



RIS Index Encoding Guide

version 1.0 final

Document history

version	date	author	adopt ed by	remarks
0.1	2007-07-03	Bernd Birkhuber, AT		
0.2	2007-07-11	Bernd Birkhuber		amendments regarding external XML files and encoding of waterway network, based on input of NL
0.3	2007-08-13	Bernd Birkhuber		amendments based on feedback from the NtS and ERI working group members
0.4	2008-04-11	Lucia Karpatyova		Amendments based on the CR for encoding the Gauges and feedback from countries (Mr. Ivica Ruzic, HR)
0.5	2008-08-01	Lucia Karpatyova		Amendments based on the NtS_CR_037, NtS_CR_039, a NtS_CR_040
0.6	2008-11-06	Lucia Karpatyova		CR 041
0.7	2010-04-01	René Visser and Andreas Bäck		Integration of results of meeting with RIS experts on 2.2.2010 on Decision Cases, which were prepared within PLATINA SWP 5.2. under the lead of DVS
0.8 draft final	Until 2010-12-06	René Visser, Andreas Bäck, Johannes Nemeth Mario Kaufmann Christoph Plasil Peter Oudenes		Rebuilding the annexes, Some finalisation work, Update and description of the function codes, the object reference codes, the encoding of the position of the objects, Final changes of Annex V, Restructuring of Annexes, etc.
0.8	2010-12-07	Roeland van Bockel		Approval PLATINA
0.9 & 0.91	2011-05-10 2011-05-24	Mario Sattler		Revision by the JTF RIS Index Quality Management Team (QMT)
0.91 comm	2011-10-20	Mario Sattler		Version including all comments from: NL, SK, BE (Flanders), AT, HR
0.91 FinalCons	2011-12-21	Mario Sattler Christoph Plasil		Version including all consolidated comments from the JTF meeting and the final feedback round
1.0 draft	2012-05-11	Robert Rafael Mario Sattler Christoph Plasil		Final draft version provided by the JTF RIS Index.
1.0 final	2012-10-02	Christoph Plasil Mario Sattler Robert Rafael	Inland ECDIS, VTT, ERI, NtS Expert Groups during the RIS Week in November 2012	Included objects “refuse dump” and “ferries”, moved ‘pas’, ‘trafp’, ‘junction’, ‘riscen’ from “Priority objects” to “Additional objects” added more flexible coding alternative for some objects

Table of Contents

1.Management Summary	5
2.Introduction, Background and Definitions	6
2.1. Introduction.....	6
2.2. About this document.....	6
2.3. Relation of ISRS-code to international standardisation	7
2.4. Legislation relevant for the RIS Index	9
3.List of Objects in the RIS Index.....	10
3.1. Priority Objects	10
3.2. Additional Objects.....	11
4.Structure of the RIS Index and its attributes	12
4.1. Main elements of the RIS Index.....	12
4.2. Elements and attributes of the RIS Index.....	13
5.Encoding Guide for Objects in the RIS Index.....	22
5.1. Encoding approach and example.....	22
5.2. Priority objects	24
G.1 Bridge(s)	25
G.1.1 - G.1.6 Bridge Area	27
G.1.8 Overhead Cable.....	28
G.1.9 Overhead Pipe	29
G.3.9 Harbour Area	30
G.3.10 Harbour Basin	31
G.3.15 Port Area.....	32
G.3.19 Terminal.....	33
G.4.3 Lock Basin	35
G.4.4 Lock Basin Part.....	36
G.4.3 / G.4.4 Lock Area	37
G.4.8 Exceptional Navigational Structure.....	38
M.1.1 Anchorage Area.....	39
M.1.2 Anchorage Berth.....	40
M.1.3 Berth without Transshipment / Fleeting Areas	41
M.1.4 Transshipment Berth	42
M.4.5 Turning Basin.....	43
I.3.4 Waterway Gauge	44

L.3.2 Distance Mark along Waterway Axis	45
Q.2.1 Radio Calling-In Point (notification point).....	46
5.3. Additional objects	47
E.1.1 Built-Up Areas	47
E.1.2 Building of Navigational Significance	48
G.3.11 Landing Stage, Pontoon.....	49
G.3.12 Mooring Facility	50
G.3.14 Permanently Moored Vessel or Facility	51
G.3.17 Refuse Dump	52
G.3.2 Bunker / Fuelling Station	53
G.3.20 Vehicle Transfer Location.....	54
G.3.4 Crane	55
L.2 Ferries	56
R.1.1 Check Point.....	57
R.2 Signal Stations	58
Waypoint	60
Special Construction.....	61
Passage Points.....	62
Traffic Points (first reporting points)	63
Waterway node / Junction.....	64
RIS Centre.....	65
Annex 1: Frequently Asked Questions	66
Annex 2: Waterway Network Encoding Guide.....	67
Annex 3: Maintenance Guidelines for the RIS Index.....	68

1. Management Summary

With the publication of the Directive 2005/44/EC on harmonised River Information Services (RIS) on inland waterways in the Community, the European Commission provided a regulatory and technical framework for the implementation and operation of RIS. It comprises the establishment and further development of technical requirements, specifications and conditions to ensure harmonised, interoperable and open RIS on the Community inland waterways.

Preconditions for interoperable and open RIS are Standards for RIS technologies making excessive use of internationally standardised messages and codes, whereas the codes can be summarised by the term “RIS Reference Data”. Among the many RIS reference data the encoding of locations (e.g. objects along the waterways, in ports, etc.) by means of location codes establishes a key link between the various RIS technologies, implying the highest level of unambiguity for the encoding of locations.

Location codes are utilised by Tracking and Tracing technologies, Inland Electronic Navigational Charts, Notices to Skippers and Electronic Ship Reporting. Until now only the international Standards and Regulations regarding the technical specifications for Electronic Ship Reporting in inland navigation contain a definition of the location codes, also referred to as ISRS location codes (ISRS, International Ship Reporting Standard). Although a definition of the ISRS location code exists, a uniform encoding scheme for the ISRS location code has not been introduced into international RIS Standards and Regulations yet.

Already in the early days of RIS there was awareness for the importance of a uniform encoding scheme for the ISRS location codes, as applications started to face severe interoperability issues. This led to the introduction of the RIS Index, intended to be a register of all locations with relevance for RIS and supplying to RIS users all relevant data concerning navigation and voyage planning on inland waterways.

Lacking the required regulatory framework, the RIS Index has been enhanced and maintained mainly by the Notices to Skippers Expert Group, as Notices to Skippers applications make extensive use of data contained in the RIS Index. Lately, driven by the initiative of PLATINA to implement a European Reference Data Management Service, the collection, consolidation and provision of uniform and unambiguous waterway network related reference data became more important, and so did the RIS Index as register of such data.

In 2010, PLATINA updated the RIS Index Encoding Guide of the Notices to Skippers Expert Group in order to facilitate the production and provision of harmonised, national RIS Indices. The further elaboration of the RIS Index Encoding Guide is within the responsibility of the so-called Joint Task Force for the RIS Index.

The main objectives of the Joint Task Force for the RIS Index are to establish an unambiguous encoding for the ISRS location code as a key element of the RIS Index, elaborate a proposal for the unambiguous encoding of waterway networks and to provide a proposal for a revision of the Annex I of Directive 2005/44/EC stipulating the Minimum Data Requirements for RIS and the required encoding scheme – the RIS Index Encoding Guide.

2. Introduction, Background and Definitions

2.1. Introduction

Based on remarks of the RIS Expert Groups, the status and issues concerning the RIS Index were identified in the PLATINA project¹ in 2008. It was concluded that additional work was and still is required on the explanation and specification of the RIS Index. This led to a further development of the RIS Index Encoding Guide – originally a guideline of the Notices to Skippers Expert Group.

In 2010, additional work on the RIS Index Encoding Guide was executed in order to improve the definitions in such a way that it will enable the responsible persons to encode objects and include them into the RIS Index correctly, thereby providing mutual understanding.

In order to achieve a harmonised, common European RIS Index, the national competent authorities responsible for RIS need to provide the national RIS Indices:

- according to a common encoding scheme agreed by the RIS Expert Groups
- in a coordinated approach, fulfilling the information needs of the respective RIS users
- following the provisions of the revised Annex I of Directive 2005/44/EC

The national RIS indices need to be collected by a European RIS Reference Data Management Service, thus providing a unique interface to users of the RIS indices.

The RIS Index covers the following information needs:

- Skippers - need to know (electronically) all information during the pre-planning of a voyage (such as the dimensions of the bridges on the route, blockages of the fairway or locks) as well as on route (for example location information to fulfill their electronic reporting obligations or ad-hoc blockages of the fairway)
- Authorities - need to know the places of departure and destination, the respective places of loading and discharge and moreover most probably the place of border crossing - a combination of the various elements could be very useful.

2.2. About this document

The RIS Index Encoding Guide is grouped into several chapters. The second chapter provides some background information and basic definitions of importance for the RIS Index. The third chapter describes which objects should be encoded. The fourth chapter defines the main elements of the RIS Index and their attributes. Chapter five forms the core of the Encoding Guide, the encoding of the objects as such. Chapter six provides guidance on the maintenance of the RIS Index, and Annex 1 covers frequently asked questions and encoding examples.

The RIS Index Encoding Guide should be considered as a living document. All competent authorities responsible for the production and maintenance of the RIS Index are invited to contribute to quality improvements of this document. Together with the experts in the Joint Task Force on the RIS Index, this Encoding Guide will evolve in due time, providing the foundation for the production and maintenance of the RIS Index in compliance with the foreseen revised Annex I of Directive 2005/44/EC.

¹ PLATINA – Platform for the Implementation of the NAIADES Action plan for Promotion of Inland Navigation (EU FP 7 project, 2008-2012)

2.3. Relation of ISRS-code to international standardisation

Location Codes:

The UNECE, and for this matter UN/CEFACT, as the centre for Trade Facilitation and Electronic Business, has published and maintained a wide range of recommendations and practical tools to ensure common codes and procedures.

Electronic Ship Reporting for inland navigation (cp. Directive 2005/44/EC) already utilises the United Nations Recommendation 16 UN/LOCODE (Code for Trade and Transport Locations) for the encoding of ports and other trade and transport related locations. However, it became necessary to include certain subsidiary locations² (subdivisions) within some ports to ensure the identification of a certain spot/place more accurately. This has been accomplished by so-called related locations, being terminals and or even a certain berth number. For the purposes of fairway management and control, it became evident that further subdivision within the RIS environment was required. For this purpose, the related location two was used indicating the fairway section and even the fairway section hectometre, the ISRS Location Code. In case a requirement the longitude and latitude would, under some circumstances, be available, it was envisioned that a combination of all the elements in an index should be available, the RIS Index.

Definition of the ISRS Location Code

The ISRS Location Code is a unique identifier for each unique part of the infrastructure, which is of importance for RIS. This location code is defined in the “Commission Regulation 164/2010 concerning the technical specifications for electronic ship reporting in inland navigation. This is referred to in Article 5 of Directive 2005/44/EC on harmonised river information services (RIS) on inland waterways in the Community”, part II, chapter 7.

The ISRS Location Code is a 20 digit alphanumerical code that consists of the following mandatory data elements, arranged in 4 information blocks:

- Block 1:** UN/LOCODE (5 letters, alphanumerical), comprising
 - UN Country code (2 letters, alphanumerical)³, and
 - Location code (3 letters, alphanumerical)
- Block 2:** Fairway section code (5 digits, alphanumerical)
- Block 3:** Object Reference Code (5 digits, alphanumerical) (= former Terminal code as defined in Commission Regulation 164/2010)
- Block 4:** Fairway section hectometre (5 digits, numerical).

