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RIS implementation survey and policy evaluation

Country Reports

Panteia, KTI, PRC and Planco

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Contents

1 Introduction

In this report the implementation of the RIS Directive in the European Union will be assessed. In order to assess the implementation of the RIS Directive in the (candidate) Member States a set of indicators has been defined. These key indicators refer to the 4 main technical key elements of RIS and the timely implementation (including notification) of the RIS Directive including the guidelines and specifications.

The set of indicators is:

- Implementation of RIS Directive by 20 October 2007
- Availability of RIS Guidelines by 24 October 2009
- Availability of Electronic ship reporting by 7 September 2012
- Availability of Notices to skippers by 24 October 2009
- Availability Vessel tracking and tracing by 24 October 2009; for the amendment of July 2012 by July 2013

As the technical specifications of inland ENCs have not been published yet, there is no formal requirement yet to have inland ENCs available. All Member States however have been developing inland ENCs on most of the waterways but the quality differs from country to country.

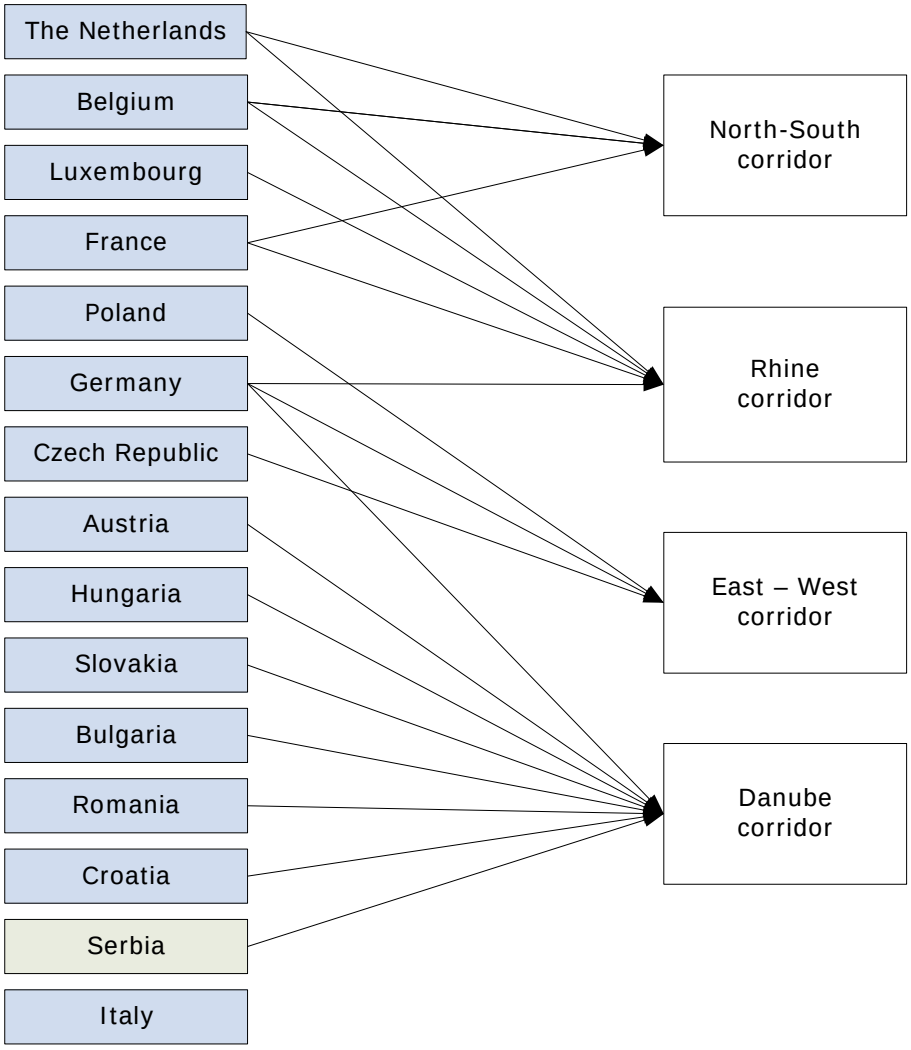
In the next chapters, of all eligible Member States an assessment is made of the timely implementation of the RIS Directive and of the availability of ERI, NtS and AIS. The assessment also includes Serbia as this country plays an important role in the implementation of RIS on the Danube. Moldova and Ukraine are left outside this assessment due to either their minor role in the European inland shipping and/or the fact that these countries are no subject to the RIS Directive. Furthermore, information on the current developments in Italy is given as Italy is currently executing a TEN-T project on RIS implementation on the Po River. Also Sweden is included as it recently showed interest in the RIS developments and is considering upgrading some fairways to CEMT class IV.

It should be mentioned that the division of countries in the next chapters is not done at random but is focused on the four important inland navigation corridors in Europe: North-South Corridor, Rhine Corridor, East-West Corridor and Danube Corridor.

For inland waterways, the core and the comprehensive network coincide. The core network covers all the existing TEN-T of existing or planned waterways of class IV or higher and selected inland ports. Inland ports are part of the comprehensive network if the annual freight transhipment volume exceeds 500.000t. Implementing River Information Services is a key requirement for inland waterways. The TEN-T core network is bundled in 9 multimodal corridors. Inland waterway projects will be part of 7 multimodal corridors. The corridors meant in this RIS evaluation are:

- North-South Corridor: North Sea – Mediterranean Corridor
- Rhine Corridor: Rhine – Alpine Corridor
- East-West Corridor: North Sea – Baltic Corridor
- Danube: Rhine – Danube Corridor

In this companion report the RIS implementation at country level will be described. RIS implementation along the corridors will be handled in the main report[1].



[1] Notice Italy is not attached to a corridor.

2 The Netherlands

2.1 Inland shipping in the Netherlands

As the Netherlands is strategically located at Europe's Rhine-Scheldt delta it has traditionally been an international node of transport. Freight transport over water is an essential part of the Dutch logistics system. Inland shipping accounts for half of all international freight transport in the Netherlands; inland navigation accounts for almost 25% of the transport within the Netherlands. With 5000 ships the Netherlands has the biggest inland shipping fleet of Europe, carrying approximately 330 million tonnes of goods annually.

Its share of weight transported in the Netherlands is 30% and for international transport inland navigation is the largest carrier accounting for more than 55% of transport over a distance of 100 km. 70% of the bulk transport (consisting mainly of sand and gravel, ores, coal, agribulk, metals, other dry bulk, petroleum and petroleum products and chemical products) is being transported by inland ship. The share of inland navigation in container transport is 30% (road 57% and train 13%) and palletises transport has a market share of 4% (whereas 90% is transported by road).

The infrastructure consists of 5,046 kilometres of waterways[1]. Inland navigation businesses are traditionally small and medium-sized companies: nearly 90% has one ship (family-owned). Inland navigation employs 15,000 people in 3.300 businesses. In addition, the Dutch fleet indirectly provides jobs for another 25,000 people in companies like knowledge centres, shipyards and training institutes.

2.2 Legal implementation of RIS

The Dutch Scheepvaartverkeerswet (Svw, or Shipping Traffic Act) stipulates the general rules for the safe and smooth progress of shipping traffic. The Svw has been elaborated in a number of regulations that contain amongst others the right-of-way rules, rules about lighting and audio signals, and traffic signs. All required RIS definitions are laid down in this framework of Svw but also other aspects like the Notices to skippers, AIS arrangements, privacy aspects and ENCs.

The Directive 2005/44/EC has been implemented in the Netherlands by 20 October 2007 in the fore mentioned Shipping Traffic Act which has been notified to the European Commission on 17 October 2007. The implementation also includes the "Besluit gegevens scheepvaart 2007" and the "Regeling gegevens scheepvaart". For the type approval of RIS equipment the Binnenvaartwet can be used.
A complete overview of the transposition of the RIS Directive in the Netherlands (transposition table) can be found in Annex 1.

[1] Rivers of the World Atlas, December 2010.

2.3 Technical implementation of RIS

The Netherlands are one of the driving forces of RIS development in Europe. Mid 1990s the Dutch Rijkswaterstaat developed a national system for (active) traffic management (IVS90). Together with especially Austrian partners and the European Commission several research projects were developed like INCARNATION, COMPRIS and INDRIS which resulted in an international RIS system.

a/Notices to skippers

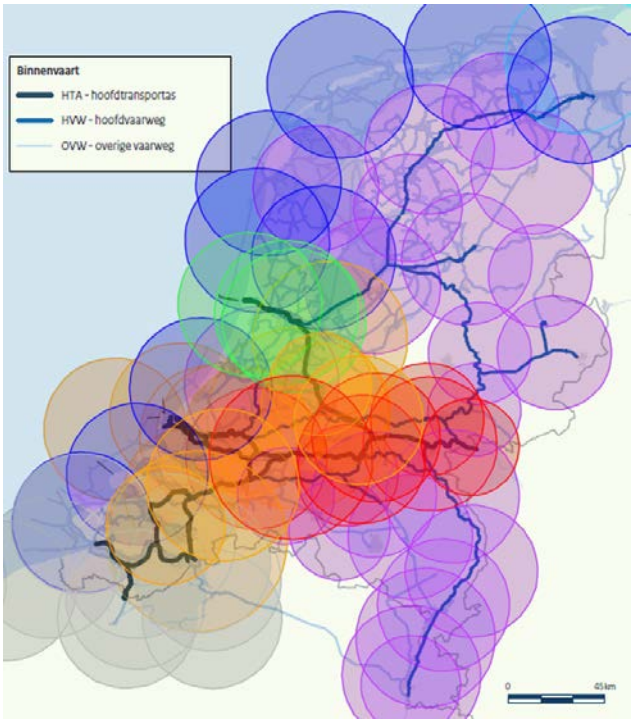
The Dutch RIS portal can be found on www.vaarwegeninformatie.nl and contains the Dutch fairway information. These Notices to Skippers are available from 2002 and in the course of the years adapted to meet the standards (standard V3.0). Since 2007 NtS in the Netherlands is in accordance with the current EU technical regulation. FTM, WRM and ICEM are available in the NtS standard V3.0 (also in Map Viewer), WERM is only in text message available. The Netherlands are planning to set up a NtS web service which will be in operation in the first half of 2013.

On the Dutch RIS portal information about the Dutch waterways and waterway objects can be found like dimensions of waterways and locks and regular operating times. The Water Related Messages not only cover the Netherlands but also Germany, Belgium and France. Ice charts are published during periods of floating ice. Maritime radio notifications are generated by the KNMI (Royal Netherlands Meteorological Institute) for the Dutch coast areas and wide inland waters and also published on the RIS portal (only available in text format). It is possible to subscribe for the information messages. Also the ENCs for the main waterways in the Netherlands can be obtained via the RIS portal. The website only contains the ENCs of Rijkswaterstaat and not (yet) from other waterway operators.

b/Vessel tracking and tracing systems (Automated Identification System/AIS))

Implementation of AIS in the Netherlands is currently well on its way and expected to be finalised at the end of 2013. There is a national base station network available in the Netherlands:

Figure AIS coverage in the Netherlands



(Source: Rijkswaterstaat)

In the Netherlands almost the entire fleet is using the AIS transponders. It should be mentioned that the AIS implementation in the Netherlands was possible due to a special agreement between the industry and the government. In this agreement a limited use of the AIS data was approved meaning that the data will be only used for infrastructure traffic management and enhancing of safety.

The Shipping Traffic Centre (SVC) of Rijkswaterstaat undertook a major AIS pilot within the framework of RIS (2008-2012). Thousand Inland AIS transponders were installed on vessels that make regular use of the Dutch inland waterways. The pilot project consists of three sub-projects:

1. Sub-project “Hoornbrug”: to improve transport efficiency: improve coordination between the moment of arrival of vessels at the bridge and opening of the bridge
2. Sub-project “Maasvlakte 2”: the objective of the pilot study was to study whether the use of AIS would lead to a smaller demand for waiting berths in the port area.
3. Sub-Project “Corridor 895”: 895 vessels that sail regularly on the Rhine corridor between Amsterdam and Rotterdam were selected for this sub-project in order to get used to large quantity of information communicated using AIS. Also the ability of the AIS system to work with a large number of transponders in combination with maritime AIS was investigated.

Important aspects of the pilots were: various properties of the use of AIS transponders, failure and success factors in installation and use and experiences/lessons learned. In the pilot Rijkswaterstaat was responsible for the installation of an inland AIS transponder according to the minimum configuration: AIS transponder, power cable and connection to VHF and GPS

antennas present. Connections to other on-board equipment were outside the scope of the pilot[1].

As a follow up of the abovementioned AIS pilot program a Temporary Subsidy Scheme for inland AIS equipment for inland shipping was published (State Gazett nr. 18238, 30 November 2009). This subsidy scheme was established to allow inland skippers (using Dutch waterways) to apply for a subsidy for the installation of an AIS transponder. The subsidy was developed in close cooperation with Germany. Ships not sailing under a Dutch or German flag but still regular visitors of the German and Dutch waterways could also apply for funding.

In addition to the first 1000 vessels from the pilot phase, an additional number of 7000 inland waterway vessels are eligible to be equipped with a transponder. A Total budget of EUR 14,7 million was available; for each application EUR 2.100,-. The Ministry of Infrastructure and Environment was granted financial support from the EU program Trans European Networks (EUR 3,95 million). The subsidy scheme ended at 31 December 2012[2].

Besides working on the provision of AIS transponders, Rijkswaterstaat also is working on the AIS shore based infrastructure. The main goal of this project is to realise a shore based system for all class IV and above waterways. The AIS shore based infrastructure will give Rijkswaterstaat a total overview of the traffic on the main waterways. With this information traffic controllers, lock- and bridge operators have a more complete and updated overview of the traffic; supporting a more safe and sufficient inland navigation.
The implementation of the shore based infrastructure is expected to be ready at the end of 2013. In areas where already shore based infrastructure existed, agreements have been made in order to share AIS-data. For the newly to be build infrastructure can be mentioned that the routes Rotterdam-Germany and Rotterdam-Antwerp shore based infrastructure is already in place[3].

c/Electronic ship reporting

Electronic reporting is possible with the support of the BICS application. BICS was developed by the Zeeland Directorate of Rijkswaterstaat already in 1994. It is used to transmit data about transported cargoes and voyages of ships by PC and GSM from the ship to the quay to the various inland waterway authorities (Rijkswaterstaat and some provinces) and port authorities and covering almost all waterways (class 0 and above). All messages are supported; however ERINOT is the only message type is regularly used. BERMAN message is not required and with regard to the PAXLIST only two passenger ships are obliged to report (Zonnebloem/Henri Dunant). The ERINOT and ERIRSP messages (including international exchange) are available from already 1994 and are in the course of the years adapted to meet the standards. Since 2010 these messages comply with the current EU technical legislation. PAXLST is available since 2004 and meets the standards of the technical EU legislation since 2012.

[1] Evaluation study of Inland AIS implementation in the Netherlands pilot, 2011 ADVIN BV Consultants and Engineers.
[2] www.binnnenvaart.org.
[3] http://www.rijkswaterstaat.nl/water/veiligheid/scheepvaartverkeersbegeleiding/ris/AIS/inland_ais_walinfrastructuur/

From January 1 2010, electronic reporting is mandatory in the Netherlands for all ships carrying containers on the Rhine (more than 20 containers and also for ships transporting containers with dangerous substances/irrespective of the number of the containers) but also on the Dutch inland waterways covered by the BPR (Inland Shipping Police Regulations). It should be noted that not in the whole Rotterdam Port Area there is an obligation for electronic reporting; the obligation starts from the so-called “Van Brienenoord Brug”.

BICS users are given free software with which they can communicate. When BICS is installed, the standard details of the ship are defined. BICS contains the names of all loading and unloading points, all cargo types and the precise names of, and indication of the risks associated with, each dangerous substance that is allowed to be transported over water.

International data exchange with Germany is fully operational for ERINOT 1.2 like also the data exchange with Belgium on the Westerscheldt Area. on the Albert Kanaal-Maes (with Belgium) data exchange is semi operational for ERINOT 1.2/1.1.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

ENCs are available for all main waterways in the Netherlands (waterway class IV and above). These electronic navigational charts provide information about the fairway, marking, signposting, bridge headroom and lock dimensions. For the Port of Rotterdam area, the port itself developed the ENCs.

The used version of the ENCs is the 2.1 standard (bathymetry added in 1.02): however the quality of the charts could be improved; especially with regard to the water depth (but this is very costly). No quality standards have been published in the Netherlands for ENCs. The quality (in particular the update frequency) of the ENC also depends on the type of fairway (canal versus river like Maas or even Westerscheldt).

e/Hull database

The Netherlands are also involved in the development of the European Hull Data Base in order to avoid any duplication of certificates with the already existing national hull database. The Netherlands participated actively in the pilot phase of the hull database (included in the IRIS I project). The objective of this phase was to provide the pilot service to early users and to gradually interconnect with additional vessel certification authorities and RIS authorities. Currently, the development of the hull database is still a pilot, but will be fully operational in the year 2014.

Not all Dutch vessels have already a ENI but these ENI’s will be assigned during the certification procedures. It is foreseen that all Dutch vessels will have a ENI in 2016. a ENI will be assigned during the certification or re-certification process and therefore there is no obligation to assign a ENI since a specific date. Voluntary a skipper can also request for a ENI.

f/RIS Index

A RIS index is available in the Netherlands including also the data exchange with the ERDMS. The RIS Index is available since 2004 and in the course of the years adapted to meet the updates of the RIS-Index encoding guide.

A short summary of the implementation of RIS and its main elements in the Netherlands are given below:

Summary technical implementation of RIS elements in the Netherlands

		The Netherlands	
		Availability	*When?*
Notices to skippers	Fairway & Traffic Messages (FTM)	Yes	2002, in the course of years adapted to meet the standards, since 2007 in accordance with current EU technical regulation (std. V 3.0).
	Water Related Messages (WRM)	Yes	2002, in the course of years adapted to meet the standards, since 2007 in accordance with current EU technical regulation (std. V3.0).
	Ice Message (ICEM)	Yes	2002, in the course of years adapted to meet the standards, since 2007 in accordance with current EU technical regulation (std. V 3.0).
	Weather Related Messages (WERM)	Yes	Since 2012 (only text messages)
	Method of diffusion	Online portal, e-mail subscription	FIS portal www.vaarweginformatie.nl (2012) NOS Teletekst and BICS
AIS	AIS infrastructure	Expected to be fully operational from 2013	2013
	On-board equipment	Well on its way; to be finalised at the end of 2013	2013 (note that the installation of AIS on-board equipment is not a responsibility of the RIS Authority)
	Exchange	Yes	This is possible, however not operational.

		The Netherlands	
		Availability	*When?*
Electronic reporting	ERINOT, ERIRSP	Yes	1994, in the course of years adapted to meet the standards, since 2010 in accordance with current EU technical legislation.
	BERMAN and PAXLST	PAXLST: Yes/BERMAN: No	2004, in the course of the years adapted to meet the standards, since 2010 in accordance with current EU technical regulation.
	Exchange	Yes	1994, in the course of years adapted to meet the standards, since 2012 in accordance with current EU technical legislation.
ENC	Coverage	Yes	2007, in the course if years adapted to meet the standards. Complete coverage in accordance with the RIS Directive.
	Provision free of charge	Yes (www.vaarweginformatie.nl)	
Hull database	Exchange with European hull database	Yes	Currently this is a pilot, in the year 2014 this will be fully operational.
	Vessels have an ENI	Yes	Not all vessels, a ENI will be assigned during the certification procedures, it is foreseen that this will be realised in 2016 (note: in accordance with the respective technical regulation, a ENI shall be assigned during the certification or re-certification process, therefore there is no obligation to assign ENI since a specific date). Voluntary a skipper can request a ENI

		The Netherlands	
		Availability	*When?*
RIS index	Correct use	Yes	Since 2004, in the course of the years adapted to meet the updates of the RIS-Index encoding guide.
	Synchronization with ERDMS	Yes	2011
Traffic management		Rijkswaterstaat is currently working on the development of the "Traffic management centre of the future"	Traffic Management is established in the late 1980s on the main corridors. Presently a review is being conducted to define a new integrated approach.
On board equipment	AIS equipment	Yes	2013, note that the installation of AIS on-board equipment is not a responsibility of the RIS authority.
	ERI	Yes	1996, start of the BICS pilot.

2.4 Other characteristics of RIS implementation

The Ministry of Infrastructure and Environment is responsible for efficient transport and traffic in a well designed, clean and safe environment. Rijkswaterstaat (Agency of the Ministry of Infrastructure and Environment) manages and develops the national network of roads and inland waterways on behalf of the Minister of Infrastructure and Environment. The legal and technical implementation of RIS in the Netherlands is mainly executed by Agency Rijkswaterstaat and not by the policy department of the Ministry of Infrastructure and Environment.

Before implementing RIS, Rijkswaterstaat concluded a covenant with the inland shipping sector covering the introduction of AIS in the Netherlands. The inland shipping sector cooperates voluntary with the Dutch government on two conditions: the government bares the costs of the implementation and the privacy of the shippers is secured (meaning that only the position and identification of ships will be transmitted via AIS). Also RWS initiated the so-called "RIS podium" where all different kind of RIS users could discuss the implementation of RIS in the Netherlands with RWS.

The legal implementation of RIS is mainly transposed into the Scheepvaartverkeerswet which could make the connection with maritime eFreight easier. However, in practice the connection does not exist like for example the inland AIS messages can not be read by sea-going ships.

The Port of Rotterdam has a special position in the Netherlands as it is nominated as the (regional) RIS authority in the Rotterdam port area and not

Rijkswaterstaat. Therefore the harbour master and Rijkswaterstaat need to cooperate on the implementation of RIS in the Rotterdam port area. The harbour master is responsible for the RIS implementation, however the Port of Rotterdam N.V. facilitates this process as it is the owner of all related port equipment. Rotterdam publishes its own messages on the website which is not integrated in the RIS portal of Rijkswaterstaat. Also the ENCs (including the underlying data) of the Rotterdam port area are owned by Rotterdam.

The Dutch waterway manager Rijkswaterstaat and the Belgian infrastructure manager Maritieme Dienstverlening en Kust are responsible for the management of the Scheldt area, an important shipping lane for ports as Vlissingen and Terneuzen in the Netherlands and Ghent and Antwerp in Belgium. Through the establishment of a single Common Nautical Management authority relevant RIS activities such as development and implementation of notices to skippers, electronic reporting and electronic navigational charts are coordinated for Belgium and the Netherlands in the Scheldt area. In addition, the single authority ensures that standards for maritime navigation and inland navigation are compatible.

Within the framework of the IDVV program (Impuls Dynamic Traffic Management; financed by Rijkswaterstaat) projects are being developed for future RIS applications like the “Traffic Management Centre of the Future” which focuses on traffic management on corridor level. This will make it possible to better manage the corridors (for example re-routing in case of accidents) and management of capacity of the locks.

2.4.1 Conclusions

The Netherlands has transposed the RIS Directive right on time. All technical RIS applications are in place or will be ready at the end of 2013 (AIS). International data exchange for electronic reporting with Germany and Belgium is possible, data exchange with Belgium on the Maes does not seem to be existing.

2.5 Organisational structure of RIS implementation

RIS stakeholders in the Netherlands are organised both on a national as well as on an international level.

National RIS stakeholders the Netherlands

In the Netherlands **the Ministry of Infrastructure and Environment** is responsible for efficient transport and traffic in a well designed, clean and safe environment. The government’s ambition for inland navigation is to exploit opportunities to increase the market share of this transport mode. Within the Ministry several departments are involved with the development of the inland shipping sector and the development maintenance of the fairways in order to make this transport mode more competitive.

The **Division Inland Shipping** of the Maritime Directorate is responsible for most policy issues related to inland shipping and therefore the political responsibility of the implementation of RIS lies within this division. However,

with regard to the actual RIS implementation in the Netherlands the main responsibility lies within **Rijkswaterstaat** (an Agency of the Ministry of Infrastructure and Environment) and also the National RIS Authority has been appointed within Rijkswaterstaat.

