

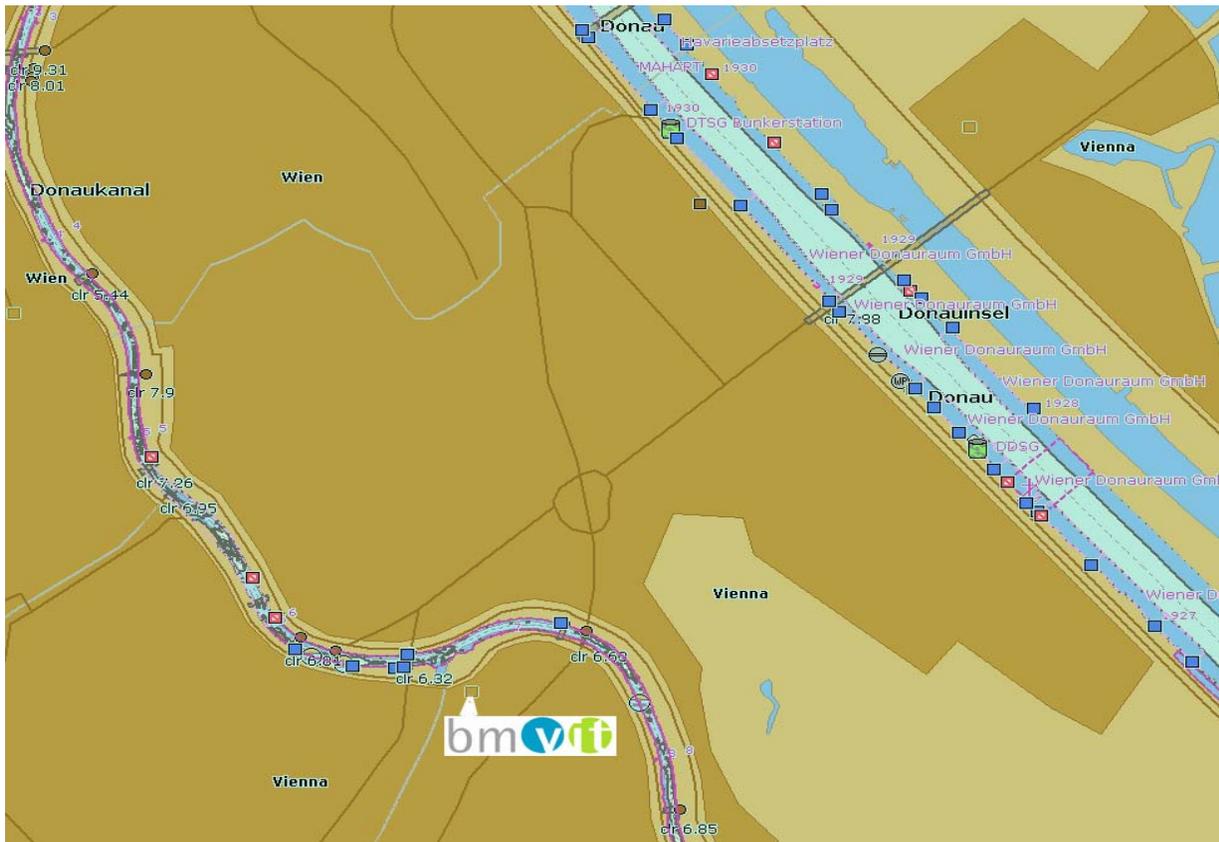


Inland ENC Harmonization Group

7th Annual Meeting

September 9th – 11th 2009

Federal Ministry of Transport,
Innovation and Technology
Vienna, Austria



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Minutes

Participants:

Name	Affiliation
Lee Alexander	UNH
Bernd Birkhuber	Ministry of Transport, Austria
Tom DePuyt	ESRI
Claudiu Dutu	AFDJ, Romania
Swetlana Fiedler	7 Cs
Lenka Finstrlová	VARs, Czech Republic
Peter Kluytenaar	Serendipity, Netherlands
Denise LaDue	USACE, USA
Jeff Lillycrop	USACE, USA
Flavia Mandarino	DHN, Brazil
Bob Mann	USACE, USA
Johannes Nemeth	via donau, Austria
Emir Ordacgi	DHN, Brazil
Laszlo Redly	Vituki, Hungary
Eric Rottmann	SevenCs
Miroslav Rychtarik	Ministry of Transport, Czech Republic
Martin Sandler	Innovative Navigation
Astrid Schlewing	European Commission
Nora Schmorak	Platina Project Office
Vladimir Sekachev	Transas, on behalf of of MoT, Russian Federation
Romeo Soare	AFDJ, Romania
Ludwig Steinhuber	WSD Sud, Germany
Angel Terry	Jeppesen Marine
René Visser	Rijkswaaterstaat, Netherlands
Jim Walker	USACE, USA

1. Welcome, Introductions of Participants, organizational details

Bernd Birkhuber welcomed all participants and explained organizational details.

