



Economic and Social Council

Distr.: General
22 July 2020

Original: English

Economic Commission for Europe

Inland Transport Committee

Working Party on Inland Water Transport

Sixty-fourth session

Geneva, 7–9 October 2020

Item 9 of the provisional agenda

Glossary of terms and definitions related to inland water transport

Terms and definitions related to hydrography, meteorology, navigation, fairway signs and marking and River Information Services

Note by the secretariat

Mandate

1. This document is submitted in line with the programme of work of the Transport subprogramme for 2020 (ECE/TRANS/2020/21, chapter IV, table, section A, para. 11) adopted by the Inland Transport Committee at its eighty-second session (ECE/TRANS/294, para 136).
2. At its sixty-third session, the Working Party on Inland Water Transport (SC.3) asked the secretariat to prepare the draft glossary of terminology on inland water transport for consideration at the fifty-seventh session of the Working Party on Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation (SC.3/WP.3) (ECE/TRANS/SC.3/210, paras. 97 and 98). At its informal meeting held on 29–30 June 2020, SC.3/WP.3 took note of the progress made in preparing the glossary and asked the secretariat to continue this work.
3. Annexes I and II to the present document contain the terms and definitions related to hydrography, meteorology, navigation, fairway signs and marking and River Information Services (RIS) which can be added in the draft glossary.

Annex I

Terms and definitions related to hydrography, meteorology, navigation, fairway signs and marking

<i>Term</i>	<i>Definition</i>	<i>Source</i>	
1 Anchorage	[An area off the coast which is suitable for a vessel to anchor.]	(1)	
	[An area where ships can ride at anchor, sometimes designated by competent authorities.]	(2)	
2 AtoN ¹ background lighting	[Background lighting encompasses] ambient lighting either directly behind or adjacent to the AtoN having regard to the range of perspectives or directions of intended viewing.	(2)	
3 Ballasting	Intaking ballast water to enable the vessel to clear a bridge, increasing the draught.	(1)	
4 Bar (sandbar)	[Elevated region of sediment (sand or gravel) that has been deposited by the flow.]	(1)	
	[A shoal across the mouth of a river, harbour or shipping channel that may at times obstruct navigation.]	(2)	
	[Bank of sediment, such as sand or gravel, deposited on a stream bed or at its mouth, which obstructs flow or navigation.]	(3)	
5 Beacon	1. Beacon: A light or other visible object serving as a signal, warning, or guide along the waterway.	(4)	
	2. Beacon mark (beacon): A floating navigation sign of a cylindrical, conical or other shape indicating the fairway boundaries on inland waterways.	(4)	
6 Beaufort scale of wind force (Beaufort scale)	Wind force scale, originally based on the state of the sea, expressed in numbers from 0 to 12:	(5), (6)	
	0 – Calm	7 – Near gale	
	1 – Light air	8 – Gale	
	2 – Light breeze	9 – Strong gale	
	3 – Gentle breeze	10 – Storm	
	4 – Moderate breeze	11 – Violent storm	
	5 – Fresh breeze	12 – Hurricane	
	6 – Strong breeze		
	7 Benchmark	A fixed point or mark whose position is known to a high degree of accuracy and is normally marked in some way.	(1)
	8 Bend radius	Radius of curvature of the fairway.	(1)
9 Berth	Anchorage place for vessels in ports, a ship's allotted place at a wharf or dock, a place in the water near the shore where a vessel can safely stop.	(1)	
10 Bifurcation	[The point at which a channel divides into two when viewed from a vessel approaching from the open sea or in the same direction as the	(2)	

¹ Aids to Navigation.

