



RIS Index Encoding Guide

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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 locations codes, also referred to as ISRS Location Codes (ISRS, International Ship Reporting Standard). Although a definition of the ISRS Location Code exists (for reference see chapter 2.7 of commission regulation No 164/2010 of 25 January 2010 on the technical specifications for electronic ship reporting in inland navigation), 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 fulfil 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.
- Logistics Users - Need information on operating times of locks, bridges and other relevant objects to plan and execute the logistics transport processes in an optimal way.

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 Location 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 and the ISRS Location Code was introduced.

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 ISRS Location Code is defined in the “Commission Regulation 2018/2032 concerning the technical specifications for Notices to Skippers. 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. It should be created using the following mandatory data elements forming a unique identifier, arranged in 4 information blocks:

- (a) **Block 1:** UN/LOCODE (5 letters, alphanumerical), comprising
 - Country code (2 digits, alphanumerical)^[2], and
 - Location code (3 digits, alphanumerical, “XXX” if not available)
- (b) **Block 2:** Fairway section code (5 digits, alphanumerical, to be determined by the national authority)
- (c) **Block 3:** Object Reference Code (5 digits, alphanumerical, “XXXXX” if not available)
- (d) **Block 4:** Fairway section hectometre (5 digits, numerical, hectometre at the center of the area or “00000” if not available).

The ISRS Location Code is created once and shall not be changed throughout the lifetime of the object. Therefore the content of the ISRS Location Code should not be interpreted by applications, but only used as a unique identifier. The meaningful data is included in the attributes of the object only (see chapter 4).

^[2] The UN country codes are defined in accordance with point 4.3 of the Annex to Commission Regulation (EU) No 2018/2032. The UN country codes are identical to the ISO 3166-1 Alpha-2 country codes.

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

- In order to set up RIS, Member States shall³:
 - 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 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 2018/2032) standard requires the ISRS Location Code for the definition of the waterway section, where a message is applicable, and the definition of the affected object. The ISRS Location Code is defined in the Annex chapter 4.3 of the NtS Commission Regulation.
- The Standard / Commission Regulation for Inland AIS requires (Commission regulation 2019/838) the ISRS Location Code of all objects relevant for tracking and tracing in inland navigation, e.g. ports, terminals, water level gauges, etc.
- The ISRS Location Code is the only machine-readable key link between Electronic Reporting, Inland ECDIS, Inland AIS and Notices to Skippers.
- The objects of relevance for the respective key RIS technologies are marked in the tables in chapter 3.1 and 3.2

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

- Static object information data (e.g. dimensions of a lock) is part of Inland ECDIS. Additional dynamic and temporary information related to the objects and fairways (e.g. reduced dimensions of a lock due to maintenance works) is 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, e.g. voyage planning requires 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 along a certain route. 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 is done on basis of the ISRS Location Code. The display on Inland ECDIS or on other maps is done based on the coordinates included in the NtS messages.

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....), date and source of information etc.

³ See Directive 2005/44/EC

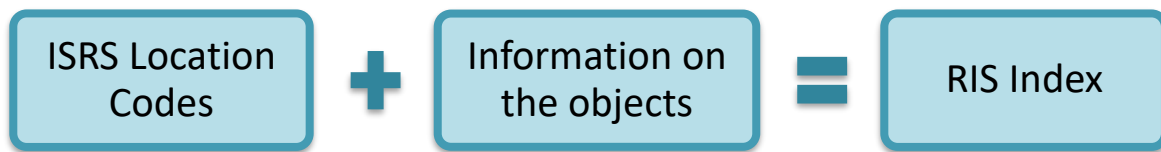


Figure 1: Basic elements of the RIS Index

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 etc.).
- Inland ECDIS (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 class IV and above. This 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 Inland 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 before mentioned data necessary for navigation shall be provided via the Inland Electronic Navigational Charts (Inland ENCs/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 in case of approval an official legal basis for the encoding of the objects in the RIS Index and their attributes is to be expected. In the year 2019 an evaluation of the RIS Directive is carried out. The results of this evaluations are expected to be available in 2020.

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 understanding on how and when to encode 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 the objects which should be encoded first. The intended main purpose of usage for each object is marked in the respective column. The RIS Index includes all objects relevant for inland navigation, this table specifies which objects should at least be available in respective applications for the following specific purposes:

- ERI (ETA / ETD reporting): objects are marked that are of relevance for ETA / ETD reporting via an ERIVOT message
- ERI (Logistics transshipment): objects are marked where transshipments may be carried out via BERMAN message
- ERI (Voyage and cargo): objects are marked that are relevant for reporting of voyage and cargo via an ERINOT message
- Inland ECDIS: objects are marked where the Inland ECDIS standard allows to include the UNISRS Location Code (the attribute 'unlocd')
- Vessel Tracking & Tracing (VTT): objects are marked that may be used in Inland AIS specific messages
- NtS: objects are marked that are of relevance and to be used in NtS messages
- Route / voyage planning: objects are marked that are of relevance for route and voyage planning applications

			ETA / ETD reporting	Logistics transshipment	Voyage and cargo	Inland ECDIS	Vessel Tracking & Tracing (VTT)	Notices to Skippers (NtS)	Route / voyage planning
Inland ECDIS Object class*	Chapter	Object Name ⁴	Electronic Reporting (ERI)						
C_AGGR() (brgare)	G.1	All types of bridges	X			X	X	X	X
TUNNEL	G.1	Bridge Area	X			X	X	X	X
cblohd(L)	G.1.7.	Tunnel				X		X	X
pipohd(L)	G.1.8	Overhead Cable				X		X	
hrbare(A)	G.1.9	Overhead Pipe				X		X	
hrbbsn(A)	G.3.9	Harbour Area	X	X	X	X		X	X
prtare(A)	G.3.10	Harbour Basin	X	X	X	X		X	X
termnl(P, A)	G.3.15	Port Area	X	X	X	X		X	X
lokbsn(A)	G.3.19	All types of Terminals	X	X	X	X		X	X

lkbspt(A)	G.4.3	Lock Basin	X			X		X	X
C_AGGR() (lokare)	G.4.4	Lock Basin Part				X		X	
gatcon(L, A) (cat 4)	G.4.3, 4.4	Lock Area	X			X		X	X
gatcon(L, A) (cat 4)	G.4.5	Lock Gate				X		X	
excnst(P, A)	G.4.8	Exceptional Navigational Structure				X		X	X
gatcon(L, A) (cat 2)	G.4.9	Opening Barrage				X		X	X
C_AGGR() (gatare)	<i>n.a.</i>	Barrage Area				X		X	
wtwgag(P, A)	I.3.4	Waterway Gauge				X	X	X	X
dismar(P)	L.3.2	Distance mark along waterway axis	X			X		X	X
achare(P, A)	M.1.1	Anchorage Area	X		X	X		X	X
berths(P,L,A)	M.1.2-1.4	All types of berths	X	X	X	X		X	X
trnbsn(P, A)	M.4.5	Turning Basin				X		X	
rdocal(P, L)	Q.2.1	Radio Calling-in Point (notification point)	X			X			
junction	<i>n.a.</i>	End of waterway / Junction	X					X	X

*The Inland ECDIS object class is written in CAPITAL letters for maritime objects and in small letters for inland objects.

3.2. Additional Objects

In the opinion of experts these objects 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	Voyage and cargo	Inland ECDIS	Vessel Tracking & Tracing (VTT)	Notices to Skippers (NtS)	Route / voyage planning
Inland ECDIS Object class*	Chapter ⁴	Object Name ⁵	Electronic Reporting (ERI)						
BUAARE(P,A)	E.1.1	Built-up Areas (O)	X	X	X	X			X
ponton(A)	G.3.11	Landing Stage, Pontoon	X			X			X
MORFAC(P,L,A)	G.3.12	Mooring Facility	X			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

⁴ Inland ENC Encoding Guide Edition 2.4.1 (July 2014)

FERYRT(L), feryrt(L)	L.2	All types of ferries				X		X	
chkpnt(P, A)	R.1.1	Check Point	X		X	X			X
sistat	R.2	Signal Stations				X	X		
trafp	<i>n.a.</i>	Traffic points (first reporting point)	X		X				
riscen	<i>n.a.</i>	RIS Centre	X	X			X	X	

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

The objects *dismar* and *junction* depict the waterway network thus they are included in the RIS Index template spreadsheet "RIS_INDEX_waterway_network". All other priority and additional objects are provided in the spreadsheet "RIS Index".

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 spreadsheets “RIS Index” and “RIS_INDEX_waterway_network” in the RIS Index template (provided in .xlsx format).