2. Replacement of Carlos Albuquerque in the Core Group

Carlos Medeiros de Albuquerque had announced before the meeting that he been assigned to a new project and is no longer able to serve as Vice Chair of IEHG. He proposed Capitao-de-Corveta Flavia Mandarino from DHN as new Vice Chair. The meeting confirmed Flavia Mandarino as new Vice Chair and thanked Carlos Albuquerque for his work in IEHG.

3. Status of legal and practical implementation in

a) Brazil

Flavia Mandarino presented the status (see [Status of implementation in Brazil v02.pdf](#)). DHN is going to begin IENC encoding for 1890 km of the Paraguay River from 2010 to 2013. For the Amazon River there are around 300 paper charts (1:100 000). IENCs will be produced in the future.

b) Europe

Astrid Schlewing presented a short overview on the legal situation in the European Union. On the basis of the directive on River Information Services (RIS) the European Commission is going to publish a Commission Regulation on Inland ECDIS before the end of the year. The Regulation is based on edition 2.0 of the Product Specification for Inland ENC and is also containing minimum requirements for Inland ECDIS applications. It has been adopted by the RIS-Committee of the European Union at the beginning of 2008, but there have been delays because of the translation process. There will be an obligation to produce Inland ENC for all inland waterways of class Va and higher for member states of the European Union.

Bernd Birkhuber presented the status of implementation. (see [Status report Europe.pdf](#)). Despite the deadline for the production of Inland ENC of 30 months after the publication of the Commission Regulation, most European countries have already produced Inland ENC.

c) North America

Denise LaDue presented the status (see [IENC_US.pdf](#)). The USACE has produced Inland ENC in accordance with edition 2.1 for 805 km. ENC for 9260 km, which are currently in S-57 format, will be published as Inland ENC in 2010. In addition new Inland ENC will be produced for 1500 km. Updates are published once per month. A service for updating via XML will be introduced. The Coast Guard is preparing a carriage requirement.

d) Russian Federation

Vladimir Sekachev presented the status (see [Status of Inland ENC in Russia.pdf](#)). The Russian regulation will be changed to Inland ENC this year and the ENC will be updated. Bathymetry is mandatory in Russia.

4. Information on experiences with Inland ENC and applications by participating private companies

a) SevenCs

The Kernel of 7 Cs and the Chart Production Tools have been updated in accordance with edition 2.1.

b) Innovative Navigation

IN does not have own chart production tools, but the applications can use Inland ENC from various sources. Coverage and maintenance of the Inland ENC are very important.

c) Transas

Transas has contracts for the production and distribution of Inland ENC for the Russian inland waterways. A distribution via the RENCs is under consideration.

d) Jeppesen

Jeppesen produces electronic charts of inland waterways, which content is based on S57 ENC, using its proprietary delivery format. The company is considering the IENC-IECDIS standards. Jeppesen dKart Tools can already be used for the production of IENC.

e) ESRI

ESRI is providing GIS systems for chart production, which are compatible with Inland ENC (see [IEHG VII Vienna Technology of ArcGIS Nautical Solution ESRI.pdf](#)).

5. Results of the 4th Extraordinary Hydrographic Conference regarding IHO and Inland ENC

IEHG has been accredited as Non Governmental International Organisation (NGIO) with observer status at IHO. The working group on Hydrography and Cartography on Inland Waters (HCIWWG) has presented its report and proposals at the 4th extraordinary International Hydrographic Conference. IHO accepted the report and adopted the resolution (the document [4th EIHC.pdf](#) contains all the passages of the report of the conference dealing with Inland ENCs).

At the request of the IEC, which is seeking a definition of an Inland ENC for incorporation into document IEC 62376, "Electronic Charting Systems", IEHG drafted a proposal for a definition: "Inland Electronic Navigational Chart (IENC) means the database, standardized as to content, structure and format, for use with inland electronic chart display and/ or information systems operated onboard of vessels transiting inland waterways. An IENC is issued by or on the authority of a competent government agency, and conforms to standards initially developed by the International Hydrographic Organization (IHO) and refined by the Inland ENC Harmonization Group. An IENC contains all the chart information necessary for safe navigation on inland waterways and may contain supplementary information in addition to that contained in the paper chart (e.g. sailing directions, machine-readable operating schedules, etc) which may be considered necessary for safe navigation and voyage planning."