Rijkswaterstaat manages the Netherlands' main highway network and main waterway network. Rijkswaterstaat is responsible not only for the technical condition of the infrastructure but also for its user-friendliness. Smooth and safe traffic flows, a safe, clean and user-friendly national waterway system and protection from flooding: that is what Rijkswaterstaat is about. Rijkswaterstaat is working to ensure:

- protection against flooding
- sufficient clean water
- smooth and safe flows of transport on the nation's roads and waterways
- reliable and useful information

With regard to RIS the main aim of Rijkswaterstaat is to monitor all commercial shipping but with a minimum of administrative burden. Furthermore Rijkswaterstaat aims at a complete coverage of the Netherlands with regard to AIS, ERI and electronic charts.

The **Shipping Traffic Centre (SVC)** is the contact point within Rijkswaterstaat for all inland waterway shipping matters, for commercial and recreational shipping, other inland waterway authorities, partners and stakeholder representatives. SVC works on the implementation of RIS in the Netherlands.

The **Human Environment and Transport Inspectorate** and the **Dienst Waterpolitie** are involved with RIS as they are interested to extract information from the RIS system. The Human Environment and Transport Inspectorate monitors and encourages compliance with both national and European legislation and regulations in favour of a safe and sustainable human environment and transport. The activities of the inspectorate focus on good provision of services, fair enforcement and appropriate detection. If appropriate this is executed in collaboration with other inspectorates, is risk-driven, is based on mutual trust with the supervised organisation and moreover is focused on reducing the burden of supervision. Policy-makers determine the rules; people and businesses are responsible for compliance and the inspectorate monitors and enforces. The transport departments of the inspectorate are committed to the safety of transport by road, on water and by air. Examples include the supervision of companies operating in these sectors, the rail and aviation infrastructure and the requirements with respect to rest and driving/sailing/flying times, professional competence, loading and maintenance.

The waterway operators and the Dienst Waterpolitie (**Water Police Department**) of the KLPD (Korps Landelijke Politiediensten, or Netherlands Police Agency) enforce the rules and regulations on the waterways. They work closely together. Both agencies mainly keep an eye on navigation behaviour and navigation licences. In addition, the Water Police also checks for the consumption of alcohol. Both the waterway operators and the Water Police are authorised to issue fines when the law is violated.

Also the **Telecom Agency** plays a role with regard to RIS development in the Netherlands: this organisation regulates and oversees the use of the ether frequencies in the Netherlands, establishing directives and granting permits for the use of frequency space. Furthermore the Agency oversees the trade in electronic equipment, tapping, data retention and the law regulating the information exchange of underground networks.

Besides the National RIS Authority at Rijkswaterstaat the Dutch sea ports are so-called **regional RIS authorities**. However, this situation recently (mid 2013) changed and now only Rijkswaterstaat is a RIS authority in the Netherlands.

Other national stakeholders

The Agency for Telematics in Inland Waterborne Transport: Bureau Telematica Binnenvaart (BTB) is a self-supporting, independent private organisation, linked to the combined Dutch inland shipping branch organisations. BTB operates as an executive agency for the industrial board in the field of Information- and Communication Technology (ICT) for inland waterborne transport. Main goal is the promotion of useful ICT for inland shipping being a link in the chain of transportation. As a partner of the Dutch government BTB plays a vital role in the introduction of River Information Services. This includes things like electronic reporting, Inland AIS, Inland ECDIS, Notices To Skippers and ERI Expert Groups[1].

Koninklijke Schuttevaer represents already more than 160 years the professional inland shipping interests in the field of nautical engineering and the infrastructure for inland shipping. But also with regard to RIS Schuttevaer is active like for example lobbying for a better WIFI network along the Dutch waterways.

Dutch (based) **IT-firms** such as E-novation and CGI are facilitating the further implementation of RIS in the Netherlands and across Europe through supporting Rijkswaterstaat and the development of the ERDMS database.

International stakeholders the Netherlands

The Dutch RIS experts and authorities are present and very active in international forums and organisations concerning inland waterways transport in general and RIS specific.

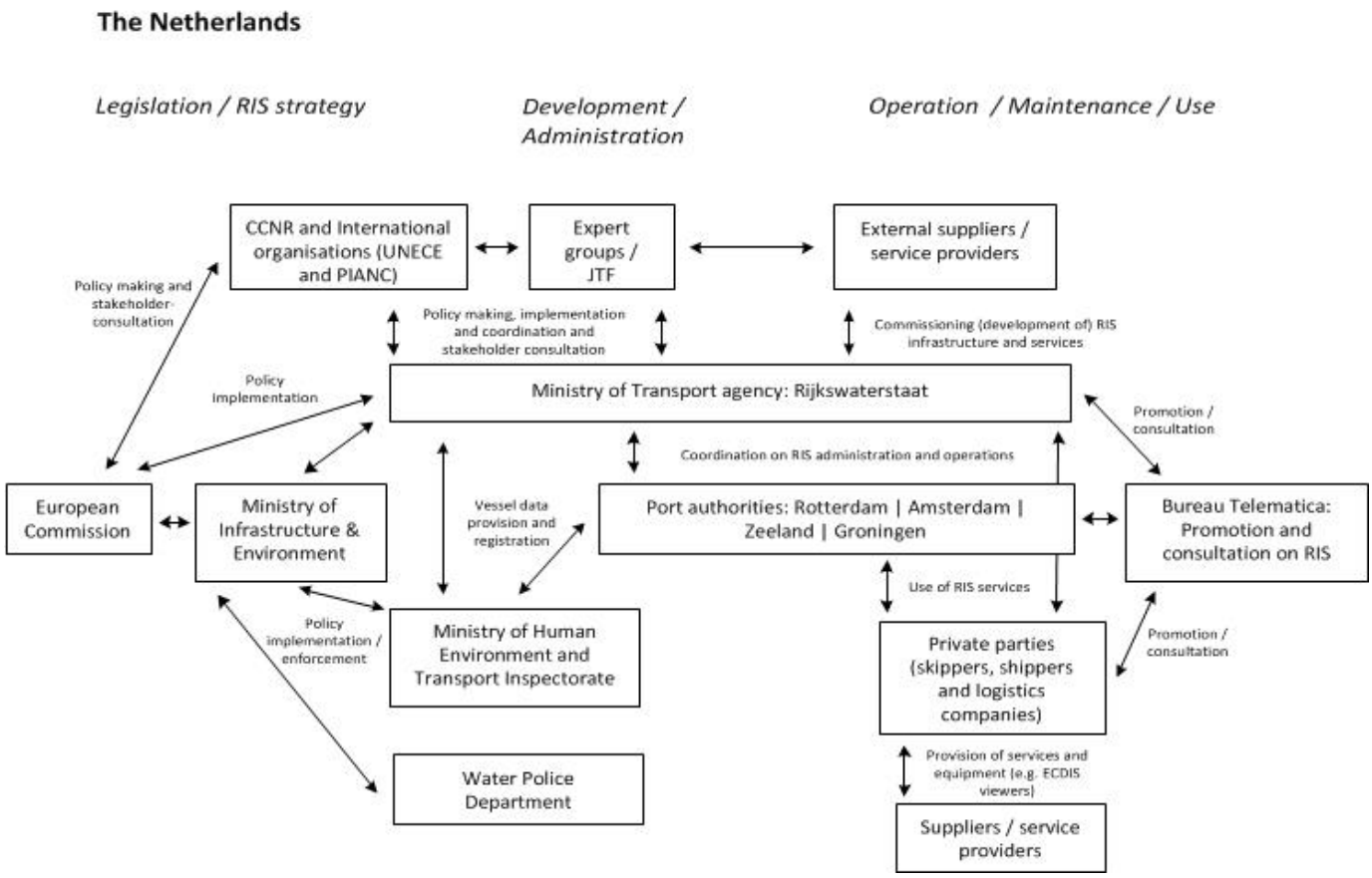
Dutch RIS experts are active in the different **RIS expert groups** concerning notices to skippers, vessel tracking and tracing, electronic ship reporting (Dutch chair) and electronic navigational charts. Furthermore the Dutch RIS Authority is active in the RIS Directors meetings with the European Commission.

The Dutch government is aligning and harmonising the implementation of RIS closely with the guidelines from the CCNR. Dutch experts participate in the discussions in the CCNR concerning RIS.

Dutch RIS experts also participate (and chair) the meetings of the PIANC RIS Working Group.

[1] www.binnenvaart.org.

The organisational structure of the RIS implementation in the Netherlands is given in the figure below:



2.6 RIS projects

The Dutch RIS authorities have carried out several national projects; recent projects include:

- FIS
- Tracking and Tracing
  - AIS on board
  - AIS shore infrastructure
- VOS
- VCM
- IDVV
- IRIS 1 and 2
- Westerschelde

FIS in the Netherlands:

The objective of this project is to develop and implement Fairway Information Services (FIS) that will fully comply with the RIS Directive and subsequent technical specifications. All available fairway information for skippers will be combined and integrated in one consistent information system. Total costs of the project are EUR 1.990.000 (TEN-T contribution EUR 398.000).

The objectives addressed through the implementation of FIS are:

- Improved reliability of travel times on inland waterways through provision of robust (accurate and timely) data for voyages, thereby making inland waterway transport more suitable for current logistics processes;
- Improved algorithms to estimate travel times in route planning application software provided by commercial companies for shipping purposes;
- Support future developments on fuel economy and more accurate voyage plans;
- Improved safety levels with automatically generated alarm messages[1].

Tracking and Tracing:

- Full deployment of Inland AIS transponders (jointly with Germany): This action will ensure that all vessels using the main waterways in Germany and the Netherlands will be equipped with Inland-AIS transponders. This will effectively have a European impact since most vessels of the European fleet regularly use either German or Dutch waterways. Inland AIS is the standard for tracking and tracing as specified in the Commission Regulation (EC) No 415/2007 and amended Regulation (EU) No 689/2012 as connected to the EU RIS guideline 2005/44/EC.
- Implementation of a national AIS monitoring network in the Netherlands: this is an ongoing key action implemented jointly with the deployment Inland AIS transponders that will ensure that reliable information is available for all RIS services in the Netherlands.

VOS:

A traffic management information system IVS90 is in operation since many years as a supporting system for VTS. The system is now in a phase that it will be replaced and enhanced with the nowadays required functionalities for VTS, Calamity Abatement and locks and bridge management. These enhancements are made possible through the introduction of RIS basic services for tracking and tracing of vessels. The IVS90 system will be replaced by the Traffic Management Support System VOS. The roll out of VOS will start in 2014.

VCM/Vessel Traffic Management Centre of the Future:

Within the context of the EU policy on transport and the deployment of RIS, Germany and the Netherlands started a study to deal with the conceptual development of Vessel Traffic Management Centres (VTMC) of the Future. Integral VTM including interaction between VTS and control of locks and bridges could lead to improvement of the VTM processes and the services to the stakeholders of IWT. This study will lead to a blueprint for integral VTM approach including optimized application of RIS services. In this action also focus is on the improvement of the performance of the logistics chain by interaction between traffic planning and voyage planning.

IRIS 1 and 2

The Netherlands was also active in IRIS 1 and 2 jointly with a large number of European nations. Within these projects studies and pilot projects concerning new and enhanced RIS services and technologies and feasibility studies outlining the future services for RIS were being executed.

[1] www.ris.eu.

Westerschelde

The Implementation of the RIS Directive on the Westerschelde (jointly with Belgium) is also part of the programme to implement RIS in the Netherlands. A Vessel Traffic Management on the Westerschelde for both maritime and inland vessels is carried out by a joint Dutch/Belgium organisation: the Scheldt Radar Network. This action concerns the necessary activities to adapt, upgrade and extend the system and services of the Scheldt Radar Network to comply with the RIS directive.

Impulse dynamic waterway traffic management - IDVV

With the realization of Maasvlakte II by the Port of Rotterdam, transport volumes for inland navigation in the Netherlands, especially the container segment, are expected to grow considerably. Given the combination of the ambition to realize a modal split share of 45% for inland navigation for the transport of containers to the hinterland (current modal split is 38%) with the long term predicted growth, container volumes could double to quadruple in 2030. In order to prepare for this potential growth a 100 mln. EUR program under the title "Impulse dynamic waterway traffic management" has been started by the Dutch Rijkswaterstaat in 2010[1].

Synergy between EU-support and national initiatives

The Netherlands actively initiates and participates both on a international and national level in RIS projects. Participation in European funded projects is carefully and thoroughly considered with respect a possible increase of the administrative burden.

[1] Findings of the research programme "Impuls dynamic waterway traffic management" – IDVV, mr. R.J. Smit and others 2013.

3 Belgium

3.1 Inland shipping in Belgium

Inland waterways transport plays a significant role in Belgium. Belgium has a dense network of inland waterways, especially in Flanders. The important inland cross-border waterways are the Scheldt which connects Belgium with France (Seine-Scheldt operating area) and the Netherlands and the Meuse which flows through the Netherlands, Belgium and France. The total tonnage of carried goods in inland waterway transport amounts to 173 million tonnes of goods in 2011. The inland waterway transport of containers in Flanders amounted to 527 000 TEU in 2012.

The share of inland waterway transport in the transportation of goods is 16% (measured in freight tonne-kilometre), which is well above the European average of 6%. Mostly construction materials, petroleum products and chemical products are transported on Belgian inland waterways. The infrastructure consists of 1354 kilometres of waterways, of which 1037 are accessible by commercial vessels. In Belgium more than 1100 commercial vessels are registered. The inland shipping industry in Belgium consists mostly of small family-owned vessels.

Large seaports in Belgium where inland navigation plays an important role are the ports of Antwerp, Ghent and Liège. Important inland ports in Wallonia and Brussels include the ports of Charleroi and Brussels.[1]

3.2 Legal implementation of RIS

From a legal perspective the RIS Directive is transposed in the Belgian legislative framework through decrees and orders by the federal government and the regions (Brussels, Flanders and Wallonia). The regions are responsible for the implementation of RIS in Belgium and have transposed the directive in decrees and orders:

- Brussels: Order of 11 September 2008[2];
- Flanders: Decree of 19 December 2008 and order of 23 January 2009[3];
- Wallonia: Order of 17 April 2008[4].

The RIS Directive in Belgium is implemented on a regional level rather than the federal level. However, the federal government in Belgium is responsible for the registration of vessels and laying down the technical specifications for inland

[1] Sources include Eurostat and Promotie Binnenvaart Vlaanderen

[2] *Arrêté du Gouvernement de la Région de Bruxelles-Capitale transposant la Directive 2005/44CE du Parlement européen et du Conseil du 7 septembre 2005 relative aux Services d'Information Fluviale (SIF) harmonisés sur les voies navigables communautaires,* 11 Septembre 2008.

[3] *Decreet van het Vlaams Parlement betreffende de River Information Services (RIS) op de binnenwateren*, 19 December 2008. *Besluit van de Vlaamse Regering tot uitvoering van het decreet van 19 december 2008 betreffende de River Information Services (RIS) op de binnenwateren,* 23 January 2009.

[4] *Arrêté du Gouvernement wallon transposant la Directive 2005/44CE du Parlement européen et du Conseil du 7 septembre 2005 relative aux Services d'Information Fluviale (SIF) harmonisés sur les voies navigables communautaires,* 17 April 2008.

waterways vessels. By Royal Decree on 19 March 2009[1] Directive 2006/87/EC[2] concerning the technical specifications for inland waterway vessels was transposed in the Belgian legislative framework.

A detailed analysis of the legal transposition of the RIS Directive and its articles in the legislative framework of the Belgian regions (Flanders, Brussels and Wallonia) is included in the Annex.

3.3 Technical implementation of RIS

a/ Notices to Skippers

In Belgium Notices to skippers are available through e-mail (only for subscribed users), fax, and online portals and via XML. Within and between the regions there are different web portals for publication of notices to skippers. Next to the online portals, many notices to skippers are also implemented on ECDIS viewers. Implementation is according the NtS standard 3.0.

The language in which notices to skippers on Flaris (http://nts.flaris.be)[3] or on VTS-scheldt (http://www.vts-scheldt.nl)[4] are created, are independent from the language in which they are published. This means that skippers are able to read these notices in their own language, any of the 23 European languages. This however, is not the case for the notices to skippers published by the Walloon RIS authority. The notices to skippers in Wallonia are published in 4 languages: French, English, Dutch and German.

The notices to skippers cover the distribution of relevant fairway and traffic related messages. The Flemish waterway infrastructure managers also include ice related messages, while the Walloon waterway infrastructure manager does not. The waterway infrastructure managers rely on external input for water related as well as weather related messages; the quality of the external input can vary for different waterways.

Through the regional RIS portal of Flanders (http://ris.vlaanderen.be) skippers and other interested stakeholders can easily access information and data on the notices to skippers, AIS, electronic reporting and electronic navigational charts. Also, links to notices to skippers and electronic navigational charts of several other countries (e.g. the Netherlands, Germany, Romania and Hungary) are published.

[1] *Koninklijk besluit betreffende de technische voorschriften voor binnenschepen, gewijzigd bij de besluiten van 10 augustus 2009 en 4 juli 2011,* 19 March 2009.
[2] Directive 2006/87/EC of European Parliament and of the Council laying down technical requirements for inland waterway vessels and repealing Council Directive 82/714/EEC of 12 December 2006.
[3] Flaris is the RIS system developed by the Flemish waterway infrastructure managers
[4] For the Scheldt area and the Port of Ghent Notices to skippers are published here.

b/Vessel tracking and tracing systems (Automated Identification System/AIS)

In Belgium there have been pilots with AIS in sea ports. Inland navigation vessels are now required to have active AIS transponders in the Port of Antwerp (since January 1st, 2012)[1] and Port of Ghent (since January 1st, 2013). Within Flanders, on a national level and in cooperation with the CCNR and neighbouring Member States actions are undertaken to require AIS on inland navigation vessels on Belgian waterways by the end of 2013. In the whole of Belgium an obligation for AIS is envisaged by the end of 2013.

Through a subsidy programme skippers who installed AIS transponders aboard their vessels were eligible to receive financial support. The AIS transponder subsidy programme was implemented in collaboration with neighbouring Member States allowing Belgian ships to install AIS transponders in for instance the Netherlands and vice versa allowing Dutch ships active in Belgium to install subsidised AIS transponders in Belgium. The subsidy programme and the required use of AIS transponders in the Port of Antwerp is successful and over 90% of Belgian fleet has installed AIS transponders aboard.[2]

AIS infrastructure on shore is being rolled out in Flanders to ensure full coverage of the Flemish waterways. Additional base stations are installed to increase the effectiveness and robustness of the network, which currently exists of 21 AIS base stations. The ports of Antwerp and Ghent and the Common Nautical Management of the Scheldt area already have their own base stations to receive AIS information. The ports have integrated their radar systems (which provide real time information of ship movements in their areas) to their AIS system to be able to identify vessels. The port of Brussels will install one AIS base station in 2013 to receive and send AIS information when they are connected to the Flaris system. In Wallonia no AIS on shore infrastructure exist yet.

AIS data provide RIS authorities with traffic information and allows vessel tracking and tracing. However, AIS data is not complete (over 90% of the vessels have AIS transponders, but not all vessels). While AIS data can help to improves safety and traffic and calamity abatement services, it is not considered a stand alone solution for safety and traffic management for RIS authorities.

Cross-border AIS data exchange with the Netherlands is still an issue as the decision is not yet made which Flemish RIS authority will be designated to exchange ERINOT messages to the Netherlands. The main obstacle in this issue is the protection of market sensitive information. Cross-border AIS data exchange between Belgium and France does currently not occur.

[1] In *Chapter IV* the pilot and experiences of the Port of Antwerp with the AIS pilot preceding the AIS requirement will be discussed in more detail.

[2] Based on information from the Flemish Ministry of Mobility and Public Works. 900 vessels of the Belgian fleet of circa 1 100 inland navigation vessels received financial support for the installation of AIS transponders. An unknown number of skippers installed transponders without support. Experience of infrastructure managers and ports mention a similar percentage of over 90% of the use of AIS by vessels in their areas. Vessels without AIS transponders are foreign vessels, smaller and/or older vessels.

c/Electronic ship reporting

IT systems allowing electronic ship reporting is implemented in most parts of Belgium (e.g. Flanders including the ports and the Scheldt area) or will be implemented in the future (Brussels and Wallonia). The use of electronic ship reporting in Belgium is however relatively limited compared to its potential. Electronic ship reporting can be done by skippers themselves as well as by RIS authorities. Skippers only need access to the internet to send XML- messages. The most used software application to send ERINOT messages is the BICS system developed and used in the Netherlands.

A RIS authority can also create and send electronic reporting messages with other RIS authorities. The technical infrastructure to receive and respond to electronic ship reporting messages is in place in Flanders (including the ports). In Brussels electronic ship reporting is not possible yet, but is expected soon when the port of Brussels has acquired Flaris software, the system of the Flemish waterway infrastructure managers. The ERI infrastructure in Wallonia is currently being created. Currently the RIS authority in Wallonia uses the GINA (gestion informatisée de la navigation) system in which messages are sent through between the locks about passages of vessels. Some of these messages are sent automatically, while others are communicated through radio phone. These messages are not of ERINOT standard.

Flemish RIS authorities are able to receive and create ERINOT messages concerning information on the cargo and route of inland navigation vessels. Responses to ERINOT messages (ERIRSP) are also possible. The use of messages with reports on passengers (PAXLST) and on berth management (BERMAN) is not available or used. Flemish RIS authorities are looking to the results from pilots in other Member States with the use of PAXLST messages. RIS authorities in Flanders are able to exchange ERI data amongst each other (e.g. between locks or between the regional infrastructure managers and ports).

An example of international cooperation on ERI data exchange is the management of the Scheldt area where Belgian and Dutch authorities have linked their systems to the central brokerage system in which (ERI) data is exchanged. International data-exchange on the Albert Kanaal-Maes is semi-operational. Between Belgium and France data-exchange (ERINOT 1.2) is also operational although the status on the Meuse is unknown.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

Despite the lack of a technical standard for electronic navigational charts from the European Commission, the Flemish RIS authorities have developed electronic navigational charts of the waterways and ports. In Flanders electronic navigational charts have been developed for most of the Class IV waterways and are even being developed for lower class waterways (full coverage of 472 km.). The infrastructure managers and the ports have collaborated to ensure consistency in development of the charts. In Brussels and Wallonia the charts are created by private organisations. The first charts were available in 2009, using the format ‘version 5’. Now the charts for Flanders are being updated to the format ‘version 7’, while the charts of Brussels and Wallonia require an update.

The Flemish electronic navigational charts are freely available online (http://ris.vlaanderen.be/html_nl/vaarkaarten/index.html and www.vts-scheldt.net). The charts have also been integrated in commercial inland ECDIS viewers which provide skippers with additional options. These options include the possibilities to include notices to skipper's messages, AIS data and ERI messages thereby allowing improved voyage planning and navigation.

Currently projects are held to add further functionalities[1] to the charts and to include a registration for each user who wants to download a map. In this way, updates can be diffused in a more structured way.

e/Hull database

The Flemish waterway infrastructure managers have an XML connection with the European Hull database, while the federal government, the Walloon government and the ports have not. Synchronisation with European Hull Database is expected to be achieved.

The federal government is responsible[2] for matters concerning the technical requirements of vessels including providing ENI's. All Belgian vessels have an ENI. The federal government participated in the development of the European hull database and included the list of Belgian vessels. The federal government, however, does not yet have an XML connection to the European hull database. The investment for this XML connection is postponed as currently reforms are taken place.

Regional Flemish waterway infrastructure managers as NV Waterwegen en Zeekanaal and NV De Scheepvaart were amongst the first in Europa to be linked to the European hull database. The Walloon RIS authority currently has no access to this database. Other RIS authorities (e.g. ports) intend to request access or have requested access to the hull database and are still in negotiation. Currently, the administrative departments of ports have their own list of inland navigation vessels which are active in their area.