Elements	Brief Description	Remark
Columns A - R Official ISRS Location Code and Index data	These elements are the core elements of the RIS Index	
Columns S - U Additional RIS data	The columns S - U, which are marked white in the template, contain additional RIS data	
Columns V - AF Restrictions (if not provided in an IENC ⁵)	The columns V - AF can be used to provide the information on restrictions, which are caused by an object (e.g. a bridge or a lock)	
Columns AG - AP Reference data for gauges	The reference data of gauges is very important for the safety of navigation and for voyage planning	
Columns AQ - AU Operation times (not used)	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 and berths) are important for voyage planning	The columns AQ – AU are not used any more. Information on operation times is provided by means of facility files referred to in column ‘T’.
Columns AV - BQ Additional data on restrictions	The columns AV - BQ provide a possibility to enter additional data on restrictions (e.g. additional possibilities of vessel dimension combinations)	
Columns BR - CA Additional operation times (not used)	The columns BR - CA provide a possibility to enter additional data on operation times (e.g. for certain types of ships)	The columns BR – CA are not used any more. Information is provided by means of facility files.
Columns CB - CF Maintenance data	The columns CB - CF contain the maintenance data of the RIS Index	

⁵ 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
 (E) Erased: Obsolete column, not used any more but kept to ensure backward compatibility

Applicability: RIS Index template version 3.0 – available at

<https://ris.cesni.eu>

Col	Attribute	Explanation
Columns A – R Official ISRS Location Code and Index data		The columns A - R, which are marked green in the template, have to be filled in for every object.
A	Country code (2 digits, alphanumeric) (M)	The country code 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
B	UN Location code (3 digits, alphanumeric) (M)	<p>The UN Location code 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</p> <p>“XXX” may be used as a valid entry for RIS purposes in the following exceptional cases:</p> <p>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)</p> <p>In case the UN/LOCODE changes the information is updated in column A and B only and does not affect the ISRS Location Code (column F).</p> <p>Case 2: “XXX” should be assigned to the <i>distance mark</i> object, indicating the river hectometre on the waterway axis, and the <i>junction</i> object. This is necessary because the waterway axis very often represents the border of different administrative areas and it is difficult to decide which one to use. Also an UN/LOCODE does not provide added value for such objects.</p> <p>The Reference Data Managers will ensure that XXX will be used in exceptional cases only.</p>
C	Fairway section code (5 digits, alphanumeric) (M)	<p>The fairway section code consists of five 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.</p> <p>In case the fairway section code changes the information is updated in column C only and does not affect the ISRS Location Code (column F).</p>
D	Object Reference Code (former Terminal code) (5 digits, alphanumeric) (M)	The Object Reference Code (ORC) consists of five uppercase alphanumeric characters and has to be assigned by the national authorities or by logistics stakeholders. 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).

Col	Attribute	Explanation
		<p>For most of the objects there are no rules what to include in the ORC as long as there are unique ISRS Location Codes.</p> <p>Only for <i>distance marks</i>, <i>waterway gauges</i> and <i>Junctions</i> there are binding encoding rules for the ORC to ensure interoperability between Inland AIS, NtS, ERI and Inland ECDIS for these objects.</p> <p>In case the ORC changes the information is updated in column D only and does not affect the ISRS Location Code (column F).</p>
E	Fairway Hectometre (5 digits, numeric) (M)	<p>The Fairway Hectometre code consists of five numerical digits. Example: "00235" for river km 23.5; "00001" for river km 0,1</p> <p>The Fairway Hectometre always refers to the nearest physical mark, regardless of its precision. It should therefore be seen as a "meaningful" attribute and not as a basis for calculations. In case there are no physical marks, virtual hectometre values shall be used.</p> <p>In case the Fairway Hectometre changes the information is updated in column E only and does not affect the ISRS Location Code (column F).</p> <p>In case Nautical Miles (nm) are used as distance marks the nm shall be converted to hectometres (e.g. nm 1 converts to hm 19 – the exact transformation would be 1nm to 1.852km).</p>
F	ISRS Location Code (20 digits, alphanumeric) (M)	<p>The ISRS Location Code is generated only once from the entries in the columns A to E. Once an ISRS Location code has been generated, it will remain the same. (details are provided in the maintenance guide for the RIS Index)</p> <p>The ISRS Location Code may initially be generated based on meaningful information but shall not be used for the extraction, display or further processing of its components by applications. Once it is generated it shall serve as a unique ID only.</p>
G	Function (enumeration) (M)	<p>The purpose of the function code is to establish an unambiguous link between the "Object Class" of an object in Inland ECDIS and the same object 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).</p> <p>The Function is restricted to the values of the "function code" element in Chapter 5 of this encoding guide (also listed in the table "Functions" in the RIS Index Template).</p> <p>In case the Object Class changes the function code has to be updated.</p>
H	Object name (max. 70 characters) (C)	<p>The object name 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:</p> <p>Names shall be entered in local language using Basic Latin Unicode characters e.g. Baarlerbruecke, Volkeraksluis or Mannswoerth.</p> <p>Do not include information on characteristics of feature, the type of object shall not be repeated in the object name unless additional information to the object type is given.</p> <p>E.g.: The lock "Schleuse Freudenau" shall only be named "Freudenau", the object type "lock" can be added automatically based on the <u>function_code</u>.</p>

Col	Attribute	Explanation
		<p>E.g.: The object name for the Railway bridge in Krems (AT) is "Eisenbahnbruecke Krems". The information 'railway bridge' is included in the object name as it adds information in addition to the function_code "bridge".</p> <p>E.g.: The waterway gauge "Pegelstelle Wildungsmauer" is named „Wildungsmauer“ as the information that this object is a gauge is already coded in the function code.</p> <p>If a waterway section is the borderline between two countries with different languages, the object name can be provided in both languages (e.g. "Staatsgrenze AT-SK/Statna hranica AT-SK")</p>
I	National object name (max. 256 characters) (C)	<p>The national object name has to be provided, if it exists (if a berth has a name, for example).</p> <p>Names shall be entered in local language using UTF-8 encoding, thus also e.g. diacritics or Cyrillic letters may be used. (e.g. Baarlerbrücke, Volkeraksluis or Mannswörth)</p> <p>Do not include information on characteristics of feature, the type of object shall not be repeated in the national object name unless additional information to the object type is given. (see examples in column H 'object name')</p> <p>If a waterway section is the borderline between two countries with different languages, the national object name can be provided in both languages (e.g. "Staatsgrenze AT-SK/Statna hranica AT-SK").</p> <p>If a national object name is provided also the object name (column 'H') is to be provided.</p>
J	Location name (max. 70 characters) (C)	<p>The location name is linked to the UN Location Code (see column B). If a UN Location Code exists, then the Location Name according to the UN/ECE list may be used. A list of available location names can be found here: http://www.unece.org/cefact/locode/service/location.htm</p> <p>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 may be entered as a free text.</p> <p>Place names are given, whenever possible, in their national language 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.</p>
K	Waterway name (max. 70 characters) (M)	<p>The name of the waterway shall be entered in local language using Basic Latin Unicode characters.</p> <p>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")</p>
L	National waterway name (max. 256 characters) (M)	<p>The national name of the waterway shall be entered in local language using UTF-8 encoding, thus also e.g. diacritics or Cyrillic letters may be used. (e.g. Labe, Elbe, Rijn, Donau, Дунав)</p> <p>If a waterway section is the borderline between two countries with different languages, the national waterway name can be provided in both languages (e.g. "Donau – Dunaj", "Duna – Дунав")</p>
M	Position code of object related to the fairway (enumeration "NtS position_code")	<p>The position of an object related to the fairway enables - language independent - coding of the position of an object without having the logic in the object reference code. Upon creation of notices to skippers this information can be taken from the RIS Index and automatically included in NtS messages.</p>

Col	Attribute	Explanation																																								
	(O)	<p>NtS position codes have to be used in line with the “postion_code” table as available in the NtS reference tables. (E.g. the left/middle/right/old/new/big/small/north/east/... lock chamber, a signal station on the left/right bank of the waterway, a berth on the left/right bank of the waterway)</p> <table><tr><th>Value</th><th>Meaning (EN)</th></tr><tr><td>LE</td><td>left</td></tr><tr><td>MI</td><td>middle</td></tr><tr><td>RI</td><td>right</td></tr><tr><td>LB</td><td>left bank</td></tr><tr><td>RB</td><td>right bank</td></tr><tr><td>N</td><td>north</td></tr><tr><td>NE</td><td>north-east</td></tr><tr><td>E</td><td>east</td></tr><tr><td>SE</td><td>south-east</td></tr><tr><td>S</td><td>south</td></tr><tr><td>SW</td><td>south-west</td></tr><tr><td>W</td><td>west</td></tr><tr><td>NW</td><td>north-west</td></tr><tr><td>BI</td><td>big</td></tr><tr><td>SM</td><td>small</td></tr><tr><td>OL</td><td>old</td></tr><tr><td>EW</td><td>new</td></tr><tr><td>MP</td><td>movable part</td></tr><tr><td>FP</td><td>fixed part</td></tr></table>	Value	Meaning (EN)	LE	left	MI	middle	RI	right	LB	left bank	RB	right bank	N	north	NE	north-east	E	east	SE	south-east	S	south	SW	south-west	W	west	NW	north-west	BI	big	SM	small	OL	old	EW	new	MP	movable part	FP	fixed part
Value	Meaning (EN)																																									
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W	west																																									
NW	north-west																																									
BI	big																																									
SM	small																																									
OL	old																																									
EW	new																																									
MP	movable part																																									
FP	fixed part																																									
N	Route name (max. 80 characters) (O)	The route name shall be entered in local language using Basic Latin Unicode characters.																																								
O	related ISRS (20 digits, alphanumeric) (C)	The related ISRS Location Code is used to link two ISRS Location Codes together. 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 (e.g. within Junctions) to establish a relation between the waterway sections of neighbouring countries to create a waterway network (see ‘Recommendations for attributes’ in the object descriptions in chapter 5.2 and 5.3).																																								
P	Section node (E)	Erased, obsolete column, not used																																								
Q	Lat (decimal value) (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 decimal separator.																																								
R	Lon (decimal value) (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 decimal separator. <u>Examples for Latitude/Longitude:</u> 48.251761, 16.372223; 30.831461,111.010923;-16.606748,-151.50198																																								
Columns S - U Additional RIS data		Columns S - U contain additional information that link information in the RIS Index with the Inland Electronic Navigational Charts (IENC)																																								