After formal adoption via the Forum the proposal will be sent to IHO.

Action: Core Group

The recognition of IEHG by IHO is a very important success, but requires also a lot of action on behalf of IEHG:

IEHG can be represented by members of the Core Group at IHO meetings. If no member of the Core group is able to participate, it is also possible to nominate another member of IEHG for a specific meeting. All members of IEHG should try to get in contact with the representatives of their country at IHO to raise awareness for Inland ENCs. If a member of IEHG is attending an IHO meeting he or she should inform the Core Group in order to be nominated as representative of IEHG.

Action: all

All members of IEHG should regularly check papers of TSMAD and HSSC, because of their possible influence on Inland ENCs.

Action: all

6. Annual Report to HSSC (former CHRIS) about IEHG

Lee Alexander has drafted a preliminary report that has already been transmitted to IHO by the Core Group (see [HSSC1-07-1A - IEHG.pdf](#)). An amendment regarding the results of the meeting will be transmitted after the meeting (see [Addition to HSSC Report - v1-dl.pdf](#)).

IEHG will be represented by Denise LaDue and Lee Alexander at the HSSC meeting, Denise LaDue is going to present the report and will also participate in the upcoming TSMAD meeting.

7. S-57 Supplement 2

CHRIS has distributed the proposal for a Supplement 2 of S-57 (see [Letter CHRIS20_S57e3_1_2.pdf](#)). IEHG came to the conclusion that the Supplement does not have influence on Inland ENCs.

8. Status of development of S-100 and future alignment of Inland ENC Product Specification with S-100

S-100 shall enter into force on 1st January 2010. S-101 is only expected several years later. Copied feature classes and copied attributes will have to be replaced and are already marked as “retired” in the register. Some of the additional attributes and enumerations have still to be registered. The FC, the EG and the Product Specification will have to be updated. As even the Product Specification for ENC’s will stay in force for several years, IEHG decided to wait for the draft of S-101 before the Product Specification for Inland ENC’s is adapted.

TSMAD has sent a letter to HSSC proposing a new management concept for the registry (see [HSSC1-06\[1\].1G_GII_Management.pdf](#)). IEHG discussed the consequences for Inland ENC’s and expressed big concerns. The Core Group was asked to contact the chair of TSMAD and the IHB and to draft a letter to HSSC (see [Proposed GII Registry - IEHG Comments_3.pdf](#)).

9. Updates to the Encoding Guide and Product Specification

The following Change Requests have been adopted since the publication of Edition 2.1:

CR_NATSUR.doc
CR_G_3_17.doc
CR_B_SORDAT.pdf
CR_B_SORIND.pdf
CR_C_1_3.pdf
CR_O_1_10.pdf
CR_PROD_SPEC_DATA SET FILES.pdf
CR_O_2_5.pdf
CR_PRDARE.pdf
CR_O_3_3.pdf

The following Change Requests were discussed in detail at the meeting:

CR_Intro.pdf
IENC_FC_21_discrepanciesx.pdf
CR_O_3_1.pdf including CR_Annexes.pdf
CR_Submerged_Uilities.pdf
CR_E_2_1-AIRARE.pdf
CR_G_2_3-Groin.pdf
CR_G_3_12-MORFAC.pdf
CR_G_3_14-HULKES.pdf
CR_G_3_22-Ice_Breaker.pdf
CR_J_3_1-OBSTRN.pdf
CR_L_1_2-RECTRC.pdf
CR_O_2_1-DAYMAR.pdf
D-2-5_shoreline.pdf
F-1-1_Conspicuous_Landmark.pdf
G-1-1_G-1-6_Bridges.pdf
G-1-1_G-1-7_Bridges_Tunnel.pdf
G-1-7_Tunnel.pdf
G-1-8_Overhead_Cable.pdf
G-1-10_Pylons.pdf
G-1_G-3_G[1].4_Bridge-Pipeline-Gate.pdf
G-1_G-4_l-3_Bridges-Pipelines-Profiles-etc.pdf
G-2-3_Groin.pdf
G-2-6_Revetment_Concrete.pdf
G-2-6_Revetment_concrete_attachment.pdf
G-2-8_Revetment_Masonry.pdf
G-2-8_Revetment_masonry_attachment.pdf
G-3-1_Boat-ramp.pdf
G-3-3_Conveyor.pdf
G-3-5_Dock.pdf

G-3-12_Mooring-facility.pdf
 G-4-3_Lock-Basin.pdf
 G-4-7_Lock-Wall.pdf
 G-4-9_Flood_barrage.pdf
 I-1-4_Fairway.pdf
 I-3-5_Waterway-Profile.pdf
 J-1-1_Rocks.pdf
 J-2-1_Wrecks.pdf
 L-1-4_Waterway-axis.pdf
 L-2-1_L-2-3_Ferry.pdf
 L-2-3_Swinging-Wire-Ferry.pdf
 M-1-3_Berth-without-Transshipment.pdf
 O-1_Buoys.pdf
 O-2_Beacons-Daymarks.pdf
 Feature_Catalogue_amendments.pdf
 Definition_inland_ENC

The CRs were amended on the basis of the discussion and submitted at the discussion forum.