General concerns expressed regarding the European hull database are related to the funding and management of the database by the European Commission, as this is currently uncertain.

f/RIS Index

Belgian RIS authorities use different RIS indexes thereby resulting in the lack of a single RIS Index in Belgium. In Flanders the infrastructure waterway managers are undertaking actions to develop one consistent and uniform Flemish RIS Index which can further evolve in a Belgian RIS Index. The RIS index can be shared with Europe. Also the Common Nautical Management of the Scheldt Area strives to harmonise its RIS index with the Dutch, Belgian and European standards. The Walloon RIS authority has not yet developed and implemented a RIS index.
A short summary of the implementation of RIS and its main elements in Belgium are given below:

[1] For more information, see *Paragraph IV.2 National RIS projects and initiatives*.
[2] In Belgium currently discussions about reforms take place. As a result some competences on federal level can be transferred to the regional level.

Summary technical implementation of RIS elements in Belgium (Flanders, Brussels and Wallonia)

		Flanders		Brussels		Wallonia	
		Implemented?	When?	Implemented?	When?	Implemented?	When?
Notices to skippers	Fairway & Traffic Messages (FTM)	Yes		Yes		Yes	
	Water Related Message (WRM)	No	2013	No		No	
	Ice Message (ICEM)	Yes		No	No demand	No	No demand
	Weather Related Message (WERM)	No	2013	No		No	
	Method of diffusion	XML, fax, e-mail, online		Fax, e-mail, online		XML, fax, e-mail, online	
AIS	AIS infrastructure	Almost 100% coverage	2013	No	2013	No	2014 or further
	On-board equipment	>90%		>90%		>90%	
	Exchange	No	2013	No	2013	No	2014 or later
Electronic Reporting	ERINOT, ERIRSP	Yes		No	2013	No	2013 or later
	BERMAN, PAXLIST	No	Awaiting best practices	No	Awaiting best practices	No	Awaiting best practices
	Exchange	Between some authorities	2013-2014	No	2013-2014	No	Unknown
ENC	Coverage	Full		Full		Full	
	Provision free of charge	Yes		Yes		Yes	
Hull database	Exchange with European Hull database	Yes, but not the ports		No	Unknown	No	Unknown
	Vessels have an ENI	>90%		>90%		>90%	
RIS index	Correct use	No	2013 or later	No	2013 of later	No	2013 or later
	Synchronization with ERDMS	No	2013	No	2013	No	Unknown
Traffic Management		Yes		Yes		Yes	
On board equipment	AIS equipment	>90%					
	ERI	Low					

3.4 Other characteristics of RIS implementation

The Flemish RIS authorities (including the ports and the nautical authority of the Scheldt area) have undertaken serious steps in recent years to implement RIS elements as notices to skippers, vessel tracking and tracing (AIS), electronic ship reporting and electronic and navigational charts. The Brussels RIS authority will start using the RIS system developed by the Flemish waterway infrastructure managers in 2013. The Walloon RIS authority appears to lag behind, but intend to implement AIS infrastructure and ERI data in the coming years.

While the core technical infrastructure of RIS authorities facilitate basic RIS services, the Belgian authorities are striving to harmonise and link their systems

and to improve the uses of RIS to allow better traffic and safety management and ultimately transport management.

There are a large number of RIS authorities in Belgium responsible and active with the implementation of RIS on a local, regional and national level. Furthermore, Belgian waterways are part of the North-South corridor and cross-border cooperation with the Netherlands and France is therefore important.

The need for harmonisation and linkages of the different RIS systems within Belgium and neighbouring Member States is an important task to be able to fully generate and reap the benefits of RIS.

3.5 Conclusions

From a legal perspective the RIS Directive is transposed in the Belgian legislative framework through decrees and orders by the federal government and the regions (Brussels, Flanders and Wallonia). However, the implementation in all regions was done too late: Brussels almost one year late (17 September 2008), Flanders transposed the RIS Directive on 19 February 2009 and Wallonia on 24 April 2008.

The Flemish RIS Authorities have undertaken serious steps in recent years to implement RIS elements as notices to skippers, vessel tracking and tracing (AIS), electronic ship reporting and electronic navigational charts. The Brussels RIS authority[1] will start using the RIS system developed by the Flemish waterway infrastructure managers in 2013. The Walloon RIS authority lags behind, but intend to implement AIS infrastructure and ERI data in the coming years.

3.6 Organisational structure RIS implementation Belgium

RIS stakeholders in Belgium are organised both on a national as well as on an international level.

National RIS stakeholders in Belgium

On a national level the responsibility for implementation of RIS in Belgium lies mainly with the three regions: Brussels, Flanders and Wallonia.

The **Port of Brussels** is responsible for the implementation of RIS in the port area (and subsequently thereby the Brussels' region). The port area of Brussels is directly bordered by waterways of the Flemish waterway infrastructure manager NV Waterwegen en Zeekanaal. The implementation of RIS in the Brussels' region is still limited, but is expected to improve as Brussels intends to be connected to the Flaris system of the Flemish RIS authorities in 2013. The linkages allow for improvement in the notices to skippers, AIS data and electronic ship reporting. Electronic navigational charts of the port area are available.

[1] The Brussels RIS authority is the Port of Brussels and completely surrounded by the Flemish region.

The **Departement Mobiliteit en Openbare Werken** (Department of Mobility and Public Works) of the **Flemish government** is involved in the legal transposition and implementation of RIS in Flanders. This department is actively focused on the implementation of RIS in Flanders in a coordinated and coherent manner. The department for instance also leads and coordinates working groups in which the different RIS authorities in Flanders can discuss, share and learn about their RIS activities. The department also takes an active role in discussion and coordination with the other Belgian regions as well as with the European Commission for the administration of international RIS projects.

For the implementation of RIS on the Flemish waterways there are different RIS authorities responsible for their areas. The three waterway infrastructure managers in Flanders are **NV Waterwegen en Zeekanaal**, **NV De Scheepvaart** and **Maritieme Dienstverlening en Kust**. The waterway infrastructure managers NV Waterwegen en Zeekanaal and NV De Scheepvaart have coordinated their RIS activities in a partnership named CoRIS. Together the RIS centres in Evergem and Hasselt are managed thereby ensuring compatibility of systems and back up capacity. Maritieme Dienstverlening en Kust is responsible for the RIS activities in the Scheldt area where it coordinates its actions through a Common Nautical Management authority with the Dutch infrastructure manager Rijkswaterstaat.

The ports of **Antwerp, Ghent, Oostende and Zeebrugge** are responsible for RIS implementation in the ports. RIS activities for inland navigation are coordinated and complimentary with maritime navigation. The ports of Antwerp and Ghent have been very active in the implementation of RIS by requiring active AIS transponders on board of inland vessels in the ports and by integrating AIS data with existing radar information.

The **Direction de la Promotion des Voies Navigables et de l'Intermodalité** (Department for Inland Navigation and Intermodality) of the **Walloon government** is responsible for RIS implementation in Wallonia. The department publishes notices to skippers and electronic navigational charts online, but overall the implementation of RIS in Wallonia is considered to be lagging behind to the developments in Flanders.

The ports of Liège, Namur, Charleroi and the 'Port autonome du Centre et de l'Ouest are no RIS authorities as they do not manage the waterways in their ports.

The **Federale Overheidsdienst Mobiliteit en Vervoer (Federal Public Service for Mobility and Transport)** is responsible for the registration of vessels (ENI vessel numbers) and laying down the technical specifications of inland waterways vessels. Legislation concerning on-board equipment is part of the jurisdiction of the Federal Public Service for Mobility and Transport. In this regard, the Federal Public Service issues certificates, organises technical controls and has promoted the AIS obligation. This organisation is also in charge of uploading ENIs to the European Hull Database. The federal government coordinates its actions with the regions and also represents Belgium in international forums on RIS.

Other stakeholders in Belgium

Promotie Binnenvaart Vlaanderen (PBV) is an important partner of the inland navigation sector and the Belgian RIS authorities in the implementation of RIS. The PBV is active in the communication of RIS activities towards the inland navigation sector and also provides RIS authorities with relevant input from the inland navigation sector. The PBV consults, informs and involves not only skippers but also shippers and logistics companies. The PBV actively participates in formalised meetings within Belgium as well as on an international level in working groups on RIS.

Through the PBV, representatives of the sector (e.g. Bond van Eigenschippers) and own consultations, RIS authorities get insight in the diverse interests, experiences and feedback of **individual skippers** and **shippers and logistics companies** concerning RIS. The implementation of AIS transponders and IT aboard of inland vessels is over 90%. Over two thirds (67%) of Belgian skippers state that AIS is useful for themselves and RIS authorities. Shippers and logistic companies have a mixed opinion about RIS and just over 50% perceive an added benefit of AIS.[1] Earlier attitudes of skippers towards RIS were more sceptical as it brings – and by some still does – privacy concerns, which are not offset by any benefits.

Belgian **IT-firms** such as Periskal and Tresco are facilitating the further implementation of RIS in Belgium and across Europe through the development and sale of inland ECDIS viewers. New technological developments by IT-firms facilitate more and better uses of RIS elements such electronic navigational charts (e.g. include notices to skippers messages, AIS data and ERI messages). Also options to allow shipping companies to track their cargo and fleet can be integrated.

International RIS stakeholders in Belgium

The Belgian RIS experts and authorities are present and active in international forums and organisations concerning inland waterways transport in general and RIS specific.

Belgian RIS experts are active in the different European **RIS expert groups** concerning notices to skippers, vessel tracking and tracing, electronic ship reporting and electronic navigational charts. Representatives of the federal government, Flemish government, waterway infrastructure managers and Promotie Binnenvaart Vlaanderen are active in the working groups.

The Belgian federal and regional governments are aligning and harmonising the implementation of RIS closely with the guidelines from the **CCNR**. Belgian experts participate in the discussions in the CCNR concerning RIS.

RIS developments in the **UNECE** are monitored by Belgium through the CCNR, as the CCNR and UNECE strive to achieve harmonised and uniform technical specifications on RIS in Europe.

[1] *ICT-enquête 2012,* Promotie Binnenvaart Vlaanderen, 13 July 2012.

Flemish RIS experts also participate in meetings at the Donau Commission and at PIANC.

Bilateral structures and meetings

Belgium (specifically Flanders) is active in the Scheldt area in coordinating their RIS activities with **the Netherlands**. The Scheldt area is an important area for maritime and inland navigation ensuring the transport to and from the Belgian ports of Antwerp and Ghent. Through a formal agreement the Common Nautical Management authority was established which can be considered as a joint-venture responsible for the management of the Scheldt area. The day-to-day operations are jointly managed by the Common Nautical Management in the Scheldt area. On a technical level the use of a Central Broker System (CBS) furthermore allows Flemish and Dutch authorities to exchange data between the systems of the Common Nautical Management, the Belgian systems (such as Flaris) and the Dutch systems (IVS-90).

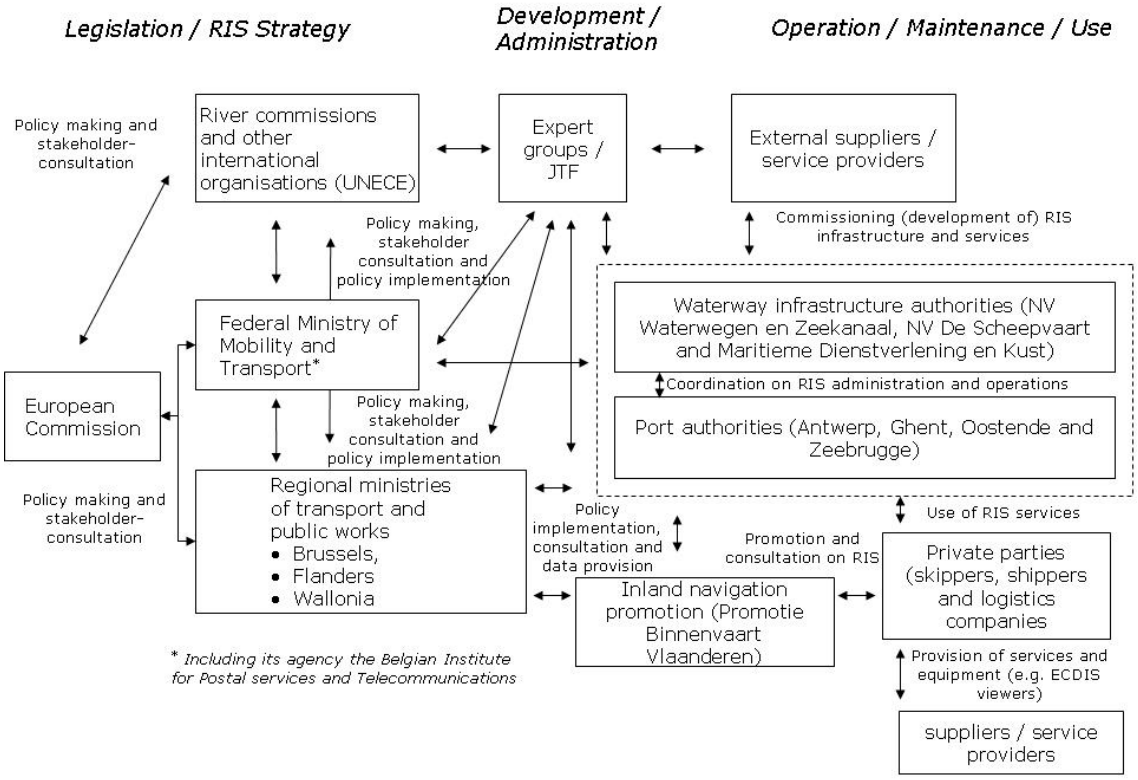
Bilateral coordination structures between Belgium and **France** on RIS activities is limited. Belgian and French experts coordinate and exchange lessons learned on a European level in RIS experts groups and/or CCNR meetings, but there is no formal bilateral structure for coordination. In the recent years the bilateral coordination on RIS was mainly between the French RIS coordinator Voies Navigables France and the Walloon government. They have cooperated in TEN-T project regarding RIS in France, namely SIF I[1].

Other stakeholders on an international level

Representatives of Belgian skippers are represented in the **European Barging Union** (EBU) and **European Skippers Organisation** (ESO) to promote the interests of the inland navigation sector on RIS.

[1] The main organiser of this project was VNF.

Belgium



Main findings and conclusions

There are a large number of RIS authorities in Belgium responsible and active with the implementation of RIS on a local, regional and national level. Furthermore, Belgian waterways are part of the North-South corridor and cross-border cooperation with the Netherlands and France is important.

The need for harmonisation and linkages of the different RIS systems within Belgium and neighbouring Member States is an important task to be able to fully generate and reap the benefits of RIS.

3.7 RIS projects

Belgian RIS authorities has carried out several national RIS projects. Recent projects include:

- RIS Flanders I, II, III and IV
- AIS subsidy programme;
- AIS pilot in the port of Antwerp;
- Other future projects.

RIS Flanders is a European funded programme for the implementation of RIS specifically in Flanders. RIS Flanders I – IV consists of multiple smaller projects which have been carried out in Flanders. RIS Flanders include projects by waterway infrastructure managers to implement AIS base stations and IT infrastructure to facilitate RIS. Also projects of the Port of Ghent such as a traffic management project with a steel company located in the port) and installation of AIS transponders aboard vessels are carried out under RIS Flanders.

In cooperation with neighbouring Member States Belgium also had a **subsidy programme** to financially support skippers for the installation of **AIS transponders**. The programme has been successful as over 90% of the Belgian fleet uses AIS transponders.

The success of AIS transponders in Belgium is also due to the requirement of the Port of Antwerp since January 1, 2012 for inland vessels to carry active AIS transponders. In a preceding **AIS pilot project the Port of Antwerp** experimented in a pilot with the implementation and impacts of the AIS requirement. In the AIS pilot participating skippers received an incentive by the possibility of reserving their passage through locks two hours beforehand (rather than the existing first come, first serve approach). Skippers and lock operators were thereby able to improve their traffic and voyage management operations.

Other national RIS projects in Belgium are the ambitions to improve and expand Flaris, the RIS system of the Flemish waterway infrastructure managers NV Waterwegen en Zeekanaal en NV De Scheepvaart. Flaris can be further improved by including better functionalities concerning notices to skippers, AIS data, ERI data and electronic navigation charts. Also integrating and linking Flaris to (parts of) the RIS systems of the ports of Antwerp and Brussels are expected in 2013. Furthermore, new RIS projects include the Flemish project VISURIS focused on the ability to process and analyse GPS and smartphone data from users in the RIS centres. Furthermore, further harmonisation and realisation of a single Belgian RIS Index is another ambition of RIS authorities.

Synergy between EU-support programmes and national initiatives

Belgium actively initiates and participates both on an international as well as national level in RIS projects. Participation in European funded projects is carefully and thoroughly considered as the administrative burden needs to be offset by the expected benefits through participation.

Optimal alignment and efficiency between international as well as national projects is sought and realised. Focus in new RIS projects in Belgium is on harmonising RIS activities within and between regions and further improving the quality of RIS services through integrating new technological developments.

4 Luxembourg

4.1 Inland shipping in Luxembourg

In Luxembourg the main inland waterway is the Mosel. The Mosel which flows through Germany, Luxembourg and France, is almost 400 kilometres in length and contains 132 bridges and 28 locks in total. The length of the inland waterways network in Luxembourg is about 38 kilometres.

Around 9 million tons of goods were transported on Mosel in Luxembourg in 2011. The market share of inland waterway transport in the modal split of Luxembourg was around 4% in 2010, measured in freight tonne-kilometre. Important inland ports in Luxembourg include the ports of Mertert and Luxembourg.[1]

4.2 Legal implementation of RIS

The RIS Directive[2] has been transposed in the Luxembourg legislative framework by the federal government through the form of an order:

- Order of 12 February 2008[3];

The federal government in Luxembourg is responsible for the registration of vessels and mandates “La service de la navigation” of the implementation of RIS along the Mosel.

A detailed analysis of the legal transposition of the RIS Directive and its articles in the legislative framework of Luxembourg is included in the Annex.

4.3 Technical implementation of RIS

a/ Notices to skippers

The inland waterway sector in Luxembourg on the Mosel already used notices to skippers before the RIS Directive. Luxembourg, France and Germany decided that the Mosel Commission had to construct a website which centralised all the notices to skippers on the Mosel from the three countries. This website is currently in place[4]. The notices to skippers can be viewed on the website, www.moselkommission.org. The notices to skippers cover the distribution of relevant fairway, traffic and water related messages. ICEM and WERM are not used.

[1] Sources include Eurostat and the Mosel commission

[2] From here on the ‘RIS Directive’ will refer to Directive 2005/44/EC of the European Parliament and of the Council on harmonised river information services (RIS) on inland waterways in the Community of 7 September 2005.

[3] *Règlement grand-ducal portant transposition de la directive 2005/44/CE du Parlement et du Conseil du 7 septembre 2005 relative à des services d’information fluviale (SIF) harmonisés sur les voies navigables communautaires* of 12 February 2008.

[4] La service de la navigation first tried to create their own website for notices to skippers but decided afterwards to delegate its activities on notices to skippers to the Mosel Commission.

The notices to skippers are published in German and French language and published in all languages at the website www.elwis.de. However, there is an obligation[1] in Luxembourg to use the language of the country in which the base station is located. The Luxembourg authorities state that over 90% of skippers on the Mosel speak German, the rest mainly speaks French. On the Mosel River, a national law exists which demands waterway users to communicate in the national language of the on-shore entity (with which they communicate) ("Arrêté grand-ducal du 25 juillet 2002 portant publication de différentes modifications apportées au règlement de police pour la navigation de la Moselle", of 25 July 2002). Besides, almost every skipper on the Mosel in Luxemburg speaks German and/or French.

b/Vessel tracking and tracing systems (Automated Identification System (AIS))

In 2012 France, Germany and Luxembourg started the implementation of AIS infrastructure on the Mosel. In the same year Luxembourg installed an AIS base station. In the beginning of 2013 the AIS infrastructure has been tested.

The Luxembourgish RIS authority states that a significant portion of the 50 Luxembourgish vessels are equipped with an AIS transponder. Most of the skippers have invested in this equipment themselves, while a smaller part has used subsidies to finance the investment.

c/Electronic ship reporting

Currently there is not yet an obligation to report cargo and voyage information electronically on the Mosel River. In Luxembourg the electronic reporting system does not contain the technical requirements to send out ERINOT messages. However, along the Mosel in Luxembourg, the German MIB-MOVES system[2] is used.

Luxembourg is currently together with Germany working on the development of an ERI system that can receive ERINOT messages (version 1.2) and can also send ERINOT messages to the French RIS authority. This facility is however not available yet.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

There exist ENCs for the entire Mosel. The German waterways authorities, namely the WSD Süd-West in Mayence created these navigational charts. The charts are freely available on www.elwis.de.

e/Hull database

The Ministry of Sustainable Development and Infrastructure manages the national database of the inland fleet of Luxembourg and the associated ENIs. The Luxembourg navigation service has access to the European Hull Database and already signed the Service Agreement for European Hull Data Exchange. However, no data is yet provided. Luxembourg is preparing now the first data uploading.

[1] *Arrêté grand-ducal du 25 juillet 2002 portant publication de différentes modifications apportées au règlement pour la navigation de la Moselle*, of 25 July 2002.

[2] The functioning, the rules and other documentation concerning electronic reporting and MIB-MOVES can be found on www.elwis.de.

f/RIS index

There is no availability or use of a harmonised RIS index for the Mosel in Luxembourg.

A short summary of the implementation of RIS and its main elements in Luxembourg is shown in the table below:

Summary technical implementation of RIS elements in Luxembourg

		Luxembourg	
		Implemented?	When?
Notices to skippers	Fairway & Traffic Messages (FTM)	Yes	
	Water Related Message (WRM)	Yes	
	Ice Message (ICEM)	No	Unknown
	Weather Related Message (WERM)	No	Unknown
	Method of diffusion	E-mail, fax, online portal	
AIS	AIS infrastructure	Yes, but not operational	2013
	On-board equipment	Most of the vessels	
	Exchange	No	2013
Electronic Reporting	ERINOT, ERIRSP	No	Unknown, bilateral discussion with Germany currently takes place
	BERMAN and PAXLISTS	No	
	Exchange	No	Unknown, bilateral discussion with Germany currently takes place
ENC	Coverage	Yes	
	Provision free of charge	Yes	
Hull database	Exchange with European Hull database	No	Unknown, measures are currently taken
	Vessels have an ENI	No	Most vessels are from Germany
RIS index	Correct use	No	
	Synchronization with ERDMS	No	
Traffic Management		Yes	
On board equipment	AIS equipment	Most of the vessels	
	ERI	No	

4.4 Other characteristics of RIS implementation

The RIS Directive is transposed in the legislative framework through an order. Luxembourg uses the German MIB-MOVES system for automatic declaration of vessels through its locks and relies on Germany for the creation of electronic navigational charts. Notices to skippers are published on the website of the Mosel Commission and on the German RIS website. A large portion of the Luxembourgish fleet carries AIS equipment.

Electronic ship reporting and data exchange in ERINOT standard is not yet possible. Also, AIS infrastructure on shore has been installed, but is still being tested.

The lack of a RIS index for waterway objects hampers cross border harmonisation of RIS activities. Lastly, the use of ENIs in not yet implemented in Luxembourg.

Luxembourg coordinates its international RIS activities in the Mosel Commission with Germany and France. Luxembourg closely follows RIS developments in Germany to ensure compatibility.

4.5 Conclusions

The RIS Directive has been transposed in Luxembourg by an Order of 12 February 2008, which is too late according the implementation schedule of the Directive. Also the technical implementation of RIS tools lags behind in Luxembourg as no electronic reporting and data exchange is available in ERINOT standard.

4.6 Organisational structure of RIS implementation in Luxembourg

RIS stakeholders in Luxembourg are organised both on a national as well as on an international level.

National RIS stakeholders in Luxembourg
On a national level the responsibility for implementation of RIS in Luxembourg lies mainly with La service de la navigation of the Ministry of Transport.

The **federal government** has two functions regarding RIS. Firstly they have mandated 'La service de la navigation' with the responsibility for RIS implementation in Luxembourg.

Secondly, "L'administration de l'enregistrement et des domains" are in charge of the management of the national database of Luxembourg vessels.

La service de la navigation has various functions. They are the waterway infrastructure manager of the Mosel and are the RIS authority for the Mosel in Luxembourg. However, for each decision regarding the Mosel, Luxembourg consults with France and Germany in the Mosel Commission. Furthermore for every implementation decision, La service de la navigation consults with the German navigation services to ensure compatibility.