<i>Term</i>	<i>Definition</i>	<i>Source</i>
	main stream of flood tide or in the direction established by the appropriate authority.]	
Bifurcation (fork)	[Division of a stream into two branches.]	(3)
11 Branch (effluent, distributary)	[Parallel river stretch or closed river stretch.]	(1)
	[A river stretch that branches off the main stream channel and flows away parallel to it or flows back into the main channel downstream.]	
12 Branch of an inland waterway of international importance (E waterway)	Branches and branches of branches of main inland waterways included in the European Agreement on Main Inland Waterways of International Importance which have four- and six-digit numbers according to Annex I to the Agreement.	(7)
13 Bridge	A structure built to span physical obstacles such as a body of water, valley, or road, for the purpose of providing road or rail transportation passage.	(1)
14 Broken ice (brash ice)	Accumulation of floating ice made up of fragments not more than 2 metres across.	(3)
15 Buoy	1. [Floating device that aids the skippers by marking the fairway to allow ships to navigate safely.]	(1)
	[A floating, and moored, artificial navigation mark. It can be recognized by means of its shape, colour, pattern, topmark or light character, or a combination of these. It may carry various additional aids to navigation.]	(2)
	2. A floating navigation sign of a cylindrical, conical or other shape indicating the fairway boundaries on lakes and reservoirs.	(4)
16 Buoy light	The assembly on a buoy comprising the light source, the optical apparatus and the glazed protective enclosure.	(2)
17 Cardinal mark	A floating or fixed mark used to indicate the position of the position of a danger and the direction of safe water, introduced by IALA. ² Cardinal marks indicate the direction of safety as a cardinal (compass) direction (north, east, south or west) and used in maritime navigation, but may also be used on lakes, broad waterways and estuaries.	(2)
18 Cardinal system of marking (or buoyage)	An agreed system of visual aids to navigation introduced by IALA and used to indicate the relative position of an obstruction (e.g. shoal, wreck) on the compass scale (cardinal points). Note: The relative position of the obstruction on the compass scale is indicated by aids to navigation of defined shape, colour or light characteristic.	(2)
19 Coefficient of (reflex) luminous intensity	Quotient of the luminous intensity reflected in the direction considered, divided by the illuminance at the retro-reflector for given angles of entrance, observation and rotation. Note: In the photometry of retro-reflectors, this coefficient is designated by the abbreviation C.I.L. It is usually expressed in millicandelas per lux (mcd/lx). Reference: CIE.	(2)

² International Association of Marine Aids to Navigation and Lighthouse Authorities.

<i>Term</i>	<i>Definition</i>	<i>Source</i>
20	Confluence [Junction of two rivers, especially rivers of approximately equal width.] [Joining, or the place of junction, of two or more streams.]	(1) (3)
21	Coordinate system A reference system consisting of a set of points, lines, and/or surfaces, and a set of rules, used to define the position of points in space in either two or three dimensions.	(1)
22	Caution area An area where the [skipper] boatmaster has to be made aware of circumstances influencing the safety of navigation.	(1)
23	Communication area An area in which a vessel has to report or may request information.	(1)
24	Critical sector Sector/section of the fairway where no sufficient depth/width/vertical clearance is guaranteed and available.	(1)
25	Cross-over River section where the fairway passes from one bank to another.	(8)
26	Cross-over mark (signal for cross-channel fairway) Bank marks indicating at what point the fairway passes from one bank to another and also give the axis of this cross-over. For indication of the axis of a long cross-over, two identical signs are placed one behind the other on the same bank, the first sign positioned lower than the second one, forming an alignment marking the axis of the cross-over.	(5)
27	Danger Any obstacle, construction or condition jeopardizing safety of shipping.	(2)
28	Daymark [A sign used to code passing and crossing day beacons on the inland river system.] [An unlighted navigation mark.]	(1) (2)
29	Deepwater section A river section with great depths.	(1)
30	Distress signal Signal displayed by a vessel in distress, when it needs assistance. They include: (a) Ringing of a bell or repeated long blasts; (b) A flag or any other suitable object waved in a circle; (c) A light waved in a circle; (d) A flag having above or below it a ball or anything resembling a ball; (e) Rockets or shells throwing red stars, fired one at a time at short intervals; (f) A luminous signal consisting of the group SOS in Morse Code; (g) Flames such as may be produced by burning tar, oil, etc.; (h) Parachute flares or hand held flares emitting a red light; (i) Slow, repeated up and down movements of the arms extended on each side. The sound signals in (a) may be replaced or supplemented with the signals in (b)–(i).	(8)
31	Drift angle The difference between course steered and course made good when due to action of current and/or wind.	
32	Effective intensity of a rhythmic The luminous intensity of a fictitious juxtaposed steady-burning point light source that would appear to exhibit a luminosity equal to that of	(2)