Action: Core Group (amend CRs and submit them on the forum)

Action: all (take part in discussion on the forum)

10. Update intervals and processes

The IEHG meeting agreed to publish a new edition of the Product Specification for Inland ENC's at the end of the year.

The different version numbers for the Encoding Guide on one hand and the Feature Catalogue and the Product Specification on the other hand has created some confusion in the past. The meeting agreed therefore to align the numbering of the versions in the future:

Feature Catalogue & Product Spec	Date effective	Encoding Guide	Date effective	Validation Checks	Date effective
2.0	Oct 2005	1.0	Oct 2005		
	---	1.1	Oct 2006		
		1.2	Dec 2006		
2.1	Feb 2008	1.3	Feb 2008		
	---	1.3.1	May 2008		
2.2	Jan 2010	2.2.0	Jan 2010	2.2	Jan 2010
		(2.2.1)			
(2.3)		(2.3.0)			

Ms. Schlewing agreed with the proposed schedule. As edition 2.0 will only be published as a Commission Regulation by the end of the year, the Commission is going to use edition 2.2 for a proposed update in 2010.

11. Guidance on the Presentation of Inland ENC's (Portrayal register)

At the moment only Europe and Russia have minimum requirements for the display of Inland ENC's (European Inland ECDIS Standard). Applications may use different symbols as an alternative as long as they are able to display the standardized symbols.

Applications in North and South America should be able to display inland specific features, but there are no formal requirements like S-52 in the maritime area or the European Inland ECDIS standard. USACE stated that a pilot working on different vessels with different applications should be able to recognize the charts. After a discussion of the advantages and disadvantages of binding standards versus recommendations the meeting came to the conclusion that it is not necessary to develop an international binding standard for the display of Inland ENC's. The USACE and DHN will publish the documents on signs and signals on the North and South American inland waterways on ienc.openecdis.org. Application builders will be able to use these documents to add the necessary symbols to their presentation libraries on a voluntary basis.

The IEHG meeting agreed to check whether it is possible to introduce a new column in Annex AA (CEVNI notice marks) to indicate whether the dirimp attribute may be used by applications to display the notice mark only for vessels heading in a certain direction.

The IEHG meeting came also to the conclusion that the user of an Inland ECDIS application should be able to see without use of the pick report if there are several notice marks at the same location. It is not necessary to see all the notice mark at a point all the time, but the symbol should indicate that there are several marks. This request will be discussed by the European Inland ECDIS expert group.

Proposals for quality standards for Inland ENC's

A task force of the European Inland ECDIS expert group has started to develop proposals for quality standards for Inland ENC's. There are several topics that should be covered:

- a) recommended validation checks for Inland ENC's (based on S-58)
Chart producers and competent authorities have asked for software applications to check whether an Inland ENC conforms with the Product Specification for Inland ENC's. The basis for applications in the maritime area is S-58. The task force has started to develop a similar document for Inland ENC's. It is based on S-58 and all the amendments should be introduced in track change mode to allow application builders a simple adaptation of existing software. The meeting agreed with the general setup. The first proposal was based on edition 3 of S-58 and has to be updated, because IHO has published edition 4.0 of S-58 in the meantime. The proposal will be submitted on the Discussion Forum for general discussions. Everybody is invited to participate.
- b) minimum content of Inland ENC's
A validation software is only able to check the structure of an Inland ENC, but not the content. The Introduction of the Encoding Guide is containing a rather abstract description of the minimum content. There were several requests to establish a list of object classes which belong to the minimum content. But this is very difficult. One example: a wreck is not part of the minimum content if it is outside of the fairway. It is part of the minimum content if it is in the fairway and the depth above the wreck is not sufficient. If the depth is sufficient, it is not an obstacle, but if it is allowed to anchor in this section of the waterway, the skipper has to know that there is a wreck and anchoring is dangerous. A list would have to reflect all the circumstances that decide whether an object is minimum content or not. There is no proposal available yet. René Visser is working on a first proposal. Everybody is invited to participate.
- c) minimum accuracy requirements
Ludwig Steinhuber presented the first proposal of the GIS-Forum Danube for minimum accuracy requirements for Inland ENC's (see [IENC-objects_Accuracy.pdf](#) and [20090831_Minimum_accuracy.pdf](#)). Accuracy requirements for topographical objects and notice marks can be defined without problems. Accuracy requirements for depth information are critical, as there is an estimation of round about 40 cm. The first part of the proposal was accepted as a basis for further discussions. Most probably there will be different minimum accuracy requirements in different regions

or on different waterways.