There is only one **port** in Luxembourg, the port of Mertert. The port of Mertert is required to implement RIS in its area. Currently the port does not use RIS.

Other stakeholders on a national level

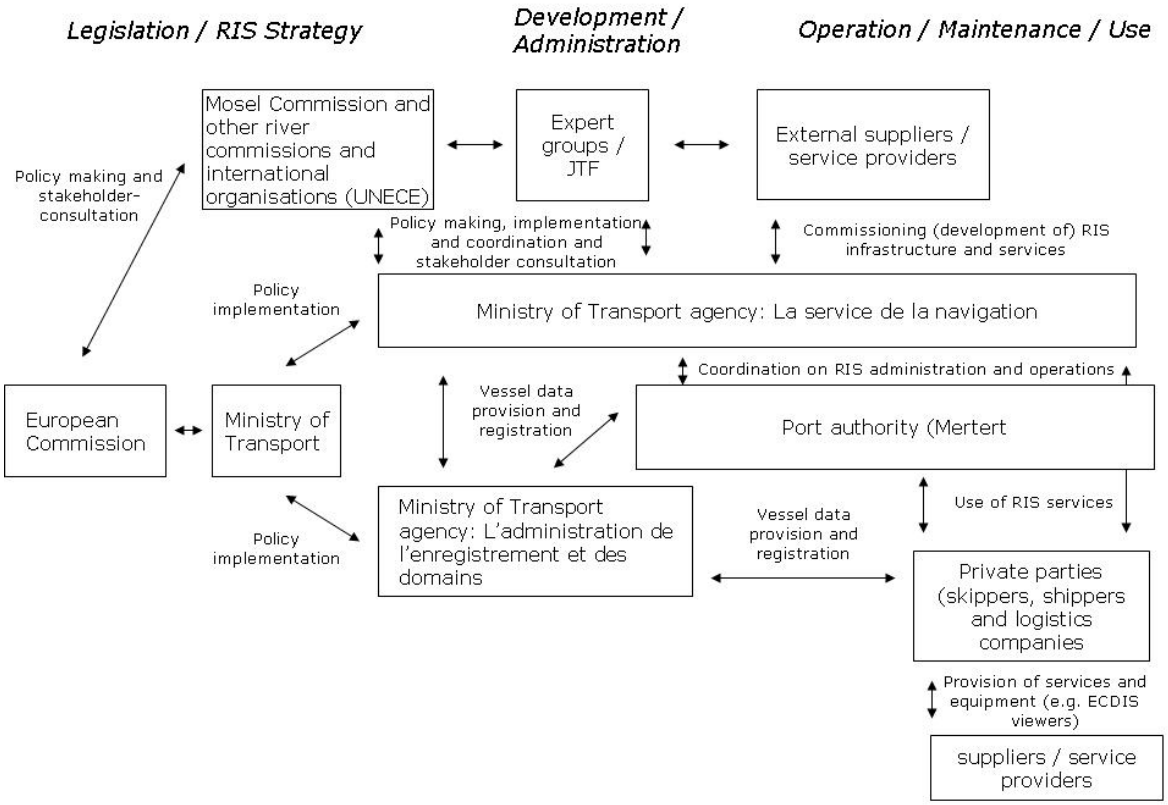
Regarding the inland waterway transport industry, there are over 50 Luxembourgish vessels. Initially most of the skippers were sceptical and even opposed to RIS. However, Luxembourgish authorities notice that skippers now have a more positive attitude regarding RIS because it has increased safety along the Mosel. Furthermore, most of the skippers are informed about the AIS test project on the Mosel organised conjointly with France and Germany and think it is positive that traffic management will be made possible along the Mosel.

International RIS stakeholders in Luxembourg

Luxembourg coordinates its RIS actions through the Mosel Commission with Germany and France in the Mosel Commission and on a bilateral base with Germany. The Mosel Commission is in charge of all the decisions made for the management of the Mosel. Luxembourg, Germany and France have their delegates to the Mosel Commission. Regarding RIS the Mosel Commission is for instance responsible for the notices to skippers along the Mosel.

Participation of delegates of Luxembourg in European RIS expert groups and CCNR or UNECE working groups is limited to non-existent.

Luxembourg



Main findings and conclusions

Luxembourg cooperates successfully with Germany regarding the implementation of RIS. Also in the Mosel Commission the three countries cooperate in a positive way. A more international perspective on RIS can provide new insights for the Mosel.

4.7 RIS projects

International cross-border RIS projects

Luxembourg cooperates with France and Germany in rolling out and testing the AIS infrastructure on the Mosel. Participation of Luxembourg in international European funded programmes is limited. Luxembourg does not participate in the IRIS Europe projects, because the administrative burden in order to receive subsidies is considered too high in relation to the expected benefits of RIS projects.

National RIS projects and initiatives

La service de la navigation had organised a subsidy program which encouraged skippers to invest in an AIS transponder. While some skippers used the subsidy, most skippers financed the installation of an AIS transponder themselves as the administrative burden was considered too high. The Service de la navigation has started the implementation of a first terrestrial AIS station in the Luxembourgish sector of the Mosel in order to improve oversight and traffic management.

Synergy between EU-support programmes and national initiatives

Although Luxembourg has not participated in the IRIS project due to high administrative burdens, it foresees to participate in the “RIS Enabled European IWT Corridor Management” (2012-EU-70004-S)2 program.

5 France

5.1 Inland Shipping in France

France has a number of important inland waterways which connects France with neighbouring countries: the Meuse, the Scheldt, the Rhine and the Mosel. Next to this, the Seine, the Saône and the Garonne are important national inland waterways. In total, 1400 commercial French vessels are operational in France and a total of around 70 millions of tons of goods were transported over inland waterways in 2012.

The share of inland navigation in transportation of goods is around 4% in 2012 (measured in freight tonne- kilometre). Mostly construction materials and agriculture products are transported over inland waterways in France.

The infrastructure consists of 6 700 kilometres of inland waterways and a total of about 1 595 locks. France has the largest inland waterway network of Europe. The inland waterway transportation sector consists of both larger companies owning over 100 vessels as well as small family-owned businesses operating one or more vessels.

Large seaports in France where inland navigation plays an important role are Marseille, Le Havre and Rouen. Important inland ports include the ports of Paris, Lyon, Strasbourg and Lille.[1]

5.2 Legal implementation of RIS

The RIS Directive has been transposed in the French legislative framework by the federal government by a decree and an order:

- Decree of 22 February 2008[2]
- Order of 18 March 2008[3]

  The French government is responsible for the registration of vessels and mandates Voies Navigables France (VNF) to assure the coordination of the implementation of RIS in France. VNF has to make sure that the French RIS systems are interoperable. VNF is in charge of RIS data exchange with other Member States.

A detailed analysis of the legal transposition of the RIS Directive and its articles in the legislative framework of France is included in the Annex.

[1] Sources include Eurostat and Voies Navigables de France.
[2] Décret n° 2008-168 du 22 Février 2008 relatif aux services d'information fluviale (SIF) harmonisés sur les voies navigables communautaires.
[3] Arrêté du 18 mars 2008 pris en application de l'article 2 du décret n° 2008-168 du 22 février 2008 relatif aux services d'information fluviale (SIF) harmonisés sur les voies navigables communautaires.

5.3 Technical implementation of RIS

VNF, Compagnie Nationale du Rhône and the French ports are responsible for the operational implementation of RIS on the French waterways and ports.

a/Notices to Skippers

NtS are available in France on the website of VNF (www.vnf.fr); the website also contains the Notices to skippers of the French ports and Compagnie Nationale du Rhône. Mostly Fairway & Traffic Messages are used and are available in 4 languages: French, German, Dutch and English. A web service which sends Notices to skippers by XML is planned to be built. Currently the NtS are available in NtS standard v2.0 as France is not ready yet with the new version of NtS.

b/Vessel tracking and tracing systems (Automated Identification System (AIS))

The installation of AIS on shore facilities is organised by VNF, the French ports and CNR, each for their area. In France the AIS on shore network currently does not cover all class IV and above inland waterways and ports, but it is expected that the AIS infrastructure will be completed near the end of 2013-2014:

In compliance with SIF regulation:

- grand gabarit NPdC: 100% operational
- Seine: from Rouen to Nogent sur Seine: 100% operational
- Mosel: 4-7 sites are operational; at the end of this year 100% operational
- Rhine: 1 station in Gambsheim, total coverage of the Rhine foreseen at the end of 2013
- Meuse: no AIS operational

AIS implementation without SIF obligation:

- link Seine Nord-Pas de Calais: currently being investigated; results expected in September 2013
- Grande Saône + Rhône à sète :
- Rhône (CNR): the tender dossier is being prepared (August 2013)

Regarding on board AIS equipment, out of 1400 French vessels, 600 have installed an AIS transponder (status of early 2013). These 600 have either invested in AIS equipment themselves or have successfully applied for a subsidy in either France[1] or another country[2]. It is expected that another 150 French vessels will install an AIS transponder using French subsidies in 2013 meaning that 50% of the French fleet will be equipped.

The website does not cover all major waterways of France as AIS data exchange between RIS authorities encounters difficulties, which are expected to be resolved by the end of 2013.

[1] Skippers received up to € 2 100 after they have sent their invoice of purchase of AIS equipment from an approved supplier.

[2] Multiple European countries are running a subsidy program whereby (a part) of the cost for installing an AIS transponder is paid back. Eligible shippers must prove they are active in the waterways of the country in which they apply for the subsidy.

The difficulties in reaching agreements on data exchange to establish full coverage can be threefold:

- RIS authorities are still in the early phases of negotiation and agreement to exchange AIS data (e.g. between VNF and the Port of Rouen) or the legal documents are not yet constructed and signed, such as for instance between VNF and the CNR;
- Difficulties in linking AIS databases, as is the case between VNF and the port of Dunkirk;
- The AIS infrastructure is not yet complete, as is the case for CNR.

c/Electronic ship reporting

In France skippers could use “VNF 2000 marchandisé”. This system was used next to the Dutch reporting system, BICS. Recently a new system called “Voyage” (and “Voyage en ligne (Veli)”, its web application) is created and owned by VNF. Currently the Veli system is a web application on which skippers or shipping companies can declare their cargo. In France another type of system also exists which is related to reporting, processes ERINOT and ERIRSP messages, and only occurs between locks. This system is called “Cahier de l’éclusier” and is owned by VNF and dates back to before the RIS Directive.

The Voyage/Veli system is able to read ERINOT messages and send ERIRSP messages, but not PAXLST[1] and BERMAN messages. The ERINOT messages used in the Voyage/Veli system are faced with obstacles as not all inland waterway objects are codified according to a harmonised RIS index[2]. Also the unique identification numbers (ENIs) of French vessels cannot be used because the RIS authorities have no access yet to the European hull database[3]. Along the Rhine electronic reporting is available ; the rest of France is in pilot operation.

The national exchange of ERI data between VNF, the ports and CNR is currently not yet possible. International data exchange with Luxembourg between the MIB-MOVES system and “le cahier de l’éclusier” occurs via fax. There are new attempts to facilitate international exchange of ERI data with Germany and with Belgium. With regard to Belgium, VNF has initiated bilateral contact regarding RIS data exchange. Next to this, VNF used to have frequent contact with the Walloon RIS authority, SPW[4] regarding RIS exchange. Currently there is no legal document as a basis for data exchange with Belgium. With regard to Germany currently projects are running to facilitate this cross-border exchange of ERI data and it is expected that data exchange with Germany on the Mosel and the Rhine will be ready in 2014. No legal document for data exchange with Germany has been drafted yet so far.

1 National French laws state that infrastructure administrations are not qualified to request passenger or crew data.
2 See f/ RIS Index.
3 See e/ Hull Database.
4 The SPW is the Service Public Wallone and is the RIS authority in Wallonia.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

VNF is collecting data for navigable waterways of class IV or higher for electronic navigational charts. ENCs are available for all waterways connected CEMT IV and higher to the European network with the acceptance of the charts of the Rhine which is a co-production between France and Germany. The quality of ENCs is generally good; alone between Dunkirk and the Escaut is the quality not as high as in other regions. The quality of the charts produced by VNF is however high and according to standards and updating takes place regularly. Also for the Saône and Garonne ENCs are developed even though these rivers are not subject to the RIS Directive. For the Upper Rhine carts are developed with German authorities and also ENcs for Seine and l'Oise are developed.

These ENCs are published on the VNF website (www.vnf.fr) and are free of charge. Skippers can view the ENCs through the use of free software, SevenCs[1] or through inland ECDIS viewers from commercial IT companies.

e/Hull database

The French authority responsible for registration of inland waterway vessels (including identification numbers) is the Ministry of Transport. Currently the Ministry of Transport does not provide VNF with information about vessels and ENIs due to legal restrictions. It is noted that not all French vessels have an ENI, but instead only have the national identification number for French vessels[2]. It is expected that most vessels will have their unique ENI in 2014. VNF has access to the European hull database as of the 1st of January 2013.

f/RIS Index

There is no harmonised and single RIS index for France. There is a RIS index for the French locks, but not the position of berths and bridges. Exchange of the existing RIS index with other Member States (apart from the French locks which are included in ERDMS) through the European Reference Data Management System does not occur.

A short summary of the implementation of RIS and its main elements in France are given below:

[1] SevenCs is also available on the VNF official website.
[2] This code is called the French 'immatriculation'.

Summary technical implementation of RIS elements in France

		VNF		CNR		French ports	
		Implemented?	When?	Implemented?	When?	Implemented?	When?
Notices to skippers	Fairway & Traffic Messages (FTM)	Yes		Yes		Yes	
	Water Related Message (WRM)	Yes		Yes		Some	
	Ice Message (ICEM)	No	Unknown	No	Unknown	No	Unknown
	Weather Related Message (WERM)	Yes		Yes		No	
	Method of diffusion	E-mail, fax, online portal		E-mail, fax, online portal		E-mail, fax, online portal	
AIS	AIS infrastructure	Most of their area	2013	Initial phase	2013	Most of the ports	2013
	On-board equipment	+/- 50%	2013-2014				
	Exchange	Not national or international	National: 2013-2014				
Electronic Reporting	ERINOT, ERIRSP	Yes		No, CNR is not authorized to demand cargo information		No	
	BERMAN and PAXLISTS	No	Unknown	No	Unknown	No	Unknown
	Exchange	No, work in progress for national exchange	2013	No, work in progress national exchange	2013	No, work in progress national exchange	2013
ENC	Coverage	Almost	2013	Almost	2013	Almost	
	Provision free of charge	Yes		Yes		Yes	
Hull database	Exchange with European Hull database	No	2013	No	Unknown	No	Unknown
	Vessels have an ENI	Some	2013-2014	Some	2013-2014	Some	2013-2014
RIS index	Correct use	No	2014 or later	No	2014 or later	No	2014 or later
	Synchronization with ERDMS	No	Unknown	No	Unknown	No	Unknown
Traffic Management		Yes		Yes		Yes	
On board equipment	AIS equipment	+/- 50%	2013-2014				
	ERI	Low	2013 or later				

5.4 Other characteristics of RIS implementation

There is room for improvement as the AIS infrastructure is still being rolled out and ENCs for specific class IV and higher waterways are still being developed. Next to this, only half of the French vessels contain an AIS transponder. Furthermore, integration, harmonisation and linkages between the RIS systems of French RIS authorities and with neighbouring Member States can be improved. The RIS index currently only covers locks, but no bridges and berths and the use of ENIs is still in an early stage of implementation.

France is active in the different European RIS forums and working groups. Bilateral consultation with the Netherlands and Belgium is limited and more on an informal basis, while the Mosel Commission provides a platform to discuss the developments on the Mosel with Germany and Luxembourg.

In France RIS has had a positive impact on overall safety levels for skippers and on increases of operational efficiency. RIS has improved overall safety levels for skippers for two reasons. First, smaller vessels which have on board AIS equipment are better visible via AIS than on radar. This means that when visibility is limited, a large vessel will always be aware of smaller vessels. Second, notices to skippers are sent out by fax and e-mail. As a result, a skipper no longer has to physically leave the ship to read the notice at the lock.

Efficiency has improved for authorities and locks and bridge operators. VTS centres are equipped with radar, radiophone, camera images and AIS information about ships. RIS assists operators in further improving traffic management and their planning (for instance generating ships expected time of arrival).

Currently a few shipping companies make use of VNF's RIS systems and this has improved their efficiency. More shipping companies are expected by RIS authorities to start using these systems. The use of RIS in France by skippers is relatively low compared to neighbouring countries as only 50% of the French vessels currently have an AIS transponder aboard.

5.5 Conclusions

The RIS Directive has been transposed in the French legislative framework by a Decree of 22 February 2008 and an Order of 18 May 2008 which is too late according to the implementation scheme of the Directive. Also not all RIS applications have been implemented yet according the technical guidelines. A test project is currently being executed in which 10 vessels are using this Veli system. The ERINOT messages used in the Veli system are faced with obstacles as not all inland waterway objects are codified according to a harmonised RIS index. Also the unique identification numbers of French vessels cannot be used because the RIS authorities do not have access to the European Hull Database.

5.6 Organisational structure of RIS implementation in France

RIS stakeholders in France are organised both on a national as well as international level.

National RIS stakeholders in France

On a national level the responsibility for RIS coordination is with VNF, whereas the responsibility for implementation of RIS in France lies with VNF, the French ports and CNR.

Federal government

The **Ministry of Transport** has given the mandate of RIS coordination and implementation in France to VNF. The Ministry of Transport still has several functions regarding RIS.

The Ministry for instance manages the national database of ships, issues certificates for vessels and is therefore in charge of the connection with the European Hull Database. CETMEF[1], the technical department of the French government, is in charge of the validation of RIS technology in France before making improvements operational. Next to this, the Ministry of Transport also co-funds subsidies for the implementation of RIS on vessels. Finally, the Ministry of Transport represents France on several international forums on RIS.

Voies Navigables de France (VNF)

VNF is the public administration in charge of all the inland waterways in France and of most[2] of the locks. Regarding RIS, VNF has various functions:

- VNF is the national decision maker with regard to RIS;
- VNF is in charge of the RIS coordination in France;
- VNF is in charge of RIS implementation on most inland waterways[3];
- VNF is in charge of the creation of ENCs throughout France. To achieve this, VNF local offices collect the data required to make ENCs and send them to the VNF headquarters in Bethune, where the ENCs for France are made;
- VNF is the national promotion office of inland waterway transportation and RIS and is the focal point for the transport industry regarding RIS;
- VNF organises subsidies for the implementation of RIS on vessels.

CNR and the French ports

Compagnie Nationale du Rhône (**CNR**) is the infrastructure manager of the 14 locks on large parts of the Rhône and Saône for which they have received a concession from the French government[4]. CNR is a private company and is responsible for the implementation of RIS in their area. CNR also manages the port of Lyon. CNR does not have the authority[5] of calamity abatement support, to police the waterways and to demand a declaration of goods along the Rhône. Next to CNR, EDF is also an infrastructure manager who manages the four locks on the Rhine in France.

The **French ports** are in charge of implementing RIS in their area. The main French seaports are Marseille, Le Havre and Dunkirk. The main French inland ports are Rouen, Paris, Strasbourg, Lyon and Lille.

As there are many different organisations responsible for RIS implementation, good cooperation is required for the RIS implementation to be successful[6]. For a successful cooperation between these different organisations with regard to RIS, there are two requirements, namely;

- A legal agreement;
- A technical infrastructure which is capable of sending the required information.

[1] Centre d'études techniques maritimes et fluviales.
[2] CNR manages the locks in the Rhône-Saône region and EDF manages four locks on the Rhine in France.
[3] Except the waterways in port areas. The ports themselves are required to implement RIS in their area. E.g. the port of Rouen is in charge of implementing RIS on the Seine between Le Havre and Rouen.
[4] Next to navigation, CNR is also active in energy production and irrigation.
[5] These are the responsibilities and competencies of VNF.
[6] Many RIS functions only become useful when they are implemented along a waterway, which is often managed by different RIS organisations.

Currently VNF and CNR are drafting the legal agreement while VNF and the ports of Paris have already signed this document. There is also a legal agreement signed between VNF and Le Havre. The agreement between VNF and the port of Marseille will be signed in 2013. For a long time VNF and the port of Rouen were in the early phases of negotiation. However, it is expected that the legal agreement will be signed in 2013.

After the legal agreement is signed, the technical infrastructure has to allow for data exchange. In order to achieve this, both systems have to be adapted to each other. In this regard, VNF and the port of Dunkirk are experiencing difficulties in facilitating such AIS data exchange.

Other stakeholders on a national level

The other important stakeholders regarding RIS in France are the skippers, shippers and logistics companies shipping companies and industry organisations representing them.

Three large **shipping companies** in France, CFT, Cemex and Lafarge are often in contact with VNF regarding RIS implementation. During these meetings VNF discusses whether their ideas are feasible and the companies also have an opportunity to communicate their needs regarding RIS. Companies as CFT are very positive about RIS and use RIS to enhance the safety of their skippers. However, shipping companies currently have to rely on multiple systems to track their vessels, as VNF's AIS web service does not yet contain all parts of French waterways. The reason for this is that AIS data exchange between different organisations responsible for AIS implementation is not yet completed. It is expected that a full coverage on VNF's AIS website will be guaranteed by the end of 2013. However, private companies consider the current situation as problematic and some are even considering developing their own AIS tracking system.

Skippers are represented by unions such as **CNBA**, "Chambre Nationale de la Batellerie Artisanale" and **CAF**, "Comité des Armateurs Fluviaux." While skippers associated with CNBA were sceptical about RIS as AIS technology allowed third parties to verify the exact location of vessels, the benefits of improvements of safety and efficiency in operations are considered to (partially) offset their criticism.

International RIS stakeholders in France

The RIS experts of France are also present and active in international forums and organisations concerning inland waterways transport in general and RIS specific.

RIS expert groups

French RIS experts are active in different European RIS expert groups. Representatives from CETMEF participate at the VTT expert group, while representatives of VNF participates in all expert groups.

International organisations: CCNR and UNECE

A member of the Ministry of Transportation is represented at the **UNECE**, the United Nations Economic Forum for the European Union.

The **CCNR**, the Central Commission for the Navigation on the Rhine, consists of many different committees. Representatives from VNF and the Ministry of Transport participate in all the RIS related committees. In the CCNR France monitors and exchanges ideas and lessons concerning RIS with Belgium, Austria, France, Germany and the Netherlands.

Bilateral structures

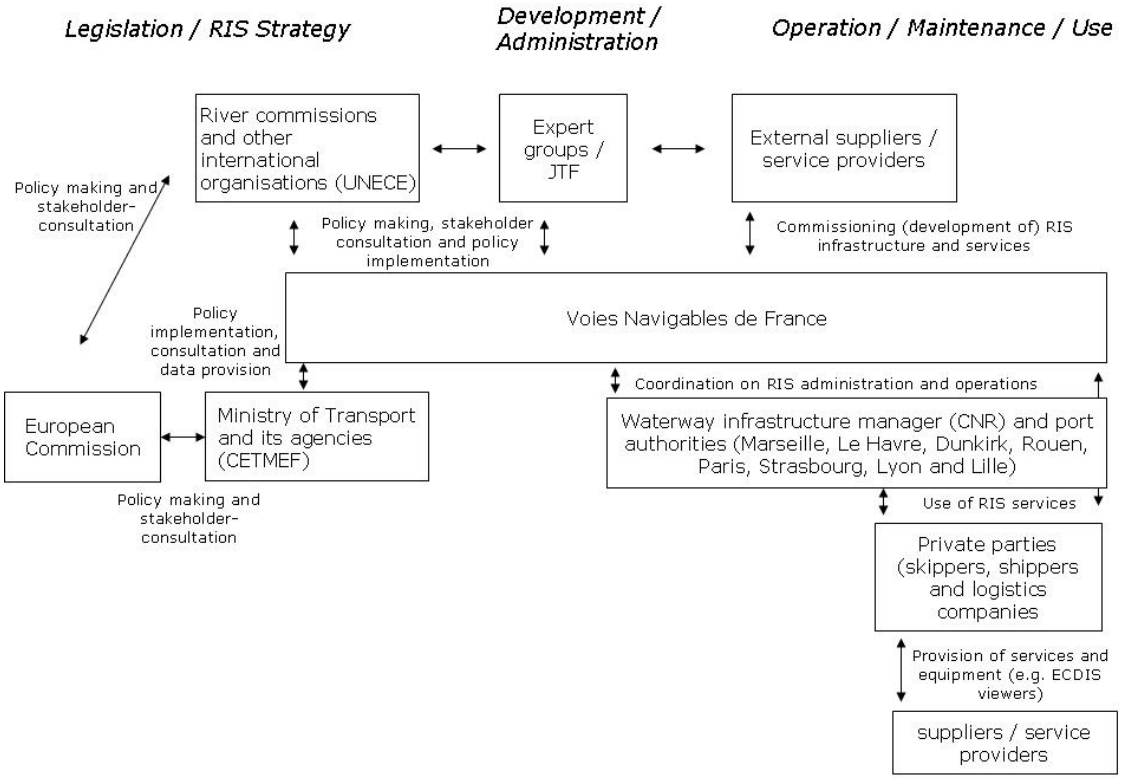
In addition to the international forums VNF has also consulted directly with RIS authorities of other member states: the Netherlands, Belgium, Germany and Luxembourg.

