Inland ENC Harmonization Group

viadonau

DCEG vs IENC EG

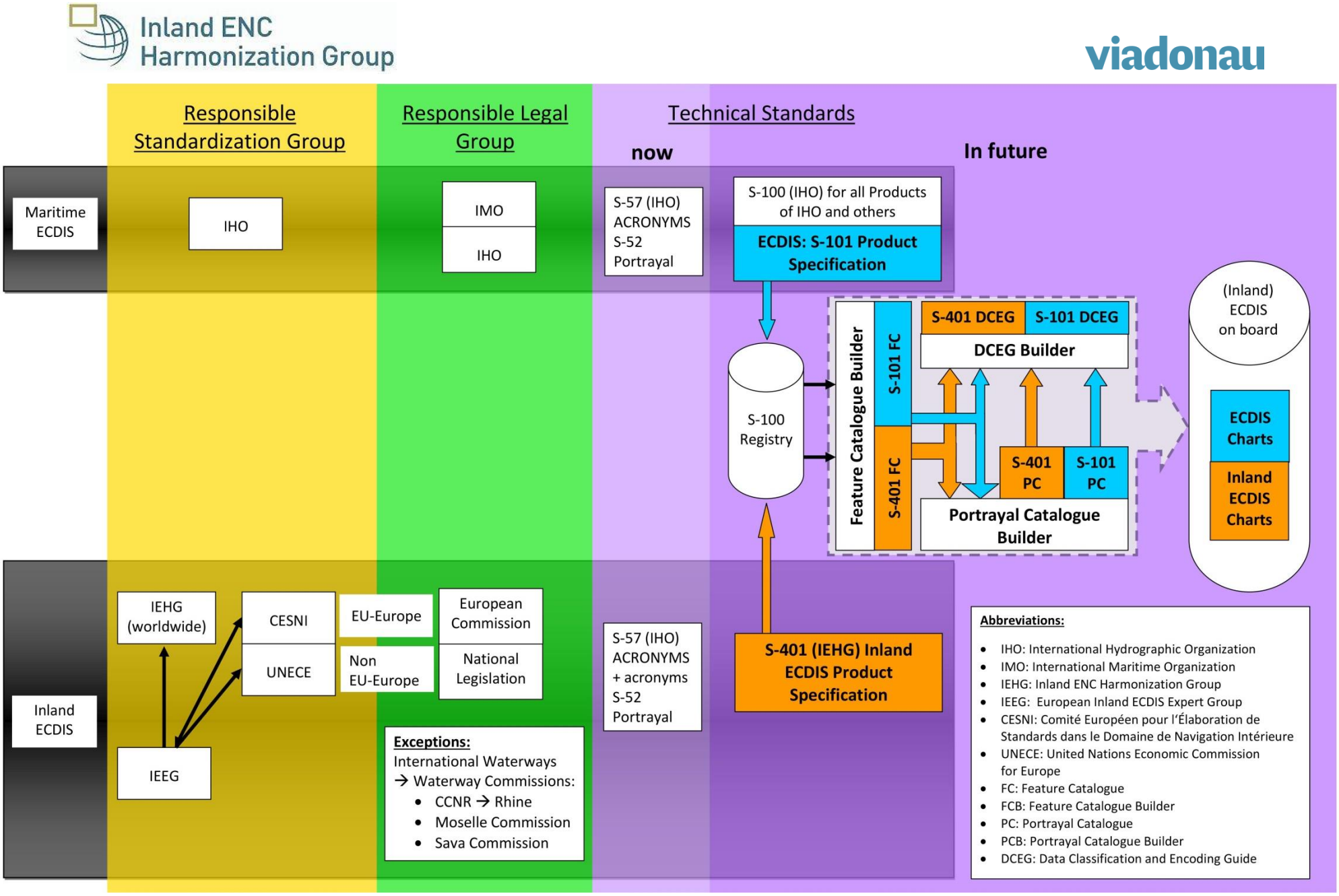
Summary of Discussions and common European Position
15th Annual Meeting of the International Harmonization Group
October 22nd – 24th 2019

Introduction

DCEG Builder

The IHO provides a DCEG Builder for the creation of a Data Classification and Encoding Guide based on the entries of the S-100 registry. The builder would also allow the creation of an adapted inland specific S-401 DCEG. However the structure of the DCEG deviates from the structure of the current Inland ENC Encoding Guide.

→ A basic decision is needed on which of the two approaches to take.