There is a connection to the survey standard S-44.

There was a big opposition against the proposal to exclude depth information from Inland ENC.

Everybody is invited to contribute to the further development via the Discussion Forum.

- d) accuracy information in Inland ENCs
If there are different accuracy requirements for different waterways and for different objects within an IENC it would be necessary to inform the user about the accuracy. The problem has been identified, but at the moment there are no proposals how to solve it. Ideas are welcome and can be submitted at the Discussion Forum for general discussions.
- e) verification of completeness of Inland ENCs
A table with object classes and the circumstances under which they are part of the minimum content could also be used as a basis for the verification of the completeness of Inland ENCs. Proposals are welcome.
- f) Notices to skippers/mariners about invalid depth information
When an authority detects that the depth information in an Inland ENC is no longer valid it has to initiate a survey, compile the data and produce a new IENC. The whole process is taking some time. During that time the old IENC is still in use. It would be fine to have possibility to publish a standardized Notice to Skippers in XML-format in such a case, which allows to switch off the display of the outdated depth information in board applications. It has still to be checked whether this is possible from a technical point of view.

The IEHG meeting agreed that the development of quality standards for Inland ENCs should be continued and invited everybody to participate.

12. Information document on Inland ENCs

There has been a request to provide an Information document on Inland ENCs which can be used to inform people who are not familiar with Inland ENCs. Bernd Birkhuber presented a first draft of a Powerpoint presentation ([Inland ENC.pdf](#)). The meeting agreed with the general setup. Lee Alexander is going to develop a text document, too. The drafts will be discussed via the Discussion Forum and the final documents will be available for every member of IEHG.

13. Presentation of PORT ENC

Lee Alexander presented the results of the EFFORTS project on behalf of the Hamburg port authority, which has developed a proposal for a port ENC. This ENC should be used by pilots of big container vessels and passenger vessels. The most important point is higher accuracy and higher update rates. As higher accuracy and high update rates are also possible within the framework of S-57, it was not clear which amendments are proposed by the port of Hamburg.

The IEHG meeting came to the conclusion that it is not the task of IEHG to develop standards for ENCs for maritime vessels. But IEHG might support the Hamburg Port Authority with the experience in standardization processes and the establishment of relations to IHO.

14. Information on the European PLATINA project

Nora Schmorak presented the PLATINA project of the European Union. It is a platform for the implementation of the Action Program for inland navigation and comprises also a work package dealing with River Information Services. PLATINA is going to support the RIS expert groups and will set up a RIS portal.

15. Future operation of:

- a) the ienc.openecdis.org website
7 Cs is no longer able to provide the hosting for the ienc.openecdis.org website. PLATINA offers to provide the hosting. The content of the existing website will be transferred to the server of the new RIS portal, but the IENC website will keep the existing URL and layout. The IEHG meeting decided to accept the new hosting.
- b) the discussion forum for Inland ENCs
PLATINA is also offering to provide the discussion forum in the future, but only as a webbased forum with e-mail notification. Registered users would receive an e-mail with the content of a new posting, but if they want to react they would have to log in at the website. The IEHG meeting would prefer an e-mail based forum (as it is now) with an improved archive. USACE offered to check the possibilities to provide such a forum. The meeting postponed the decision. 7 Cs will provide the existing discussion forum until the decision.
- c) IENC Register (as part of IHO Registry)
Denise LaDue and Peter Kluytenaar informed the IEHG meeting that the IENC register is still containing outdated test data. UKHO has been asked to import the latest version of the FDD, but has not done it yet.

16. Any other business

The meeting discussed how to encourage more countries/regions to join IEHG. Lee Alexander reported that Bolivia is interested in the topic. Brazil reported that there are contacts with Peru and a workshop on Inland ENCs will take place in May 2010. In Venezuela a private institute is providing ENCs.

Members of the Core Group have invited Egypt and China during the Smart Rivers Conference to participate in IEHG.

17. Next meeting

The next meeting of IEHG will be in St. Petersburg, Russian Federation, in September 2010.