Col	Attribute	Explanation
S	Related ENCs (max. 50 characters) (E)	Erased, not used any more
T	Facility file name (external file for TXTDSC) (max. 70 characters) (O)	Facility file name (e.g. of a lock) can be provided, if the object has opening hours or contact information, which are relevant to users. If such information is provided, the standardized XML file structure defined in the Inland ECDIS standard shall be used. The structure of the XML file is described in the Inland ECDIS Encoding Guide 2.4 Annex AF. The name of the file shall be entered here including the file extension ".xml". It is recommended to use the ISRS Location Code as the file name to ensure a connection between the object and the file. <u>Example:</u> ATVIE00001LOCKS19212.xml (Facility file name for the lock of Freudenu in Vienna) Facility files are being provided together with the Inland ECDIS exchange dataset.
U	National Gauge code (max. 20 characters) (O)	This field is 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 V - AF Restrictions for navigability		<p>The columns V - AF 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.</p> <p>Columns V - Y contain the maximum dimensions of vessels (if defined), columns Z - AF contain the available dimensions of the object (bridge opening, lock chamber ...) itself. The available dimensions should be provided as physical values without safety margins.</p>														
V	vessel/convoy length (C)	in metres [xxx.xx]														
W	vessel/convoy breadth (C)	in metres [xxx.xx]														
X	vessel/convoy draught (C)	in metres [xxx.xx]														
Y	vessel/convoy air draught (C)	in metres [xxx.xx]														
Z	available length (C)	in metres [xxx.xx]														
AA	clearance width (C)	in metres [xxx.xx]														
AB	available depth code (enumeration) “NtS reference_code” (C)	<p>The 'available depth code' includes the reference for the 'available depth value' in line with the NtS reference_code table. See table below: (e.g. RNW, LDC)</p> <table><tr><th>Value</th><th>Meaning (EN or local language)</th></tr><tr><td>NAP</td><td>Normaal Amsterdams Peil</td></tr><tr><td>KP</td><td>channel level</td></tr><tr><td>FZP</td><td>FZP</td></tr><tr><td>ADR</td><td>Adria</td></tr><tr><td>TAW</td><td>TAW/DNG</td></tr><tr><td>PUL</td><td>Pulkovo 1942</td></tr></table>	Value	Meaning (EN or local language)	NAP	Normaal Amsterdams Peil	KP	channel level	FZP	FZP	ADR	Adria	TAW	TAW/DNG	PUL	Pulkovo 1942
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NAP	Normaal Amsterdams Peil															
KP	channel level															
FZP	FZP															
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		<table><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><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><tr><td>HBO</td><td>High water level of attention</td></tr></table>	NGM	Ngm	ETRS	Etrs89	POT	Potsdamer Datum	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	HBO	High water level of attention	
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WGS	WGS 84																														
RN	Normal level																														
HBO	High water level of attention																														
AC	available depth (C)	in metres [xxx.xx]																													
AD	clearance height code (enumeration) “NtS reference_code” (C)	The 'clearance height code' includes the reference for the 'clearance height value' in line with the NtS reference_code (e.g. HDC, HSW) see NtS reference_code table																													
AE	clearance height (C)	in metres [xxx.xx]																													
AF	reference gauge (20 digits, alphanumeric) (C)	The ‘reference gauge’ includes the ISRS Location Code of the applicable reference gauge for provided restrictions (e.g. which water level measurement station is to be considered for bridge clearance calculation or reduced depth statement)																													
Columns AG - AP 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 AG - AP 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.																													
AG	applicability from rhm (5 digits, alphanumeric) (C)	Each gauge has an area, where the information from this gauge is applicable. The starting point (hectometre) of this area can be entered here. (5 digits)																													
AH	applicability to rhm (5 digits, alphanumeric) (C)	Each gauge has an area, where the information from this gauge is applicable. The end point (hectometre) of this area can be entered here. (5 digits)																													
AI	Reference level 1 code (enumeration) “NtS reference_code” (C)	<p>The reference code for the low navigable water level shall be provided here, e.g. LDC for regulated low water level (Danube Commission)</p> <p>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 in line with the NtS reference_code table “Value”.</p> <table><tr><th>Value</th><th>Meaning (EN or local language)</th></tr><tr><td>NAP</td><td>Normaal Amsterdams Peil</td></tr></table>		Value	Meaning (EN or local language)	NAP	Normaal Amsterdams Peil																								
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NAP	Normaal Amsterdams Peil																														

		KP	channel level
		FZP	FZP
		ADR	Adria
		TAW	TAW/DNG
		PUL	Pulkovo 1942
		NGM	Ngm
		ETRS	Etrs89
		POT	Potsdamer Datum
		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
HBO	High water level of attention		
AJ	Reference level 1 value (integer) (C)	The value, which is provided by the gauge for the reference water level 1 (column AI) in [cm]. <u>Example:</u> can be used to provide the reference water level value for regulated low water level on the Danube (LDC).	
AK	Reference level 2 code (C)	The reference code for the mean navigable water level shall be provided here. <i>See provisions for column AI</i>	
AL	Reference level 2 value (C) (See column AI)	in [cm] The value, which is provided by the gauge for the reference water level 2 (column AK) in [cm].	
AM	Reference level 3 code (C) (See column AI)	The reference code for the high navigable water level shall be provided here, e.g. HNW for high navigable water. <i>See provisions for column AI</i>	
AN	Reference level 3 value (C) (See column AI)	in [cm] The value, which is provided by the gauge for the reference water level 3 (column AM) in [cm].	
AO	Zero point (integer) (C)	The height of the zero point (in other words ‘zero level’) of the gauge station 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.	
AP	Geod. ref. (enumeration) “value as defined for column AP within the RIS Index Encoding Guide”	The geodetic reference of the zero point of the gauge, e.g. ADR (Adriatic sea), BAL (Baltic sea), EVRF2000 (European Vertical Reference System) or NAP as defined in the RIS Index Encoding Guide.	

(C)

The following “Values” are allowed:

Value	Meaning (EN)	Clarification
ADR	Adria	Adriatic Sea
BAL	Baltic Sea	The reference_code 'BAL' is not included in the NtS Reference Tables
BLS	Black Sea/Constanta	The reference_code 'BLS' is not included in the NtS Reference Tables
CMH	Maritime coast of Le Havre	The reference_code 'CMH' is not included in the NtS Reference Tables (French: côte maritime du Havre)
KP	channel level	
GLW	equivalent low water level ('GIW')	
ETRS	ETRS89	European Terrestrial Reference System 1989 (ETRS89)
EVRF2000	EVRF2000	European Vertical Reference System 2000
EVRF2007	EVRF2007	European Vertical Reference System 2007
FZP	FZP	only the abbreviation “FZP” shall be used (nowadays hardly used anymore)
HNW	High Navigable Water	
HDC	high water level Danube Commission	
HBO	high water level of attention	
HSW	highest navigable water level	
IGN	IGN 69	
LNW	Low Navigable Water	
LDC	low water level Danube Commission	
NAP	NAP	In the Netherlands the abbreviation NAP is used and understood, NAP is not translated
NGF	French general level	The reference_code 'NGF' is not included in the NtS Reference Tables (French: nivellement général de la France)
NGM	Ngm	
RN	normal level	
POT	Potsdamer Datum	
PUL	Pulkovo 1942	
TAW	TAW/DNG	“Tweede algemene waterpassing” (Dutch) – “Deuxième Nivellement Général” (French)
WGS	WGS 84	
ZPG	zero point of gauge	
DHHN	German Height System (National)	Deutsches Haupthöhennetz