<i>Term</i>	<i>Definition</i>	<i>Source</i>
light (equivalent fixed intensity)	<p>the rhythmic point light source it describes. The apparent reduction in intensity of the rhythmic light is subjective and is due to the nature of the response of the eye of the observer.</p> <p>Note 1: The quantity I_e so defined is a function not only of the intensity versus time variation of the rhythmic light, but also of the conditions of observation illuminance level at the eye, background luminance, angular size of light source, etc.</p> <p>Note 2: The term “effective intensity” is generally restricted to conditions of observation near the limit of luminous range of the light (i.e., at or near the threshold for foveal vision).</p>	
33 Entrance	A relatively narrow way into a confined area such as a channel, harbour or lake, sometimes involving passage between jetties or breakwaters.	(2)
34 Established direction of traffic flow	A traffic flow pattern indicating the directional movement of traffic as established within a traffic separation scheme.	(9)
35 Fairway	Part of an inland waterway intended for the movement of vessels and marked by navigation signs or other means.	(4)
36 Fairway channel	Navigable cross-section of the fairway with the minimum width and depth necessary for continuous navigation.	(1)
37 Ferry-boat	Any vessel providing a transport service across a waterway, that is classed as a ferry-boat by the competent authorities. Vessels providing such a service which do not move independently shall in any case be classified as “ferry-boats”.	(8)
Inland waterways ferry	<p>An inland waterways passenger vessel designed to transport passengers across or along waterways. There are two main types:</p> <p>Cross waterway ferry – transport for passengers and possibly vehicles between two ports on either side of a waterway.</p> <p>Along waterway ferry – transport for passengers and possibly vehicles to a range of ports along a waterway.]</p>	(10)
38 Fixed bridge	A bridge having permanent horizontal and vertical alignment.	(1)
39 Floating sign	<p>[A sign for buoyage of the fairway limits in the waterway.]</p> <p>[A marking sign borne on water, susceptible to position changes within a certain area.]</p>	(8)
40 Ford	<p>[Shallow sector of the river that stretches across the whole width of the river and hampers navigation.]</p> <p>[Shallow place where a watercourse may be crossed by vehicles or by wading.]</p>	(1)
41 Geographical range	The greatest distance at which an object or a light source can be seen under conditions of perfect visibility, as limited only by the curvature of the earth, by refraction of the atmosphere, and by the elevation of the observer and the object or light.	(2)
42 Ice period (ice duration, ice laying)	The period when a fixed ice cover is present on a waterway; the period of time from freeze-up to ice break-up.	(3)

<i>Term</i>	<i>Definition</i>	<i>Source</i>
43	Informative sign	A waterway marking sign with an informative function (signs E.1 to E.27.1 in annex 7 to CEVNI).
44	Isolated danger	A danger to shipping on the open sea or in an area otherwise free of dangers. (2)
45	Jibing	Turning the stern of a sailing vessel through the wind so that the wind changes from one side of the vessel to the other side.
46	Junction	The point at which two channels meet, when viewed from a vessel approaching from the open sea or in the same direction as the main stream of flood tide or in the direction established by the appropriate authority. (2)
47	Lateral system of marking (or buoyage)	An agreed system of visual aids to navigation generally used to indicate the course of a navigable waterway introduced by IALA. (2) Note: The sides of the navigable waterway are indicated by aids to navigation of defined shape, colour or light characteristic in relation to the direction taken by the [mariner] boatmaster from seaward or to the direction determined by the competent authority.
48	Leeward side	Side of a vessel opposite to the way the wind is currently blowing.
49	Lighthouse	A tower or other structure containing a beacon light to warn or guide ships at sea. (1)
50	Lighthouse service	Organization, operation and maintenance of aids to navigation. (2)
51	Lockage (locking through)	The process of moving a vessel through a lock.
52	Luminous range (of a light) (light range)	The maximum distance at which a light can be seen, as determined by the luminous intensity of the light, the atmospheric transmission factor and the threshold of illuminance on the eye of the observer. (2)
53	Mandatory sign	A waterway marking sign with a mandatory function (signs B.1 to B.11b in annex 7 to CEVNI). (8)
54	Marking plan	[Plan of the position and other attributes of the all floating signs and [coastal signs] bank marks for a certain fairway or a stretch of the fairway.] (1) [Plan for the installation of floating signs and bank marks on a [waterway section] containing information on the type of signs, bank/side whereon placed, river kilometre of the set-up and recapitulation of all floating signs and bank marks used for marking.] (11)
55	Marker post (leading mark, alignment sign)	A bank mark consisting of two signs: pillars with rectangular or trapezoidal boards located along the fairway axis. The boatmaster should steer the vessel so that the boards (by day) or the boards lights (by night) are on the same vertical.
56	Mooring facility	Equipment or structure used to secure a vessel. (1)
57	Movable bridge	[A bridge whose superstructure is movable, fully or partially, to allow passage for vessels.]
58	Nautical conditions	How suitable the waterway is throughout the year and whether available water depth is suited for commercial navigation. (1)