In the development of Voyage/Veli French RIS authorities had bilateral informal consultation with **the Netherlands,** the contact was rather informal. VNF wanted to implement the Dutch BICS system in France but had already the application Voyage; the operators wanted to integrate with this system. France decided to develop its own system (Veli-platform).

Regarding **Belgium**, bilateral consultation with Flanders occurs on an informal basis. Belgian and French experts coordinate and exchange lessons learned on a European level in RIS expert groups and/or CCNR meetings. The main subject of this informal contact concerns cross-border data exchange. VNF aims to engage in more formal contact with representatives from Flanders to optimise cross-border data exchange. There used to be more structural bilateral contact between the Walloon RIS authority and VNF.

The bilateral cooperation with **Germany** and **Luxembourg** focuses mostly on AIS data exchange and lock software verification. In the Mosel Commission, France cooperates with Luxembourg and Germany. Major decisions regarding the Mosel have to be agreed upon by the three parties at the Mosel Commission. France is responsible for RIS implementation on the French part of the Mosel, while Luxembourg and Germany work together on the implementation on their side.

France



Main findings and conclusions

France is active in the different European RIS forums and working groups. Bilateral consultation with the Netherlands, Belgium, Germany and Switzerland takes place in the framework of CCNR. The Mosel Commission provides a platform to discuss the developments on the Mosel with Germany and Luxembourg.

5.7 RIS projects

International cross-border RIS projects

France has participated in several European RIS projects where it cooperated with other Member States in the further development and implementation of RIS. Recent projects are:

- IRIS Europe I;
- IRIS Europe II;
- IRIS Europe III.

IRIS I, II and **III** are European funded programmes focused on a harmonised implementation of RIS in Europe. Belgium and other Member States are actively participating in the current programme of IRIS III (2012 – 2014), which follows IRIS I (2006 – 2008) and IRIS II (2009 – 2011). IRIS I started with the implementation of RIS elements through pilots such as ERI and AIS infrastructure in Member States. IRIS II and IRIS III include new pilot activities

to further continue the implementation and expansion of RIS in Europe. VNF participated in these projects. [1]

National RIS projects and initiatives

French RIS authorities have carried out several national RIS projects. Recent projects include:

- SIF I;
- SIF II;
- PAM;
- InfoSaone;
- Moselle Intelligente;
- InfoSeine.

Both (Services d'Information Fluviale) **SIF** projects are TEN-T co-financed projects aimed at the implementation of RIS in France. SIF I started in 2006 and ended in 2010. The total cost for SIF I was €1.6 million. SIF I had two parts: a joint implementation of RIS in Wallonia and France and a part which focused on France. Regarding the former, voyage indication and AIS data exchange between France and Wallonia was aimed at. The Voyage/Veli- system for electronic reporting was initiated in the SIF I project. Next to this, an enterprise architecture integration was created to centralise and diffuse data streams and to upgrade these data flows to ERINOT standard. Lastly, AIS base stations in the Nord of France and along the Seine were installed as part of SIF I.

The SIF II project was also a TEN-T co-financed project with a total budget of € 4 714 100. This project started in 2011 and will run until the end of 2013. The SIF II had an AIS component, an ERI-component and a facilitation of data exchange. A major part of SIF II was the organisation of the subsidy program for on-board AIS transponders towards commercial and pleasure vessels. In this subsidy a maximum amount of € 2 100 was paid back to shippers for their purchase of an AIS transponder from a CCNR approved supplier. A second pillar of this project was the implementation of ERI-data exchange with ports. Lastly, SIF II also organised the implementation of data exchange with private parties.

The following projects are nationally funded: PAM (or PAMI), InfoSaone, Mosel Intelligente and InfoSeine.

PAM is the plan for modernisation of vessels. In this subsidy program shippers receive up to 50% co-financing on their purchases of modern boat equipment. This included clean engines and a radar system and other components. Both VNF and the Ministry of Transport participated in this project. VNF contributed € 1.6 million into the fund, while the Ministry of Transport contributed € 0.8 million.

The **InfoSaone** project is currently in progress. This project consists of the construction of a website which shows the name of the vessel after it has passed a lock. The website will also provide information about water levels, bridges and height clearances. These height clearances will be provided by clearance detectors which continuously measure the height between the waterway level and the bridge.

[1] More information on IRIS can be found on: http://www.iris-europe.net.

These clearance detectors are also being installed as part of the project. The construction of an AIS base station is also part of the InfoSaone project in cooperation with CNR.

Mosel Intelligente is a project organised by VNF in order to improve on shore infrastructure near the Mosel. In the project, a high speed network with glass fibres are installed between locks to improve communication. Only the French part of the Mosel is taken into consideration in this project. This project is currently in progress.

Lastly, the **InfoSeine** project aims at improving bridge clearances for bridges on the Seine.

Synergy between EU-support programmes and national initiatives

The SIF projects are examples of how European funds are used to harmonise and implement RIS through national initiatives. Lessons learned from IRIS I and IRIS II have already provided standards which France adopts in the development of its Voyage/Veli program.

6 Poland

6.1 Inland shipping in Poland

Poland is an important node of the European East-West transport corridor. Inland waterway transport is due to the weak infrastructure only a very small market. In Poland, about 5 million tons are shipped by inland waterway transport annually. The Polish fleet consists of 71 self-propelled barges and the towing fleet consists of 193 units.
The modal share of inland waterway transport is below 1%. International transport accounts for 65% of inland waterway transport. In this segment the market share is 1%. Bulk commodities account by far for the majority of inland waterway transport. Alone, 60% of barge transport refers to ores and coal.

The inland waterway network in Poland has a length of 3.650 km. Only 200 km belong to CEMT class IV+ and are of international importance. The number of Polish enterprises in inland waterway transport is approximately 50. Apart from one very large company, the majority are small enterprises with only one vessel (owner-operator). The employment on vessels is estimated with 700.

6.2 Legal implementation of RIS

The Ministry of Transport, Construction and Maritime Economy is responsible for the national RIS legislation. It acts as national navigation office. Apart from legislation, the Ministry determines the RIS strategy, e.g. investments and priorities, and decides on the budget. However, decisions will be in close cooperation with the Inland Navigation Office Szczecin as implementing and managing RIS body. The Inland Navigation Office is an agency of the Ministry of Transport, Construction and Maritime Economy, fulfilling tasks in the fields of inland navigation such as RIS implementation and subsequently operation. The Inland Navigation Office provides suggestions regarding the Polish RIS strategy. According to legislation the director of the Inland Navigation Office is responsible for implementation.

The implementation of RIS in Poland is still in an initial stage. With respect to the legal transposition the European Commission granted Poland a prolongation of the transposition of the EU RIS Directive into the national law. In April 2008, the European Commission sent a reasoned opinion to Poland due to failure to transpose the RIS Directive into the national law.

The Inland Navigation Act was amended in 2008 with reference to the EU RIS directive, which was the first step of transposing the RIS Directive into national legislation. §6a on Harmonised River Information Services was added, which came in force 1st January 2010. It demands the establishment of a RIS centre to manage RIS implementation and describe a few procedures, responsibilities and applications, but without any statement on the waterways relevant for RIS implementation. The amendment allowed the Minister of Transport, Construction and Maritime Economy to implement more detailed RIS regulation.

In 2011, again RIS related amendments of the Inland Navigation Act were adopted. §6a with articles 47 a-h regarding RIS provided an extended framework for RIS. Among others this clarifies that Inland Navigation Office Szczecin is responsible for RIS implementation in Poland and establishment of a RIS centre in Szczecin. The law requires other institutions such as regional water management board Szczecin and Hydrographical Institute to provide necessary data and information. These institutions belong to the Ministry of the Environment. The amended act lists services and applications considered in the RIS directive and states that these have to be implemented. However, a few rules of the EU RIS directive such as the reference to technical specifications have not been transposed and contain rather general guidelines. This is a minor problem, as related regulation of technical specifications is directly binding for each Member State. The amended rules regarding applications came in force 1st January 2013, which was the intended date for launch of the RIS system. In 2013, as required by the amended Inland Navigation Act, a regulation defined the waterway sections relevant for RIS implementation.[1]

The Ministry of Transport, Construction and Maritime Economy has adopted the Inland Navigation Act and implemented a regulation that states the responsibility of the director of Inland Navigation Office Szczecin for RIS implementation in Poland. Moreover, corresponding to the EU directive the waterway sections, which fall under the directive, have been defined.

In the regulation any RIS obligations for inland ports are not considered. However, apart from Maritime port Szczecin ports in the RIS area are rather small and do not fall under the directive. Port of Szczecin has its focus on maritime information systems.

A detailed analysis of the legal transposition of the RIS Directive and its articles in the legislative framework of Poland is included in the Annex.

6.3 Technical implementation of RIS

a / Notices to skippers

Electronic provision of Notices to Skippers is a component of the RIS system, which is expected to start operation end of 2013. So far, Notices for Skippers messages are provided in pdf format for download on the web pages of the regional waterway management board Szczecin. Fairway and Traffic messages and ice messages are distributed on this way. Water related information is available in html format. Weather related messages are not provided. The messages are only available in Polish language. There is no opportunity to subscribe to messages.

The new system will provide fairway and traffic messages, water related messages and ice messages according to specifications by the EU regulation and latest discussions in the NtS expert group. There is the intention to implement Notices to Skippers exchange with other countries, in particular Germany, at a

[1] Regulation by the Minister of Transport, Construction and Maritime Economcy from 8th January 2013 listing the inland waterways, where RIS is implemented. Poz. 80.

later stage. The RIS system will be ready for international message exchange using web services.

b/Vessel tracking and tracing systems (Automated Identification System (AIS))

Implementation of inland AIS has a high priority in Poland. It is planned to achieve 100% coverage of waterways falling under the RIS directive. Installation of Inland AIS base stations and implementation of Inland AIS system are expected until end of 2013.

In contrast to earlier plans, inland and maritime AIS are not integrated and maritime base stations in Szczecin are not used for inland AIS. The reason for that was the intention to have clear responsibilities and be able to comply with different standards more easily. The Inland AIS system will be managed and operated by the RIS centre.

According to rough estimates, 80% of the Polish inland waterway vessel fleet, which operates international, is equipped with AIS transponder. The share is far lower for vessels, which operate domestic only. There hasn't been a Polish equipment support programme so far, but most of the international operating Polish vessels have participated in either the Dutch or German support programme. The need for a Polish support programme will be evaluated after AIS implementation.

c/Electronic ship reporting

There exist reporting obligations for inland vessels carrying dangerous cargo in Poland. Electronic reporting of these voyages is expected to be possible from end of 2013. The technical specifications of the RIS system tender cover the provision for electronic reporting. ERINOT and ERIRSP messages are considered. BERMAN and PAXLST are no issue.

Initially, electronic reporting will be optional. Mandatory electronic reporting will be considered. International data exchange of ERINOT messages has been discussed with German authorities. The Polish RIS system will be prepared for data exchange according to the standard. However, international data exchange is not the focus, as there is no reporting obligation on adjacent German waterways and there are concerns with respect to the interest of German authorities to establish data exchange. Moreover, legal restrictions in Poland could be a barrier.

There are problems with respect to integration of maritime and inland reporting. Maritime office Szczecin requests vessel information according to maritime standard IMO-FAL. However, IMO-FAL is different to the ERINOT standard applied in inland navigation. For the transfer additional information would be required. Moreover, maritime messages are destination orientated. Therefore, apart from ERINOT an additional notice to the harbourmaster is required.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

Electronic navigational charts are expected to be available for download free of charge end of 2013. A special vessel for elaboration of charts has been purchased. So far, electronic navigational charts of waterways falling under the

RIS directive can be viewed in an online viewer of the electronic navigation information system. Download is only possible as graphic format not compatible with ECDIS viewers. Charts in an adequate format for ECDIS viewers are not available for download free of charge.

e/Hull database

Currently, a single register for Polish inland waterway vessels does not exist. The national hull database integrating registers of the regional inland shipping navigation offices will be implemented in the IRIS III project. The tender is prepared and the central database is expected to be ready in 2014. The interconnection with the European Hull Database is part of the tender. Although there are no political issues against the interconnection, still legal uncertainty exist.

The assignment of ENI numbers is considered in the regulation on technical vessel certification. The Polish technical inspection commission assigns ENI number during scheduled technical inspection. All international operating vessels have an ENI number already.

f/RIS Index

The elaboration of RIS index is considered in the technical specification of the RIS system. So far, some information providing location codes for objects along waterways is available on the electronic navigation information system. As component of the new developed RIS system, a comprehensive inventory of objects including navigational aids and obstacles is expected to be available end of 2013. There will be a close connection with the elaboration of navigational charts. An international exchange with European Reference Data Management System is not considered in the near future. However, the technical provisions are expected to be available.

A short summary of the implementation of RIS and its main elements in Poland are given below:

Summary technical implementation of RIS elements in Poland

		Poland	
		Availability	*When?*
Notices to skippers	Fairway & Traffic Messages (FTM)	Yes, but not according to standard	NTS according to standard is expected at the end of 2013
	Water Related Messages (WRM)	Yes, but not according to standard	NTS according to standard is expected at the end of 2013
	Ice Message (ICEM)	Yes, but not according to standard	NTS according to standard is expected at the end of 2013
	Weather Related Messages (WERM)	No (under consideration)	
	Method of diffusion	Pdf/html for download (only in Polish)	With finalisation of the new portal online dowland and e-mail subscription will be available

		Poland	
		Availability	*When?*
AIS	AIS infrastructure	Achieve 100% coverage at the end of 2013	
	On-board equipment	80% of the international Polish fleet, lower share of domestic fleet	
	Exchange	No, conditional on the Polish legal framework	
Electronic reporting	ERINOT, ERIRSP	No	Electronic reporting expected to be possible at the end of 2013
	BERMAN and PAXLISTS	No	
	Exchange	No	
ENC	Coverage	No	ENCs expected to be available free for download at the end of 2013
	Provision free of charge	No	
Hull database	Exchange with European hull database	No	Expected to be ready in 2014
	Vessels have an ENI	Yes, international fleet	
RIS index	Correct use	No	Expected to be ready at the end of 2013
	Synchronization with ERDMS	No	Technical provisions are expected to be available at the end of 2013
Traffic management		No	Polish authorities do not give traffic instructions
On board equipment	AIS equipment	80% of vessels equipped with AIS transponders	Equipment program may be considered; most vessels now have been equipped with the support of the Dutch/German support programmes
	ERI		

6.4 Other characteristics of RIS implementation

RIS legislation in the Inland Navigation Act almost completely transposes provisions of the EU RIS directive in national law. However, the determined launch of the RIS system in January 2013 has not been realised. With the closing of the RIS system tender early 2013, preparations are in the final phase and a range of RIS applications are expected to be in operation end of 2013. Applications and services are expected to correspond with European regulations and latest standards.

The Ministry of Transport, Construction and Maritime Economy determines RIS strategy and legislation. It has delegated RIS implementation and operation to the Inland Navigation Office Szczecin. There is a close interaction of Ministry officials and the Inland Navigation Office regarding RIS development. The RIS operator requires information provided by public institutions. Poland is represented in European RIS bodies in particular by experts of the Inland Navigation Office. The Ministry of Transport, Construction and Maritime Economy represents Poland on official level, e.g. in the RIS committee.

Poland's current RIS activities are concentrated in EU projects. The TEN-T co-financed implementation project with high own contribution supplemented by the participation in the EU TEN-T project IRIS III leads to synergy of EU and national funding. However, due to budgetary problems there are no additional national RIS initiatives in Poland. Complementary financing of RIS operation from national budgets is ensured.

6.5 Conclusions

Although RIS authorities are aware of the obligation to implement, Poland did not transpose the RIS Directive in time into the national legislation. Just on January 2013 all necessary amendments of the Inland Navigation Act came into force which is more than 6 years too late. Also the technical implementation of the most important RIS applications is lagging behind: Notices to Skippers and Electronic Reporting will be available according to standards only by the end of this year. International data exchange is difficult with regard to the Polish legal framework. ENCs are fully covering the class IV and above waterways and AIS infrastructure will be available for 100% on the Polish waterways by the end of 2013 like most of the other European countries.

6.6 Organisational structure of RIS implementation in Poland

The **Ministry of Transport, Construction and Maritime Economy** is responsible for the national RIS legislation. It acts as national navigation office. Apart from legislation, the Ministry determines the RIS strategy, e.g. investments and priorities, and decides on the budget. However, decisions will be in close cooperation with the **Inland Navigation Office Szczecin** as implementing body. The Inland Navigation Office is an agency of the Ministry of Transport, Construction and Maritime Economy, fulfilling tasks in the fields of inland navigation such as RIS implementation and subsequently operation. The Inland Navigation Office provides suggestion regarding RIS strategy.

According to legislation the director of the Inland Navigation Office is responsible for implementation.

The development and implementation of the RIS system covering RIS applications required by the EU RIS directive and other applications such as AIS has been tendered. External consultants support the Inland Navigation Office with the preparations. The tender is closed and contracting of RIS development is expected soon. The system is expected to be operational at the end of 2013. Equipment such as AIS base stations has been purchased already by the Inland Navigation Office and will be installed by the contractor of the system development.

The tendered RIS system will be provided by the contractor and subsequently the Inland Navigation Office Szczecin will operate and maintain the RIS system. According to legislation a RIS centre has been established at the Inland Navigation Office Szczecin. For RIS activities new personnel is recruited.

RIS maintenance and operation are financed by the general budget of the Inland Navigation Office Szczecin granted by the Ministry of Transport, Construction and Maritime Economy. There is no separate compensation for RIS activities, however, the tasks are considered for budgeting. Maximum expenditures for RIS are stated in the Inland Navigation Act. In general, budgets are decreasing and there is a need to reduce cost in the Polish inland navigation administration. RIS implementation is co-financed by the EU TEN-T implementation project with 20%. Some supplementary RIS development activities are co-financed by the EU TEN-T project IRIS III with 50%. A follow-up project might be required for RIS upgrades.

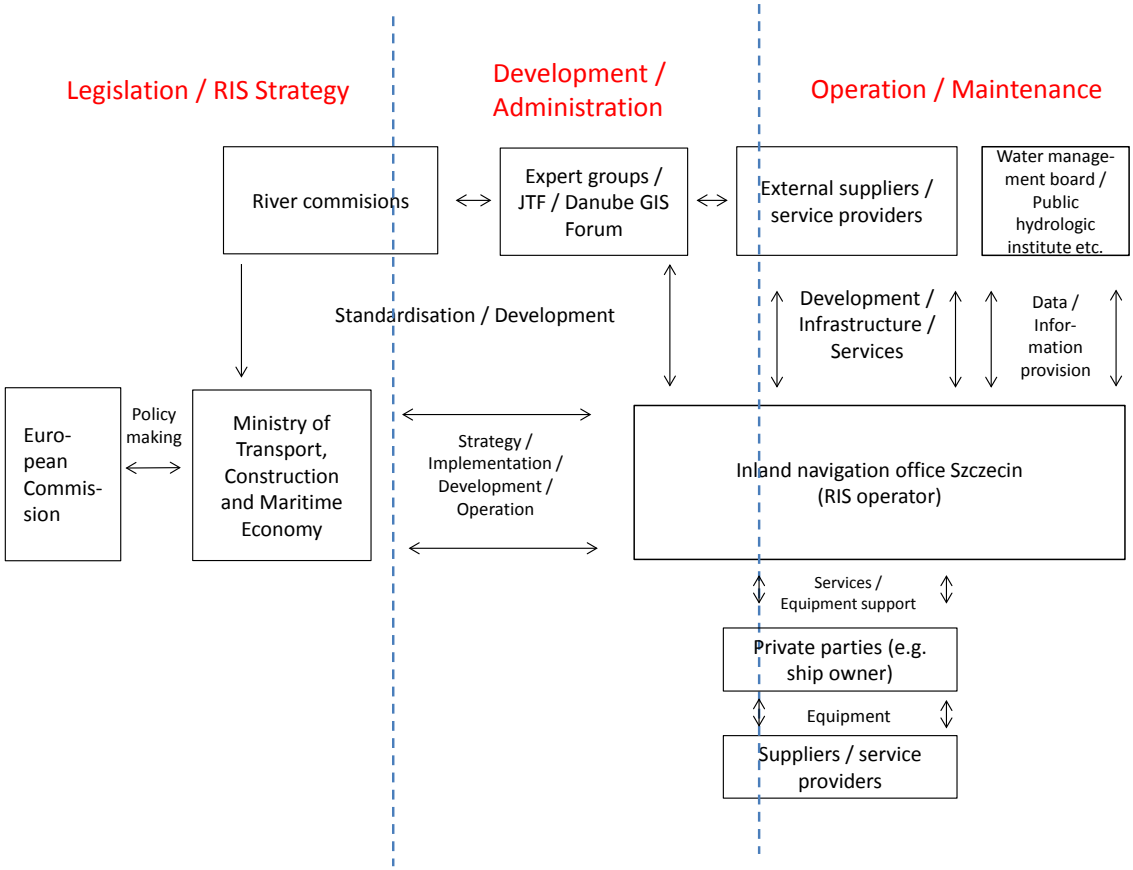
For RIS operation there will be interaction with regional waterway management board, meteorological institute and other inland navigation offices to gather required information. Negotiations are ongoing with the regional water management board. This agency belonging to the Ministry of Environment is information provider for Notices to Skippers. Legal clauses require other institutes to provide information.

Poland is represented in international RIS bodies. Representatives of the Ministry of Transport, Construction and Maritime Economy have participated in RIS committee meetings. Poland has an observer status in the CCNR. However, CCNR is not regarded as important for RIS implementation in Poland. Neither PIANC's RIS work is regarded as important influence for Polish activities. Directives by the European commission determine Poland's RIS strategy. Moreover, European RIS developments are followed on expert level. The Inland Navigation Office Szczecin is represented in RIS expert groups. Moreover, Poland has observer status in the GIS Forum, which focuses on RIS development along the Danube corridor, and attends its meetings to get additional experience. Co-financing of the Polish participation in European RIS bodies is one objective of the IRIS III project participation. Attending expert group meetings allow the consideration of European RIS developments and preparation for upcoming initiatives. Moreover, the opportunity to learn from other countries and share experiences with respect to RIS development are regarded as important.

Summary

The Ministry of Transport, Construction and Maritime Economy determines RIS strategy and legislation. It has delegated RIS implementation and operation to the Inland Navigation Office Szczecin. There is a close interaction of Ministry officials and the Inland Navigation Office regarding RIS development. The RIS operator requires information provided by public institutions. Poland is represented in European RIS bodies in particular by experts of the Inland Navigation Office. The Ministry of Transport, Construction and Maritime Economy represents Poland on official level, e.g. in the RIS committee.

