". Maybe we should amend Encoding Instruction B and mention high rising buildings and skyscrapers, too. Would that be a solution?

Best regards Bernd

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Questions on the discussion forum (4)

Posted 8/15/17 by ReneVisser

Encoding a Aquaduct

An aqueduct is encoded as G.4.8 Exceptional Navigational Structure ; catexs 2. an aqueduct has in most cases a defined depth (DEPARE) but also a defined width. Question : why is there no horclw atribute to encode like a lockbasin (or HORWID but I think horclw 'll be better) BR René

Bernd Birklhuber on 8/18/17 2:44

We do not have experience with aqueducts in Austria but I assume that it would be useful to have the possibility to encode horclw. I suppose that the only reason why it is not available at the Moment is that it has not been included in the original proposal. If there is no oposition from countries who do have aqueducts I would recommend to submit a Change Request.

Best regards Bernd

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Questions on the discussion forum (5)

Posted 9/12/17 by ReneVisser

CALSLC

The IENC Feature Catalog (2.3.6 & 2.4) tells that CATSLC is a mandatory attribute for SLCONS.

However the Encoding Guide 2.3.6, dated Jul 2014, and also version 2.4.0, dated 9 April 2015, says that CATSLC should be omitted when encoding a dyke (section G.2.1). And indeed one is forced to omit it, as there is no suitable value which can be used.

This is a contradiction.

Possible solutions : A) add 19 (dyke) to catslc ; B) make catslc (C) conditional.

I suppose the proposal B is the most easiest one to implement

BR René

./.

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Questions on the discussion forum (5)

Reaction by gertM on 9/12/17 6:28

 René,

Your conclusion is correct but I prefer solution A (add a new value to the enumeration). I think that adding a new value to the enumeration will be easier. If you change the CATSCL- attribute into conditional, you'll need to add the conditions into the encoding instructions for each feature where it is used! By adding a new value to the enumeration, you'll only need to delete an instruction for one feature (Dyke/Levee)

Best regards,

Gert

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Change Requests since the last meeting

- More than 80 CRs have been submitted via the discussion forum since the finalization of edition 2.4

- We will decide later when we will publish a new version of the EG or a new edition of the Product Specification for Inland ENCs

- We have to agree on the implementation of each CR in
  - The EG for Inland ENCs
  - The Inland ENC Feature Catalogue
  - The Product Specification for Inland ENCs (main document)
  - The S-100 registry
  - The Recommended Validation Checks for Inland ENCs

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Change Requests since the last meeting

- We could also consider portrayal with a view to S-401. Should we do that now, under agenda point S-401, or not?

- According to the Terms of Reference we can amend CRs and make decisions, but if we change a submitted CR, the amended CR has to be posted on the forum and there will be a new period of six weeks for vetoes

- Goal for this meeting: all CRs in a form that allows the implementation at a later stage

Overview CRs

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Discrepancies with S-100

Discrepancies xls

Action points from last meeting:
- Review and provide comments – All
- Inform S-100 working group and S-100 Register Manager – Denise/Pieta

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Updated "Use of the Object Catalogue"

- IHO has updated the "Use of the Object Catalogue" of S-57
- We should consider whether some of the amendments have to be taken into account in the Encoding Guide for Inland ENCs

UOC amendments

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docbook format for the IENC EG?

⊕ Germany intends to produce a multilingual version of the Encoding Guide for Inland ENCs in docbook format

The use of docbook for the IENC EG (Wieland)

⊕ Connection to FC?

⊕ Accessibility?

⊕ Other languages?

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Update intervals and processes

- An update of the EG can be adopted by IEHG within 6 weeks
- Adopted updates may be used in a region (depending on regional regulations), but a new edition of the EG, FC and Product Specification is only published after a decision of the IEHG meeting (procedure adopted by IEHG in 2009)
- Ed. 2.4 has been published by IEHG in spring 2015
- When should the next edition be published?
  (Do we wait for S-401 or do we need an intermediate update 2.5 or do we publish a version 2.4.1 of the EG?)
- Time schedule for the next version/edition?

Update intervals and processes (2)

- IEHG has to maintain the Product Specification for Inland ENCs, the EG, the FC, the IENC domain in the S-100 registry and the Recommended Validation Checks for Inland ENCs

- Most of the CRs have an influence on all the documents

- Even if all the consequences of a CR are indicated, they are normally just indicated (e.g "add the new feature to the FC"); the text of the necessary amendment (in this case a whole page for the feature and a page for each attribute) is normally not provided in the CR

- Who has to provide the resources for the implementation of CRs in all documents?

- Guideline for CRs?