Columns AQ - AU 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 and berths) 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 by means of facility files. The Inland ECDIS Encoding Guide 2.4 Annex AF shall be used. The facility files are referred to in column 'T' by means of the file name. The columns AQ – AU are not used any more.
AQ	Category of time schedule (cattab) (max. 35 characters) (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
AR	For ship type (shptyp) (max. 70 characters) (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
AS	For use of ship (useshp) (max. 70 characters) (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
AT	Link to external XML file time schedule (schref) (max. 256 characters) (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
AU	Link to external XML file passage time (aptref) (max. 256 characters) (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
Columns AV - BQ Additional data on restrictions (additional possibilities of vessel dimension combinations)		The columns AV - BQ 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.
AV	vessel/convoy length 2 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
AW	vessel/convoy breadth 2 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
AX	vessel/convoy draught 2 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
AY	vessel/convoy air draught 2 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
AZ	available length 2 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
BA	clearance width 2 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
BB	Available depth 2 code (C)	See encoding provisions for columns V - AF
BC	available depth 2 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
BD	Clearance height 2 code (C)	See encoding provisions for columns V - AF
BE	clearance height 2	in metres [xxx.xx]

	(C)	See encoding provisions for columns V - AF
BF	Reference gauge 2 (C)	See encoding provisions for columns V - AF
BG	vessel/convoy length 3 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
BH	vessel/convoy breadth 3 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
BI	vessel/convoy draught 3 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
BJ	vessel/convoy air draught 3 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
BK	available length 3 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
BL	clearance width 3 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
BM	Available depth 3 code (C)	See encoding provisions for columns V - AF
BN	available depth 3 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
BO	Clearance height 3 code (C)	See encoding provisions for columns V - AF
BP	clearance height 3 (C)	in metres [xxx.xx] See encoding provisions for columns V - AF
BQ	Reference gauge 3 (C)	See encoding provisions for columns V - AF
Columns BR - CA Additional operation times		The columns BR - CA are not used any more. Information on additional operation times is provided by means of facility files referred to in column 'T'.
BR	Category of time schedule (cattab) 2 (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
BS	for ship type (shptyp) 2 (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
BT	for use of ship (useshp) 2 (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
BU	Link to external XML file time schedule (schref) 2 (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
BV	Link to external XML file passage time (aptref) 2 (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
BW	Category of time schedule (cattab) 3 (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
BX	for ship type (shptyp) 3 (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
BY	for use of ship (useshp) 3 (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>

BZ	Link to external XML file time schedule (schref) 3 (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
CA	Link to external XML file passage time (aptref) 3 (E)	Erased, obsolete column, not used <i>This information is provided by means of a facility file referred to in column 'T'.</i>
Columns CB - CF Maintenance data		The columns CB - CF contain the maintenance data of the RIS Index.
CB	Start date for applicability of the data set (date "yyyy-mm-dd" without time zone") (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 CC). This method ensures 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.
CC	End date for applicability of the data set (date "yyyy-mm-dd" without time zone") (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.
CD	Date of the information (date "yyyy-mm-dd" without time zone") (M)	In case data changed (e.g. name or dimensions of an object), the change date has to be entered here. The date provides the possibility to find the latest data, if there are several versions of the RIS Index. Furthermore only mutations have to be imported to ERDMS. 'Date of information' shall be used to identify changed datasets.
CE	Source of information (max. 70 characters) (C)	The source of the respective entry is listed in this column. The (short version of the) organization name is provided in plain text. E.g. 'viadonau'
CF	Reason for changes (max. 512 characters) (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 (Inland ENC), 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 2.4 is the common state of union. As encoding basis the Inland ENC Encoding Guide Edition 2.4.1 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 (e.g. Object class: GATCON, gatcon, FERYRT, feryrt Built-up Areas). 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

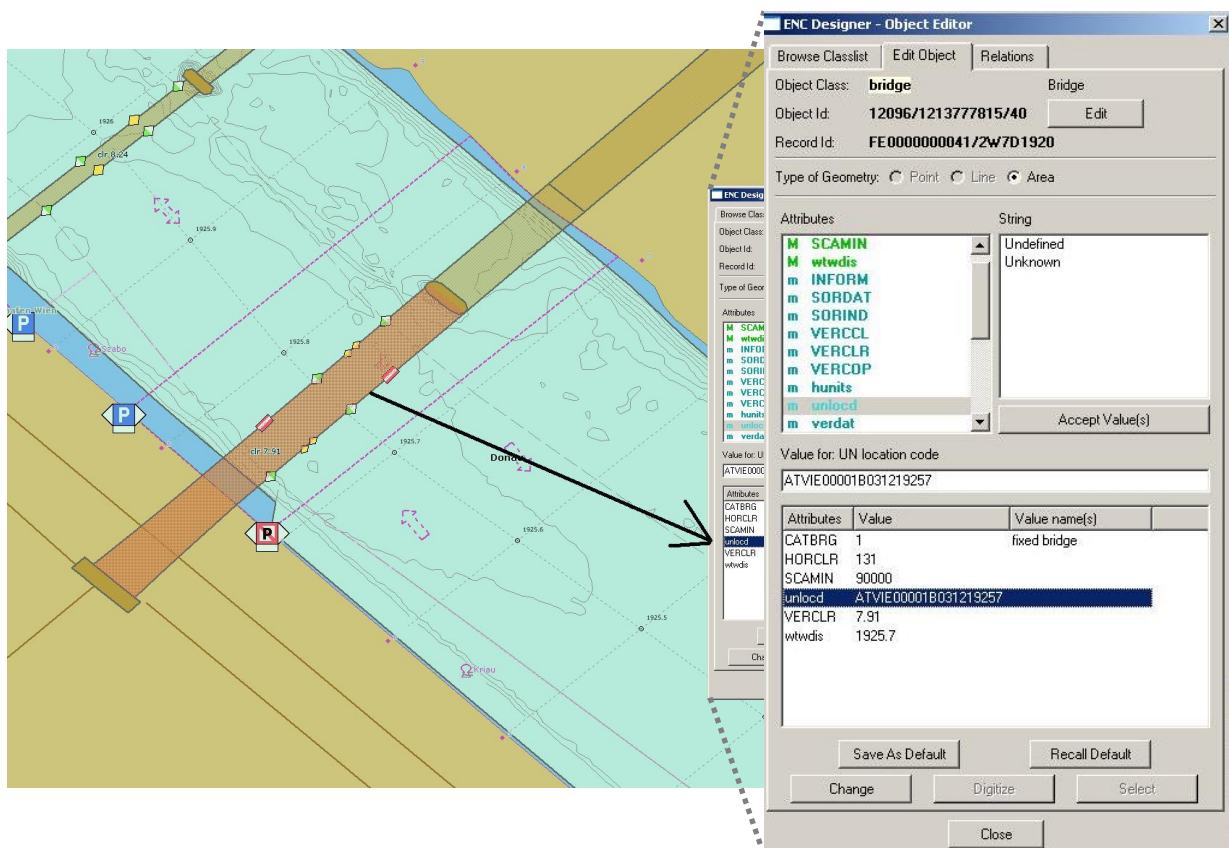


Figure 2: Bridge object in an Inland ENC

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)
00001	=	Waterway section number
B0312	=	Object Reference code
		B03 = Fixed Bridge,
		1 = Number of the bridge,
		2 = Number of the bridge opening,
19257	=	Hectometre

General Remarks

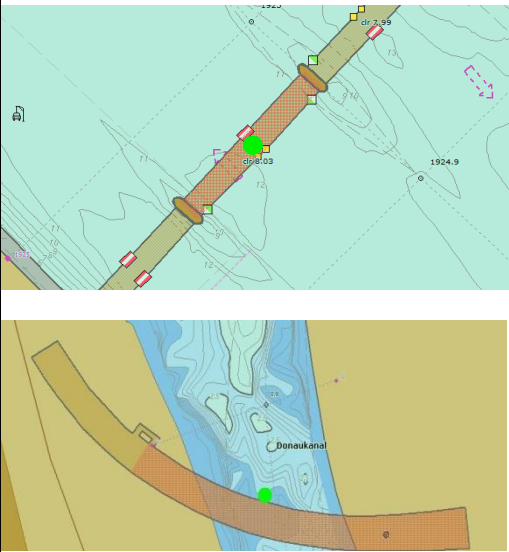
1. It might be important to provide some additional information to the object. For example in the case of terminals, berths and anchorage areas it could be important to know whether it is allowed to moor with a vessel carrying dangerous goods. As this information cannot be provided directly in the RIS Index, this information could be provided by means of the function code.
2. The Inland ENC Encoding Guide Edition 2.4.1 (March 2018), 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.

5.2. Priority objects


Priority objects shall be encoded first.