Relevance of the ISRS Location Code for the RIS related Commission Regulations and/or Standards:

- In order to set up RIS, Member States shall⁴:
 - a) supply to RIS users all relevant data concerning navigation and voyage planning on inland waterways. These data shall be provided at least in an accessible electronic format
 - b) ensure that for all their inland waterways of class Va and above in accordance with the Classification of European Inland Waterways, in addition to the data

³ Please note that UN country code refers to the definition in Commission Regulation 164/2010, chapter 2.4.2.12. The UN country code equals the ISO 3166-1 Alpha-2 Country Code.

⁴ See Directive 2005/44/EC

referred to in point (a), electronic navigational charts suitable for navigational purposes are available to RIS users

- The Standard / Commission Regulation for Electronic Ship Reporting requires the ISRS Location Code of all objects relevant for reporting of voyages, e.g. ports, terminals, passage points, etc.
- The Inland ECDIS Standard (Edition 2.0 and later) requires the ISRS Location Code of all the objects, which are relevant for voyage planning.
- The Commission Regulation on Notices to Skippers (Commission regulation 416/2007) standard requires the location code for the definition of the waterway section, where a message is applicable, and the definition of the affected object. It refers to the definition of the ISRS location code in the Standard / Commission Regulation for Electronic Ship Reporting.
- The Standard / Commission Regulation for Inland AIS requires (Commission regulation 415/2007) the ISRS Location Code of all objects relevant for tracking and tracing in inland navigation, e.g. ports, terminals, water level gauges, etc.
- The location code is the only machine readable key link between Electronic Reporting, Inland ECDIS, Inland AIS and Notices to Skippers.

The importance of the link between the various objects could best be described as:

- Static object information data (e.g. dimensions of a lock) are part of Inland ECDIS. Dynamic additional and temporally information related to the objects and fairways ia (e.g. reduced dimensions of a lock due to maintenance works) are published by Notices to Skippers. Software (e.g. voyage planning applications) is only able to connect the information with the object, if the object has a unique ID - the ISRS Location Code. In addition, voyage planning requires an unambiguous description of the network.
- Electronic Reporting requires location codes for start and end point and all the passage points to submit electronic data to the (next) competent authority. The voyage plan will be used to select all relevant Notices to Skippers for a certain voyage. The voyage and the relevant Notices to Skippers can be displayed on the Inland ECDIS screen on board of the vessel. The selection of the relevant messages and the display on Inland ECDIS is done on basis of the location codes.

Definition of the RIS Index

The RIS Index is a list of (ISRS) location codes with additional information on the objects like their characteristics (name, fairway....), restrictions (available depth, clearance....), operating times etc.

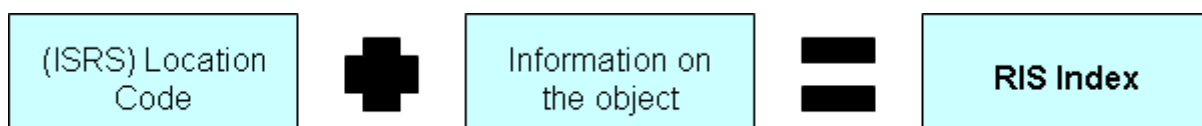


Figure 1: Basic elements of the RIS Index

The basic elements of the RIS Index are the following:

- (ISRS) Location Code
- Information on the object comprising
 - one or more geographical reference(s) and
 - attributes of the objects (e.g. clearance).

The RIS Index should contain all the objects, which are relevant for:

- Electronic Reporting (departure, loading, passing, discharge and arrival points of voyages).
- Inland ECDIS (all objects with the *unlocd* attribute).
- Notices to Skippers (all the objects, which might be affected by Notices to Skippers).
- Inland AIS (gauges, when water level information is transmitted via Inland AIS).

2.4. Legislation relevant for the RIS Index

Current legislation relevant for the RIS Index

Article 4 paragraph 3 a) of RIS Directive 2005/44/EC contains the requirement, that the Member States shall supply to RIS users all relevant data concerning navigation and voyage planning on inland waterways. These data shall be provided at least in an accessible electronic format. For waterways of Class Va and higher, the Directive 2005/44/EC requires Member States in addition to the data referred to in point (a), that electronic navigational charts suitable for navigational purposes are made available to RIS users.

Although not explicitly stated in the RIS Directive 2005/44/EC, the RIS Index eventually enables countries to fulfil the Minimum Data Requirements as referred to in Article 4(3)(a), where in particular the following data shall be supplied:

- waterway axis with kilometre indication,
- restrictions for vessels or convoys in terms of length, width, draught and air draught,
- operation times of restricting structures, in particular locks and bridges,
- location of ports and transshipment sites,
- reference data for water level gauges relevant to navigation.

Although data for smaller waterways than Class Va can also be provided through Electronic Navigational Charts (Inland ENCs), this data can also be provided in form of a list at least in an accessible electronic format. The RIS Index provides a template for such a list.

The RIS Directive specifically mentions that the afore mentioned data necessary for navigation shall be provided via the Electronic Navigation Charts (Inland ECDIS) for Class Va fairways and higher. It is recommended to also provide this information (as the RIS Index is utilized by different RIS Services) in a different format, for which the RIS Index is the preferred template. This template can also be used to provide information about the lower class fairways as well, so that the other RIS services (such as route planning) can fully benefit from the RIS Index.

At present, there is no official European legislation available for the RIS Index. Consequently the Expert Groups for Electronic Reporting and Notices to Skippers agreed on the RIS Index template and recommended the use of this Encoding Guide. Afterwards, the Vessel Tracking and Tracing expert group provided amendments to this template and is making use of this Encoding Guide.

Outlook on possible legislation relevant for the RIS Index

The ongoing activities of the Joint Task Force for the RIS Index and the necessity for a revision of the Annex I of Directive 2005/44/EC were brought to the awareness of the RIS Committee and were discussed at its meeting on the 1st March 2011. A text proposal for the amendment of Annex I of Directive 2005/44/EC was provided to the RIS Committee, and given its approval an official legal basis for the encoding of the objects in the RIS Index and their attributes is to be expected in the beginning of 2012.

3. List of Objects in the RIS Index

Over the last years, all the Member States started with the production/generation of their national RIS-index. Although all the Member States started this process, there was no common approach and priority list how and when code objects. This resulted in a consolidated European RIS-index which contains objects, but often with gaps. In order to ensure that the consolidated European RIS-index contains all relevant objects, during the PLATINA projects it was defined which objects are of importance and should be encoded first.

3.1. Priority Objects

The following table describes those objects that should be encoded first.

			ETA / ETD reporting	Logistics transhipment					
			Electronic Reporting (ERI)		Inland ECDIS	Vessel Tracking & Tracing (VTT)	Notices to Skippers (NtS)	Voyage / route planning	Navigation
Object class	Chapter	Object Name ⁴							
Priority Objects									
bridge(A)	G.1	All types of bridges			X	X	X	X	X
C_AGGR()	G.1	Bridge Area	X		X	X	X	X	X
cblohd (L)	G.1.8	Overhead Cable			X		X	X	X
pipohd (L)	G.1.9	Overhead Pipe			X		X	X	X
hrbare(A)	G.3.9	Harbour Area	X	X	X	X	X	X	X
hrbbsn(A)	G.3.10	Harbour Basin	X	X	X	X	X	X	X
prtare(A)	G.3.15	Port Area	X	X	X	X	X	X	X
termnl(P, A)	G.3.19	Terminal	X	X	X	X	X	X	
lokbsn(A)	G.4.3	Lock Basin			X	X	X	X	X
lkbspt(A)	G.4.4	Lock Basin Part			X	X	X		
C_AGGR()	G.4.3, 4.4	Lock Area	X		X	X	X	X	X
excnst(P, A)	G.4.8	Exceptional Navigational Structure			X		X	X	X
achare(P, A)	M.1.1	Anchorage Area	X	X	X		X	X	X
achbrt(P, A)	M.1.2	Anchorage Berth	X	X	X		X	X	X
berths(P,L,A)	M.1.3	Berth without Transshipment / Fleeting Areas (O)	X		X	X	X	X	X
berths(P,L,A)	M.1.4	Transshipment Berth (O)	X		X	X	X	X	X
trnbsn(P, A)	M.4.5	Turning Basin			X		X		X
wtwgag(P, A)	I.3.4	Waterway Gauge			X	X	X	X	X
dismar(P)	L.3.2	Distance mark along waterway axis			X		X		X
rdocal(P, L)	Q.2.1	Radio Calling-in Point (notification point)	X		X			X	

3.2. Additional Objects

In the opinion of experts these object could have an added value for specific purpose, but are not required in the updated Annex I of Directive 2005/44/EC. Thus their integration into the RIS Index is not compulsory.

			ETA / ETD reporting	Logistics transhipment	Inland ECDIS	Vessel Tracking & Tracing (VTT)	Notices to Skippers (NtS)	Voyage / route planning	Navigation
Object class	Chapter ⁵	Object Name ⁵	Electronic Reporting (ERI)						
Additional Objects									
buaare (P,A)	E.1.1	Built-up Areas (O)							
buisgl (P,A)	E.1.2	Buildings of Navigational Significance (O)							
ponton(A)	G.3.11	Landing Stage, Pontoon	X		X			X	
morfac (P,L,A)	G.3.12	Mooring Facility							
hulkes(A)	G.3.14	Permanently Moored Vessel or Facility (O)	X		X			X	
refdmp (P)	G.3.17	Refuse dump			X			X	
bunsta(P, A)	G.3.2	Bunker / Fuelling Station	X		X		X	X	X
vehtrf(P, A)	G.3.20	Vehicle Transfer Location			X			X	X
cranes (P,A)	G.3.4	Crane (O)							
FERYRT (L), feryrt (L)	L.2	All types of ferries			X		X		X
chkpnt(P, A)	R.1.1	Check Point	X		X			X	
sistat	R.2	Signal Stations			X	X		X	X
wayp	<i>n.a.</i>	Waypoint	X					X	
spec_con	<i>n.a.</i>	Special construction					X		X
pas	<i>n.a.</i>	Passage Points	X					X	
trafp	<i>n.a.</i>	Traffic points (first reporting point)	X					X	
junction	<i>n.a.</i>	End of waterway / Junction	X					X	
riscen	<i>n.a.</i>	RIS Centre	X	X		X	X	X	

n.a. ... not applicable as object is not included in Inland ENC Encoding Guide

⁵ Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008)

4. Structure of the RIS Index and its attributes

4.1. Main elements of the RIS Index

In the following table, the main elements of the RIS Index are summarised. It needs to be read in conjunction with the spreadsheet template for the RIS Index (provided in .xls format).

Elements	Brief Description	Remark
Columns A – J Existing RIS Index for COMPRIS	In the past, the columns A – J, which are marked blue in the template, could be copied from the existing RIS Index of COMPRIS	Not used any more. <i>(a deletion will be agreed in the official Change Request procedure)</i>
Columns K – Y Official ISRS Location Code and Index data	These elements are the core elements of the RIS Index	
Columns Z – AB Additional RIS data	The columns Z – AB, which are marked white in the template, contain additional RIS data	
Columns AC – AJ Restrictions (if not provided in an IENC ⁶)	The columns AC – AJ can be used to provide the information on restrictions, which are caused by an object (e.g. a bridge or a lock)	
Columns AK – AT Reference data for gauges	The reference data of gauges is very important for the safety of navigation and for voyage planning	
Columns AU – AY Operation times	The operation times of locks, movable bridges and other pieces of infrastructure (e.g. offices of waterway authorities, harbour masters, police, bunker services, fresh water supplies, refuse dumps, terminals, berths, pontoons) are important for voyage planning	
Columns AZ – BO Additional data on restrictions	The columns AZ – BO provide a possibility to enter additional data on restrictions (e.g. additional possibilities of vessel dimension combinations)	
Columns BP – BY Additional operation times	The columns BP – BY provide a possibility to enter additional data on operation times (e.g. for certain types of ships)	
Columns BZ – CC Maintenance data	The columns BZ – CC contain the maintenance data of the RIS Index	

⁶ The data can be provided in an Inland ENC in accordance with the Inland ECDIS Standard. If no IENC is available, it needs to be provided in the RIS Index.