Figure RIS organisation in Poland



6.7 RIS projects

National RIS projects

In October 2010, the national EU TEN-T project for pilot implementation of RIS on the Lower Oder was launched. The project runs from 2010 to 2013 and focus on the initial RIS development in Poland. The project budget of 7.3 mio. € includes an EU contribution of 1.6 mio. €. Objective of the TEN-T action is to accelerate RIS deployment on Polish waterways and implement the required RIS applications. First in the project, a RIS feasibility study and a functional utility study has been carried out. These studies were used for the tender documents. The tender for the RIS system development has been closed recently. System development is the key component of the RIS implementation project. Moreover, equipment has been purchased. This includes a special vessel for elaboration of electronic navigational charts, AIS base stations and IT-equipment.

The tender was limited to the system implementation using the purchased equipment. An external evaluation is scheduled for 2014. One task of the external evaluation will be to show, if the implementation fulfil EU requirements.

For the future, a follow-up project to implement additional functionalities and improvements such as better facilities for the RIS centre is considered for 2016/2017.

Cross border RIS projects

Poland has joined the EU co-financed RIS implementation activities of the IRIS project series. Poland is one of the seven participating countries in the IRIS III project. Additionally, seven countries are cooperating partner of the project. The 10.5 mio. € project with an EU co-financing of 50% runs from 2012 to 2014. The Ministry of Transport, Construction and Maritime Economy is beneficiary and the Inland Navigation Office Szczecin the implementing body.

General objectives of the IRIS III project are:

- Continuation of RIS implementation
  - International data exchange
  - RIS applications and enhancements (e.g. FIS, Traffic and Transport information services, information services for logistics and authorities)
- Implementation of Quality of information Services for RIS

For Poland the project is regarded as supplement to the national RIS implementation project, which focuses on the establishment of the RIS infrastructure. The IRIS III project allows to enhance know-how by studies and participation in international RIS expert groups. This allows Polish experts to be in touch with expert knowledge on European level.

Poland participates in activity 3 regarding quality of RIS and activity 4 regarding international data exchange. It is expected to achieve improvements regarding general collection and use of information. With respect to international data exchange the focus is on the establishment of the national hull database and its interconnection with the European Hull Database. Moreover, a study has been carried out regarding international data exchange.

Synergy between EU-support programmes and national initiatives

Poland`s current RIS activities are concentrated in EU projects. The TEN-T co-financed implementation project with high own contribution supplemented by the participation in the EU TEN-T project IRIS III leads to synergy of EU and national funding. However, due to budgetary problems there are no additional national RIS initiatives in Poland. Complementary financing of RIS operation from national budgets is ensured.

7 Germany

7.1 Inland shipping in Germany

Germany located in the centre of Europe, is a backbone of the European transport network. Due to its dense inland waterway network and as riparian state of rivers Rhine, Mosel, Danube, Elbe and Oder inland waterway transport is an important mode. The German fleet consists of 2.225 vessels and push boats. Overall, 230 million tons are shipped on German waterways annually. In terms of cargo weight inland waterway transport accounts for 9% of German transports (2012). The majority of German inland waterway transport is international transport with a share of 66%. The modal share for international transport is 21% (without transit even 23%). Inland waterway transport accounts for market shares of more than 20% regarding bulk commodities such as coal and ores. Container transport on waterways shows a continuous strong growth although 81% of inland waterways transport is still bulk cargo.

The dense German infrastructure network consists of 7.300 km of waterways, of which approximately 5.000 km belong to CEMT-class IV+. Predominantly small and medium sized inland shipping enterprises provide services. 7.500 people are employed directly in inland navigation.

7.2 Legal implementation of RIS

Regarding the legal transposition it has to be differentiated between the Federal level, which is responsible for waterways, and the State level, which is responsible for inland ports. On Federal level, Germany has transposed the RIS directive 2005/44 predominantly by internal not published administrative decrees. According to Germany, communication of the Decrees and the concordance table regarding the RIS directive 2005/44/EC to the European Commission in 2007 the decrees are regarded to ensure the implementation of the directive.

The relevant (non-public) decrees of the German Federal Government were attached to the note, which were sent to the Commission, are:

- Decree of the Federal Ministry of Transport, Building and Urban Development from 6th April 2006
- Decree of the Federal Ministry of Transport, Building and Urban Development from 13th April 2006
- Decree of the Federal Ministry of Transport, Building and Urban Development from 1st August 2006
- Decree of the Federal Ministry of Transport, Building and Urban Development from 17th October 2007

The four Decrees define the organizational measures within the administration to establish the required infrastructural measures, the implementation of technical measures and the approval of public budget for implementation of the directive. As main component the Waterways and Shipping Administration is made responsible for RIS implementation and operation. The Decrees state how applications have been implemented respectively will be implemented.

The legal transposition by internal Decrees is regarded as sufficient, as the Waterways and Shipping Administration as a subsidiary agency is commissioned to implement RIS. Moreover, German officials interpret the directive that corresponding national regulations only have to be adopted, if necessary. This is regarded as in general not necessary. According to officials, this transposition has been accepted by EU officials so far. With respect to the installation of AIS land based infrastructure an amendment of the inland navigation task act is in preparation to regulate applications and related requirements for the administration. Type approval of RIS equipment is assigned to the Federal Traffic Technologies Centre.

A detailed analysis of the legal transposition of the RIS Directive and its articles in the legislative framework of Germany is included in the Annex.

In 2009, Federal states have amended the port regulations to consider RIS obligations arising from the EU directive. The RIS paragraph is rather short and focuses on the relevant applications for inland ports with reference to corresponding EU directive and regulations regarding specifications. Electronic reporting has been considered in the police regulations.

7.3 Technical implementation of RIS

a / Notices to skippers

The Waterways and Shipping Administration publishes Notice to Skippers electronically via ELWIS. This service has been in operation since 1999, already long before the EU RIS regulation came in force. Due to requirements of regulation 416/2007/EC, the services were adjusted in October 2009 within the required timeframe.

Notice to Skippers in Germany cover the mandatory information services. Fairway & traffic messages (FTM; available in 10 languages), water related messages (WRM; water levels daily and event controlled) and ice messages (ICEM; daily when applicable) are provided according to CCNR standard 3.0. In addition, all data and facts on infrastructure, such as technical data of inland waterways' infrastructure (classification, dimensions, bridge clearances) berth places and lock information including operation times are available. However, there exist no plans to establish weather related messages. The messages can be downloaded on the ELWIS webpage. They are provided separated by waterway. A map and route-based search engine is in preparation and expected to be implemented in 2014. Apart from download, there is an opportunity to sign up free of charge for a subscription ("ELWIS-Abo") of messages by mail and sms. There exists international data exchange of Notices to Skippers via web-service with Austria. The integration of Dutch, French and Slovakian messages is envisaged, depending on the update of CR 416/2007.

With regard to inland ports the implementation is not completed yet. Although Federal States have considered RIS in the relevant regulation, not all inland ports provide the relevant Notices to Skippers in an electronic format.

b/Vessel tracking and tracing systems (Automated Identification System (AIS))

AIS in Germany is with a few exceptions so far limited for facilitation of navigation by display of the tactical traffic image and ship-ship communication. Primary objective is to provide navigation aid, in particular at narrow and critical waterway sections, and increase safety.

Today, AIS in Germany is limited to the communication ship-ship, which requires on-board equipment and only a few repeater as shore based infrastructure. Installation of shore based AIS infrastructure stations and additional repeaters would be required for AIS communication ship-shore and shore-ship. The installation of landside infrastructure at selected German inland waterways is under preparation.

AIS equipment support programmes contributed to the installation of AIS equipment on-board vessels. From 2009 to 2011 Germany and Netherlands carried out an AIS equipment support programme. The programme was supported by the European Union with 5 million €. Overall, 1.250 German vessels were equipped. In contrast to other countries such as the Netherlands, German authorities requested an own contribution by ship owners of minimum 500 €. The support was limited to 2.100 €. In the course of a national project on the Mittelweser 100 vessels have been equipped with inland AIS and inland ECDIS. German vessels can apply under certain conditions in other countries for AIS equipment support.

According to the telematics survey by the Waterways and Shipping administration of 1.500 vessels in 2012 vessels on German waterways are well equipped. 92% of vessels are equipped with AIS transponders. 71% of vessels display AIS on ECDIS viewer. 49% refer to ECDIS in information mode. The connection of the blue board to AIS is installed on 49% of vessels. However, the equipment of vessel is different between regions depending on the age of the regional fleet.

Legal base for the use of AIS data in Germany is elaborated with the amendment of the Inland Navigation Task Act. It will be limited for tasks of the administration, i.e. calamity abatement, improvement of safety and ease of navigation taking into account the issue of data protection. Corresponding agreements with the German inland shipping industry that only required data will be covered by AIS are in preparation. Other use will only be possible with acknowledgement of the data owner, i.e. skipper, ship owner etc. Provision of AIS information for logistical purposes is not regarded as task of the administration. However, the administration is willing to give reasonable support. The interest of the logistic sector to use AIS data is limited so far.

Moreover, without further regulation German authorities do not see a legal base for international data exchange and storage of AIS data in a central database. Data privacy is a major concern, as codification of AIS is impossible, but authorities have to ensure that data use is limited for certain applications. However, some unofficial providers or private solutions provide position data already. Conditional on EC regulation and guarantee of data privacy, Germany will be able to provide AIS data. However, the need for international data exchange and related applications such as the European Position Information

System (EPIS) is not clear for German authorities. Moreover, an operational concept is missing and there are doubts regarding the financing of EPIS. Position data exchange is regarded as feasible between adjacent waterway authorities of Member States in border areas only.

c/Electronic ship reporting

Voyage reporting is only required for certain vessels on the rivers Rhine, Mosel, Saar, lower Main and in the range of WDK (westdeutsches Kanalnetz). Electronic reporting according to the ERINOT standard 1.2 can be carried out with the free software application BICS. RIS centres manage the reported voyages in Germany with the application reporting and information system inland navigation (MIB respectively MIB II+).

Due to the international exchange, electronic reporting is only necessary once. International data exchange is implemented with the Netherlands, France and Luxembourg. There is no exchange of ship's voyage reports with Austria at the Danube, with the Czech Republic at the Elbe and Poland at the Oder because reporting is not required in those sections.

A TEN-T project has been started to develop jointly with Dutch authorities (and consultation with other adjacent countries) a web-based reporting system complementary to BICS. Realisation is planned until 2015/2016.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

The requirement to provide electronic navigational charts for all inland waterways of CEMT-class V and higher is almost fulfilled by German authorities. Electronic navigational charts are available for approximately 95% of these waterways. Among charts not available for download at ELWIS are the southern stretch of 130 km length of the Upper Rhine and a short section of the Mittelland Canal East of Haldensleben along the East-West-corridor. It is expected that the coverage will increase soon as the elaboration of charts for certain waterways is in preparation e.g. an agreement with France on elaboration of charts for the Upper Rhine. IN addition, the ENC coverage of CEMT-class IV waterways is approximately 30% in Germany.

Since June 2011 available electronic navigational charts of German inland waterways are provided for download free of charge on the ELWIS webpage. Charts are elaborated by the Waterways and Shipping Administration. Electronic navigational charts are not forwarded to the RIS portal. The RIS portal provides a link to ELWIS for download of charts. Charts of inland ports are partly available. Jointly with Federal states and inland ports the provision of electronic navigational charts for inland ports is under preparation. Here the Waterways and Shipping Administration offers the production of ENCs in port areas if the digital basic data are submitted.

Germany is covered by DGPS signals, so that ECDIS conditional on installation of DGPS receiver could be used in navigation mode. According to the traffic engineering survey of the Waterways and Shipping Administration in 2012, 18% of vessels are equipped with DGPS receivers, which allow the use of ECDIS in navigation mode. Actual, 15% of vessels use ECDIS in navigation mode.

e / Hull database

German authorities maintain a national hull database according to 2006/87/EC. Since 2007 the European Vessel identification number (ENI) is assigned to vessels at time of certification.

There is no exchange between the national hull database and the European Hull Database (EHDB) implemented. The German vessel inspection commission does not have an authorisation base for an exchange with EHDB and its implementation in the German inland vessel investigation regulation is missing. Data privacy concerns exist, e.g. regarding unauthorised use of information. Germany insisted on the need for an additional legal framework to facilitate the data exchange already as cooperation partner of the IRIS II project regarding the Technical and Administrative Agreement. Germany will participate in the European Hull Database, if a sufficient enabling clause exists. However, issues such as data privacy, organisation and funding have to been resolved regarding European Hull Database.

f / RIS index

The Waterways and Shipping administration maintains an index with approximately 6.000 objects. The objects are coded according to the standards published in regulation CR/164/2010. The index is applied for Notice to Skippers messages.

In case a RIS index according to the current version of the RIS Index Encoding Guide proposed by the Joint Working Group would be mandatory, Germany would have extensive work to do. 20.000 additional objects would be required to add to the index. Conditional on consideration of hectometre marks of waterways, the indication of further 80.000 objects would be required. Apart from elaboration, maintenance of the RIS index would require extensive resources. This way of setting up a RIS index is put in question. Therefore, Germany initiated an exchange of experts' views. The results remain to be seen.
One aim of the prepared multinational EU TEN-T project European IWT Corridor Management is the identification for voyage and traffic information.

Germany does not provide its RIS index to the European Reference Data Management System. According to regulation this is not required yet. Moreover, there are concerns regarding the feasibility of ERDMS. The benefit of a central access to reference data is seen but the concept of the ERDMS is not convincing yet.

A short summary of the implementation of RIS and its main elements in the Germany are given below:

Summary technical implementation of RIS elements in Germany

		Germany	
		Availability?	*When?*
Notices to skippers	Fairway & Traffic Messages (FTM) Lock information	Yes	ELWIS operational since 1999; adjusted in 2009 according to NtS standards (NtS std. v2.0; XSD 3.0)
	Water Related Messages (WRM)	Yes	
	Ice Message (ICEM)	Yes	
	Weather Related Messages (WERM)	No, but linkage to the German Meteorological Service	
	Method of diffusion	Online portal or e-mail subscription	
AIS	AIS infrastructure	Only ship-ship communication available; landside infrastructure in preparation	
	On-board equipment	Almost complete: > 90% of the fleet	
	Exchange	No	
Electronic reporting	ERINOT, ERIRSP	Yes, No	
	BERMAN and PAXLISTS	Not relevant	
	Exchange	Yes, with the Netherlands, France and Luxembourg.	
ENC	Coverage	95% of CEMT class V and above; 30% of CEMT class IV	
	Provision free of charge	Yes	
Hull database	Exchange with European hull database	As hull data is considered as personal data, this data may only be forwarded under certain conditions.	
	Vessels have an ENI	Yes	
RIS index	Correct use	Partially	
	Synchronization with ERDMS	No	
Traffic management		Plans for traffic management	

		Germany	
		Availability?	*When?*
On board equipment	AIS equipment	Yes, an AIS equipment program was available	
	ERI	MIB operational	Since 1993 between St. Goar and Bingen

7.4 Other characteristics of RIS implementation

Germany has implemented a wide range of RIS applications. Implemented services have in general a high quality. Germany is among driving countries of RIS development in Europe, but select RIS implementations carefully. Most services are provided via the electronic waterways information system "ELWIS". The portal was launched in 1999.

Germany has not transposed RIS legislation in public acts or regulations. EU RIS directive 2005/44/EC was legally transposed with four internal decrees adopted in 2006 and 2007.[1] These decrees regulate the responsibility of the Waterways and Shipping Administration for RIS and the technical implementation of required applications in Germany. With respect to AIS an amendment of the Federal Inland Navigation Task Act is in preparation.

RIS applications are available throughout the extensive German inland waterway network, but implementations focus on the Rhine and adjacent waterways. Due to the relevance of the Rhine with a large share of traffic, it has a high relevance for RIS development in Germany. Already in the 1990s traffic reporting centres were established at the Rhine. End of the 1990s the first electronic navigational charts were provided for the Rhine. Germany cooperates with other riparian states in the Central Commission for the Navigation on the Rhine (CCNR) in the development of RIS along the Rhine. Moreover, Germany focuses its RIS development on the RIS strategy decided on jointly with other riparian states by the CCNR in 2012. In general, German administration starts implementation at the Rhine and subsequently roll-out applications to other waterways.

However, Germany has been reluctant to progress with the implementation of a few applications or its roll-out to the complete waterway network. Cost-benefit relations of RIS applications related to data collection, storage and use had to be considered. The Waterways and Shipping Administration, which is responsible for RIS implementation, has to focus on feasible applications. Moreover, it is limited to applications, which facilitate either its tasks or contribute to safety and ease of inland navigation. The limited resources in terms of personnel is another problem for RIS implementation considering the extensive waterway network and the requirement to comply with EU regulations first. The installation of shore based AIS stations and use of vessel position information is an example. So far, AIS use in Germany is limited to facilitation of navigation by ship-ship communication (so called "Selbstwahrschau"). However, it has been decided to install AIS base stations to ensure coverage along the main waterways.

[1] Decrees of the Federal Ministry of Transport, Construction and Urban Development from 6th April 2006, 13th April 2006, 1st August 2006 and 17th October 2007.

The implementation of port related RIS applications is under the responsibility of Federal States and port authorities. Federal states have amended port regulations in correspondence with the EU RIS directive in 2009. However, inland ports are very reluctant regarding RIS implementation and only a few ports have implemented some services so far, irrespective of the implementation support offered by the Waterways and Shipping administration.

7.5 Conclusions

All requirements deriving from RIS legislation have been fulfilled in due time for German Waterways. Germany has not transposed the RIS legislation in public acts or regulations but the Directive was legally transposed with four internal decrees. German officials interpret the Directive that corresponding national regulations only have to be adopted if necessary. According to officials, this transposition has been accepted by the EU officials so far. NtS have been made available in time although Germany is not considering making WERM (which is not compulsory) available. AIS in Germany is (with a few exemptions) so far limited for facilitation of navigation by display of the tactical traffic information and ship-ship-communication. ERI has been implemented in time. ENCs are covering 95% of the relevant German waterways although there is no legal obligation yet to fulfil in this respect.

7.6 Organisational structure of RIS implementation in Germany

The **Federal Ministry of Transport, Building and Urban Development** is responsible for RIS legislation and strategic issues of RIS development in Germany. The EU directives influence the German RIS strategy including activities and priorities. Regarding inland ports, Federal State ministries of transport are responsible for legislation with respect to inland ports. The amendment of port regulations related to RIS has been rather reluctant. Among inland ports concerns regarding RIS dominate.

RIS implementation strategy along the Rhine, which is of high importance in Germany due to the high traffic share, is decided within the CCNR. Apart from EU provision, CCNR is the relevant regulative body for RIS implementation. The CCNR is very active regarding RIS development and has in 2012 decided on its RIS strategy. This strategy ranks intended RIS measures by priority. Germany is committed to this strategy regarding RIS development. However, it is a challenge to harmonise strategies among different river commissions, and Germany is part of different river commissions. RIS work of the Danube Commission is mainly carried out in the GIS forum. Germany is represented in the GIS forum by experts of the Directorate South of the Waterways and Shipping Administration. However, in contrast to CCNR and little less the Mosel Commission as regulative bodies, the Danube Commission only gives recommendations.

European RIS developments are influenced by German representatives in regulative and expert bodies. With respect to regulative decision, contribution to CCNR and European commission e.g. via the RIS committee are most important. While usually Ministry officials represent Germany with respect to regulative issues, in general experts from the Waterways and Shipping Administration

contribute to other bodies on a more technical level. Experts of the Waterways and Shipping Administration are heavily involved in RIS work of expert groups and PIANC.

The **Waterways and Shipping Administration**, the waterway managing agency of the Federal Ministry of Transport, Building and Urban Development, is responsible for standardisation and implementation of RIS applications along waterways. The Department Traffic Engineering Inland of the Waterways and Shipping Administration works on technical concept and development of RIS. Moreover, it maintains the functionality of ELWIS. Staff of the traffic engineering department represents Germany in working groups of river commissions such as the CCNR and European RIS expert groups. The RIS work is supported by a specialized department of the Waterways and Shipping Administration, the Traffic Technologies Centre. This department closely follows the technical developments, test new technologies, ensures transferability of maritime and inland applications and supports RIS implementation. It is also represented in RIS expert groups. Moreover, the department of Waterways and Shipping Administration for mechanical engineering and the Technology Services Centre of the Federal Ministry of Transport, Building and Urban Development contributes to RIS implementation. The administration commissions external institutes, suppliers and service providers regarding RIS development. RIS operation in terms of information provision on ELWIS is organised decentral by Waterways and Shipping Offices and River Information Services Centres. Centres are located in Duisburg, Oberwesel, Minden, Magdeburg and Gösselthal.

Apart from provisions of the Federal Ministry of Transport, Building and Urban Development resulting from EU directives and CCNR provisions, discussions with shipping departments of the Waterways and Shipping Administration determine objectives of RIS developments by the department Inland Traffic Technologies and RIS Branch. Facilitation of tasks and requirements of the shipping industry are considered. However, the interest of the inland waterway transport sector and associations in RIS is still rather low.

Port authorities are responsible for the provision of RIS applications related to inland ports. Inland ports rarely fulfil the requirements arising from the EU RIS directive. Mannheim and Cologne are among the positive exceptions with some services. Obligations for inland ports include the electronic publication of Notices to Skippers, provision of electronic navigation charts and provisions for electronic reporting, if reporting is mandatory. The Waterways and Shipping Administration supports RIS activities of inland ports. ELWIS may be used for distribution of Notices to Skippers and authorities cooperate regarding the development of electronic navigational charts. However, inland ports are rather reluctant to use the support and implement RIS. The federal level does not have any means to force inland ports to enhance RIS activities. It can only provide administrative assistance as done.

User interests of inland shipping lines are represented by German inland navigation association. It is in dialogue with CCNR, Federal Ministry of Transport, Building and Urban Development and the Waterways and Shipping Administration regarding RIS.

RIS development in Germany has predominantly been carried out and financed autonomously. Germany did hardly participate in EU-funded RIS projects respectively use EU contributions for financing. Due to the extensive administration work participation was regarded as not beneficial. Moreover, the objectives of some projects are regarded as not clear and questionable. Sometimes even RIS developments to be achieved by projects have been implemented in Germany already.

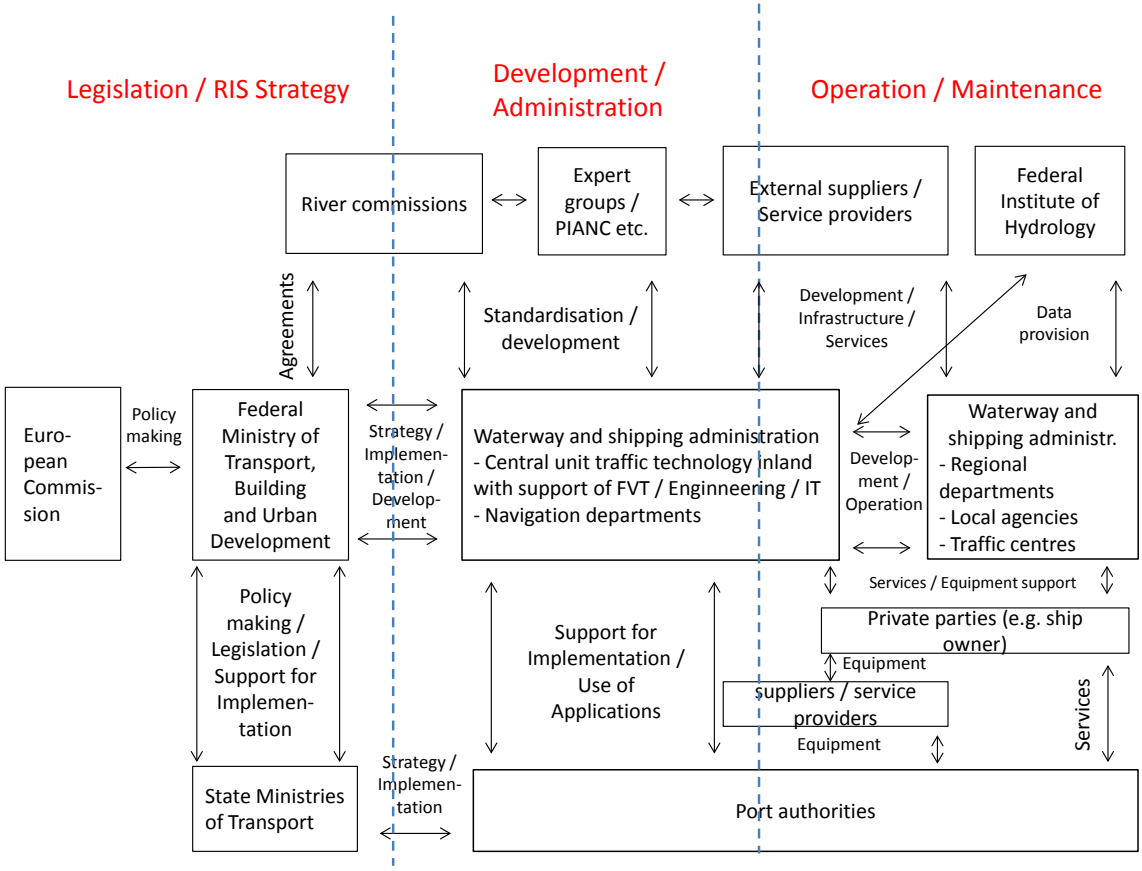
Among the few EU contributions, the elaboration of some ENC was partly financed by ERDF funds. The elaboration of considered charts was supported with a 75% subsidy. EU TEN-T funds contributed to the AIS equipment of German vessels. Recently, jointly with the Netherlands the TEN-T project Vessel Traffic Management Centres of the future has started.