G.1 Bridge(s)


Full title	Bridge G.1 Bridge(s)		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), chapter G.1.1 – G.1.6, G.1.11, G.1.12		
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. <u>Drawbridge</u> : A retractable bridge is a type of movable bridge in which the deck can be rolled or slid backwards to open a gap for crossing traffic, usually a ship on a waterway. This type is sometimes referred to as a thrust bridge. The bridge deck of a thrust bridge is retracted to one side and is related to the type S57 CATBRG 7 : Drawbridge [see G.1.12 Retractable (Draw) Bridge (Inland ENC Encoding Guide Edition 2.4.1)]		
	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 G.1.12 Drawbridge	Function Code	Object Reference Code (coding proposal)
		bridge_(x)x (x)x = bridge type	Bxxyz xx = bridge type
		bridge_5 bridge_1 bridge_1 bridge_4 bridge_12 bridge_3 bridge_7	B05yz B01yz B01yz B04yz B12yz B03yz B07yz
		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, 0-9) 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, 0-9)	

Recommended encoding of position (if done on basis of IENC)		The coordinate of the geometric centre of the bridge-object provides the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)
Recommended encoding (if done on basis of IENC)	See above	
Conditions for codification		
Recommendations for attributes	<p>The ISRS Location Code of the associated bridge area shall be included in the 'related ISRS' (column 'O').</p> <p>Clearance height columns 'AD' and 'AE' as well as width column 'AA' shall be provided.</p> <p>The distance mark along the waterway axis shall be used as the "hectometre" of the object within the RIS Index.</p>	
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.	

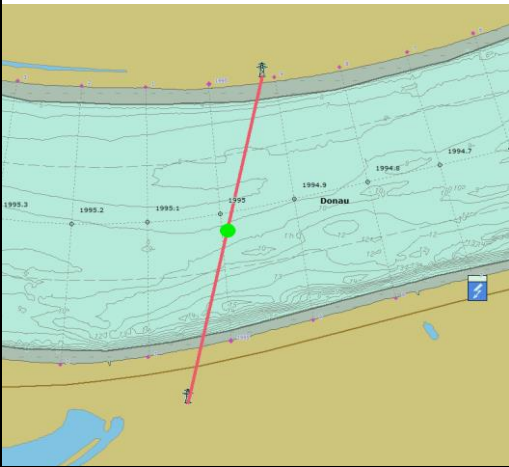
G.1.1 - G.1.12 Bridge Area

Full title	Bridge area [C_AGGR()] brgare G.1 Bridges		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), chapter G.1.3		
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 (0-9)
Recommended encoding of position (if done on basis of IENC)		The coordinates of the geometric centre of the Bridge Area-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)	
Recommended encoding (if done on basis of IENC)	See above		
Conditions for codification	Each opening is encoded individually, therefore the bridge area [C_AGGR()] has to be used to summarise the entire bridge object. A Bridge Area is to be encoded for every bridge regardless of the number of bridge openings (also if there is just one opening). All openings of a bridge are connected to one bridge area regardless of the type of the bridge opening. In case a bridge spans over more than one fairway section a bridge area object is to be created for each fairway section.		
Recommendations for attributes	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.		
Remark	The attribute for the ISRS Location Code (unlocd) was included in version 2.3.6 (July 2014) of the Inland ECDIS Standard (IES) for this object, thus the ISRS Location Code cannot be defined within Inland ENCs using older versions than IES 2.3.		

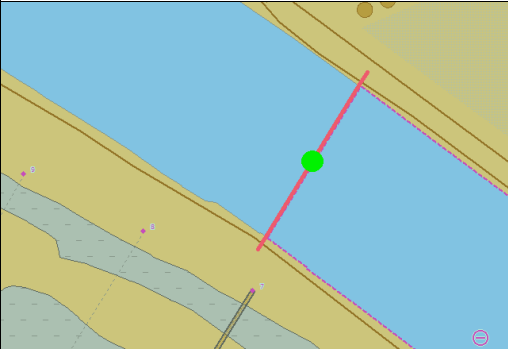
G.1.7 Tunnel

Full title	Tunnel TUNNEL (L,A) G.1.7 Tunnel (C)		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), chapter G.1.7		
Definition	A navigable passage that is open to the atmosphere at both ends meaning that a vessel will sail through the tunnel.		
	Tunnel	Function Code TUNNEL	Object Reference Code (coding proposal) TUNLx x = number of tunnel (0-9; necessary in case there are several tunnels on the same river hectometre)
Recommended encoding of position (if done on basis of IENC)			The coordinates of the geometric centre of the Tunnel Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)
Recommended encoding (if done on basis of IENC)	See above		
Conditions for codification			
Recommendation for attributes	The distance mark of the geometric centre of the Tunnel along the waterway axis shall be used as the "hectometre" of the object within the RIS Index. Clearance height columns 'AD' and 'AE' as well as width column 'AA' shall be provided.		
Remark	A tunnel shall only be encoded if navigation takes place through the tunnel, tunnels for other modes of transport underneath the waterway shall not be encoded.		

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 2.4.1 (March 2018), 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 (0-9; necessary in case there are several overhead cables on the same river hectometre)
Recommended encoding of position (if done on basis of IENC)		The coordinates of the geometric centre of the Overhead Cable-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)	
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. If clearance height has an impact on voyage planning or safety it is to be provided in columns ‘AD’ and ‘AE’.		
Remark	The attribute for the ISRS Location Code (unlocd) was included in version 2.3.6 (July 2014) of the Inland ECDIS Standard (IES) for this object, thus the ISRS Location Code cannot be defined within Inland ENCs using older versions than IES 2.3.		

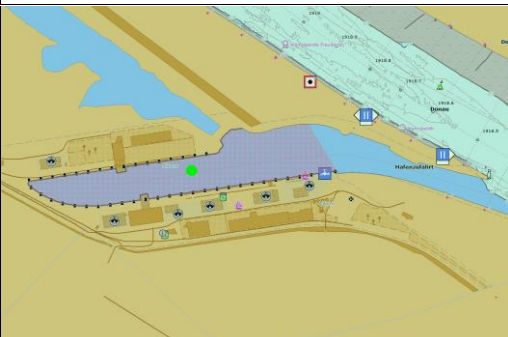
G.1.9 Overhead Pipe

Full title	Overhead Pipe pipohd(L) G.1.9 Overhead Pipe (C)		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), chapter G.1.9		
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 (0-9; necessary in case there are several overhead pipes on the same river hectometre)
Recommended encoding of position (if done on basis of IENC)		The coordinates of the geometric centre of the Overhead Pipe-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)	
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. If clearance height has an impact on voyage planning or safety it is to be provided in columns ‘AD’ and ‘AE’.		
Remark	The attribute for the ISRS Location Code (unlocd) was included in version 2.3.6 (July 2014) of the Inland ECDIS Standard (IES) for this object, thus the ISRS Location Code cannot be defined within Inland ENCs using older versions than IES 2.3.		


G.3.9 Harbour Area

Full title	Harbour Area		
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G.3.10 Harbour Basin

Full title	Harbour Basin hrbsn(A) G.3.10 harbour Basin (O)		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), 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 hrbsn	Object Reference Code (coding proposal) HRBSx x = number of basin (0-9)
Recommended encoding of position (if done on basis of IENC)		The coordinates of the geometric centre of the harbour Basin-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			
Recommendation for attributes	<p>If the harbour has no chainage of its own, the distance mark of the junction that connects the harbour with the main waterway axis may be used in the 'hectometre' field. For the individual basin either the hectometre of the junction or the hectometre of the junction plus or minus the measured distance between the junction and the basin shall be used.</p> <p>This applies to all objects, which lie inside the harbour.</p> <p>For example the junction of a harbour is located at Danube km 1918.5 and its basin is located 500 meters inwards. Then the hectometre of the harbour basin could either be '19185', '19180' or '19190'.</p> <p>The ISRS Location Code of the associated harbour area shall be included in the 'related ISRS' (column "O").</p>		
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 2.4.1 (March 2018), 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 (if done on basis of IENC)		The coordinates of the geometric centre of the Port Area-Object provide 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	If the port has no chainage of its own, the distance mark of the junction that connects the port with the main 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 2.4.1 (March 2018), chapter G.3.19		
Definition	A terminal covers that area on shore that provides buildings and constructions for the transfer of cargos from and to ships.		
	<p>Terminal terminal not further specified (in case the terminal types below are not suitable)</p> <p>RORO-terminal terminal for loading or unloading cars and different rolling stock</p> <p>Ferry-terminal terminal for loading or unloading cars and persons used by a ferryboat</p> <p>Tanker-Terminal terminal for the bulk handling of liquid cargoes</p> <p>Passenger Terminal terminal for loading or unloading persons</p> <p>Container Terminal terminal for container ships</p> <p>Bulk Terminal terminal for the handling of bulk materials such as iron ore, coal, etc.</p>	<p>Function Code</p> <p>termnl</p> <p>trm01</p> <p>trm03</p> <p>trm07</p> <p>trm08</p> <p>trm10</p> <p>trm11</p>	<p>Object Reference Code (coding proposal)</p> <p><i>terminal encoded by RIS-authorities:</i> TRMxx xx = number of terminal (00-99)</p> <p><i>terminal encoded by logistics parties:</i> xxxxxx xxxxxx= is the unique terminal code as used in trade</p>
Recommended encoding of position (if done on basis of IENC)		The coordinates of the geometric centre of the Terminal-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)	
Recommended encoding (if done on basis of IENC)	See above.		
Conditions for codification			