4.2. Elements and attributes of the RIS Index

(M) Mandatory: Information *must* be provided, in any case

(C) Conditional: Information *must* be provided, if it exists (if a berth has a name, for example)

(O) Optional: Information *can* be provided, as it is useful for RIS provision

Applicability: RIS Index template version 0.9 – available at

http://www.ris.eu/docs/File/425/template_reference_documentation.zip

Col	Attribute	Explanation
Columns A – J Existing RIS Index for COMPRIS		the columns A-J are not used (<i>a deletion will be agreed in the official Change Request procedure</i>)
A	ID	not used any more
B	Country	not used any more
C	Waterway	not used any more
D	WaterwayName	not used any more
E	Structure	not used any more
F	ObjectName	not used any more
G	ObjectIdx	not used any more
H	ExportRisIDX00	not used any more
I	ExportRisIDX01	not used any more
J	Status	not used any more
Columns K – Y Official ISRS Location Code and Index data		The columns K – Y, which are marked green in the template, have to be filled in for every object.
K	Country code (2 digits, alphanumeric) (M)	The country code is a mandatory field. It consists of two letters and is defined in ISO standard 3166-1. The official list of country codes is published at http://www.unece.org/cefact/locode/service/country.htm
L	UN Location code (3 digits, alphanumeric) (M)	The UN Location code is a mandatory field. It consists of three digits. The codes are assigned by UN/ECE. The official list of location codes is published for each country at http://www.unece.org/cefact/locode/service/location.htm “XXX” may be used as a valid entry for RIS purposes in the following exceptional cases: Case 1: no official UN/LOCODE available yet, but application for UN/LOCODE at UNECE possible (temporary utilisation of XXX until an official UN/LOCODE is included into the UN/LOCODE list) Case 2: no official UN/LOCODE possible to assign to the object (permanent utilisation of XXX as Location Codes), the only objects belonging to this category for the time being are the <i>distance mark</i> object, indicating the river hectometre on the fairway axis, and the <i>junction</i> object. The Reference Data Managers will ensure that XXX will be used in exceptional cases only.
M	Fairway section code	The fairway section code is a mandatory field. It consists of five

Col	Attribute	Explanation
	(5 digits, alphanumeric) (M)	alphanumeric digits and has to be assigned by the national authorities. It represents the coding of a waterway section within a national network and is only unique in combination with the country code.
N	Object Reference Code (former Terminal code) (5 digits, alphanumeric) (M)	The Object Reference code is a mandatory field. It consists of five uppercase alphanumeric characters and has to be assigned by the national authorities. For the encoding of the priority and additional objects (see chapter 3) the encoding provisions of the RIS Index Encoding Guide must be applied (chapter 5). Examples of the Electronic Reporting standard: - the Object Reference code 00000 is used in the location code for Germany, river Rhine, km 502.3: DE XXX 03900 00000 05023 - the Object Reference code 00FRB can be used for Frankenbach, - the Object Reference code LEUVE for Leuehaven, - the Object Reference code TRACE for traffic centre. These are only examples. Each authority has to assign its own codes based on the RIS Index Encoding Guide.
O	Fairway Hectometre (5 digits, numeric) (M)	The hectometre code is a mandatory field. It consists of five numerical digits. Example: "00235" for river km 23.5; "00001" for river km 0,1
P	ISRS Location Code (M)	The ISRS location code is generated only once from the entries in the columns K to O. Once an ISRS Location code has been generated, it will remain the same. (details are provided in the maintenance guide for the RIS Index)
Q	Function (M)	The function code is a mandatory field. Its purpose is to establish an unambiguous link between the "Object Class" of objects in Inland ECDIS and the objects in the RIS Index. The function code enables a grouping of objects with a similar function (e.g. bridge) in RIS applications (e.g. Notices to Skippers). The Function is restricted to the values of the "function code" element in Chapter 5 of this encoding guide.
R	Object name (C)	The object name is a conditional field. It has to be provided, if it exists (if a berth has a name, for example). For the encoding the provisions of the Inland ENC Encoding Guide are followed: Names shall be entered in local language using Basic Latin Unicode characters e.g. Baarlerbruecke, Volkeraksluis or Wien. If a waterway section is the borderline between two countries with different languages, the object name can be provided in both languages (e.g. "Donau – Dunaj", "Dunaj – Duna")
S	Location name (C)	The location name is an optional field. The location name is linked to the UN Location Code (see column L). If a UN Location Code exists, then the Location Name according to the UN/ECE list shall be used. A list of available location names can be found here: http://www.unece.org/cefact/locode/service/location.htm In the exceptional case that the UN Location Code does not exist, then „XXX“ could be used as UN Location Code and the Location name can be entered as a free text. Place names are given, whenever possible, in their national language

Col	Attribute	Explanation
		versions as expressed in the Roman alphabet using the 26 characters of the character set adopted for international trade data interchange, with diacritic signs, when practicable.
T	Waterway name (M)	The name of the waterway is a mandatory field. Names shall be entered in local language using Basic Latin Unicode characters. If a waterway section is the borderline between two countries with different languages, the object name can be provided in both languages (e.g. "Donau – Dunaj", "Dunaj – Duna")
U	Route name (O)	The route name is an optional field. Names shall be entered in local language using Basic Latin Unicode characters.
V	related ISRS (C)	The related ISRS location code is a conditional field that is used to link two ISRS codes together. For example, if the object "Junction" is used, a related ISRS needs to be assigned to this object. The related ISRS can be used to establish a connection between the various openings of a bridge and the bridge itself or similar relations. It can also be used to establish a relation between the waterway sections of neighbouring countries to create a waterway network (for examples see Annex 2)
W	Section node (O)	The section node is an optional field. It is used in the Dutch RIS Index and contains national 4 digit codes for sections. A section is the smallest part of the network where a traffic flow might change. I.e. a change of CEMT Class One section of the waterway network is a line that represents i.e. one section of a river. The direction of digitizing a section is in most cases downstream. One section has 2 nodes/junctions (one upstream and one downstream)
X	Lat (M)	The latitude coordinate has to be provided in WGS 84 format. In the RIS Index the decimal format shall be utilised with a precision of 6 decimal digits. Dot should be the comma separator.
Y	Lon (M)	The longitude coordinate has to be provided in WGS 84 format. In the RIS Index the decimal format shall be utilised with a precision of 6 decimal digits. Dot should be the comma separator. <u>Examples for Latitude/Longitude:</u> 48.251761, 16.372223; 30.831461,111.010923;-16.606748,-151.50198
Columns Z – AB Additional RIS data		Columns Z – AB contain additional information that link information in the RIS Index with the Inland Electronic Navigational Charts (IENC)
Z	Related ENCs (C)	If the object is also part of an IENC, the cell number (identifier) of the IENC has to be provided here.
AA	Communication information (external file for TXTDSC) (O)	Communication information (e.g. of a lock) can be provided. If such information is provided, the standardized XML file in accordance with the Inland ECDIS standard edition 2.0 (and higher) shall be used. The file name of such file can be entered here. It is recommended to use the location code as the file name to ensure a connection between the object and the file. <u>Example:</u> ATVIE00001LOCKS19212.xml (communication information for the lock of Freudenu in Vienna) The file can be created under http://ienc.openecdis.org/facility_editor . The Username is 'fe', the password 'ienc'. The created XML files can

Col	Attribute	Explanation
		be downloaded and distributed together with the RIS Index.
AB	National Gauge code (O)	This field is optional and can be filled by the national authority. The national gauge code provides a link between the national encoding systems for gauges (e.g. based on WMO codes) and the encoding system used for RIS (ISRS Location Code).

Columns AC – AJ Restrictions for navigability		The columns AC – AJ can be used to provide the information on restrictions, which are caused by an object (e.g. a bridge or a lock). This information is required based on Article 4 of Directive 2005/44/EC. Columns AC – AF contain the maximum dimensions of vessels (if defined), columns AG – AJ contain the available dimensions of the object (bridge opening, lock chamber ...) itself. The available dimensions should be provided as physical values without safety margins.																				
AC	vessel/convoy length (C)	in metres [xxx.xx]																				
AD	vessel/convoy breadth (C)	in metres [xxx.xx]																				
AE	vessel/convoy draught (C)	in metres [xxx.xx]																				
AF	vessel/convoy air draught (C)	in metres [xxx.xx]																				
AG	available length (C)	in metres [xxx.xx]																				
AH	clearance width (C)	in metres [xxx.xx]																				
AI	available depth (C)	in metres [xxx.xx]																				
AJ	clearance height (C)	in metres [xxx.xx]																				
Columns AK – AT Reference data for gauges		The reference data of water level gauges is required for the safety of navigation and for voyage planning. It is also required by Article 4 of Directive 2005/44/EC. The columns AK – AT can be used to provide the reference data for gauges. This data can also be provided in an Inland ENC in accordance with the Inland ECDIS standard.																				
AK	applicability from rhm (C)	Each gauge has an area, where the information from this gauge is applicable. The starting point of this area can be entered here. (5 digits)																				
AL	applicability to rhm (C)	Each gauge has an area, where the information from this gauge is applicable. The end point of this area can be entered here. (5 digits)																				
AM	Reference level 1 code (C)	e.g. LDC for regulated low water level (Danube Commission) Normally there are several reference water levels defined for each waterway, e.g. a low water level, a medium water level and a high water level. The definitions and the abbreviations or codes of these reference water levels vary from waterway to waterway. The codes, which are used for other services (e.g. Notices to Skippers), should be entered here. <table><tr><td>Value</td><td>Meaning (EN)</td></tr><tr><td>NAP</td><td>Normaal Amsterdams Peil</td></tr><tr><td>KP</td><td>Kp</td></tr><tr><td>FZP</td><td>Fzp</td></tr><tr><td>ADR</td><td>Adria</td></tr><tr><td>TAW</td><td>Taw</td></tr><tr><td>PUL</td><td>Pulkovo 1942</td></tr><tr><td>NGM</td><td>Ngm</td></tr><tr><td>ETRS</td><td>Etrs89</td></tr><tr><td>POT</td><td>Potsdamer Datum</td></tr></table>	Value	Meaning (EN)	NAP	Normaal Amsterdams Peil	KP	Kp	FZP	Fzp	ADR	Adria	TAW	Taw	PUL	Pulkovo 1942	NGM	Ngm	ETRS	Etrs89	POT	Potsdamer Datum
Value	Meaning (EN)																					
NAP	Normaal Amsterdams Peil																					
KP	Kp																					
FZP	Fzp																					
ADR	Adria																					
TAW	Taw																					
PUL	Pulkovo 1942																					
NGM	Ngm																					
ETRS	Etrs89																					
POT	Potsdamer Datum																					