Inland ENC Harmonization Group
viadonau
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)
IEEG
CESNI
UNECE
EU-Europe
Non EU-Europe
European Commission
National Legislation
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

Introduction

I - Depths

I.1 Depths in Fairways and Areas

I.1.4 Fairway (C)

Part of the navigable waterway area where a certain water depth within a certain width is available for the continuous navigation.
That part of a river, harbor and so on, where the main navigable channel for vessels of larger size lies. It is also the usual course followed by vessels entering or leaving harbors, called „ship channel".
(International Maritime Dictionary, 2nd Ed.)

Graphics	Encoding Instructions	Object Encoding
IENC Symbolization  *IENC Symbolization* 	A) The fairway has to be encoded if there is one. B) A publication is only allowed if the competent authority has verified its location. C) The fairway must be covered by depth areas. D) DRVAL1 of the FAIRWY object class should not be used, because 'verdat' is not available, instead depth areas shall be used in addition to FAIRWY (refer to I.1.5 Fairway Depth / Project Depth) E) If no detailed bathymetry is available, the fairway shares the geometry of a depth area with DRVAL1 = official water depth in metres issued by the competent authority (DRVAL2 = "unknown"); please refer to I.1.5 Fairway Depth/Project Depth	Object Encoding Object Class = FAIRWY(A) (M) SCAMIN = [90000] (C) SORDAT = [YYYYMMDD] (C) SORIND = (Refer to Section B, General Guidance)

Example from the IENC EG

Inland ENC Encoding Guide

- Based on real-world-objects
- One entry per object
- List of defining features
  - Object classes
  - Attributes
  - Attribute Values

Introduction

15.7 Fairways

IHO Definition: **FAIRWAY**. That part of a river, harbour and so on, where the main navigable channel for vessels of larger size lies. It is also the usual course followed by vessels entering or leaving harbours, called "ship channel". (International Maritime Dictionary, 2nd Edition).

S-101 Geo Feature: **Fairway (FAIRWY)**

Primitives: **Surface**

Real World	*Paper Chart Symbol*	*ECDIS Symbol*

S-101 Attribute	S-57 Acronym	Allowable Encoding Value	Type	Multiplicity
depth range minimum value	(DRVAL1)		RE	0,1
feature name			C	0,*
display name			(S) BO	0,1
language		ISO 639-2/T	(S) TE	0,1
name	*(OBJNAM) (NOBJNM)*		(S) TE	1,1
fixed date range			C	0,1
date end	(DATEND)	ISO 8601:2004	(S) TD	0,1
date start	(DATSTA)	ISO 8601:2004	(S) TD	0,1
maximum permitted draught			RE	0,1
orientation value	*(ORIENT)*		RE	0,1
quality of vertical measurement	(QUASOU)	1 : depth known 2 : depth or least depth unknown 6 : least depth known	EN	0,*

Example from the S-101 DCEG

Data Classification and Encoding Guide

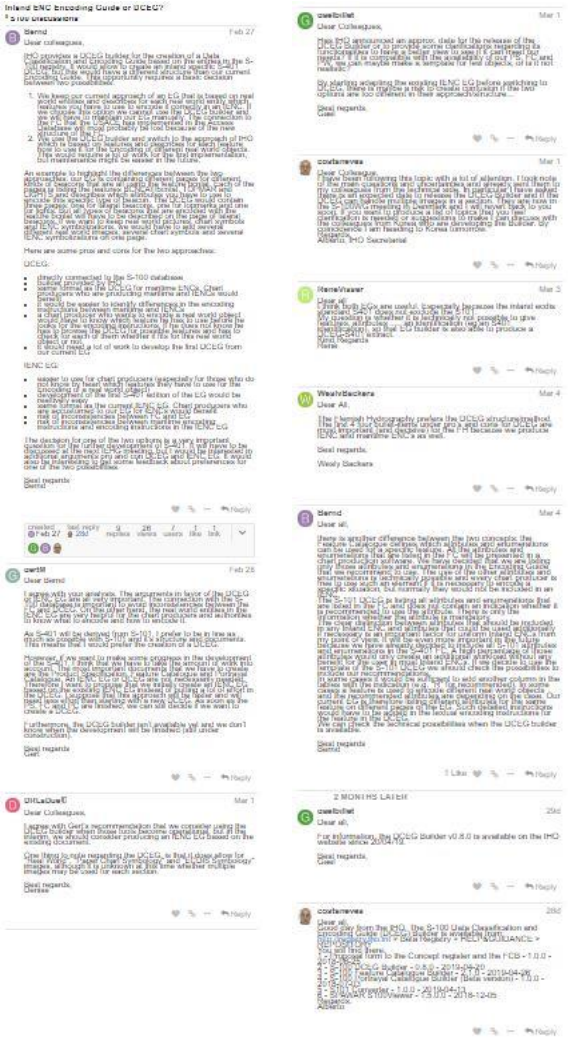
- Based on features
- One entry per feature
- Feature may have attributes and may be related to other features
- Usage of features for Encoding of different real-world-objects