Recommendation for attributes	<p>The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. If the terminal lies inside of a harbour or branch which has no chainage of its own, the distance mark of the junction that connects the harbour/branch with the main waterway axis may be used in the ‘hectometre’ field. For the individual terminal either the hectometre of the junction or the hectometre of the junction plus or minus the measured distance between the junction and the terminal shall be used.</p> <p>For example the junction of a harbour/branch is located at Danube km 1918.5 and the terminal is located 500 meters inwards. Then the hectometre of the terminal could either be ‘19185’, ‘19180’ or ‘19190’.</p> <p>If the terminal is related to another object like harbour basin, the ISRS Location Code of the associated object shall be included in the ‘related ISRS’ field (column ‘O’).</p>
Remark	<p>A significant number of terminals are not available in the RIS Index with their terminal code which is used in trade and logistics or sometimes not available at all. However these terminal-codes are of utmost importance in order to submit the correct ERI-reports to the competent authorities. For this reason these terminals - and/or the respective terminal-codes - should be available in the consolidated RIS Index, but with a distinguishing qualifier (column CP ‘source of information’) to indicate that the information on these terminals was not collected by the competent RIS-authority, but by a private partner.</p> <p>The maintenance of these terminals is in the responsibility of the national reference data manager and may be supported by a third party (such as BTB or SMDG).</p> <p>Principles for terminals and/or the respective terminal codes:</p> <ul style="list-style-type: none"> • 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) / excnst(P, A) G.4.3 Lock Basin (O) / G.4.8 Exceptional Navigational Structure (M)		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), chapter G.4.3 / chapter G.4.8		
Definition	A lock basin is a wet dock in a waterway, permitting a ship to pass from one level to another. A lock basin may also be a lift-lock permitting a ship to pass from one level to another.		
	Lock Basin Lift-lock/ship lift	lokbsn loklft	Object Reference Code (coding proposal) LOKBx x = number of basin (0-9)
Recommended encoding of position (if done on basis of IENC)		The coordinates of the geometric centre of the Lock Basin-Object provide the position (lat-long) for that object within the RIS Index. (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. Available length (column ‘Z’) and depth (column ‘AC’), clearance width (column ‘AA’) and height (column ‘AE’) shall be provided. Permissible dimensions of vessels/convoys shall be provided in column ‘V’ –‘Y’. The ISRS Location Code of the associated lock area shall be included in the ‘related ISRS’ field (column ‘O’).		
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 2.4.1 (March 2018), 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 (if done on basis of IENC)			
	The coordinates of the geometric centre of the Lock Basin Part-Object provide the position (lat-long) for that object within the RIS Index. (see green dot in the illustration)		
Recommended encoding (if done on basis of IENC)	See above.		
Conditions for codification			
Recommendation for attributes	<p>The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index.</p> <p>Available length (column ‘Z’) shall be provided</p> <p>The ISRS Location Code of the associated lock basin shall be included in the ‘related ISRS’ field (column ‘O’).</p>		
Remark			

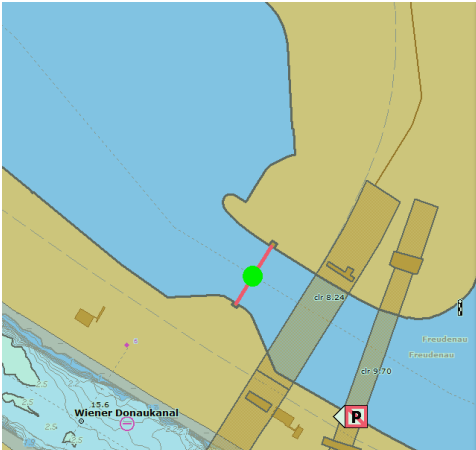

G.4.5 Lock Gate

Full title	Lock Gate gatcon(L,A) G.4.5 Lock Gate (M)		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), chapter G.4.5		
Definition	Structure swung, drawn, or raised/lowered to hold or release water in a lock.		
	Lock Gate	Function Code gatcon_4	Object Reference Code (coding proposal) LGATx x = number of gate at the same river hectometre (0-9)
Recommended encoding of position (if done on basis of IENC)	<p>The coordinates of the geometric centre of the Lock Gate - Object provide the position (lat-long) for that object within the RIS Index (see red circles in the illustration)</p>   <p>In the given example the two upstream lifting lock doors have the most restrictive clearances (VERCLR resp 9,15 and 9,30 m) therefore only these two are encoded.</p>		
Recommended encoding (if done on basis of IENC)	See above.		
Conditions for codification	Lifting lock gates that restrict the air draught of passing vessels shall be encoded in the RIS Index. It is recommended to only encode the most restrictive lock gate of a lock basin.		
Recommendation for attributes	The ISRS Location Code of the associated lock basin shall be included in the 'related ISRS' field (column 'O'). The distance mark along the waterway axis shall be used as the "hectometre" of the object within the RIS Index.		
Remark	Object introduced to RIS Index via NtS CR 182		


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 2.4.1 (March 2018), chapter G.4.8		
Definition	An exceptional navigational construction such as an aqueduct.		
	Exceptional Navigational Structure (aqueduct)	excnst	Object Reference Code (coding proposal) EXCNS
Recommended encoding of position (if done on basis of IENC)	  <p>The coordinates of the geometric centre of the Exceptional Navigational Structure-Object provide the position (lat-long) for that object within the RIS Index.</p>		
Recommended encoding (if done on basis of IENC)	see above		
Conditions for codification			
Recommendation for attributes	Clearance width (column 'AA') and available depth (column 'AC') shall be provided. Permissible dimensions of vessels/convoys shall be provided in column 'W' –'X'. The distance mark along the waterway axis shall be used as the "hectometre" of the object within the RIS Index.		
Remark			


G.4.9 Opening Barrage

Full title	Opening Barrage gatcon(L,A) G.4.9 Opening Barrage (C)		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), chapter G.4.9		
Definition	An opening gate used to control and protect against flood water or to regulate the water level.		
	Flood Barrage Gate	Function Code gatcon_2	Object Reference Code (coding proposal) GATE_x x = number of gate at same river hectometre (0-9)
Recommended encoding of position (if done on basis of IENC)	<p>The coordinates of the geometric centre of the Opening Barrage-Object provide the position (lat-long) for that object within the RIS Index (see green dot in the illustration).</p> <div style="display: flex; align-items: center;">   </div>		
Recommended encoding (if done on basis of IENC)	See above.		
Conditions for codification	Only parts of a barrier/flood barrage that are navigable at certain water levels have to be encoded.		
Recommendation for attributes	<p>Clearance height (columns 'AD' and 'AE') and width (column 'AA') shall be provided.</p> <p>The distance mark along the waterway axis shall be used as the "hectometre" of the object within the RIS Index.</p> <p>The ISRS Location Code of the associated barrage area shall be included in the 'related ISRS' field (column 'O'), if it is available.</p>		
Remark	This object was included in version 2.3.6 (July 2014) of the Inland ECDIS standard, thus it cannot be defined within Inland ENCs using older versions than 2.3.		

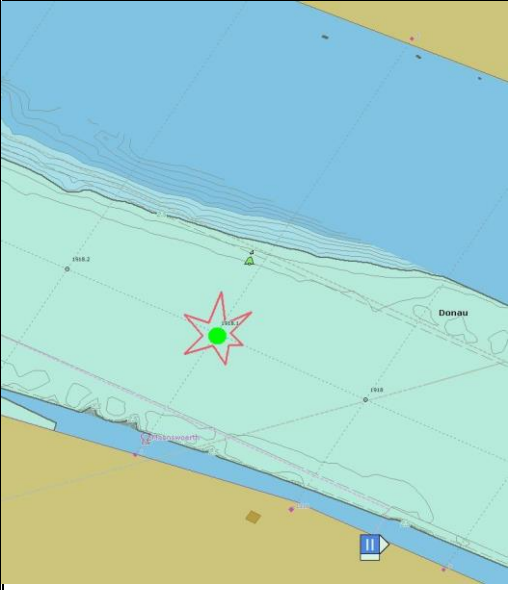
G.4.9 Barrage Area

Full title	Barrage Area (C_AGGR) gatare G.4.9 Barrage opening		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), chapter G.4.9		
Definition	A barrage area describes the aggregation of barrage openings used to control and protect against flood water or to regulate the water level. These openings are incidental navigable.		
	Barrage Area	Function Code gatare	Object Reference Code (coding proposal) GATAx
Recommended encoding of position (if done on basis of IENC)	<p>The coordinates of the geometric centre of the Barrage area provide the position (lat-long) for that object within the RIS Index (see red dot in the illustration).</p> 		
Recommended encoding (if done on basis of IENC)	C_AGGR is used to make this aggregation		
Conditions for codification	Barrage area shall only be encoded, if there is more than one (navigable) barrage gate.		
Recommendation for attributes			
Remark	This object was included in version 2.3.6 (July 2014) of the Inland ECDIS Standard (IES), thus it cannot be defined within Inland ENCs using older versions than IES 2.3.		