		<table><tr><td>LDC</td><td>Low water level Danube Commission</td></tr><tr><td>HDC</td><td>High water level Danube Commission</td></tr><tr><td>ZPG</td><td>Zero point of gauge</td></tr><tr><td>GLW</td><td>Equivalent low water level</td></tr><tr><td>HSW</td><td>Highest navigable water level</td></tr><tr><td>LNW</td><td>Low Navigable Water</td></tr><tr><td>HNW</td><td>High Navigable Water</td></tr><tr><td>IGN</td><td>IGN 69</td></tr><tr><td>WGS</td><td>WGS 84</td></tr><tr><td>RN</td><td>Normal level</td></tr></table>	LDC	Low water level Danube Commission	HDC	High water level Danube Commission	ZPG	Zero point of gauge	GLW	Equivalent low water level	HSW	Highest navigable water level	LNW	Low Navigable Water	HNW	High Navigable Water	IGN	IGN 69	WGS	WGS 84	RN	Normal level
LDC	Low water level Danube Commission																					
HDC	High water level Danube Commission																					
ZPG	Zero point of gauge																					
GLW	Equivalent low water level																					
HSW	Highest navigable water level																					
LNW	Low Navigable Water																					
HNW	High Navigable Water																					
IGN	IGN 69																					
WGS	WGS 84																					
RN	Normal level																					
AN	Reference level 1 value (C)	The value, which is displayed by the gauge at the reference water level 1 has to be provided in [cm]. Example: can be used to provide the reference water level for regulated low water level on the Danube (LDC).																				
AO	Reference level 2 code (C)	Is used to provide the information on medium water level. See provisions for column AM																				
AP	Reference level 2 value (C)	in [cm] See provisions for AN																				
AQ	Reference level 3 code (C)	e.g. HNW for high navigable water. Is used to provide the information on high water level. See provisions for column AM																				
AR	Reference level 3 value (C)	in [cm] See provisions for column AN																				
AS	Zero point (C)	The height of the zero point of the gauge above a geodetic reference has to be entered in [cm]. If the zero point of the gauge is e.g. Adriatic sea level, "0" has to be entered. If the zero point of the gauge is e.g. the bottom of the riverbed, which is 235 m above Adriatic sea, "23500" has to be entered.																				
AT	Geod. ref. (C)	The geodetic reference of the zero point of the gauge, e.g. Adriatic sea, Baltic sea or NAP (see also provisions for column AM)																				
Columns AU – AY Operation times		The operation times of locks, movable bridges and other pieces of infrastructure (e.g. offices of waterway authorities, harbour masters, police, bunker services, fresh water supplies, refuse dumps, terminals, berths, and pontoons) are important for voyage planning and are required by Article 4 of Directive 2005/44/EC. The data can be provided in an Inland ENC in accordance with the Inland ECDIS standard.																				
AU	Category of time schedule (cattab) (C)	The category of the time schedule is defined by value "1" (operational period) or value "2" (non-operational period) in accordance with the Inland ECDIS Standard																				
AV	For ship type (shptyp) (C)	The ship type is defined by "1" (general cargo vessel), "2" (container vessel), "3" (tanker), "4" (sailing vessel) or "5" (fishing vessel)																				

		in accordance with the Inland ECDIS Standard. If the time schedule is applicable for all kinds of vessels, nothing has to be entered. If there are different time schedules for different types of ships, the columns BP – BY have to be used, too.
AW	For use of ship (useshp) (C)	The use of the ship is defined by “1” (liner trade), “2” (occasional professional shipping) or “3” (leisure) in accordance with the Inland ECDIS Standard. If the time schedule is applicable for all types of use, nothing has to be entered. If there are different time schedules for different types of use, the columns BP – BY have to be used, too.
AX	Link to external XML file time schedule (schref) (C)	The time schedule itself is provided in an external structured XML file in accordance with the Inland ECDIS Standard. The file name has to be entered here. Operating times have to be encoded in local time in the XML file. It is recommended to use the ISRS Location Code as the file name to ensure a connection between the object and the file. If there are several XML files for one object, the file name should consist of the location code and “_1”, “_2” and so on.
AY	Link to external XML file passage time (aptref) (C)	The average passing time is provided in an external structured XML file in accordance with the Inland ECDIS Standard. The file name has to be entered here. It is recommended to use the ISRS Location Code as the file name to ensure a connection between the object and the file. If there are several XML files for one object, the file name should consist of the location code and “_1”, “_2” and so on.
Columns AZ – BO Additional data on restrictions (additional possibilities of vessel dimension combinations)		The columns AZ – BO provide a possibility to enter additional data on restrictions. <u>Example:</u> The maximum draught of a vessel with a width of 22 m might be 1.6 m on a certain waterway, while the maximum draught of a vessel with a width of 9 m might be 1.9 m, for example.
AZ	vessel/convoy length 2 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BA	vessel/convoy breadth 2 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BB	vessel/convoy draught 2 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BC	vessel/convoy air draught 2 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BD	available length 2 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BE	clearance width 2 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BF	available depth 2 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BG	clearance height 2 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BH	vessel/convoy length 3 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BI	vessel/convoy breadth 3	in metres [xxx.xx]

	(C)	<i>See encoding provisions for columns AC – AJ</i>
BJ	vessel/convoy draught 3 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BK	vessel/convoy air draught 3 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BL	available length 3 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BM	clearance width 3 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BN	available depth 3 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
BO	clearance height 3 (C)	in metres [xxx.xx] <i>See encoding provisions for columns AC – AJ</i>
Columns BP – BY Additional operation times		The columns BP – BY provide a possibility to enter additional data on operation schedules, e.g. for certain types of ships.
BP	Category of time schedule (cattab) 2 (C)	<i>See encoding provisions for columns AU – AY</i>
BQ	for ship type (shptyp) 2 (C)	<i>See encoding provisions for columns AU – AY</i>
BR	for use of ship (useshp) 2 (C)	<i>See encoding provisions for columns AU – AY</i>
BS	Link to external XML file time schedule (schref) 2 (C)	<i>See encoding provisions for columns AU – AY</i>
BT	Link to external XML file passage time (aptref) 2 (C)	<i>See encoding provisions for columns AU – AY</i>
BU	Category of time schedule (cattab) 3 (C)	<i>See encoding provisions for columns AU – AY</i>
BV	for ship type (shptyp) 3 (C)	<i>See encoding provisions for columns AU – AY</i>
BW	for use of ship (useshp) 3 (C)	<i>See encoding provisions for columns AU – AY</i>
BX	Link to external XML file time schedule (schref) 3 (C)	<i>See encoding provisions for columns AU – AY</i>
BY	Link to external XML file passage time (aptref) 3 (C)	<i>See encoding provisions for columns AU – AY</i>

Columns BZ – CC Maintenance data		The columns BZ – CC contain the maintenance data of the RIS Index.
BZ	Start date for applicability of the data set (C)	If the data of a specific object is only applicable in a specified period (e.g. due to replacement, building, other changes), the dates have to be entered here. This attribute gives information if the object (record) is valid. It is recommended to assign each record a starting date. In case an object (record) gets invalid, an end date needs to be provided (see column CA). This method ensured that ISRS Location Codes are kept in the records, so (historical) statistics analysis can be performed. It also ensures that ISRS Location Codes are not assigned multiple times. <i>It should be discussed within the JTF if the elements BZ should be made mandatory instead of conditional.</i>
CA	End date for applicability of the data set (C)	If the data of a specific object is only applicable in a specified period (e.g. due to replacement, building, other changes), the dates have to be entered here.
CB	Date of the information (C)	For data that changed (e.g. the dimensions of a waterway), the source date of the information can be entered here. The date provides the possibility to find the newest data, if there are several versions of the RIS Index.
CC	Reason for changes (C)	The reason, why the data of an object has been changed, can be entered here.

5. Encoding Guide for Objects in the RIS Index

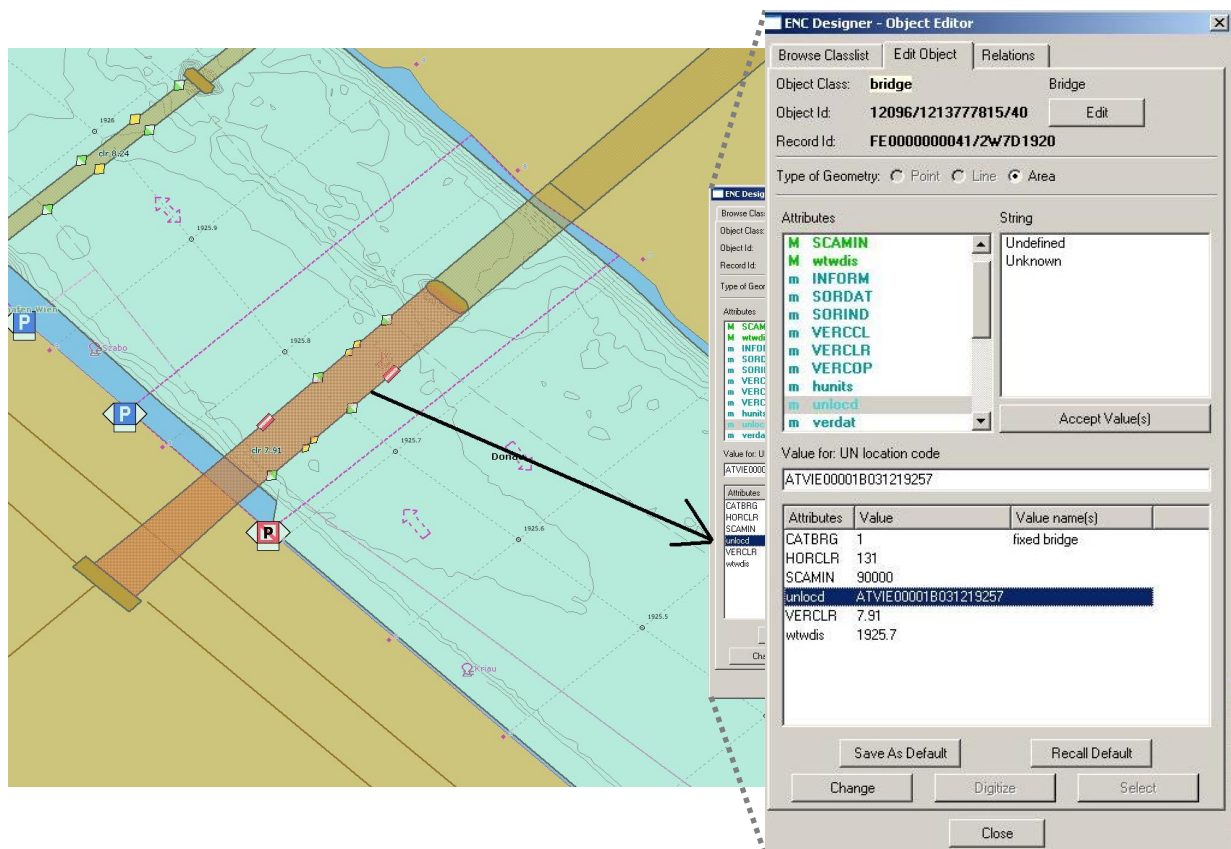
5.1. Encoding approach and example

As the objects in the RIS Index are aligned with the objects in the Inland Electronic Navigational Charts (IENC), it was decided to follow the encoding provisions of the Inland ECIDS Standard, in specific the Inland ENC Encoding Guide. Considering the actual status of Inland ENC production in Europe, the Inland ECDIS Standard 2.1 is the common state of union. As encoding basis the Inland ENC Encoding Guide Edition 1, version 3.1 was utilised. In the Inland ENCs the attribute [unlocd] is used to fill the ISRS Location Code.

For some objects in the Inland ENCs it is not possible yet to assign the ISRS Location Code, as no [unlocd] attribute exists for them. The required attributes for these objects will be amended in higher versions of the Inland ECDIS Standard, respectively the Inland ENC Encoding Guide. However, downwards compatibility is thus ensured.