Discussion

Data Classification and Encoding Guide

Pros

- The DCEG builder can be used
- Direct connection to S-100 database
- Same format as the DCEG for maritime ENCs.
- Easy identification of differences in encoding instructions between maritime and Inland ENCs
- Provision of consistent, standardized instructions for encoding maritime ENC and Inland ENC data



Discussion

Data Classification and Encoding Guide

Cons

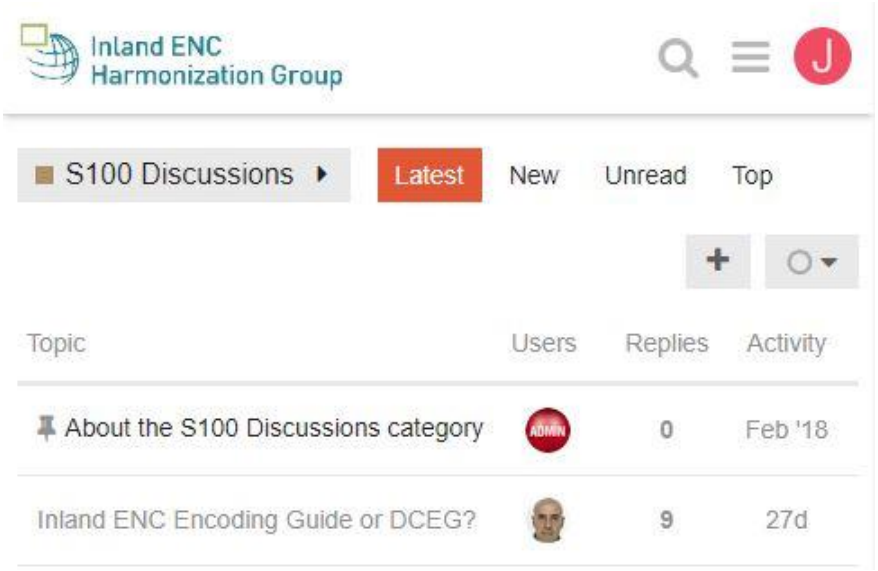
- A chart producer, who wants to encode a specific real-world-object, would have to know in advance which features to use.
- The initial workload for the production of the first S-401 DCEG will be higher than adopting the current EG.
- The possibility to add recommendations of certain attributes for certain features in the DCEG builder is missing.
- It would be difficult to maintain inland-specific feature definitions, since the FC contains maritime definitions only.

Discussion

Inland ENC Encoding Guide

Pros

- Chart producers who don't know which features to use for the encoding of an object, benefit from the current EG
- The initial production of a S-401 EG would be relatively easy
- Chart producers who are accustomed to the current EG would benefit from the same format



The IEHG Discussion Forum

Discussion

Inland ENC Encoding Guide

Cons

- There is the risk of inconsistencies between the Feature- and Portrayal Catalogue and the EG
- There is the risk of inconsistencies between maritime and inland encoding instructions
- The connection to the Feature Catalogue will be lost
- The Inland ENC EG will have to be maintained manually

Discussion

Inland ENC Encoding Guide

Cons

- There is the risk of inconsistencies between the Feature- and Portrayal Catalogue and the EG
- There is the risk of inconsistencies between maritime and inland encoding instructions
- The connection to the Feature Catalogue will be lost
- The Inland ENC EG will have to be maintained manually

→ What could be a common European position for the IEHG?

Proposal

Common European Position

The European experts prefer to be in line with S-101, its structure and documents as much as possible.

It is therefore proposed to use the DCEG builder and take the structure of the S-101 DCEG as a basis. Furthermore we should

- mention in the encoding instructions of the main feature which other features have to be used to encode the whole real-world-object
- try to specify in the encoding instructions which attributes and enumeration values have to be used for which real-world-object.

Other Opinions?

Thank you for your attention!

Contact

Jonathan Gallagher
RIS Expert
T +43 664 80842 1632
jonathan.gallagher@viadonau.org
Donau-City-Straße 1, 1220 Vienna