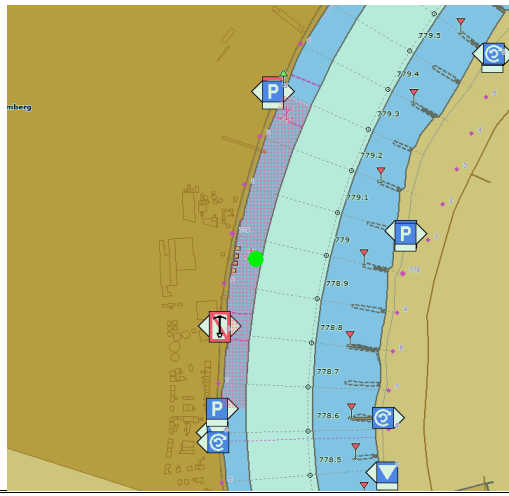
I.3.4 Waterway Gauge

Full title	Waterway Gauge wtwgag(P, A) I.3.4 Waterway Gauge (O)																																
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), chapter I.3.4																																
Definition	A waterway gauge is an instrument for measuring water levels. Waterway gauges provide the actual water level information to calculate actual depths and vertical clearances, taking into account the sloped nature or river water surfaces.																																
	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 (if done on basis of IENC)		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	<p>The Object Reference Code (ORC) for gauges is assigned by the national authorities and is based on the commonly agreed encoding (see details in the Frequently Asked Questions section). ORC consists of combination of five alphanumerical characters “Gnnnn”, where G is default not changeable character identifying Gauge and nnnn is a four-digit number with value less than 2048 (nnnn < 2048). Each ORC for a gauge must be unique per country.</p> <table><tr><th>Country code</th><th>UN location code</th><th>Waterway section code</th><th>ORC</th><th>Hecto metre</th><th>ISRS</th><th>National gauge code</th></tr><tr><td>AT</td><td>GRN</td><td>00001</td><td>G0005</td><td>20791</td><td>ATGRN00001G000520791</td><td></td></tr><tr><td>NL</td><td>SVW</td><td>0150C</td><td>G0022</td><td>00064</td><td>NLSVW0150CG002200064</td><td>0STEV</td></tr></table> <p>↓ Inland AIS code for gauges: ↓</p> <table><tr><th>Country code used in AIS</th><th>ORC (without G) = Gauge ID</th><th>Inland AIS code</th></tr><tr><td>AT</td><td>0005</td><td>AT0005</td></tr><tr><td>NL</td><td>0022</td><td>NL0022</td></tr></table>			Country code	UN location code	Waterway section code	ORC	Hecto metre	ISRS	National gauge code	AT	GRN	00001	G0005	20791	ATGRN00001G000520791		NL	SVW	0150C	G0022	00064	NLSVW0150CG002200064	0STEV	Country code used in AIS	ORC (without G) = Gauge ID	Inland AIS code	AT	0005	AT0005	NL	0022	NL0022
Country code	UN location code	Waterway section code	ORC	Hecto metre	ISRS	National gauge code																											
AT	GRN	00001	G0005	20791	ATGRN00001G000520791																												
NL	SVW	0150C	G0022	00064	NLSVW0150CG002200064	0STEV																											
Country code used in AIS	ORC (without G) = Gauge ID	Inland AIS code																															
AT	0005	AT0005																															
NL	0022	NL0022																															
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 2.4.1 (March 2018), 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 (if done on basis of IENC)			
	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)	In case physical marks exist along the waterway the position of the distance mark is where an orthogonal line from the physical mark on shore intersects with the fairway / waterway axis. The hectometre or kilometre value from the physical mark is then assigned to the distance mark object. In case no physical marks exist along the waterway virtual hectometres shall be calculated and assigned to the distance mark object.		
Conditions for codification			
Recommendation for attributes			
Remark	The objects "dismar" and "junction" are provided in the spreadsheet "RIS_INDEX_waterway_network" of the RIS Index template. Please note that the UN/LOCODE "XXX" shall be used as a valid entry for RIS purposes in the ISRS Location Code for the objects <i>distance mark</i> and <i>junction</i> . e.g.: ATXXX000010000019999 For more details compare Change Request CR 073 of the NtS Expert Group.		

M.1.1 Anchorage Area

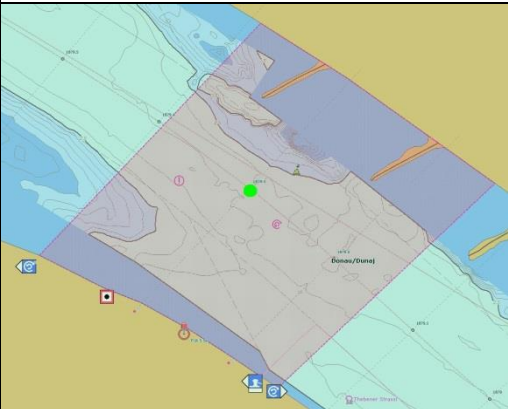
Full title	Anchorage Area achare(P, A) M.1.1 Anchorage Area (O)		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), chapter M.1.1		
Definition	An area in which vessels anchor or may anchor.		
	Anchorage Area	Function Code achare	Object Reference Code (coding proposal) ACHAx x = number of area at same river hectometre (0-9)
Recommended encoding of position (if done on basis of IENC)		The coordinates of the geometric centre of the Anchorage Area-Object provide 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	<p>The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. If the object lies inside of a harbour or branch which has no chainage of its own, the distance mark of the junction that connects the harbour/branch with the main waterway axis may be used in the ‘hectometre’ field. For the individual anchorage area either the hectometre of the junction or the hectometre of the junction plus or minus the measured distance between the junction and the object shall be used.</p> <p>For example, the junction of a harbour/branch is located at Danube km 1918.5 and the object is located 500 meters inwards. Then the hectometre of the object could either be ‘19185’, ‘19180 or ‘19190’.</p>		
Remark			

M.1.2 – M.1.4 Berth

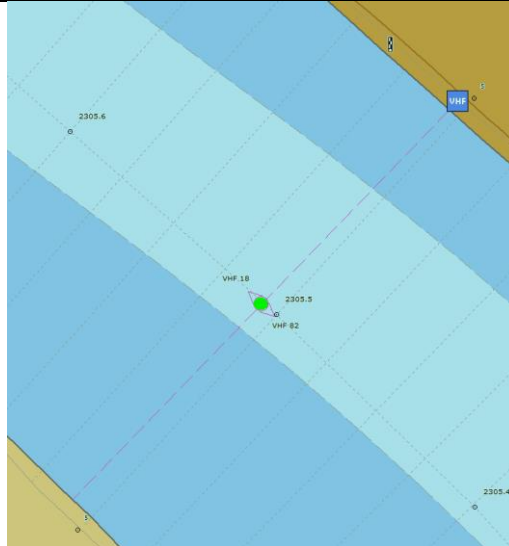
Full title	Berth berths(P, L, A) M.1.2 Anchorage Berth (O) M.1.3 Berth without Transhipment / Fleeting Areas (O) M.1.4 Transhipment Berth (O)		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), chapter M.1.2-M.1.4		
Definition	A designated named or numbered place at the bank of the river or in a harbour basin for the mooring of vessels.		
	<p>Anchorage Berth A designated area of water where a single vessel, convoy, sea plane etc. may anchor.</p> <p>Berth without transhipment A berth, where transhipment of cargo is not possible or allowed.</p> <p>Transhipment Berth A berth, where transhipment of cargo is possible</p> <p>Ferry / passenger berth A berth, where embarkment or disembarkment of passengers onto a ferry boat is possible</p>	<p>Function Code</p> <p>achbrt</p> <p>berths_3</p> <p>berths_1</p> <p>berth_9</p>	<p>Object Reference Code (coding proposal)</p> <p>BERxx xx = number of berth at same river hectometre (01-99)</p>
Recommended encoding of position (if done on basis of IENC)		The coordinates of the geometric centre of the Berth-Object provide the position (lat-long) for that object within the RIS Index.	