The alignment of the RIS Index objects with the Inland ENCs enables the implementation of management tools, respectively Inland ENC – RIS Index converters, that in (semi)automatic operation allow an efficient maintenance of the RIS Index on national level just on basis of the Inland ENCs. This approach also allows performing quality checks on a national level before the RIS Index is submitted to the European Reference Data Management.

Encoding example for a bridge object



The information on the Inland ENC object 'bridge' consists of 'UN location code' (meaning the ISRS Location Code) and some other attributes of the object (e.g. vertical clearance of the bridge, etc.). The 'UN Location Code' is a 20 digit alphanumeric code and the bridge has 2 bridge openings. The 'UN Location Code' of the highlighted bridge opening (see figure) looks as follows:

ATVIE00001B031219257

Whereas:

- AT = Austria (Country code)
- VIE = Vienna (UN Location code)
- 0000 = Waterway section number
- B0312 = Object Reference code
 - B03 = Fixed Bridge,
 - 1 = Number of the bridge,
 - 2 = Number of the bridge opening,
- 19257 = Hectometre

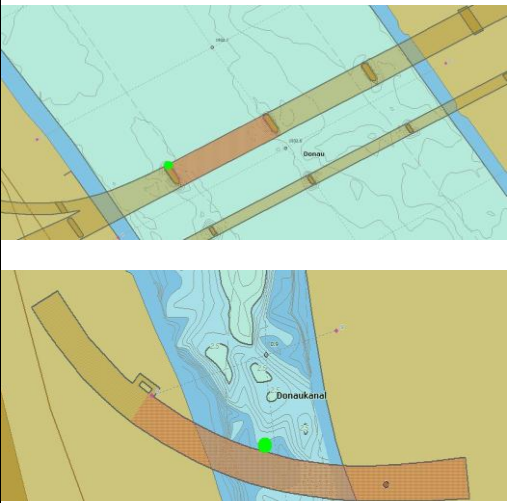
5.2. Priority objects

General Remarks

1. It might be important to provide some additional information to the object. For example in the case of terminals, berths and anchorage areas it could be important to know whether it is allowed to moor with a vessel carrying dangerous goods. As this information cannot be provided directly in the RIS Index, this information could be provided by means of the function code.
2. The Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), was used as the main reference for the definitions in the RIS Index Encoding Guide. Some of these definitions are not in compliance to other RIS-services and/or other modalities and/or definitions used in the commercial environment and transport sector. In this case it is possible to amend other definitions for those objects, whereas a valid reference to this definition must be provided, in order to ensure a proper maintenance of the RIS Index Encoding Guide. Definitions without a valid reference are not acceptable.

G.1 Bridge(s)

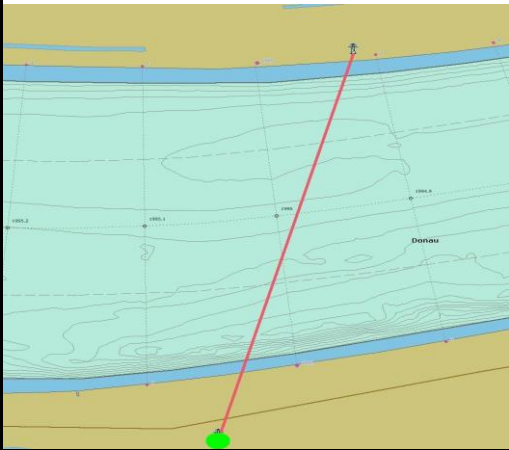
Full title	Bridge G.1 Bridge(s)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.1		
Definition	<u>Bascule Bridge</u>: A counterpoise bridge rotated in a vertical plane about an axis at one or both ends <u>Bridges with Bridge Arches</u>: A Bridge which has bridge arches rather than straight construction. <u>Fixed Bridge</u>: A bridge having permanent horizontal and vertical alignment. <u>Lift Bridge</u>: A moveable bridge (or span thereof) which is capable of being lifted vertically to allow vessels to pass beneath. <u>Suspension Bridge</u>: A fixed bridge consisting of either a roadway or a truss suspended from two or more cables which pass over towers and are anchored by backstays to a firm foundation. <u>Swing Bridge</u>: A Moveable bridge (or span thereof) that rotates in a horizontal plane about a vertical pivot to allow the passage of vessels.		
	Bridges G.1.1 Bascule Bridge G.1.2 Bridges with Bridge Arches G.1.3 Fixed Bridge G.1.4 Lift Bridge G.1.5 Suspension Bridge G.1.6 Swing Bridge	Function Code bridge_(x)x (x)x = bridge type bridge_5 bridge_1 bridge_1 bridge_4 bridge_12 bridge_3	Object Reference Code (coding proposal) Bxxyz xx = bridge type B05yz B01yz B01yz B04yz B12yz B03yz
		y = number of the bridge (Necessary in case there are several bridges on the same river hectometre. In that case only the Object Reference Code can distinguish the individual bridges, 1-9) z = number of the opening of that bridge (Necessary in case a bridge has several openings and they have to be encoded separately. In that case only the Object Reference Code can distinguish the individual openings, 1-9)	

Recommended encoding of position		Alternative 1: The coordinate of any (single) corner of the bridge-object provides the position (lat-long) for that object within the RIS Index. (see green dot in the illustration) Alternative 2: Centre of the object; but in case of curved bridges the calculation of the centre of the bridge might be outside of the bridge object. (see green dot in the illustration)
Recommended encoding (if done on basis of IENC)	See above	
Conditions for codification		
Recommendations for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.	
Remark	There are two different bridge constructions (G.1.2 and G.1.3) with the same category of the bridge (1 = fixed bridge), see the Inland ENC Encoding Guide.	

G.1.1 - G.1.6 Bridge Area

Full title	Bridge area [C_AGGR()] brgare G.1 Bridges		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapters G.1.1 – G.1.6		
Definition	A bridge having permanent horizontal and vertical alignment.		
	Bridge Area	Function Code brgare	Object Reference Code (coding proposal) BRGAx x = number of bridge at same river hectometre (1-9)
Recommended encoding of position	 Alternative 1: The coordinates of any corner of the Bridge Area-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration) Alternative 2: Centre of the object; but in case of curved bridges the calculation of the centre of the bridge might be outside of the bridge object. (see green dot in the illustration)		
Recommended encoding (if done on basis of IENC)	See above		
Conditions for codification	Bridge Area to be encoded in the RIS Index if a bridge consists of more than one opening. Each opening is encoded individually, therefore the bridge area [C_AGGR()] has to be used to summarise the entire bridge object.		
Recommendations for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	C_AGGR() is defined in the Inland ECDIS standard 2.1. The attribute for the ISRS Code (unlocd) was included in version 2.3 of the Inland ECDIS standard for this object, thus the ISRS code cannot be defined within IENCs using older versions than 2.3.		

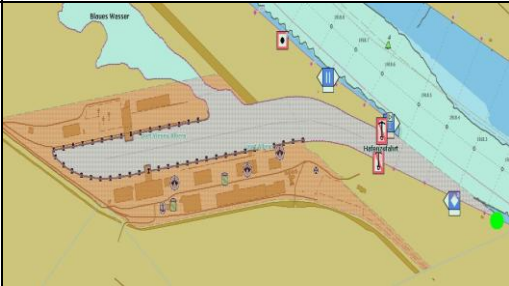
G.1.8 Overhead Cable

Full title	Overhead Cable cblohd(L) G.1.8 Overhead Cable (C)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.1.8		
Definition	An overhead cable is an assembly of wires or fibres, or a wire rope or chain, which is supported by structures such as poles or pylons and passing over or nearby navigable waters.		
	Overhead Cable	Function Code cblohd	Object Reference Code (coding proposal) CBOHx x = number of overhead cable (1-9; necessary in case there are several overhead cables on the same river hectometre)
Recommended encoding of position		Alternative 1: The coordinates of any node of the Overhead Cable-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration) Alternative 2: Centre of the object	
Recommended encoding (if done on basis of IENC)	See above		
Conditions for codification	Clearance height might have impact on navigation		
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	Overhead cable is defined in the Inland ECDIS standard 2.1. The attribute for the ISRS Code (unlocd) was included in version 2.3 of the Inland ECDIS standard for this object, thus the ISRS code cannot be defined within IENCs using older versions than 2.3.		

G.1.9 Overhead Pipe

Full title	Overhead Pipe pipohd(L)G.1.9 Overhead Pipe (C)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.1		
Definition	A pipeline is a string of interconnected pipes used for the transport of matter, nowadays mainly oil or gas. An overhead pipeline is a pipeline supported by pylons and passing over or nearby navigable waters.		
	Overhead Pipe	Function Code pipohd	Object Reference Code (coding proposal) PIOHx x = number of overhead pipe (1-9; necessary in case there are several overhead pipes on the same river hectometre)
Recommended encoding of position		Alternative 1: The coordinate of any node of the Overhead Pipe-Object provides the position (lat-long) for that object within the RIS Index. (see green dot in the illustration) Alternative 2: Centre of the object	
Recommended encoding (if done on basis of IENC)	See above		
Conditions for codification	Clearance height might have impact on navigation		
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	Overhead pipe is defined in the Inland ECDIS standard 2.1. The attribute for the ISRS Code (unlocd) was included in version 2.3 of the Inland ECDIS standard for this object, thus the ISRS code cannot be defined within IENCs using older versions than 2.3.		

G.3.9 Harbour Area

Full title	Harbour Area hrbare(A) G.3.9 harbour Area (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.3		
Definition	The area of water and land with the works necessary for its formation, protection and maintenance		
	Harbour (Area)	Function Code hrbare	Object Reference Code (coding proposal) HRBAx x = number of harbour area (1-9)
Recommended encoding of position		The coordinates of any corner of the harbour Area-Object provide the position (lat-long) for that object within the RIS Index. Alternative: Centre of the object	
Recommended encoding (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

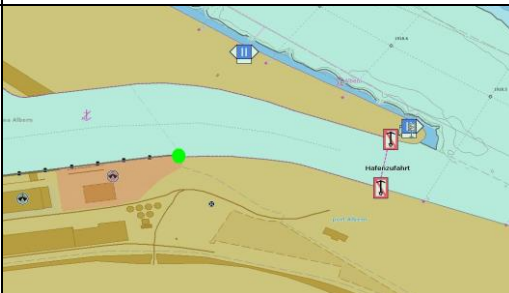
G.3.10 Harbour Basin

Full title	Harbour Basin hrbbnsn(A) G.3.10 harbour Basin (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.3.10		
Definition	An enclosed area of water surrounded by quay walls constructed to provide means for the transfer of cargo from and to ships.		
	Harbour Basin	Function Code hrbbnsn	Object Reference Code (coding proposal) HRBSx x = number of basin (1-9)
Recommended encoding of position		The coordinates of any corner of the harbour Basin-Object provide the position (lat-long) for that object within the RIS Index. Alternative: Centre of the object	
Recommended encoding (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

G.3.15 Port Area

Full title	Port Area prtare(A)G.3.15 Port Area (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.3.15		
Definition	Apart from harbours, a port includes a city or borough with accommodations and facilities for landing passengers and goods and some amount of overseas trade. A port may possess a harbour but a harbour is not necessary a port.		
	Port Area	Function Code prtare	Object Reference Code (coding proposal) PRTAR
Recommended encoding of position	<i>No illustration available</i> A country having such object in their official IENCs should provide a screenshot.	The coordinates of any corner of the Port Area-Object provide the position (lat-long) for that object within the RIS Index. Alternative: Centre of the object	
Recommended encoding (if done on basis of IENC)	To be added (see above)		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index		
Remark			