<i>Term</i>	<i>Definition</i>	<i>Source</i>
59 Nautical mile (sea mile, nm)	A unit of distance used at sea that is equal to 1,852 metres.	
60 Navigable waters	Waters sufficiently deep and wide for navigation by all or specified sizes of vessels.	(1)
61 Navigational closure	Stop of navigation due to high water, ice, lock failure, construction or maintenance works etc.	(1)
62 Navigational status	Safety-related information about the status of a vessel transmitted by AIS. ³	
63 Nominal range (of a light)	The nominal range of a light used as an aid to marine navigation is its luminous range in a homogeneous atmosphere in which the meteorological visibility is 10 sea miles.	(2)
64 Pass	A narrow navigable channel between two land areas or shoals or rocks.	(2)
65 Pilotage (pilotage service)	The provision of a service of specially qualified [men] persons possessing detailed local knowledge, who assist the [masters of vessels] boatmasters to navigate [them] vessels in particular areas.	(2)
66 Pontoon bridge (floating bridge)	Uses floats or shallow-draft boats to support a continuous deck for pedestrian and vehicle travel.	(1)
67 Prohibitory sign	A waterway marking sign used to prohibit certain types of manoeuvres or some types of traffic (signs A.1 to A.20 in annex 7 to CEVNI).	(8)
68 Recommendatory sign	A waterway marking sign with a recommendatory function (signs D.1 to D.3b in annex 7 to CEVNI).	(8)
69 Restricted area	An area designated by the competent authority in which entry is prohibited or restricted to certain vessels, or certain transit rules apply.	(1)
70 Restrictive sign	A waterway marking sign used to restrict manoeuvres, traffic or navigation (signs C.1 to C.5 in annex 7 to CEVNI).	(8)
71 River kilometer mark (RKM, rkm, r-km)	A navigation mark containing information about the distance from the zero kilometer measured along the axis of the fairway, also called the “river kilometer” (rkm). Hectometer marks can also be installed. Note 1: Term “river kilometer”, may include the name of the waterway (for example, Mosel kilometer (MKM) for the Mosel, Weser kilometer (WKM) for the Weser). Note 2 : On the Danube section from Sulina to Galati, the distance is also measured in nautical miles (nm).	(1)
72 Routeing system	Any system of one or more routes or routeing measures aimed at reducing the risk of casualties; it includes traffic separation schemes, two-way routes, reconunended tracks, areas to be avoided, inshore traffic zones, roundabouts, precautionary areas and deep water routes.	(9)
73 Separation zone (separation line)	A zone or line separating the traffic lanes in which ships are proceeding in opposite or nearly opposite directions; or separating a traffic lane from the adjacent sea area; or separating traffic lanes designated for particular classes of ship proceeding in the same direction.	(9)

³ Automatic identification system.

	<i>Term</i>	<i>Definition</i>	<i>Source</i>
74	Side arm (secondary arm, secondary branch)	A branch of a river, where the amount of flow is smaller, than in the main branch.	(1)
75	Significant wave height	The average crest-to-trough height of the highest one third of the [zero-upcrossing] waves in a specified period.	
76	Shoal (shallow)	[Shallow section of river bed difficult for navigation.]	(4)
		[Elevation of the bottom over which the water is of little depth and therefore dangerous for shipping.]	(2)
		[1. Submerged bar of sediment, resulting from natural deposition on a channel bed.	(3)
		2. Part of an area covered by shallow surface water.]	
77	Sill (bottom sill)	[Underwater structure constructed perpendicular to the fairway axis.]	(1)
		[1. Low structure built under water in order to adjust the depth of a watercourse.	(3)
		2. Invert of a gate or weir opening.	
		3. Low structure built across the inlet of a diversion channel or at an outlet, to reduce or prevent flow until the water stage reaches the crest of the structure.]	
78	Spar buoy (spar)	A floating daymark in the form of an anchored pole.	(4)
79	Tacking	Turning the bow of a sailing vessel through the wind so that the wind changes from one side of the vessel to the other side; the opposite of jibing.	
80	Tail wind	In relation to an object moving with respect to the Earth's surface, wind blowing in the same direction as the movement of the object.	(5)
81	Topmark	[An object, or pair of objects, of characteristic shape and colour, that is carried on top of a buoy or a spar as a means of identification.]	(2)
		[A characteristic shape secured at the top of a buoy or beacon to aid in its identification.]	
82	Traffic lane (alternate one-way traffic, one-way route)	An area within defined limits in which one-way traffic (upstream or downstream) is established at any given time, as the width of the fairway is not sufficient for meeting or overtaking.	(8), (9)
83	Traffic separation scheme	A routing measure aimed at the separation of opposing streams of traffic by appropriate means and by the establishment of traffic lanes.	(9)
84	Trail ferry (captive ferry, rope ferry)	A boat or raft attached to a pulley running on a rope stretched across a stream and moved from side to side by the action of the current.	
85	Two-way route	A route within defined limits inside which two-way traffic is established, aimed at providing safe passage of [ships] vessels through waters where navigation is difficult or dangerous.	(9)
		[A river stretch were the upstream and downstream navigational routes are permanently separated.]	(4)
86	Vertical datum (ordnance datum)	A horizontal surface to which elevations and/or depths (soundings and tide heights) are referred. National ordnance vertical datums based	(13)