In general, RIS is financed by the general budget of the Federal Ministry of Transport, Building and Urban Development for the Waterways and Shipping Administration. For RIS related investment such as AIS base stations earmarked funds within the budget are made available. In 2011, for RIS equipment an overall budget of 8.2 mio. € was planned. Until 2011, 2.0 mio. € have been spent in RIS equipment of inland waterways. For the 2012 Federal budget to expenses for RIS equipment was reduced to 5.2 mio. €. A budget of 2 mio. € was available for 2012.

Summary

Waterways and Shipping Administration is the driver of RIS development in Germany and responsible for operation. The administration belongs to the Federal Ministry of Transport, Building and Urban Development, which defines the legal and strategic framework. Both, on legislative and technical level Germany participates in international RIS bodies. River commissions, due to the importance of the Rhine in particular the CCNR, have a strong influence on the German strategy. With respect to RIS in inland ports, Federal States and port authorities are responsible for implementation. They are supported by Federal authorities, but they do not yet comply with the RIS legislation (see page 71).

Figure RIS organisation in Germany



7.7 RIS projects

National RIS projects

The German administration has been working and is working on RIS projects. Continuously the ELWIS system is improved. This includes user-friendliness, enhancements of existing functionalities and the integration of additional functionalities. The Waterways and Shipping Administration works on the development of a system architecture. So far, data is stored in local databases. Other projects focus on the development of new RIS applications for lock management and calamity abatement support based on AIS data. Latter is component of a pilot study on installation and operation of AIS along the Danube. AIS is the focus of RIS projects by the German administration. AIS repeater stations have been installed at critical and narrow waterway section to facilitate ship-ship communication for coordination of passing arrangements. This corresponds to the initial focus of German AIS activities on the facilitation of navigation. AIS application was tested in different projects such as the technical AIS study at a test section along the Rhine to explore some different fundamental AIS features such as location of base stations and availability of AIS message reception. The AIS pilot project along the Mittelweser had a focus on operational test of the use of AIS signal to facilitate the negotiation of passing arrangement at longer waterway sections with narrow fairway. As all affected vessels should participate, 100 vessels were equipped with AIS transponder and ECDIS viewer and devices for hire were available free of charge.

Seven AIS base stations and one repeater were installed shore based. The operational test of AIS at the Mittelweser was very successful.

Germany decided recently to start with the installation of AIS shore based infrastructure, apart from the mentioned sections, at other selected main waterways. This large project is financed by the second infrastructure acceleration programme.

Cross border RIS projects

Germany has hardly participated in EU RIS projects contributing to implementation. Due to the administrative burden and own achievements, a more extensive involvement was not regarded as beneficial. Germany has been cooperation partner in EU TEN-T project IRIS II. The traffic engineering inland department of the Waterways and Shipping Administration participated in investigations regarding a low cost heading device. Germany is again cooperation partner in the currently running successor project IRIS III. It cooperates regarding activities to improve the incorporation of depth contours in electronic navigational charts.

Germany and the Netherlands were beneficiaries of the EU TEN-T project Full deployment of AIS transponders. The project was part of a global project for implementing harmonised RIS applications in the Netherlands and Germany. Objective of the project was to equip all vessels longer than 20 meters or in commercial operation of waterways of class IV and higher with AIS transponders. The EU contributed 4.3 mio. € of the overall budget of 18.0 mio. €. However, the majority of the project budget refers to the Netherlands with 5.000 applications for grants, while only 1.500 applications were received in Germany. Reason for that, were the larger Dutch fleet and the required contribution of 500 € in Germany, which was not required in the Netherlands.

Currently running is the TEN-T project Vessel Traffic Management of the Future. The project is carried out jointly with the Netherlands. The EU contributes 50% of the project volume of 7.7 mio. €. Among components is a web-based reporting system. In the period from 2011 to 2014 Germany and Netherlands work on the following RIS applications:

- Integral Vessel traffic management approach
- Improvement of logistic chain's performance
- Reporting System for the Rhine according to regulation CR/164/2010
- Development of Nautical Network Data Services

German partners from research institutions and private operators participated in the RISING (RIS Services for Improving the Integration of Inland Waterway Transports into Intermodal Chains) project. This EU Framework programme FP-7 (TREN) aimed to deploy RIS for logistic applications. The project budget amounted to 7.5 mio. €, of which 5.3 mio. € were granted by the EU. Between 2009 and 2012 the project worked on the development of RIS applications addressing logistics. It focused on services assisting logistic enterprises, port and terminal operators and fleet operators with respect to

- Event management
- Voyage planning
- RIS services for transport and logistics

Activities in Germany focused on transport monitoring, transport planning and berth and terminal planning. For instance, applications should facilitate inland waterway container transports in the hinterland of seaport Bremerhaven and operation of a container terminal at the Rhine.

Germany participates in the Strategy for the Danube Region. The implementation of harmonised RIS and other related measures are considered actions.

Moreover, along the Danube the responsible Directorate South of the Waterways and Shipping Administration participated between 2001 and 2007 in EU Interreg projects D4D (Data Warehouse for Danube Waterways) and DANewB Data (Digitally Advanced New Cross Border Exchange of Data). The projects focused on a coordinated and harmonised implementation of RIS applications in Danube countries. Moreover, the Directorate South of the Waterways and Shipping Administration has observer status in the NEWADA project and is cooperating partner in the follow-up project NEWADA DUO, which works among other on harmonised RIS development along the Danube.

Synergy between EU-support programmes and national initiatives

Participation in EU-projects is carefully selected with respect to national needs considering the administrative burden. EU-projects have to correspond with national RIS priorities and applications or an actual requirement for technical development on international level has been identified. Therefore, EU support programmes complement national initiatives as much as possible. Considering national AIS projects, the equipment programme is an adequate supplement. However, the scheduling is also influenced by German AIS priorities. The current EU TEN-T project on RIS enabled management of European IWT corridors is complementary to national initiatives.

8 Czech Republic

8.1 Inland shipping in the Czech Republic

The Czech Republic belongs to European East-West transport corridor. Inland waterway transport has due to the limited network only a minor relevance. About 2 million tons are carried annually and approximately 130 vessels belong to the Czech fleet.

The share of inland waterway transport in modal split is below 1%. International transport accounts with almost 75% by far for the majority. The market share achieves 1% in this segment. Bulk commodities such as ores and agricultural goods are most important.

The inland waterway network has a length of 680 km. Navigable waterways of Labe and Vyltava account for 315 km. About 20 companies provide inland waterway transport services. Approximately half of enterprises are small with only one vessel. The employment in the Czech inland waterway transport is certainly more than 1.000 people.

8.2 Legal implementation of RIS

The Ministry of Transport is responsible for RIS legislation, strategy and implementation. The Ministry decides on RIS policy and determines services and quality levels, which should be achieved. This defines the task for the Waterways Directorate. This agency of the Ministry of Transport is responsible for the technological solutions and implementations such as the LAVDIS system infrastructure and its adjustments. On behalf of the Ministry of Transport it is responsible for implementation and acts as investor for RIS technologies and applications. According to the Inland Navigation Act, the State Navigation Authority is RIS operator.

The Czech Republic has established RIS legislation and implemented basic RIS applications. Before, the European Commission had concerns regarding the transposition of the RIS directive in national law and sent a reasoned opinion in 2008. Meanwhile, the RIS directive 2005/44/EC is to a large share transposed in public Czech legislation since 2008. The amended Inland Navigation Act[1] and a separate RIS regulation[2] came in force 2009.

RIS directive 2005/44/EC is transposed to Czech legislation by the amendment of the Inland Navigation Act No. 114/1995[3] and by establishment of the specific regulation no. 356/2009[4] on River Information Services in the Czech Republic. Law no. 114/95 was amended in 2008 adding §32a - d with regulations regarding RIS and §40, which determines the State Navigation Authority as RIS

[1] Zákon č. 114/1995 Sb., RIS related amendments by Zákon č. 309/2008 Sb. Additional internal non-published regulation may exist, which has jointly with the Concordance table been communicated to the European Commission.
[2] VYHLÁŠKA 356/2009 Sb.
[3] Zákon č. 309/2008 Sb.
[4] VYHLÁŠKA 356/2009 Sb.

operator. The amendments came into effect in 2009. According to Czech officials additional amendments are required regarding the provisions for international data exchange. There is an agreement on the changes among policy makers, so that the amended law is expected to be implemented in 2013. The RIS guidelines were published and came into effect in 2009. This rule focuses on the operation of services, which had already been available. As additional applications such as AIS come in operation, the regulation has to be amended. The rule is under responsibility of the Ministry of Transport only, so that an amendment is rather easily possible. The planned amendment of the regulation should be used to complete the transposition of EU RIS directive in national regulation.

8.3 Technical implementation of RIS

a/Notices to skippers

Notices to Skippers messages including mandatory fairway & traffic messages, water related messages and ice messages as well as weather related messages are provided in an electronic format for all relevant waterways (according to NtS standard v 3.0). Notices to Skippers messages are complementary to static information, which are provided on the LAVDIS web system. The static information is already available since 2006, when LAVDIS started its test operation. In general, the messages are available for download on the Lavdis portal and by mail subscription. The service was launched as pilot in 2009 and the new application is available since January 2011.

International exchange of Notice to skippers was carried out as pilot test operation within IRIS II, but standard operation has not been realised yet. An exchange of NtS with Germany is planned, but hampered by the application of different technologies in these countries. Czech NtS are not available on the RIS portal. However, a link to LAVDIS is provided.

Inland ports do not provide Notices to skippers in electronic format. Czech legislation does not foresee obligations for ports.

b/Vessel tracking and tracing systems (Automated Identification System (AIS))

AIS is not implemented along the waterways in the Czech Republic yet. However, within the currently running EU TEN-T project IRIS III it will start to implement AIS. The construction of two shore based AIS stations and the installation of AIS transponders on up to 100 vessels are planned. The shore based stations will be located in Decin and Prague. The 100 AIS transponders will jointly with computer and ECDIS viewer software be leant free of charge to ship owners. The implementation is planned for 2013 and test operation for 2014. Although no AIS carriage requirement is planned, it is envisaged to make use of AIS equipment mandatory, if installed. International AIS data exchange with European Position Information System (EPIS) is planned as pilot implementation in IRIS III. However, some legislative amendments might be required before full operation.

c/Electronic ship reporting

Reporting is obligatory for all large vessels and commercial passenger vessels. The data is managed by the RIS centre and forwarded from lock to lock. It is used for traffic monitoring. Electronic reporting of ERINOT messages has been implemented as pilot in 2008. The message ERIRSP was not implemented. However, the LAVDIS web service provides a confirmation of processing.

In the IRIS II project electronic reporting infrastructure was upgraded to ERINOT standard 2.0. It is still in test operation and full operation is expected for 2013. The infrastructure allows electronic reporting of ERINOT and ERIRSP messages. ERIRSP and will be possible after implementation of the currently established electronic reporting standard. Implementation of BERMAN and PAXLST standards for electronic reporting are not planned.

The missing interconnection with Germany is regarded as barrier for wider use of electronic reporting. Germany envisaged enabling international data exchange after upgrade of its electronic reporting infrastructure. The upgrade of the German infrastructure is currently carried out within a joint TEN-T project with the Netherlands. However, due to the missing reporting obligations and the low traffic volume on the waterway sections towards the Czech border electronic reporting and international data exchange with the Czech Republic does not have a high priority.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

Electronic navigational charts are available for all waterway of CEMT-class IV and above in the Czech Republic (full coverage of 305 km; used version of standard 2.0). This service was implemented in 2009. The charts are provided for download free of charge on the LAVDIS webpage. Moreover, a web portal displaying electronic navigation charts and charts in pdf format are available. The first development of charts was financed by the Czech National Infrastructure Fund with support from the European Regional Development Fund. New charts including depth data have elaborated within the IRIS II project after 2009. Implementation of depth data is in particular valuable on the section of the river Elbe between Usti and Labem and the German border.

The use of ECDIS in navigation mode on-board is possible, if the vessel is equipped with GPS and DGPS receiver. The DGPS system was launched in 2010 to allow position information. The charts are not available for download on the RIS portal. However, a link to LAVDIS is provided on the RIS portal. In the IRIS III project the establishment of a central point for European ENC download is planned.

e/Hull database

A Czech national hull database according to directive 2006/87 EC does exist. This database is used for RIS applications, too. The exchange between register and RIS database is facilitated as RIS operator State Navigation Authority is also responsible for the public Czech register. The international exchange of minimum hull data set with EHDB was in pilot operation in 2011.

Legislation for assignment of ENI numbers according to regulation 2008/87/EC is in force for some time. However, there is a transition period as vessels are

required to get an ENI number at the next technical inspection. Assignment of ENI numbers according to 164/2010 is into force and the RIS centre (State Navigation Authority) does issue ENI numbers.

f/RIS Index

The RIS Index according to regulation 164/2010 is in use in the Czech Republic. Waterway objects have been indexed based on the electronic navigational charts. It is regarded as rather complete and is intended to be further extended. The index is available for download in the LAVDIS system.

The international exchange between Czech RIS index and European Reference Data Management System (ERDMS) was in pilot operation in 2011. The exchange was processed by web service interface. Implementation of the exchange is planned for the IRIS III project.

A short summary of the implementation of RIS and its main elements in the Czech Republic are given below:

Summary technical implementation of RIS elements in the Czech Republic

		Czech Republic	
		Availability?	*When?*
Notices to skippers	Fairway & Traffic Messages (FTM)	Yes	2009
	Water Related Messages (WRM)	Yes	2009
	Ice Message (ICEM)	Yes	2011
	Weather Related Messages (WERM)	Yes	2011
	Method of diffusion	Online portal or e-mail subscription	
AIS	AIS infrastructure	No	Will start within IRIS III project
	On-board equipment	No	Equipment program include in IRIS III for 100 vessels
	Exchange	No	
Electronic reporting	ERINOT, ERIRSP	Yes (pilot), No	2013 ERINOT and ERIRSP expected to be fully operational
	BERMAN and PAXLISTS	No	
	Exchange	No	Missing connection with Germany is regarded a barrier for wider use of electronic reporting
ENC	Coverage	All Czech waterways of CEMT class IV and above	2009
	Provision free of charge	Yes	

		Czech Republic	
		Availability?	*When?*
Hull database	Exchange with European hull database	Pilot phase	2011 but amendments are needed with regard to privacy requirements in Czech law
	Vessels have an ENI	Yes	Unknown
RIS index	Correct use	Yes	
	Synchronization with ERDMS	Pilot phase	2011, implementation expected in IRIS III project
Traffic management		There are no traffic management applications so far	
On board equipment	AIS equipment	10 ships with AIS transponders, 15 with inland ECDIS	Equipment program included in IRIS III project for 100 vessels
	ERI		

8.4 Other characteristics of RIS implementation

Basic RIS applications have been implemented in the Czech Republic, but LAVDIS services such as NtS provision suffer from the reliability of operation. Some parts of the EU RIS directive still wait for transposition in national law. The missing articles should be considered in the planned amendment of the RIS related acts. There are initiatives going on to extend RIS applications, in particular the implementation of AIS, and to improve quality of existing services. Latter is important considering the current problems with LAVDIS.

The Ministry of Transport decides on RIS legislation and implementation strategy. Implementation work is mainly carried out by the Directorate of waterways, an agency of the Ministry of Transport. Another agency, the State Navigation Authority is responsible for RIS operation and non-investment related implementations. The authority has established its RIS centre in Decin. The Czech Republic is well represented in European bodies on regulative and expert level by Ministry officials and agency experts.

One barrier for RIS development is the funding. Public budget for inland waterway and navigation is cut year by year. Moreover, apart from RIS other measures and investments are required for inland waterway transport. These actions might be regarded as more important by the sector. Moreover, vessel operation in the Czech Republic is rather limited and vessels have bad equipment. Therefore, potential RIS benefits are reduced and it may be difficult to justify RIS expenses. The launch of AIS is regarded as opportunity to contribute to development of RIS applications.

8.5 Conclusions

The transposition of the RIS Directive in the national law of the Czech Republic has not been completed yet and therefore it can be concluded that the transposition is not on time. Amendments are still needed for the use of AIS and regarding the provisions of international data exchange. Most of the required legislation came into force with the amended Inland Navigation Act in 2009 which is also out of the scope of the envisaged timetable.

However, as the consortium was not able to consider internal regulation and the concordance table of the Czech Republic, we cannot rule out that missing parts of the Directive have been transposed to the Czech regulation. The analysis is only based on the public accessible Czech legislation.

With regard to the technical implementation it can be mentioned that NtS are available according to standard, ERI is only available in a test operation (ERINOT and ERIRSP) and AIS is also not implemented yet on the Czech waterways. ENCs are available.

8.6 Organisational structure of RIS implementation in the Czech Republic

The **Ministry of Transport** is responsible for RIS legislation, strategy and implementation. The ministry decides on RIS policy and determines services and quality levels, which should be achieved. This defines the task for the **Waterways Directorate**. This agency of the Ministry of Transport is responsible for technological solutions and implementations such as the LAVDIS system infrastructure and its adjustments. On behalf of the Ministry of Transport it is responsible for implementation and acts as investor for RIS technologies and applications. Projects are established to solve task and developments are evaluated by the Ministry of Transport. After acknowledgement, applications become operational. The Waterways Directorate considers RIS installations at infrastructure projects such as the upgrade of Labe locks.

According to the Inland Navigation Act the State Navigation Authority is the RIS operator. This includes the operation of RIS applications and its maintenance. The authority, which is an agency of the Ministry of Transport, maintains a RIS centre located in Decin. RIS activities are managed by the Prague headquarter of the State Navigation Authority. The Decin branch of the State Navigation Authority operates the centre. The headquarter in Prague is responsible for monitoring of services and preparations for new services. Apart from operational tasks, the State Navigation Authority is responsible for RIS enhancements, which are realised by non-investment measures.

Regular meetings on official and working level between members of the different parties have a positive impact on RIS development and operation.

As regards RIS operation other parties are required for data provision. This refers to waterway operators, Povodi Labe and Povodi Vyltavy, which are under responsibility of the Ministry of Agriculture. Waterway managers are responsible to provide water level information. The use of water level data for RIS applications and distribution of information are tasks of the RIS operator State

Navigation Authority. Waterway managers are lock operator, so that there is need for interaction related to electronic lock management.

Ministry of Transport and authorities are in a regular dialogue with inland waterway operators and inland ports. Among other subjects, RIS development is on the agenda at these meetings. However, there is no separate platform for RIS.

Development of applications as well as hard- and software for Czech RIS implementation is predominantly sourced from foreign service providers and suppliers. In particular, the Waterway Directorate as implementing body for investment measures work together with external suppliers. Also Czech providers, e.g. research institutions, are involved in RIS development. They take part in RIS conferences.

The Czech Republic is represented in the relevant European RIS institutions. Representatives of the Ministry of Transport respectively State Navigation Authority are members of RIS expert groups. Moreover, the Ministry of Transport represents the Czech Republic in the RIS committee. The international exchange of experiences and development of standards are regarded as important for the RIS development by Czech officials. However, the participation in expert groups may require the participation in EU projects such as IRIS III, as otherwise no budget would be available.

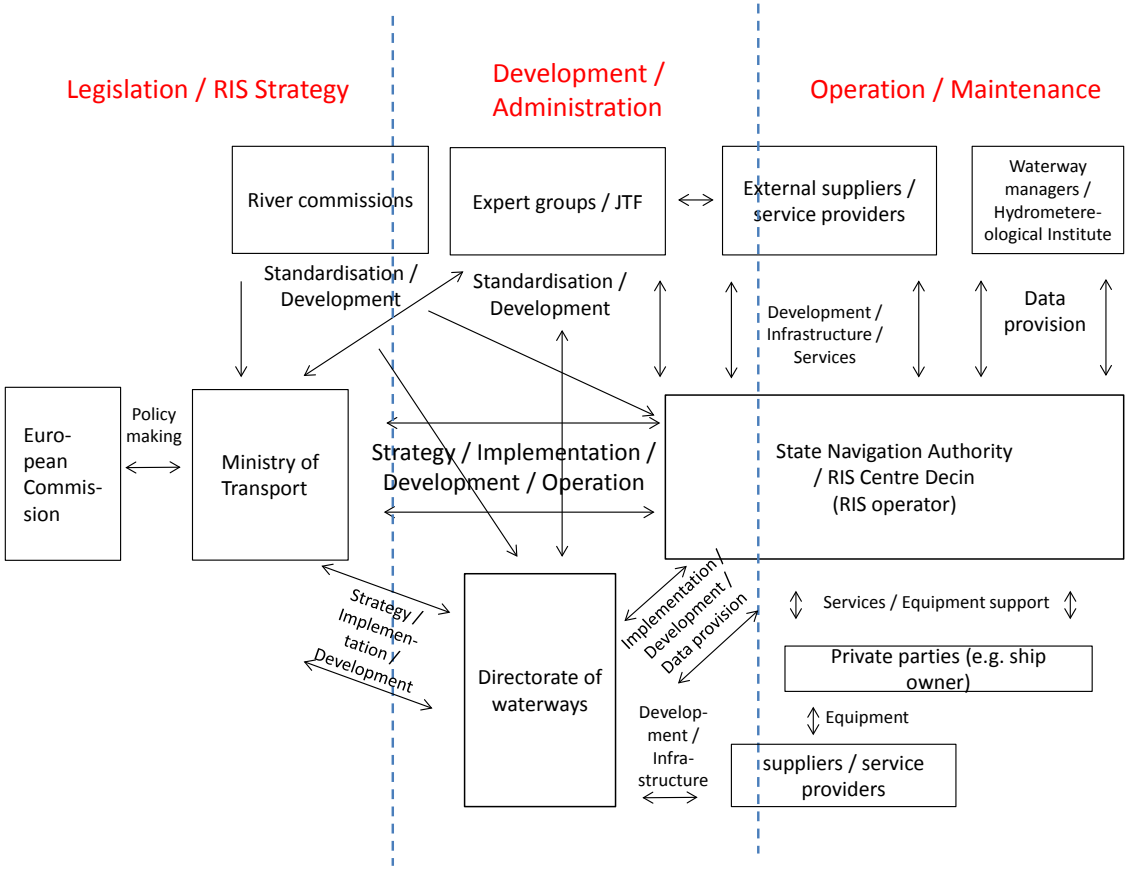
RIS organisations are financed by the public budget. The Ministry of Transport decides on the budget allocated to inland waterway department. The inland waterway department uses the budget for own activities and provide the budgets of the Waterways Directorate and the State Navigation Authority. The allocated budget is among others intended for RIS activities. Agencies are responsible for different tasks. For instance, RIS activities account for only 10%-20% of the work of the development department of the Waterways Directorate. RIS developments are usually co-financed by the EU. The European Regional Development Fund financed 85% of LAVDIS development and DGPS system installation. EU TEN-T programme contributed 50% of RIS developments within IRIS II and will do so for activities in the IRIS III project. The Czech financing part is provided by the State Transport Infrastructure Fund.