G.3.19 Terminal

Full title	Terminal termnl(P, A)G.3.19 Terminal		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.3		
Definition	A terminal covers that area on shore that provides buildings and constructions for the transfer of cargos from and to ships.		
	Terminal	termnl	Function Code Object Reference Code (coding proposal) <i>terminal encoded by RIS-authorities:</i> TRMxx xx = number of terminal (01-99) <i>terminal encoded by logistics parties:</i> xxxxx xxxxx= is the unique terminal code as used in trade
Recommended encoding of position		Alternative 1: The coordinates of any corner of the Terminal-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration) Alternative 2: Centre of the object	
Recommended encoding (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	A significant number of terminals are not available in the RIS-index as they are situated outside the area of a competent RIS-authority. However these terminals are of utmost importance in order to submit the correct ERI-reports to the competent authorities. For this reason these terminals should be available in the consolidated RIS-index, but with a distinguishing qualifier to signify that these terminals are not coded by the competent RIS-authority. These locations could be situated in a country, which is not considered as a RIS-country or situated along non RIS-fairways. The maintenance of these terminals will be coordinated by BTB and SMDG Principles: For these terminals the combination UNLOCODE+ Object Reference Code shall be unique in the consolidated RIS-index		

	• Terminals situated in non RIS-areas as mentioned in the RIS-directive will be coded as follows <UNLOCODE>+00000+<Object Reference Code>+00000 • Object reference codes that are used in trade that have less than 5 alphanumeric positions will be prefixed by 0. E.g. code 947 in trade will become 00947. • Terminals situated in RIS-areas as mentioned in the RIS-directive will be linked with a RIS-index which is provided by a competent RIS-authority after consultation of the respective competent RIS-authority. If linking is not possible, these terminals will be coded in accordance with terminals situated in non RIS-areas as mentioned in the RIS-directive.
--	--

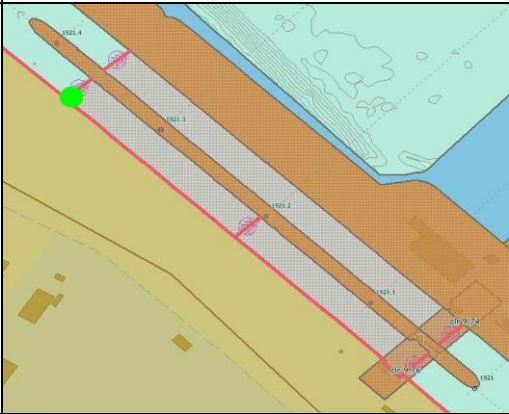
G.4.3 Lock Basin

Full title	Lock Basin lokbsn(A)G.4.3 Lock Basin (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.4.3		
Definition	A lock basin is a wet dock in a waterway, permitting a ship to pass from one level to another.		
	Lock Basin	Function Code lokbsn	Object Reference Code (coding proposal) LOKBx x = number of basin (1-9)
Recommended encoding of position		Alternative 1: The coordinates of any corner of the Lock Basin-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration) Alternative 2: Centre of the object	
Recommended encoding (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendations for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

G.4.4 Lock Basin Part

Full title	Lock Basin Part lkbspt(A) G.4.4 Lock Basin Part (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.4.4		
Definition	A lock basin is divided into several lock basin parts, if this lock basin has one ground level but several gates.		
	Lock Basin Part	Function Code lkbspt	Object Reference Code (coding proposal) LKPxy x = number of basin (1-9) y = number of part of that basin (1-9)
Recommended encoding of position		Alternative 1: The coordinates of any corner of the Lock Basin Part-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration) Alternative 2: Centre of the object	
Recommended encoding (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

G.4.3 / G.4.4 Lock Area

Full title	Lock Area [C_AGGR()] lokare G.4.3 Lock Basin / G.4.4 Lock Basin Part		
Reference of definition	IENC Feature Catalogue Edition 2.1, 2008-05-19, page 132, and Joint Task Force RIS Index Encoding Guide		
Definition	The aggregated area containing one or more lock basins (or other exceptional navigational structures to overcome height differences in the fairway), the buildings and areas around the lock used to support navigation of vessels through the lock.		
	Lock Area	Function Code lokare	Object Reference Code (coding proposal) LOCKS
Recommended encoding of position		Alternative 1: The coordinates of any corner of the Lock Area-Object provide the position (lat-long) for that object within the RIS Index. Alternative 2: Centre of the object	
Recommended encoding (if done on basis of IENC)	See above		
Conditions for codification	Lock Area has to be encoded in the RIS Index if a lock consists of more than one lock basin. Each lock basin is encoding individually, therefore the lock area [C_AGGR()] has to be used to summarise the entire lock object.		
Recommendations for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	C_AGGR() is defined in the Inland ECDIS standard 2.1. The attribute for the ISRS Code (unlocd) was included in version 2.3 of the Inland ECDIS standard for this object, thus the ISRS code cannot be defined within IENCs using older versions than 2.3.		

G.4.8 Exceptional Navigational Structure

Full title	Exceptional Navigational Structure excnst(P, A) G.4.8 Exceptional Navigational Structure (M)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.4.8		
Definition	An exceptional navigational construction such as an aqueduct, lift-lock, etc.		
	Exceptional Navigational Structure	Function Code excnst	Object Reference Code (coding proposal) EXCNS
Recommended encoding of position	<i>No illustration available</i> A country having such object in their official IENCs should provide a screenshot.	Alternative 1: The coordinates of any corner of the Exceptional Navigational Structure-Object provide the position (lat-long) for that object within the RIS Index. Alternative 2: Centre of the object	
Recommended encoding (if done on basis of IENC)	To be added (see above)		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

M.1.1 Anchorage Area

Full title	Anchorage Area achare(P, A) M.1.1 Anchorage Area (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter M.1.1		
Definition	An area in which vessels anchor or may anchor.		
	Anchorage Area	Function Code achare	Object Reference Code (coding proposal) ACHAx x = number of area at same river hectometre (1-9) <i>Alternative:</i> x = berths on left/right bank (L/R)
Recommended encoding of position	<i>No illustration available</i> A country having such object in their official IENCs should provide a screenshot.	The coordinates of any corner of the Anchorage Area-Object provide the position (lat-long) for that object within the RIS Index. Alternative: Centre of the object	
Recommended encoding (if done on basis of IENC)	To be added (see above)		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

M.1.2 Anchorage Berth

Full title	Anchorage Berth achbrt(P, A) M.1.2 Anchorage Berth (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter M.1.2		
Definition	A designated area of water where a single vessel, convoy, sea plane, etc. may anchor.		
	Anchorage Berth	Function Code achbrt	Object Reference Code (coding proposal) ACHBx x = number of berth at same river hectometre (1-9) <i>Alternative:</i> x = berths on left/right bank (L/R)
Recommended encoding of position	<i>No illustration available</i> A country having such object in their official IENCs should provide a screenshot.	The coordinates of any corner of the Anchorage Berth-Object provide the position (lat-long) for that object within the RIS Index. Alternative: Centre of the object	
Recommended encoding (if done on basis of IENC)	To be added (see above)		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

M.1.3 Berth without Transshipment / Fleeting Areas

Full title	Berth without Transhipment / Fleeting Areas		berths(P, L, A)
	M.1.3 Berth without Transhipment / Fleeting Areas (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter M.1.3		
Definition	A designated named or numbered place at the bank of the river or in a harbour basin for the mooring of vessels without transhipment of cargo.		
	Berth without transhipment	Function Code berths_3	Object Reference Code (coding proposal) BER3x x = number of berth at same river hectometre (1-9) <i>Alternative:</i> x = berths on left/right bank (L/R)
Recommended encoding of position		The coordinates of any corner of the Berth-Object provide the position (lat-long) for that object within the RIS Index. Alternative: Centre of the object	
Recommended encoding (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

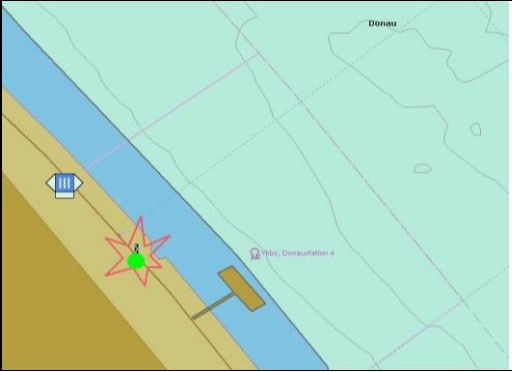
M.1.4 Transhipment Berth

Full title	Transhipment Berth berths(P, L, A) M.1.4 Transhipment Berth (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter M.1.4		
Definition	A designated named or numbered place at the bank of the river or in a harbour basin for the mooring of vessels and transhipment.		
	Transhipment Berth	Function Code berths_1	Object Reference Code (coding proposal) BER3x x = number of berth at same river hectometre (1-9) <i>Alternative:</i> x = berths on left/right bank (L/R)
Recommended encoding of position		The coordinates of any corner of the Berth-Object provide the position (lat-long) for that object within the RIS Index. Alternative: Centre of the object	
Recommended encoding (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

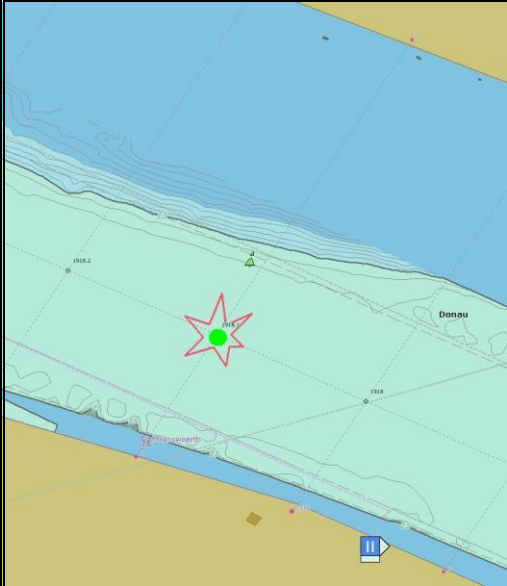
M.4.5 Turning Basin

Full title	Turning Basin trnbsn(P, A)M.4.5 Turning Basin (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter M.4.5		
Definition	An area of water or enlargement of a channel used for turning vessels.		
	Turning Basin	Function Code trnbsn	Object Reference Code (coding proposal) TRNBS
Recommended encoding of position		The coordinates of distance mark along the waterway axis provide the position (lat-long) of the Turning Basin within the RIS Index. Alternative 1: The coordinates of any corner of the Turning Basin-Object provide the position (lat-long) for that object within the RIS Index. Alternative 2: Centre of the object	
Recommended encoding (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

I.3.4 Waterway Gauge

Full title	Waterway Gauge wtwgag(P, A) I.3.4 Waterway Gauge (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter I.3.4		
Definition	A waterway gauge is an instrument for measuring water levels.		
	Waterway Gauge	Function Code wtwgag	Object Reference Code (binding coding rule to ensure interoperability with Inland AIS) Gxxxx xxxx = number of waterway gauge (0001-2047)
Recommended encoding of position		The coordinates of the Waterway Gauge-Object provide the position (lat-long) for that object within the RIS Index.	
Recommended encoding (if done on basis of IENC)			
Conditions for codification	The Object Reference Code for gauges is assigned by the national authorities and is based on the commonly agreed encoding (see details in the Frequently Asked Questions section). Object Reference Code consists of combination of five alphanumeric characters “Gnnnn”, where G is default not changeable character identifying G auge and nnnn is a four-digit number with value less than 2048 (nnnn < 2048). Each Object Reference Code for a gauge most not be used twice per country.		
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	For details see Change Request 036 of the NtS Expert Group (accepted on the 08.04.2008)		