<i>Term</i>	<i>Definition</i>	<i>Source</i>	
	<p>on the mean sea level are used for determining the absolute value of the water level on inland waterways. In Europe, several ordnance datum levels are applied, in particular:</p> <ul style="list-style-type: none"> • Alicante Ordnance Datum, based on the zero reading of the tide gauge in Alicante (Spain); • Amsterdam Ordnance Datum (Normaal Amsterdams Peil, NAP), based on the zero reading of the Amsterdam tide gauge; • Baltic Sea Ordnance Datum (Kronstadt Ordnance Datum), based on the zero reading of the Kronstadt tide gauge (Saint Petersburg, Russian Federation); • Belfast Ordnance Datum, based on the zero reading of the Belfast tide gauge at Clarendon Dock (Northern Ireland); • French (Marseille) Ordnance Datum (Le nivellement général de la France, NGF) based on the zero reading of the Marseille tide gauge; • German Ordnance Datum (Normalhöhenull, NHN) based on the fixed point on the New Church of St. Alexander at Wallenhorst (Lower Saxony); • Italian Ordnance Datum (Istituto Geografico Militare, IGM), based on the zero reading of the Genova tide gauge; • Malin Ordnance Datum, based on the zero reading of the tide gauge at Malin Head, County Donegal (Republic of Ireland); • Ordnance Datum Newlyn (ODN), based on the zero reading of the Newlyn tide gauge (Cornwall, Great Britain); • Trieste Ordnance Datum, based on the zero reading of the tide gauge at the Sartorio mole in the port of Trieste (Italy). 		
87	Waterway marking system	The established system of marking [along the fairway] on a navigable waterway or its section , using the prescribed signs.	(1)
88	Windward side	Side of a vessel which faces the wind.	
89	Wreck	[The ruined remains of a stranded or sunken vessel that has been rendered useless.]	(1)
		[Any vessel or substantial parts thereof which is sunk or stranded or is no longer under control.]	(2)
		Note: For lighthouse services the term is extended also to accidental obstructions to navigation which normally are marked as an indication of danger.]	
90	Zero kilometer mark (rkm 0)	A buoy or marker post indicating the start of measuring the river distance along the fairway axis, usually located. For most rivers in Europe, zero kilometer is located near the river source, but for certain rivers (the Danube, the Sava) zero kilometer is located at the river mouth.	

References

- (1) Danube STREAM project consortium, *Basic Danube Glossary 2019*.
- (2) IALA, *International Dictionary of Marine Aids to Navigation*, www.iala-aism.org/wiki/dictionary.
- (3) World Meteorological Organization (WMO), UNESCO, *International Glossary of Hydrology*, WMO-No. 385, 2012.

- (4) National standards of member countries of the Working Party on Inland Water Transport (SC.3).
- (5) WMO, *International Meteorological Vocabulary*, WMO-No.182, 1992.
- (6) Encyclopaedia Britannica, www.britannica.com.
- (7) The European Agreement on Main Inland Waterways of International Importance, www.unece.org/fileadmin/DAM/trans/doc/2019/sc3/ECE-TRANS-120r4efr.pdf.
- (8) *European Code for Inland Waterways* (CEVNI) adopted by resolution No. 24 of the UNECE Working Party on Inland Water Transport, fifth revision (ECE/TRANS/SC.3/115/Rev.5).
- (9) IMO Resolution A.572(14) “General provisions on ships' routing” (adopted on 20 November 1985).
- (10) UNECE, Eurostat, International Transport Forum (ITF), *Glossary for Transport Statistics*, fifth edition, 2019.
- (11) *European Code for Signs and Signals on Inland Waterways* (SIGNI) adopted by resolution No. 90 of the UNECE Working Party on Inland Water Transport (ECE/TRANS/SC.3/208).

Annex II

Terms and definitions related to navigation by radar and River Information Services