		Real life example for berth_9
Recommended encoding (if done on basis of IENC)	See above.	
Conditions for codification		
Recommendation for attributes	<p>Available length (column 'Z') and clearance width (column 'AA') shall be provided. Permissible dimensions of vessel/convoys shall be provided in columns 'V'-'Y'.</p> <p>The distance mark along the waterway axis shall be used as the "hectometre" of the object within the RIS Index. If the object lies inside of a harbour or branch which has no chainage of its own, the distance mark of the junction that connects the harbour/branch with the main waterway axis may be used in the 'hectometre' field. For the individual berth either the hectometre of the junction or the hectometre of the junction plus or minus the measured distance between the junction and the object shall be used.</p> <p>For example, the junction of a harbour/branch is located at Danube km 1918.5 and the object is located 500 meters inwards. Then the hectometre of the object could either be '19185', '19180' or '19190'.</p> <p>If the berth is related to another object like terminal or harbour basin, the ISRS Location Code of the associated object shall be included in the 'related ISRS' field (column 'O').</p>	
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 2.4.1 (March 2018), 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 (if done on basis of IENC)		<p>The coordinates of distance mark along the waterway axis provide the position (lat-long) of the Turning Basin within the RIS Index.</p> <p>The coordinates of the geometric centre of the Turning Basin-Object provide the position (lat-long) for that object within the RIS Index.</p>	
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			

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 2.4.1 (March 2018), 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 (if done on basis of IENC)		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	The attribute for the ISRS Location Code (unlocd) was included in version 2.3 of the Inland ECDIS Standard (IES) for this object, thus the ISRS Location Code cannot be defined within Inland ENCs using older versions than IES 2.3.		


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, where a fairway starts or ends, or where the dimensions/parameters (e.g. available width) of the fairway change or where there is a border between countries/authorities. This implies a physical connection between the beds of the two fairways.		
	Waterway node / Junction	Function Code junction	Object Reference Code (binding coding rule) Five characters that are the same for all junction objects that are related with each other within a country (e.g. 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	<p>The objects “dismar” and “junction” are provided in the spreadsheet “RIS_INDEX_waterway_network” of the RIS Index template.</p> <p>Please note that the UN/LOCODE “XXX” shall be used as a valid entry for RIS purposes in the ISRS Location Code for the objects <i>distance mark</i> and <i>junction</i>. e.g.: ATXXX00001J002322014</p> <p>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.</p>		

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 2.4.1 (March 2018), chapter E.1.1		
Definition	An area containing a concentration of buildings and the supporting road or rail infrastructure.		
	Build-up Area	BUAARE	Function Code Object Reference Code (coding proposal) BUAAX x = number of area at same river hectometre (01-9) <i>Alternative:</i> x = area on left/right bank (L/R) CITYX (for important cities / towns along the fairway)
Recommended encoding of position (if done on basis of IENC)			BUAARE is a polygon or a node. The coordinates (lat-long) of the object shall be close to a waterway.
Recommended encoding of position (if done on basis of IENC)	See above		
Conditions for codification	Build-up areas shall be encoded if needed as destination for ERI.		
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 Location Code]” to the object ‘BUAARE’ within higher versions than 2.4 of the Inland ECDIS Standard.		

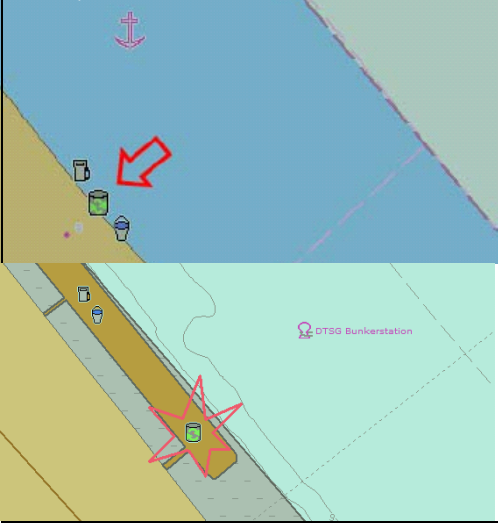
G.3.11 Landing Stage, Pontoon

Full title	Landing Stage / Pontoon		
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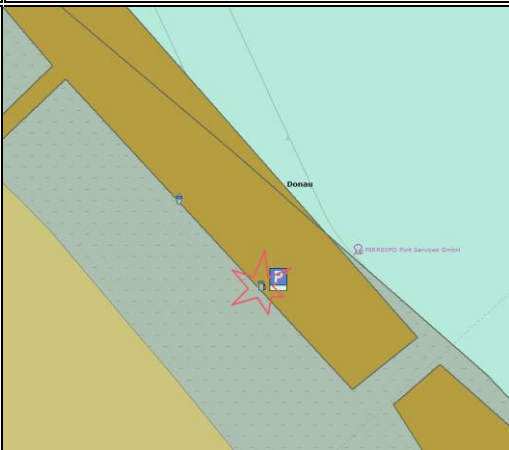
G.3.12 Mooring Facility

Full title	Mooring Facility MORFAC(P, L ,A) G.3.12 Mooring Facility		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), 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 (0010-999) <i>Alternative:</i> xxx = facility on left/right bank (Lxx/Rxx)
Recommended encoding of position (if done on basis of IENC)			
	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	<p>The object might be used for harbour management (assignment of berthing spots).</p> <p>The object shall only be encoded if it provides an added value to RIS services (e.g. in a harbour mooring facilities are used to specify the exact mooring place number of a vessel).</p>		
Recommendation for attributes	<p>The distance mark along the waterway axis next to the object shall be used as the "hectometre" of the object within the RIS Index.</p> <p>If the Mooring Facility is related to a berth, the ISRS Location Code of the associated berth shall be included in the 'related ISRS' field (column 'O').</p>		
Remark	It is necessary to add the attribute "unlocd = [ISRS Location Code]" to the object 'MORFAC' within higher versions than 2.4 of the Inland ECDIS Standard.		


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 2.4.1 (March 2018), 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	Function Code Object Reference Code (coding proposal) RExxx xxx = number of object at same river hectometre (0010-999) <i>Alternative:</i> xxx = object on left/right bank (Lxx/Rxx)
Recommended encoding of position (if done on basis of IENC)			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	The distance mark along the waterway axis shall be used as the "hectometre" of the object within the RIS Index. If the refuse dump is related to another object like berth, terminal or lock area the ISRS Location Code of the associated object shall be included in the 'related ISRS' field (column 'O').		
Remark	The attribute for the ISRS Location Code (unlocd) was included in version 2.3 of the Inland ECDIS Standard (IES) for this object, thus the ISRS Location Code cannot be defined within Inland ENCs using older versions than IES 2.3.		

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 2.4.1 (March 2018), 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 (000-999)
Recommended encoding of position (if done on basis of IENC)		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	The distance mark along the waterway axis shall be used as the “hectometre” of the object within the RIS Index. If the bunker / fuelling station is related to a berth, the ISRS Location Code of the associated berth shall be included in the ‘related ISRS’ field (column ‘O’).		
Remark			

L.2 Ferries

Full title	Ferries L.2 Ferries		
Reference of definition	Inland ENC Encoding Guide Edition 2.4.1 (March 2018), chapter L.2		
Definition	<p>Cable Ferry: 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.</p> <p>Free Moving Ferry: 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.</p> <p>Swinging Wire Ferry: 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.</p> <p>Together with ferries also associated ferry terminals shall be encoded. It is recommended to use Ferry-terminal (trm03).</p>		
	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 (0-9)
Recommended encoding of position			
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 Location Code]" to the object 'Ferries' within higher versions than 2.3 of the Inland ECDIS Standard.		

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 2.4.1 (March 2018), 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. If the check point is related to a berth, the ISRS Location Code of the associated berth shall be included in the ‘related ISRS’ field (column ‘O’).		
Remark			

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	If the signal station is related to another object like lock basin, bridge opening or harbour basin, the ISRS Location Code of the associated object shall be included in the ‘related ISRS’ field (column ‘O’).
Remark	The attribute for the ISRS Location Code (unlocd) was included in version 2.3 of the Inland ECDIS Standard (IES) for this object, thus the ISRS Location Code cannot be defined within Inland ENC’s using older versions than IES 2.3.

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.		

RIS Centre

Full title	RIS Centre riscen		
Reference of definition	Directive 2005/44/EC		
Definition	<p>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”.</p> <p><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>)</p> <p>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.</p>		
	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

The objects “dismar” and “junction” are used to specify the waterway network and are provided in the spreadsheet “RIS_INDEX_waterway_network” of the RIS Index template.

As of October 2019 Annex 2 has not been finalised. For the moment this Annex will be kept as placeholder for future waterway network encoding provisions. The Annex is being elaborated in the framework of RIS COMEX.

Annex 3: Maintenance Guidelines for the RIS Index

The Maintenance Guidelines will be provided in a separate Annex to this document. As of October 2019 this Annex has not been finalised.

5.4. Agreed procedure for RIS Index uploads onto the different RIS websites

1. Respective national organizations prepare the RIS Index file for objects under their responsibility according to the RIS Index Encoding Guide and template in force in coordination with the respective national reference data manager.
2. The respective national reference data manager sends the RIS Index file to the CESNI/TI/NtS chairperson.
3. The CESNI/TI/NtS chairperson takes care of uploading the respective RIS Index file to the RIS community system (<https://ris.cesni.eu>).
4. The respective national reference data manager takes care of providing the RIS Index information to the European Reference Data Management System (ERDMS) by means of the related specified services.
5. In case the RIS Index is provided on additional (national) sources (e.g. national RIS site) the respective national reference data manager also takes care of updating these sources.
6. The respective national reference data manager is responsible to provide updates, mutations to the addressees mentioned under point 2, 4 and 5.