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Quality standards for Inland ENCs

- Recommended validation checks for IENCs | 2.4 |

- minimum content of Inland ENCs | xls |
  Action point: the South American countries are invited to investigate whether a different definition of minimum content is necessary for the Amazon river basin and to submit a proposal (if necessary).

- accuracy information in Inland ENCs developments for S-101? | ? |

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S-99, S-100, S-101 and future alignment

- S-100 has entered into force on 1st January 2010

- S-100 edition 3.0.0 has been adopted in April 2017

- Status of S-99 and S-100?

- Status of S-101?

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S-101 and future alignment

- Copied feature classes and attributes have to be replaced and are already marked as "retired" in the register

- The additional attributes and enumerations have to be registered

- The FC, the EG and the Product Specification have to be updated (completely new edition "IEHG S-401" in line with S-101)

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Development of S-401

- The RIS COMEX project on RIS Corridor Management Execution is providing funds for the alignment with S-101

- COMEX is developing proposals for the alignment, but the decisions have to be made by IEHG

- The documents that are developed by COMEX will be posted on the IENC discussion forum and every member of IEHG is invited to contribute to the discussions

alignment

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S-401 and symbolization of AIS

- AIS is providing information on other vessels and can be used to provide Application Specific Messages (ASM)

- Examples: detailed information on convoys, bridge clearances, Aids to Navigation (AtoN), textual information

- Should the rules for the display of the information provided by AIS be included in S-401?

Draft main document

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Portrayal domain and specification

Necessary steps towards a S-401 Portrayal Catalogue

- Registration of symbols in the S-100 registry
  existing symbols adopted, but not all are available in SVG
  format

- Portrayal rules?
  Based on current Lookup Tables and CS?

- Should we incorporate portrayal in the Change Request form?

CR form

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S-57 to S-101 converter development

Converter development

- IHO is providing a converter for S-57 datasets
- The providers of Inland ENC production software are planning to include converters in their tools
- Many chart producers are producing IENCs from a GIS and do not need to convert IENCs 2.4 to S-401
- Do we need an independent converter?
- If yes: who is going to pay, who is going to develop, who is going to maintain? Central web service or local installations?

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Annual report to HSSC

- Annual report to the Hydrographic Services and Standards Committee (HSSC) of the International Hydrographic Organization (IHO) about IEHG

Report 2015

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Information document on Inland ENCs

- IEHG has developed a document that provides information on Inland ENCs and the relation and the differences to maritime ENCs
- The first edition has been accepted at the last IEHG meeting
- The document can be used by every member of IEHG for presentations, discussions, explanations

  | Information (EN) |
  | Information (SP) |

- Comments?
- Amendments?

  Action point: All members of IEHG are invited to submit proposals for amendments of the information document on Inland ENCs (Inland ENC.ppt on ienc.openecdis.org).

- Article for HYDRO International

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Operation of Web Services

Future operation of

🌐 ienc.openecdis.org website
now hosted by Periskal on behalf of EC

http://ienc.openecdis.org

🌐 Discussion forum

http://operations.usace.army.mil/nav/IEHG/start.cfm?Option=Login

would it be possible to add a status column?
(pending/adopted/rejected and datum)

🌐 IENC domain in the registry of IHO

http://registry.iho.int

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Any other business, Next Meeting

Distribution of work

- Report to HSSC (Denise and Bernd)
- Inland ENC ppt (Bernd, input from everybody, Gustavo for Spanish)
- Keep track of S-101 developments and the consequences for IENCs (Cameron, Chris, Tom, René)
- Update CRs and submission on the discussion forum (Bernd)
- EG 2.4.1 (Denise)
- RVC 2.4.1 (Wieland)
- Registration of new elements in S-100 and solving discrepancies (Denise and Gael)
- Registration of symbols in S-100 (Gert)
- Preparation of 2.5, including draft FC 2.5 (Denise)
- integration of CRs into draft of S-401 (COMEX)
- Update of list of members (Bernd)
- Meeting minutes (Denise and Bernd)
- Start information exchange with S-201 and RTCM (Dave)

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- integration of CRs into draft of S-401 (COMEX)
- Update of list of members (Bernd)
- Meeting minutes (Denise and Bernd)
- Start information exchange with IALA regarding S-201 and RTCM regarding SC 129 (Dave)

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Any other business, Next Meeting

- How to encourage other countries to join IEHG?
  South America / Asia

- Any other business?

- Next meeting of IEHG: where and when ?
  North America?

- Changes to the agenda of next meeting?

- Departures

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Thank you, Flavia, for the hosting of the meeting and the hospitality!
Thank you all for participation!

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