<i>Term</i>	<i>Definition</i>	<i>Source</i>
1 Acquisition	The process of selecting a target or targets and initiating their tracking.	(1)
2 Application specific message (ASM)	Messages that have been developed to allow the exchange of navigation and voyage related information between vessels and between vessel and shore via the Automatic Identification System (AIS), in addition to the standard set of messages defined in ITU-R M.1371-4, for example, the estimated time of arrival (ETA), the requested time of arrival (RTA), the actual water level, local weather incidents, signal status at a lock or bridge.	(2), (3)
3 Automatic radar plotting aid (ARPA)	A computerized additional feature to the shipborne radar, which provides for manual or automatic acquisition of targets and the automatic tracking and display of all relevant target information [for at least 20 targets] for anti-collision decision making. It also enables trial manoeuvres to be executed.	(4)
4 Calamity Abatement Support (CAS)	The information service that facilitate the supporting actions necessary to limit the consequences of a calamity (or accidents and incidents).	(5)
5 Cargo and fleet management (CFM)	The process of planning, organizing and executing the efficient cargo and ships handling in a transport company.	(5)
6 Corridor management (RIS Enabled Corridor Management)	Information services among fairway authorities mutually and with waterway users and related logistic partners in order to optimize use of inland navigation corridors within a network of waterways.	(5)
7 Course-up display	An azimuth stabilized display in which a line connecting the centre with the top of the display is own [ship's] vessel's intended course.	(1)
8 Datum	<p>A set of parameters specifying the reference surface or the reference coordinate system used for geodetic control in the calculation of coordinates of points on the earth. Commonly datums are defined as horizontal and vertical datums separately. For the practical use of the datum it is necessary to have one or more well distinctive points with coordinates given in that datum.</p> <p>The horizontal datum is a set of parameters specifying the reference for horizontal geodetic control, commonly the dimensions and the location of a reference ellipsoid. (The horizontal datum must be compliant with WGS 84.)</p> <p>The vertical datum is a surface to which elevations and/or depths (soundings and tide heights) are referred. For elevations commonly a level (equipotential) surface, approximately the mean sea level is used, for depths in many cases low water.</p>	(6)
9 Electronic Data Interchange (EDI)	[The transfer of structured data by agreed standards from applications on the computer of one party to applications on the computer of another party by electronic means.]	(7), (8)
	[Structured computer to computer transmission of data in a standard format.]	(9)
10 Electronic Reporting International (ERI)	The endeavour to harmonize and facilitate standardized electronic inland ship reporting in Europe, as recommended by the ERI Expert Group in accordance with the publication of the RIS Directive (2005/44/EC) and its technical specifications.	(7), (8)

<i>Term</i>	<i>Definition</i>	<i>Source</i>
11 EMMA warning	Application Specific Message to warn [shippers] skippers of heavy weather conditions using graphical symbols on the ECDIS screen.	(10)
12 European Reference Data Management System (ERDMS)	Centralized database aimed to support the development of RIS and to facilitate interoperability, operated by the European Commission. At present, it contains two sets of data: <ul style="list-style-type: none"> • Identifiers of infrastructure elements ; • Code lists for several, regularly used data elements such as cargo codes, country codes and the code lists for NtS messages. 	(11)
13 Extended Markup Language (XML)	Meta language for the structured and platform independent representation of data; a subset of SGML (Standard Generalized Markup Language, ISO 8879:1986 as amended and corrected) for use on the World Wide Web.	(12), (13)
14 Fairway information (FI, FIS)	Geographical, hydrological and administrative information regarding the waterway (fairway) in the RIS area that is required by the RIS users to plan, execute and monitor a voyage. [Fairway information is a one-way information: shore to ship or shore to office (users' office).]	(5), (14)
15 Inland AIS	Automatic identification system for the use in inland navigation and interoperable with (maritime) AIS-technically enabled by amendments and extensions to the (maritime) AIS. <p>[An instrument for the tracking and tracing of inland navigation vessels with the goal to improve safety and efficiency of Inland Navigation supporting onboard decisions (TTI and STI), shore-based Traffic Management (TM) including Vessel Traffic Services (VTS, Lock and Bridge Management (LBM) and Traffic Planning (TP), Calamity Abatement Support (CAS), Information for Transport Logistics Information (ITL) and Information for Law Enforcement (ILE) Law Compliance Information (ILC).]</p> <p>[A shipborne radio data system, exchanging static, dynamic and voyage related vessel data between equipped vessels and between equipped vessels and shore stations. Shipborne AIS stations broadcast the vessel's identity, position and other data in regular intervals.]</p>	(15) (14)
16 International RIS Expert Groups	International RIS Expert Groups – the Inland ECDIS Expert Group, the VTT Expert Group, the ERI Expert Group and the NtS Expert Group – are international technical platforms for the four RIS key technologies ensuring the harmonized development and maintenance of RIS standards in Europe. Since 2019, the existing RIS expert groups have been integrated in the organizational structure of the European committee for drawing up standards in the field of inland navigation (CESNI) as four temporary working groups.	(16)
17 Law Compliance Information (ILC)	The information that facilitates legal compliance for the waterway users and facilitates the relevant agencies in inland navigation to support their tasks with respect to law enforcement.	(5)
18 Lock and Bridge management (LBM)	The process of planning and operating bridge and lock management.	(5)
19 Notices to Skippers (NtS)	One of four RIS key technologies designed to improve safety and reliability of inland navigation by means of information technology. NtS provide information on long-term and short-term obstructions along the fairway, weather information, current and future water levels at gauges, restrictions caused by ice or floods, regulations and other relevant data.	(16)
20 North-up display	Information shown on the display (radar or ECDIS) with the north direction upward.	(6)