L.3.2 Distance Mark along Waterway Axis

Full title	Distance Mark Along Waterway Axis disarm(P) L.3.2 Distance Mark Along Waterway Axis (C)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter L.3.2		
Definition	A distance mark indicates the distance measured from an origin and consists of a distinct location without special installation, used to serve as a reference along the waterway. (<i>Here: used to encode the waterway axis with kilo/hectometre indication</i>)		
	Distance Mark Along Waterway Axis	Function Code dismar	Object Reference Code (binding coding rule, used in NtS web service ID parameters) 00000
Recommended encoding of position		The coordinate of the Distance Mark Along Waterway Axis-Object provides the position (lat-long) for that object within the RIS Index.	
Recommended encoding of position (if done on basis of IENC)	See above		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	For more details compare Change Request CR 073 of the NtS Expert Group		

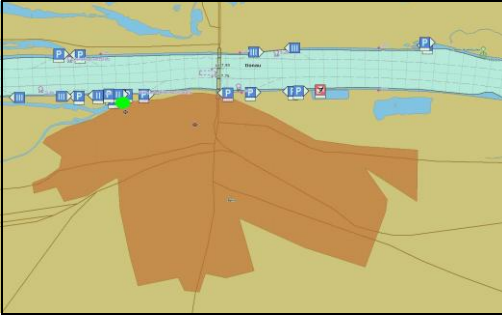
Q.2.1 Radio Calling-In Point (notification point)

Full title	Radio Calling Point rdocal(P, L) Q.2.1 Radio Calling-in Point (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter Q.2.1		
Definition	Also called radio reporting points, they have been established in certain busy waterways and port approaches to assist traffic control. On passing these points or crossing a defined line vessels are required to report on VHF to a Traffic Control Centre.		
	Radio Calling Point	Function Code rdocal	Object Reference Code (coding proposal) RDCAL
Recommended encoding of position	<i>No illustration available</i> A country having such object in their official IENCs should provide a screenshot.	The coordinate of the Radio Calling Point-Object provides the position (lat-long) for that object within the RIS Index.	
Recommended encoding (if done on basis of IENC)	To be added (see above)		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	Radio Calling-in Point is defined in the Inland ECDIS standard 2.1. The attribute for the ISRS Code (unlocd) was included in version 2.3 of the Inland ECDIS standard for this object, thus the ISRS code cannot be defined within IENCs using older versions than 2.3.		

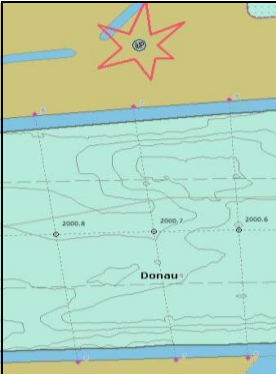
5.3. Additional objects

These objects could have an added value for specific purposes. However, their integration into the RIS Index is not compulsory.

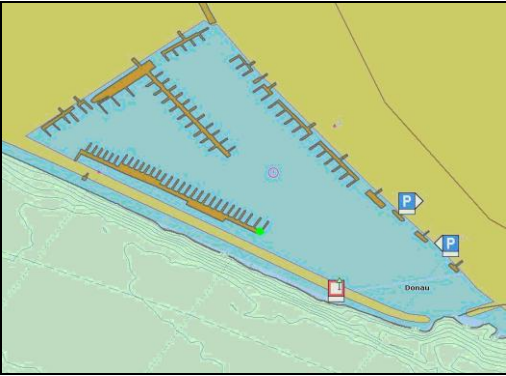
E.1.1 Built-Up Areas

Full title	Built-up Area BUAARE(P, A) E.1.1 Built-up Areas (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter E.1.1		
Definition	An area containing a concentration of buildings and the supporting road or rail infrastructure.		
	Build-up Area	Function Code BUAARE	Object Reference Code (coding proposal) BUAAX x = number of area at same river hectometre (1-9) <i>Alternative:</i> x = area on left/right bank (L/R) CITYX (for important cities / towns along the fairway)
Recommended encoding of position		Alternative 1: BUAARE is a polygon or a node. Therefore, the coordinates of any corner or the coordinates of the node of the Build-up Area-Object provide the position (lat-long) for that object within the RIS Index. Alternative 2: Centre of the object	
Recommended encoding of position (if done on basis of IENC)	See above		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index.		
Remark	It is necessary to add the attribute “unlocd = [ISRS code]” to the object ‘BUAARE’ within the IENC Standard and IENC Encoding Guide.		

E.1.2 Building of Navigational Significance

Full title	Buildings of Navigational Significance BUISGL(P, A) E.1.2 Buildings of Navigational Significance (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter E.1.2		
Definition	Buildings with a special function, which may be of interest for the skipper.		
	Buildings of Navigational Significance	Function Code BUISGL	Object Reference Code (coding proposal) Blxxx xxx = number of building at same river hectometre (001-999) <i>Alternative:</i> xxx = building on left/right bank (Lxx/Rxx)
Recommended encoding of position		BUISGL is a polygon or a node. Therefore, the coordinates of any corner or the coordinates of the node of the BUISGL-Object provide the position (lat-long) for that object within the RIS Index.	
Recommended encoding of position (if done on basis of IENC)	See above		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index.		
Remark	It is necessary to add the attribute “unlocd = [ISRS code]” to the object ‘BUISGL’ within the IENC Standard and IENC Encoding Guide.		

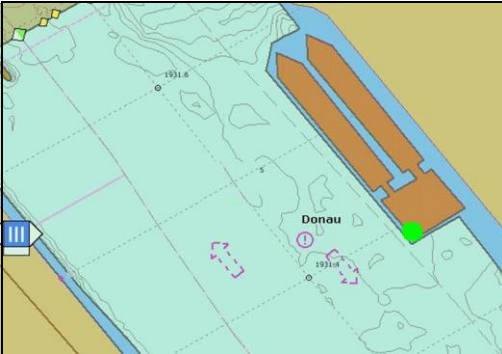
G.3.11 Landing Stage, Pontoon

Full title	Landing Stage / Pontoon ponton(A) G.3.11 Landing Stage, Pontoon (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.3.3		
Definition	A floating structure, usually rectangular in shape which serves as landing, pier head or bridge support.		
	Landing Stage / Pontoon	ponton	Object Reference Code (coding proposal) POxxx xxx = number of object at same river hectometre (001-999) <i>Alternative:</i> xxx = object on left/right bank (Lxx/Rxx)
Recommended encoding of position			Alternative 1: The coordinates of any corner of the Landing Stage / Pontoon-Object provide the position (lat-long) for that object within the RIS Index. Alternative 2: Centre of the object
Recommended encoding of position (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the "hectometre" of the object within the RIS Index.		
Remark			

G.3.12 Mooring Facility

Full title	Mooring Facility MORFAC(P, L ,A) G.3.12 Mooring Facility		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.3.12		
Definition	The equipment or structure used to secure a vessel.		
	Mooring Facility	Function Code morfac	Object Reference Code (coding proposal) MOxxx xxx = number of facility at same river hectometre (001-999) <i>Alternative:</i> xxx = facility on left/right bank (Lxx/Rxx)
Recommended encoding of position			
	The coordinates of the Mooring Facility-Object provide the position (lat-long) for that object within the RIS Index.		
Recommended encoding of position (if done on basis of IENC)	See above		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index.		
Remark	It is necessary to add the attribute “unlocd = [ISRS code]” to the object ‘MORFAC’ within the IENC Standard and IENC Encoding Guide.		

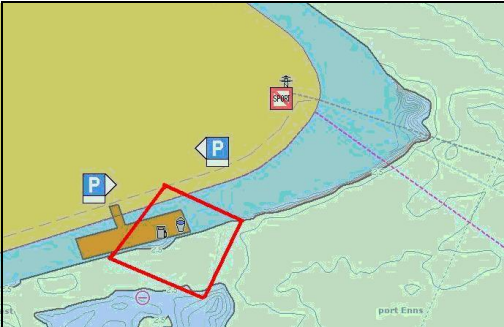
G.3.14 Permanently Moored Vessel or Facility

Full title	Permanently Moored Vessel or Facility hulkes(A) G.3.14 Permanently Moored Vessel or Facility (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.3.14		
Definition	A permanently moored ship or other object.		
	Permanently Moored Vessel or Facility	Function Code hulkes	Object Reference Code (coding proposal) HLKxx xx = number of hulkes at same river hectometre (01-99) <i>Alternative:</i> xx = hulkes on left/right bank (Lx/Rx)
Recommended encoding of position		The coordinates of any corner of the Permanently Moored Vessel or Facility-Object provide the position (lat-long) for that object within the RIS Index. Alternative: Centre of the object	
Recommended encoding of position (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

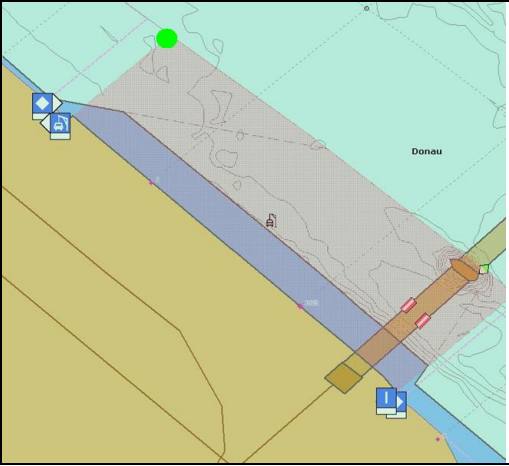
G.3.17 Refuse Dump

Full title	Refuse Dump refdmp (P) G.3.17 Refuse Dump (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.3.17		
Definition	At a refuse dump the vessels are able to unload their refuse like waste oil or black water.		
	Refuse Dump	refdmp	Object Reference Code (coding proposal) RExxx xxx = number of object at same river hectometre (001-999) <i>Alternative:</i> xxx = object on left/right bank (Lxx/Rxx)
Recommended encoding of position			The coordinates of the refuse dump - Object provide the position (lat-long) for that object within the RIS Index.
Recommended encoding of position (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	Furthermore, the distance mark along the waterway axis shall be used as the "hectometre" of the object within the RIS Index.		
Remark			

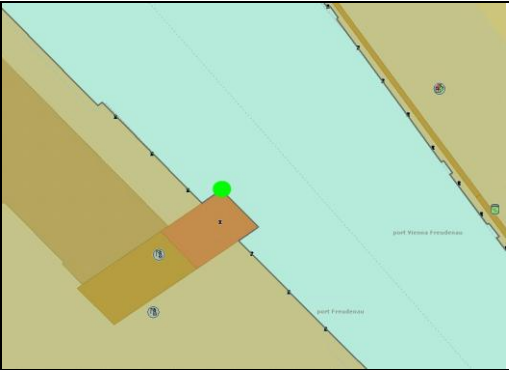
G.3.2 Bunker / Fuelling Station

Full title	Bunker / Fuelling Station bunsta(P, A) G.3.2 Bunker / Fuelling Station (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.3.2		
Definition	A station, at which a vessel is able to bunker fuel, water or ballast.		
	Bunker / Fuelling Station	Function Code bunsta	Object Reference Code (coding proposal) BUxxx xxx = number of object at same river hectometre (001-999) <i>Alternative:</i> xxx = object on left/right bank (Lxx/Rxx)
Recommended encoding of position		The coordinates of the Bunker / Fuelling Station -Object provide the position (lat-long) for that object within the RIS Index.	
Recommended encoding of position (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	Furthermore, the distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