<i>Term</i>	<i>Definition</i>	<i>Source</i>
	[An azimuth stabilized display in which a line connecting the centre with the top of the display is north true bearing.]	(1)
21 NtS Encoding Guide for application developers	The NtS Encoding Guide for application developers includes guidelines for NtS application development and implementation, explaining its logic, processes and auto/default values.	(17)
22 NtS Encoding Guide for editors	The guide intended for those editing (and publishing) of NtS messages, including step-by-step instructions to create the proper message types as well as an explanation of codes. The NtS Encoding Guide explains the applicability of the four NtS message types, provides filling instructions as well as codes to be used in certain events.	(17)
23 NtS Reference Tables	Tables containing the standardized code values used in the XML message, their explanation and translation into 23 languages.	(18)
24 Port and terminal management (PTM)	The process of planning, organizing and executing the efficient ship and cargo handling in a port and terminal.	(5)
25 Relative bearing	The direction of a target 'from own [ship] vessel expressed as an angular displacement from own [ship's] vessel's heading.	(1)
26 Relative course	The direction of motion of a target relative to own ship's position expressed as an angular displacement from north. It is deduced from a number of measurements of target range and bearing on own ship's radar.	(1)
27 Relative motion	The combination of relative course and relative speed.	(1)
28 Relative speed	The speed of a target relative to own ship's position. It is deduced from a number of measurements of target range and bearing on own ship's radar.	(1)
29 River Information Services (RIS)	[The concept for information services in inland navigation to support traffic and transport management, including the interfaces to other transport modes.]	(5)
30 RIS system	One or more harmonized information technology systems, where each information technology system is the totality of human resources, hardware, software, communication means and regulations in order to fulfil the task of processing information.	(14)
31 Ship-to-ship operation mode of AIS station	Transmission of static and dynamic information from all AIS-equipped vessels to all other AIS-equipped vessels within the radio range.	(15)
32 Ship-to-shore operation mode of AIS station	Data transmission from an AIS-equipped vessel to AIS shore stations connected to the RIS centre where a Tactical Traffic Image and/or Strategic Traffic Image can be generated.	(15)
33 Shore-to-ship operation mode of AIS station	Transmission of voyage and safety-related data from an AIS shore station to an AIS-equipped vessel.	(15)
34 Statistics Information (ST)	The information on traffic and transport in inland navigation that is required to support statistical processes.	(5)
35 Strategic Traffic Information (STI)	[The information affecting the medium and long-term decisions of RIS users. A strategic traffic image contributes to the planning decision capabilities regarding a safe and efficient voyage. A strategic traffic image is produced in a RIS centre and delivered to the users on demand. A strategic traffic image contains all relevant vessels in the RIS area with their characteristics, cargoes and positions, stored in a database and presented in a table or on an electronic map.]	(14)

<i>Term</i>	<i>Definition</i>	<i>Source</i>
	[The information service affecting the medium- and long-term decisions of RIS stakeholders. Strategic traffic information contributes to the planning decision capabilities regarding a safe and efficient voyage or transport. A strategic traffic image contains all relevant vessels in the RIS area with their characteristics, cargoes and positions, stored in a database and presented in a table or on an electronic map.]	(5)
36 Tactical Traffic Information (TTI)	The information affecting the skipper's or the VTS operator's immediate decisions with respect to navigation in the actual traffic situation and the close geographic surroundings. A tactical traffic image contains position information and specific vessel information of all targets detected by a radar and presented on an electronic navigational chart, and – if available – enhanced by external traffic information, such as the information delivered by an AIS.	(14)
	[The information service affecting the skipper's or the VTS operator's immediate decisions with respect to navigation in the actual traffic situation and the close geographic surroundings. Tactical traffic information contains position and specific vessel information of all targets detected by a radar and presented on an electronic navigational chart, and enhanced by external traffic information, such as the information provided by AIS.]	(5)
37 Target	Any object fixed or moving whose position and motion is determined by measurements of range and bearing on radar.	(1)
38 Traffic Management Information (TM)	(Traffic) information service that supports traffic management processes in inland navigation being : <ul style="list-style-type: none"> • Vessel Traffic Services (VTS); • Lock and Bridge management; • Traffic Planning Services. 	(5)
39 Traffic Planning Services (TP)	The information process for optimizing the predictability and efficiency of the traffic flow on inland waterways.	(5)
40 Transport logistics information (ITL)	<ul style="list-style-type: none"> • The (transport) information service that supports transport logistic processes in inland navigation being: • Voyage planning; • Transport management; • Port and terminal management; • Cargo and fleet management. 	(5)
41 Transport management	The process of planning, organizing and executing of the efficient movement of goods from one location to another.	(5)
42 True bearing	The direction of a target from own ship or from another target expressed as an angular displacement from north.	(1)
43 True course	The true direction of motion of a target expressed as an angular displacement from north. It is obtained by a vector combination of target relative motion and own [ship's] vessel's true motion.	(1)
44 True motion	The combination of true course and true speed.	(1)
45 True speed	The speed of a target obtained by a vector combination of target relative motion and own [ship's] vessel's true motion.	(1)
46 Voyage planning	The process of developing a complete detailed description of the journey of a vessel, from start to finish.	(5)
47 VTS area	The delineated, formally declared service area of the VTS. A VTS area may be subdivided in sub-areas or sectors.	(14), (19)