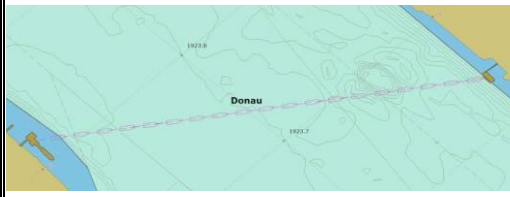
G.3.20 Vehicle Transfer Location

Full title	Vehicle Transfer Location vehtrf(A) G.3.20 Vehicle Transfer Location (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.3.20		
Definition	A place where vehicles can be loaded or unloaded from the inland vessel with onboard or onshore facilities.		
	Vehicle Transfer Location	Function Code vehtrf	Object Reference Code (coding proposal) VEHTx x = number of object at same river hectometre (1-9) <i>Alternative:</i> x = object on left/right bank (L/R)
Recommended encoding of position		Alternative 1: The coordinates of any corner of the Vehicle Transfer Location-Object provide the position (lat-long) for that object within the RIS Index. Alternative 2: Centre of the object	
Recommended encoding of position (if done on basis of IENC)			
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

G.3.4 Crane

Full title	Crane CRANES(P, A) G.3.4 Crane (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter G.3.4		
Definition	A machine for lifting, shifting and lowering objects or materials by means of a swinging boom or with a lifting apparatus supported on an overhead track.		
	Crane	Function Code cranes	Object Reference Code (coding proposal) CRxxx xxx = number of object at same river hectometre (001-999) <i>Alternative:</i> xxx = object on left/right bank (Lxx/Rxx)
Recommended encoding of position			The coordinate of any corner of the Crane-Object provides the position (lat-long) for that object within the RIS Index.
Recommended encoding of position (if done on basis of IENC)	See above		
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis next to the object shall be used as the "hectometre" of the object within the RIS Index.		
Remark	It is necessary to add the attribute "unlocd = [ISRS code]" to the object 'CRANES' within the IENC Standard and IENC Encoding Guide.		

L.2 Ferries

Full title	Ferries L.2 Ferries		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter L.2		
Definition	<u>Cable Ferry</u> : A route in a body of water where a ferry crosses from one shoreline to another. In this specific case a ferry that follows a fixed route guided by a cable. Cable ferries (either assisted by propulsion or not) are fixed to a cable. This cable is crossing the river either above or below water surface. <u>Free Moving Ferry</u> : A route in a body of water where a ferry crosses from one shoreline to another. In this specific case a ferry which may have routes that vary with weather, tide and traffic. <u>Swinging Wire Ferry</u> : A route in a body of water where a ferry crosses from one shoreline to another. A "Swinging Wire Ferry" is connected to a fixed point (e.g., an anchor in the middle of the waterway) and swings around this point from shore to shore via a cable to an anchor. The cable runs more or less parallel to the current.		
	Ferries L.2.1 Cable Ferry L.2.2. Free Moving Ferry L.2.3. Swinging Wire Ferry	Function Code FERYRT_2 FERYRT_1 feryrt_4	Object Reference Code (coding proposal) FERYx x = number of ferry at same river hectometre (1-9)
Recommended encoding of position		Alternative 1: The coordinates of any node of the ferry object provide the position (lat-long) for that object within the RIS Index. Alternative 2: Centre of the object	
Recommended encoding of position (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	Furthermore, the distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	It is necessary to add the attribute “unlocd = [ISRS code]” to the object ‘Ferries’ within the IENC Standard and IENC Encoding Guide.		

R.1.1 Check Point

Full title	Check Point chkpnt(P, A)R.1.1 Check Point (O)		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter R.1.1		
Definition	An official place to register, declare or check goods and/or people.		
	Check Point	Function Code chkpnt	Object Reference Code (coding proposal) CHKPT
Recommended encoding of position (if done on basis of IENC)	<i>No illustration available</i> A country having such object in their official IENCs should provide a screenshot.	The coordinates of the Check Point-Object provide the position (lat-long) for that object within the RIS Index.	
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark			

R.2 Signal Stations

Full title	Signal Stations R.2 Signal Stations		
Reference of definition	Inland ENC Encoding Guide Edition 1, Version 3.1 (May 2008), chapter R.2.1		
Definition	<u>Bridge Passage</u>: Place on shore from which signals are made for the control of vessels wishing to pass under a bridge. <u>Lock</u>: Place on shore from which signals are made for the control of vessels entering or leaving a lock. <u>Oncoming Traffic Indicator</u>: Place on shore from which signals are made to inform about oncoming traffic. <u>Port Entry and Departure</u>: Place on shore from which signals are made for the control of vessels entering or leaving a port.		
	Signal Stations R.2.1 Traffic Sistat – Bridge Passage R.2.2 Traffic Sistat – Lock R.2.3 Traffic Sistat – Oncoming Traffic Indicator R.2.4 Traffic Sitat – Port Entry and Departure	Function Code sistat_(x)x x = type of Traffic Signal Station	Object Reference Code (coding proposal) SIxxz xx = type of Traffic Signal Station z = number of signal station
		sistat_8 sistat_6 sistat_10 sistat_2	SI08z SI06z SI10z SI02z
Recommended encoding of position		z = number of signal stations (Necessary in case there are several signal stations on the same river hectometre. In that case only the Object Reference Code can distinguish the individual Signal Stations, 1-9)	
		The coordinates of the Signal Station-Object provide the position (lat-long) for that object within the RIS Index.	

Recommended encoding (if done on basis of IENC)	See above	
Conditions for codification	The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index.	
Recommendations for attributes		
Remark	Signal stations are defined in the Inland ECDIS standard 2.1. The attribute for the ISRS Code (unlocd) was included in version 2.3 of the Inland ECDIS standard for this object, thus the ISRS code cannot be defined within IENCs using older versions than 2.3.	

Waypoint

Full title	Waypoint wayp		
Reference of definition	The definition is maintained by the ERI Expert Group		
Definition	A waypoint is defined by a virtual line perpendicular on the fairway axis running from side to side of the fairway. When a vessel crosses that line in any position of the vessel in the navigable part of the fairway it is said that the vessel has passed a waypoint.		
	Waypoint	Function Code waypt	Object Reference Code (coding proposal) WAYPT
Recommended encoding of position	No such object in the Inland ECDIS Standard and Inland ENC Encoding Guide	The coordinates of the related Waypoint-Object provide the position (lat-long) for that object within the RIS Index.	
Recommended encoding (if done on basis of IENC)			
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index.		
Remark	There is no such object within the Inland ECDIS Standard and IENC Encoding Guide.		

Special Construction

Full title	Special Construction specon		
Reference of definition			
Definition			
	Special Construction	Function Code specon	Object Reference Code (coding proposal) SPECx x = number of object at same river hectometre (1-9) <i>Alternative:</i> x = object on left/right bank (L/R)
Recommended encoding of position	No such object in the Inland ECDIS Standard and Inland ENC Encoding Guide	The coordinates of any corner of the Special Construction-Object provide the position (lat-long) for that object within the RIS Index.	
Recommended encoding (if done on basis of IENC)			
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	There is no such object within the Inland ECDIS Standard and IENC Encoding Guide.		

Passage Points

Full title	Passage Points pas		
Reference of definition	The definition underneath is defined by the ERI Expert Group		
Definition	A passage point is a defined distinguishable spot which serves as a marker to determine parts of a voyage of a vessel and triggering a certain action.		
	Passage Point	Function Code pas	Object Reference Code (coding proposal) PASSP
Recommended encoding (if done on basis of IENC)	No such object in the Inland ECDIS Standard and Inland ENC Encoding Guide	The coordinates of (any corner of) the Passage Point-Object provide the position (lat-long) for that object within the RIS Index.	
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	There is no such object within the IENC Standard and IENC Encoding Guide.		

Traffic Points (first reporting points)

Full title	Traffic Points trafp		
Reference of definition	The definition is maintained by the ERI Expert Group		
Definition	A traffic point is a defined distinguishable spot which serves as a marker to determine where the necessary electronic reporting towards the fairway authorities should be done. Also first reporting point		
	Traffic Point	Function Code trafp	Object Reference Code (coding proposal) TRAFP
Recommended encoding (if done on basis of IENC)	No such object in the Inland ECDIS Standard and Inland ENC Encoding Guide	The coordinates of (any corner of) the Traffic Point-Object provide the position (lat-long) for that object within the RIS Index.	
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	There is no such object within the IENC Standard and IENC Encoding Guide.		

Waterway node / Junction

Full title	Waterway node / Junction junction		
Reference of definition	Joint Task Force RIS Index Encoding Guide		
Definition	A waterway node / junction is a place where two or more fairway sections converge or diverge or the start or end of a fairway. This implies a physical connection between the beds of the two fairways.		
	Waterway node / Junction	Function Code junction	Object Reference Code (binding coding rule) Jxxxx xxxx = Number of junction (0001-9999)
Recommended encoding of position	No such object in the Inland ECDIS Standard and Inland ENC Encoding Guide	The coordinate of the related Junction-Object provides the position (lat-long) for that object within the RIS Index.	
Recommended encoding (if done on basis of IENC)			
Conditions for codification			
Recommendation for attributes	The distance mark along the waterway axis next to the object shall be used as the “hectometre” of the object within the RIS Index.		
Remark	There is no such object within the Inland ECDIS Standard and IENC Encoding Guide. More information on junctions is provided in a separate document dealing with the encoding of the European waterway network.		

RIS Centre

Full title	RIS Centre riscen		
Reference of definition	Directive 2005/44/EC		
Definition	According to the Directive 2005/44/EC the RIS centre is defined as “RIS centre means the place where the services are managed by operators”. <u>RIS centre</u> is the place, where the services are managed by operators. A RIS may exist without a RIS centre (e.g. an Internet service, a buoys service). When ship/shore interaction in both ways (e.g. by VHF service) is intended, one or more RIS centres are needed. If a VTS centre or a lock exists in a RIS area, they may also be used as RIS centres. It is recommended to concentrate all services in a RIS area into one single RIS centre (<i>Source: RIS-Guidelines 2007/414/EC</i>) In terms of the R2D2 (RIS Data exchange Reference Documentation), developed within the IRIS Europe initiative, a RIS centre is the logical identifier for RIS services within a country, area or organization. A RIS centre addresses other RIS centres using their ID in order to exchange ERI, VTT, Hull and other data. RIS centre IDs are also used to specify ERI(NOT) reporting points.		
	RIS Centre	Function Code riscen	Object Reference Code (coding proposal) RISxx xx = Number of RIS centre (01-99, must not be used twice per country)
Recommended encoding of position	No such object in the Inland ECDIS Standard and Inland ENC Encoding Guide	The coordinate of the related RIS Centre-Object provides the position (lat-long) for that object within the RIS Index. (e.g. VTS centre, RIS operator office)	
Recommended encoding (if done on basis of IENC)			
Conditions for codification	If one RIS centre is serving two or more countries, one common country code shall be agreed for this RIS centre.		
Recommendation for attributes			
Remark	There is no such object within the IENC Standard and IENC Encoding Guide. The existing Object Reference Code for encoding vessel traffic centres (TRACE) does not apply for a RIS centre, thus an additional Object Reference Code is recommended.		

Annex 1: Frequently Asked Questions

The Frequently Asked Questions (FAQ) are provided in a separate Annex to this document. The FAQ are continuously extended to provide clarifications related to the RIS Index. The FAQ are maintained by the Joint Task Force on the RIS Index.

Annex 2: Waterway Network Encoding Guide

As of October 2012 this Annex has not been finalised. The Waterway Network Encoding Guide will be provided in a separate Annex to this document.

Annex 3: Maintenance Guidelines for the RIS Index

As of October 2012 this Annex has not been finalised. The Maintenance Guidelines will be provided in a separate Annex to this document. As of October 2012 this Annex has not been finalised.