<i>Term</i>	<i>Definition</i>	<i>Source</i>
48 VTS navigational assistance service	A service to assist on-board navigational decision-making and to monitor its effects. Navigational assistance is especially of importance in reduced visibility, or difficult meteorological circumstances or in case of defects, or deficiencies affecting the radar, steering or propulsion. Navigational assistance is given in due form of position information at the request of the traffic participant or in special circumstances when deemed necessary by the VTS operator.	(14)
49 Waterway charges and port dues (WCD)	The information needed to facilitate the calculation and collection of waterway charges and port dues.	(5)
50 Web Service Description Language (WSDL)	Standard for the specification of web services used as a standardized NtS web service.	(17)

References

- (1) IMO Resolution A.823(19) "Performance standards for Automatic Radar Plotting Aids (ARPAs)" (adopted on 23 November 1995).
- (2) IALA Guideline 1095, *Harmonized implementation of Application-Specific Messages (ASM)*.
- (3) VTT⁴ Expert Group, *Information paper on Application Specific Messages (ASM)*, Edition 1.1, version 09.05.2017, https://www.ccr-zkr.org/files/documents/ris/ris_vtt_asm_en.pdf.
- (4) IEC 872 "*Marine Automatic Radar Plotting Aids (ARPAs)*".
- (5) PIANC Inland Navigation Committee (InCom), Permanent Working group 125, *Guidelines and Recommendations for River Information Services*, Edition 4 (Informal document SC.3/WP.3 No.14 (2018)).
- (6) *Recommendation on electronic chart display and information system for inland navigation (Inland ECDIS)*, adopted by resolution No. 48 of the UNECE Working Party on Inland Water Transport, fourth revision (Informal document SC.3 No. 2 (2019)).
- (7) ECE/TRANS/SC.3/WP.3/2020/23.
- (8) Central Commission for the Navigation of the Rhine, leaflet "Electronic Ship Reporting in Inland Navigation", Edition 2015, https://ris.cesni.eu/docs/File/429/leaferi2015_e.pdf.
- (9) UNECE, Eurasian Economic Commission, China National Institute of Standardization, *Trade Facilitation Terms: An English-Russian-Chinese Glossary* (revised third edition), 2019.
- (10) IALA website, Application Specific Messages, EMMA warning, www.iala-aism.org/asm/emma-warning/.
- (11) European Commission, *Digital Inland Waterway Area. Towards a Digital Inland Waterway Area and Digital Multimodal Nodes*, October 2017.
- (12) International Standard for Notices to Skippers in Inland Navigation, adopted by UNECE resolution No. 80, revision 1 (ECE/TRANS/SC.3/199/Rev.1).
- (13) Central Commission for the Navigation of the Rhine, leaflet "Notices to Skippers", Edition 2014, www.ccr-zkr.org/files/documents/ris/leafnts2014_e.pdf.

⁴ Vessel Tracking and Tracing.

- (14) *Guidelines and Recommendations for River Information Services*, adopted by resolution No. 57 of the UNECE Working Party on Inland Water Transport (ECE/TRANS/SC.3/165/Rev.1 and Amend.1).
- (15) ECE/TRANS/SC.3/WP.3/2020/7.
- (16) Notices to Skippers Expert Group, *Introduction*, version dated 09.11.2016, https://ris.cesni.eu/docs/File/389/nts_expert_group_introduction.pdf.
- (17) *International Standard for Notices to Skippers in Inland Navigation*, adopted by resolution No. 80 of the UNECE Working Party on Inland Water Transport (ECE/TRANS/SC.3/199/Rev.1).
- (18) Commission Regulation (EC) No. 416/2007 of 22 March 2007 concerning the technical specifications for Notices to Skippers as referred to in Article 5 of Directive 2005/44/EC of the European Parliament and of the Council on harmonised river information services (RIS) on inland waterways in the Community.
- (19) *Guidelines and Criteria for Vessel Traffic Services on Inland Waterways*, adopted by resolution No. 58 of the UNECE Working Party on Inland Water Transport (TRANS/SC.3/166 and Corr.1).
-