The limited RIS budget of Czech administration is predominantly used for operation. As regards to RIS developments an increase of RIS operation cost can due to decreasing public budgets only be accepted, if it is compensated by cost reductions related to RIS implementations.

Summary

The Ministry of Transport decides on RIS legislation and implementation strategy. Implementation work is mainly carried out by the Directorate of waterways, an agency of the Ministry of Transport. Another agency, the State Navigation Authority is responsible for RIS operation and non-investment related implementations. The authority has established its RIS centre in Decin. The Czech Republic is well represented in European bodies on regulative and expert level by Ministry officials and agency experts.

Figure Organisation of RIS in the Czech Republic



8.7 RIS projects

National RIS projects

Czech RIS activities started with a national project for the development of LAVDIS and implementation of selected RIS applications on Labe and Vyltava waterways. The implementation of LAVDIS was financed by the State Transport Infrastructure Fund (SFDI) and EU grants via the European Development Programme Funds (ERDF).Another national project related to RIS was the implementation of DGPS system with installation of a DGPS reference station. Currently, there are no national RIS projects ongoing in the Czech Republic.

Cross border RIS projects

The Czech Republic participated as cooperation partner in the IRIS I project. In the finished IRIS II the Czech Republic was an active partner. The Czech budget was planned with 2 mio. €, but only 1.7 mio. € was spent. 50% of the budget was granted by the EU using TEN-T funds. The distinction of tasks determines the participating party in the IRIS projects. The Ministry of Transport is in general the beneficiary. IRIS II applications in the Czech Republic focus on investment measures only, so that the Waterway Directorate is the implementing partner.

The IRIS II project contributed in the Czech Republic to the development of:

- implementation and upgrade of Notices to Skippers services
- Electronic reporting applications
- Integration of depth data in electronic navigational charts
- Interconnection of Czech vessel register with the European Hull database
- International data exchange
- Installation of WLAN hotspots for access to RIS services.

There have been additional evaluations of the IRIS II project by the EU, as regards the execution of intended activities. However, more evaluation is expected to follow. Following to IRIS III and the implementation of AIS the Czech Ministry plans to do separate evaluation of AIS.

The Czech Republic participates also in the successor project IRIS III. It is planned to spend 1.3 mio. € in the Czech Republic. It is co-financed with 50% by the EU using TEN-T funds. IRIS III includes investment and non-investment measures in the Czech Republic, so that both the Waterways Directorate and the State Navigation Authority are implementing partner. As investment measures the project plans to launch AIS and provide an interface for electronic processing of statistical data. The State Navigation Authority focus on qualitative measures to improve services related to ECDIS, Notice to Skippers and electronic reporting. Moreover, the maintenance of RIS index and its connection to the European Reference Data Management Service is planned. The timeframe of the IRIS III project is 2012-2014.

Synergy between EU-support programmes and national initiatives

Apart from the EU-supported projects there are no significant national RIS initiatives. However, EU-support and national RIS investment budgets are complementary. While projects are used for the development of solutions and pilot implementations, national budgets are used for the roll-out of RIS applications and RIS operation.

9 Austria

9.1 Inland shipping in Austria

Austria is an important gateway between Western and Eastern Europe transport network. Along the Danube inland waterway transport is a relevant mode. The Austrian fleet is rather small with 20 vessels and push boats. However, along the Danube push convoys account for a large share of waterway transport. 70 non-propelled barges belong to the Austrian fleet. 11 million tons are carried by inland waterway transport annually.
Inland waterway transport accounts for 2% of Austrian transport volume. International traffic dominates on the Danube. In this segment inland waterway transport has a stronger position with a market share of 5%. Inland waterway transport achieves significantly higher market shares beyond 10% only for bulk ore transport.
The Danube accounts for almost the complete network of navigable waterways with a length of 360 km. In contrast to other European countries, there are only a few small and medium sized Austrian enterprises in the market. Main Austrian service providers are four larger shipping lines.

9.2 Legal implementation of RIS

The Federal Ministry of Transport, Innovation and Technology with the Supreme Navigation Authority are responsible for RIS legislation and strategy. The authority has commissioned waterway operator via donau to develop and operate DORIS. There is a close cooperation and Austria is strongly represented in international RIS bodies on official and expert level. Apart from the Danube Commission, CCNR work is important, which Austria follows as observer. Apart from via donau, the Supreme Navigation Authority, other public agencies and lock operators contribute to information available on DORIS. Moreover, cooperation with inland ports regarding port related applications exist.

RIS was first considered by amendments of the Austrian Navigation Act in 2005. Since then, §24 is dedicated to RIS. In 2008, §24 of the navigation act was amended in correspondence with EU directive 2005/44/EC. Additional rules were added to cover EU provisions. §24 of the navigation act states RIS applications covered by EU legislation and refers to standards as well as technical specifications determined by §5 of EU RIS directive and related regulations. The waterway traffic regulation complements the navigation act regarding RIS regulations. The regulation was amended in 2008 and covers a few RIS related regulations with focus on AIS and vessel tracking & tracing. Main component of the amendments were the implementation of AIS transponder carriage and use obligation for vessels with a length >=20m and/or 12 persons on board. Since 2008, additional amendments have been realised to fine tune the law.

A detailed analysis of the legal transposition of the RIS Directive and its articles in the legislative framework of Austria is included in the Annex.

9.3 Technical implementation of RIS

a/Notices to skippers

Notices to Skippers are electronically available since 2003. After launch of DORIS, electronic notices are distributed via the DORIS portal. Fairway and traffic information, water related messages (water levels daily at 6.15 am) and ice messages (daily when applicable) according to NtS standard are available for download and e-mail subscription on the DORIS portal. Moreover, DORIS provides additional ice information and a daily overview of fairway information. Furthermore also operational are: EICEM (via donau Enhanced Ice Report – DE), WEICEM (via donau summary ice report – DE/EN), FWI (via dona fairway information overview – DE/EN).

Since 2007, Notices to Skippers are provided according to the standard. The obligatory messages are provided in full text, coded and xml (xsd version 2.8) format, FTM also in pdf format. Based on the coded message translation is implemented, so that messages are available in 12 languages.

International exchange of NtS messages is only implemented with Germany. German Notices to Skippers are available on DORIS and Austrian messages on the German system ELWIS. The exchange is implemented by a web interface since 2011. An exchange with Slovakia is in pilot operation and will become operational by 2014 at the latest. Moreover, there are links to web pages providing Notice to Skippers for other countries on DORIS.

b/Vessel tracking and tracing systems (Automated Identification System (AIS))

Shore based AIS infrastructure is available on all Austrian waterways of CEMT-class IV and above. Already in 2001, 40 km of river Danube was equipped with AIS. The AIS infrastructure was completed in 2005. 23 shore based AIS stations are installed along the Austrian Danube. The infrastructure allows ship-ship, ship-shore and shore-ship communication.

Aim of AIS implementation was a vessel information system with the opportunity to display the tactical traffic image. This requires the equipment of vessels with AIS transponders and its use. Since 2008 carriage and use of AIS transponders on-board is obligatory according to amendment of waterways traffic regulation.

During the AIS equipment programme, 450 AIS transponders were installed on inland waterway vessels. The programme managed by Via donau provided transponders at very attractive conditions. The transponder remained the property of via donau, was installed on the vessel and maintained by service partners for a deposit of 500 €. With end of the equipment programme, transponders became property of vessel owner conditional on waiving on the refund of the deposit.

The use of AIS information is legally limited by the RIS paragraph. Apart from authorities, position information is only available for users acknowledged by the vessel owner. However, private AIS information portals have used the signals for display of vessel positions.

c/Electronic ship reporting

Voyage reporting is obligatory for the transport of dangerous cargo in Austria. There is no reporting obligation regarding inland ports. Electronic reporting was the last implementation among Austrian RIS activities. A pilot for electronic reporting according to EU guidelines was implemented within the project IRIS. Pilot operation started in 2011 and provided the opportunity for standardised electronic reporting using a web portal or BICS software. ERINOT and ERIRSP messages are supported according to the standard. The application is operational since 2012.

There are no activities regarding implementation of BERMAN and PAXLST messages. BERMAN is no issue, it does not exist any reporting obligations in inland ports. PAXLST was considered to facilitate border control but due to the omission of border controls PAXLST messages are not an issue anymore. The provisions for international exchange of messages has been elaborated within IRIS I and II. However, a barrier for implementation of international exchange is the missing regulation of international data exchange.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

Electronic navigational charts are available for the entire Austrian Danube including the Danube canal, so that all waterways of class IV and higher in Austria are covered (330 km.). These charts are available since 2003, in the beginning without depth data. The charts have been elaborated by the Supreme Navigation Authority and via donau. While the authority is responsible for integration of navigation signs, via donau manage the geographical data. Charts of inland ports are available and have been developed by via donau jointly with ports. Inland ports were required to provide data and via donau elaborated the charts.

Charts according to European standard 2.0 and 2.1 are available free of charge on the DORIS portal (www.doris.bmvit.gv.at). There exist an opportunity to subscribe to a free mail service with information on chart updates. The charts provide depth information. Links are provided for the download of electronic navigational charts of other countries. Despite the availability, most users source costly charts from software provider.

A web portal which displays inland electronic navigational charts is available. The application was established within EU-projects D4D (Data Warehouse for Danube Waterways) and NEWADA (Network of Danube Waterway Administrations). This application provides some additional services and is available in seven languages. The charts include depth ranges, which allow calculating fairway data with a deviation of less than 10 cm based on water level information provided by NtS or via AIS. Charts are updated, when new information, e.g. depth data, is available.

e/Hull database

Hull database according to regulation 2006/87/EC and CR/2010/164 is implemented. The national hull database has been established in 2008. Together with other countries, Austria was a major facilitator of the European Hull Data Exchange, the Austrian Ministry of Transport, Innovation and Technology serves as depository of respective service agreement, via donau developed the

European Hull Database within the framework of PLATINA and is now operating the EHDB within a EC-financed contract.

f/RIS Index

All relevant objects according RIS Encoding Guide are encoded. Since 2011, reference data management is in operation but there is no web service yet with ERDMS. The Austrian RIS Index is uploaded by means of a manual upload function provided by the ERDMS.

The RIS index following regulation 164/2010 is in use. Moreover, the RIS index is used for Notices to Skippers and AIS infrastructure applications. An automatic link between RIS index and electronic navigational charts has been implemented. This contributes to a localised display of messages in electronic navigational charts.

Exchange with European Reference Data Management System has been implemented within IRIS I and II projects. Moreover, PLATINA has contributed to allow exchange by graphic user interface.

A short summary of the implementation of RIS and its main elements in Austria are given below:

Summary technical implementation of RIS elements in Austria

		Austria	
		Availability?	*When?*
Notices to skippers	Fairway & Traffic Messages (FTM)	Yes	Since 2003 available and according to latest NtS std. v 3.0; XSD v3.0 (XSD 2.8 via e-mail service),
	Water Related Messages (WRM)	Yes	Since 2003 available and according to latest NtS std. v 3.0; XSD v3.0 (XSD 2.8 via e-mail service),
	Ice Message (ICEM)	Yes	Since 2003 available and according to latest NtS std. v 3.0; XSD v3.0 (XSD 2.8 via e-mail service),
	Weather Related Messages (WERM)	No	
	Method of diffusion	Online portal or e-mail subscription	
AIS (obligatory in Austria)	AIS infrastructure	All Austrian waterways of class IV and above	2006
	On-board equipment	Complete fleet is equipped	
	Exchange	No, due to missing agreements between MS	

		Austria	
		Availability?	*When?*
Electronic reporting	ERINOT, ERIRSP	Yes	2012
	BERMAN and PAXLISTS	No	
	Exchange	No	
ENC	Coverage	Full coverage with respect to IV+ waterways	2003
	Provision free of charge	Yes	
Hull database	Exchange with European hull database	Yes	2012
	Vessels have an ENI	Yes	Unknown
RIS index	Correct use	Yes	
	Synchronization with ERDMS	Yes	2011
Traffic management		No plans for traffic management	
On board equipment	AIS equipment	Obligatory to use AIS transponder	
	ERI		

9.4 Other characteristics of RIS implementation

Austria has transposed EU RIS directive in national law and is one of the driving countries for RIS implementation in Europe. A wide range of RIS applications has been implemented and are provided with a high quality standard. The extensive consideration of RIS in the National Action plan Danube states the relevance of services for Austria.

The Austrian Navigation Act[1] has been amended in 2005 laying the foundations for the application of RIS.[2] In 2008, RIS regulations of the navigation act have been extended corresponding to the EU RIS directive.[3] Subsequently, minor amendments were carried out for fine tuning. Some provisions of the directive, in particular those with relation to AIS carriage and use respectively vessel tracking & tracing, were transposed in the Waterways Traffic Regulation[4]. It was amended in 2008 with the implementation of an AIS carriage and use obligation.[5]

DORIS (DOnau River Information Services) is the Austrian RIS system. The DORIS web portal provides access to Austrian RIS applications and other useful information. The ambitious DORIS development is underlined by the expectation

[1] Austrian Navigation Act - BGBl. I Nr. 62/1997 amended by BGBl. I Nr. 9/1998, BGBl. I Nr. 16/2000, BGBl. I Nr. 65/2002, BGBl. I Nr. 102/2003, BGBl. I Nr. 41/2005, BGBl. I Nr. 123/2005, BGBl. I Nr. 78/2008, BGBl. I Nr. 17/2009, BGBl. I Nr. 111/2010 und BGBl. I Nr. 50/2012

[2] Amendment of the Austrian Navigation Act, BGBl. I Nr. 41/2005.

[3] Amendment of the Austrian Navigation Act, BGBl. I Nr. 78/2008.

[4] Waterways Traffic Regulation, BGBl. II Nr. 289/2011 amended by BGBL. II Nr. 410/2011 and BGBl. II Nr. 81/2012 and BGBl. II Nr. 60/2013.

[5] Amendment of the Waterways Traffic Regulation, BGBl. II Nr. 186/2008.

of 2006 published National Action Plan Danube, that DORIS will be the first operative RIS implementation to comply fully with the requirements of the EU RIS directive. Development of DORIS and related applications still have a high priority, as it is regarded to be an important factor for the strengthening of the Danube corridor. Austria supports the development of RIS in other Danube countries extensively.

The main focus of the DORIS development was the implementation of AIS along the Austrian Danube and a vessel traffic information system. Austria is the first country with carriage and use requirement of AIS transponders on board vessels. Vessels are tracked and traced and the traffic is visualised on electronic navigational charts providing extensive navigational information.

A missing agreement between member states to exchange position data international is a major limitation for the exploitation of AIS information. Austria is among the driving forces with respect to preparation of the international exchange of AIS information. As participant of the IRIS II project Austria worked on the implementation of the European Position Information System (EPIS). The work on international data exchange is continued in the IRIS III project.

In Austria, a large number of RIS projects have been carried out and are ongoing. A milestone of RIS development in Austria was the implementation of DORIS in 2006. The national DORIS development was co-financed by EU TEN-T funds. This included the AIS transponder equipment programme.

9.5 Conclusions

Austria implemented the RIS Directive in paragraph 24 of the Austrian Navigation Act by 4 June 2008 (amendment in correspondence with the Directive) although the Austrian Navigation Act had already been amended in 2005 laying the foundations for the application of RIS. Transposition in 2008 is however later than the required date of the RIS Directive implementation scheme. The technical implementation of the RIS applications are all according the implementation scheme of the technical guidelines.

It must be mentioned that AIS is obligatory in Austria which goes beyond the requirements of the Directive. Main reason for the AIS obligation is that the total benefit of AIS and its applications can only be realised - according the Austrian representatives - if the complete fleet is equipped. This in contrast with the use of ECDIS (which has not become obligatory) as it was assumed that each skipper/ship owner have only a direct benefit of its use so it is up to them to decide whether or not to purchase this equipment.

9.6 Organisational structure of RIS implementation of Austria

The **Federal Ministry of Transport, Innovation and Technology** is the legislative body for RIS in Austria. The **Supreme Navigation Authority** is the responsible department of the Ministry for inland navigation and RIS-authority. Jointly with the waterway manager, its subsidiary **via donau**, the Supreme Navigation Authority elaborates the RIS strategy and develops RIS applications. There exists a close collaboration regarding RIS development. DORIS is a result

of the joint work. The implementation of the system was commissioned to an IT service provider.

Via donau manages the implementation of RIS in Austria. DORIS was launched in 2006. via donau operates the system according to the Federal Waterways Act[1] and is RIS provider in Austria. Via donau maintains and develop the system as well as provide some information. The Supreme Navigation Authority uploads NtS directly to the portal. Moreover, other public agencies and lock operators provide information. Port related RIS applications are carried out either by via donau or the Supreme Navigation Authority. Via donau's RIS activities are separated in an operational unit and the strategic & innovation department. Latter works among other on RIS strategies and innovations for Austria and on European level. Both, via donau and Ministry officials are very active in the RIS development on European level. Austria is represented in all RIS expert groups and other RIS platforms. Moreover, Austria is a driving force of RIS activities in the Danube Commission and the related GIS Forum. In general, Austria contributes to RIS development in other Danube countries.

On national level the Supreme Navigation Authority and via donau communicate regular with industry representatives regarding RIS. For instance, RIS days are organised to discuss developments with the IWT industry. Moreover, operators and administration jointly work on projects regarding RIS related applications.

RIS belongs to public service obligations of via donau. For all public service obligations via donau is compensated per year by the Federal Ministry of Transport, Innovation and Technology. The Federal Waterways Act gives an indication with a volume of 5.5 mio. €. The actual compensation may be higher corresponding to requirements and deviates from year to year. For instance, alone operating expenses for DORIS operation and information services amounted to 2.7 mio. € in 2009.[2] Additional funding for RIS implementation and development is project related from national and EU programmes. RIS development is mainly carried out within EU projects with co-financing. Complementary to development operation is financed nationally.

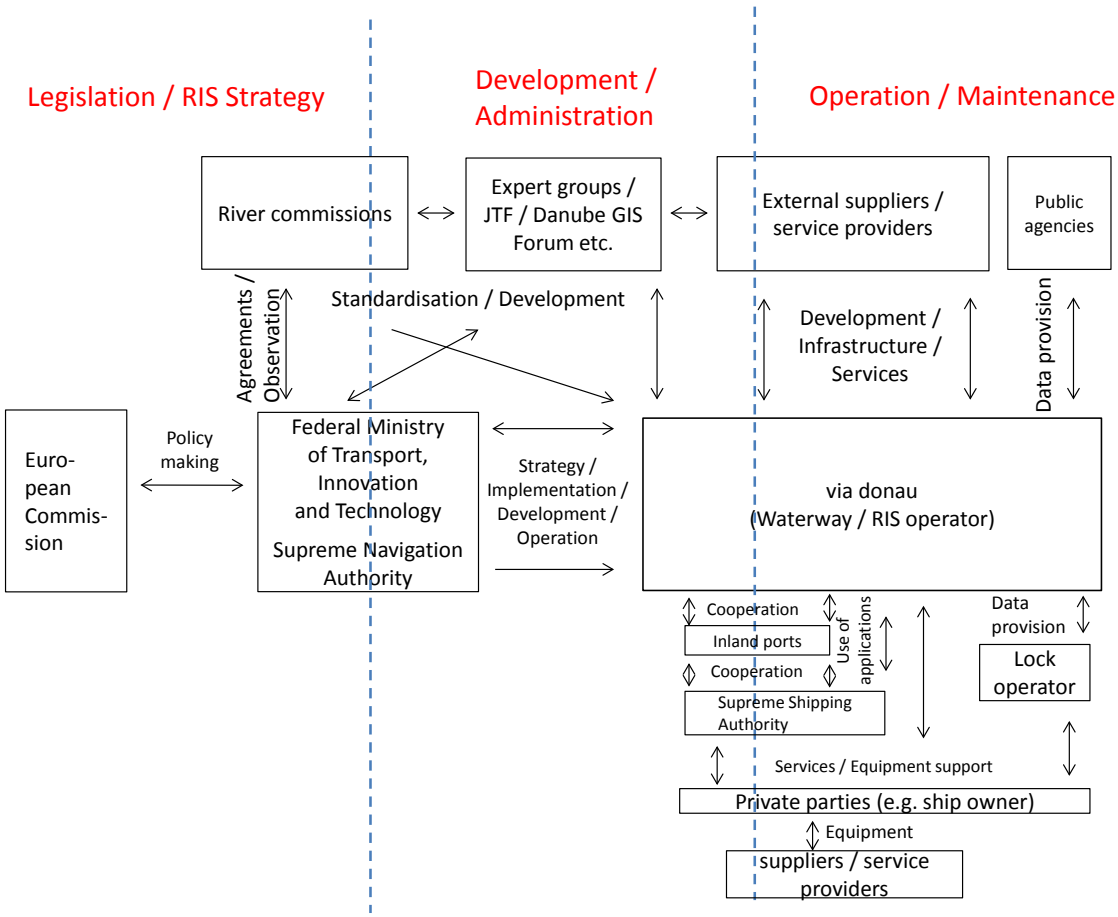
Summary

The Federal Ministry of Transport, Innovation and Technology with the Supreme Navigation Authority is responsible for RIS legislation and strategy. The authority has commissioned waterway operator via donau to develop and operate DORIS. There is a close cooperation and Austria is strongly represented in international RIS bodies on official and expert level. Apart from the Danube Commission, CCNR work is important, which Austria follows as observer. Apart from via donau, the Supreme Navigation Authority, other public agencies and lock operators contribute to information available on DORIS. Moreover, cooperation with inland ports regarding port related applications exist.

[1] Federal Waterways Act - BGBl. I Nr. 177/2004 amended by BGBl. I Nr. 97/2005 und BGBl. I Nr. 111/2010, Art. 10.

[2] See NEWADA, Status quo report on waterway administration, via donau, 2010.

Figure RIS organisation in Austria



9.7 RIS projects

National RIS projects

In Austria, a large number of RIS projects have been carried out and are ongoing. A milestone of RIS development in Austria was the implementation of DORIS in 2006. The national DORIS development was co-financed by EU TEN-T funds. This included the AIS transponder equipment programme.

Currently running is the National Action Plan Danube. Since 2007 the measures are part of the transport policy programme of the Federal government. The National Action Plan considers one pillar related to RIS. In 2008 and 2010, progress reports were published. The RIS related aims of the project are:

- Continuation of RIS implementation
- User-orientated RIS development
- Development/Enhancement of RIS applications
- Implementation of RIS along Danube
- Measures include:
- Installation AIS infrastructure and equipment of vessels with transponders
- Application of international standards
- Continue operation of RIS test centre
- Communication of RIS to existing and potential users
- Support for implementation of Transport Management services

The support programme “i2 key project – innovative inland navigation“ supported RIS development between 2003 and 2007. The focus of sub activities was coordinated by the Federal Ministry of Transport, Innovation and Technology. Among others, as pilot some value added services were implemented. For instance, use of RIS data to improve logistics and RIS integration of inland ports. IDEAL is another project, which analysed opportunities regarding non-motorised barge position identification. Also legal aspects of the use of RIS were analysed in one of the programme’s projects.

Another national framework programme with connection to RIS is the IV2Splus “Intelligent traffic systems and services plus”. The project was managed by the Federal Ministry of Transport, Innovation and Technology. TRIUMPH (Trimodal Transhipment center Port) is a subproject with application of RIS, which runs from 2011 to 2013. The focus is on information management of ports to facilitate intermodal transport chains. Via donau and Port of Ennshafen are among the four partners in this research-orientated project. The main objective with respect to RIS is the optimisation of intermodal logistics and transhipment using DORIS and other mode’s IT-systems. Static and dynamic vessel information should be transmitted to contribute to more efficient port operation and better information of logistic service providers regarding empty container positioning by barge.

In 2008, the project “DoRIS + IALA (Beacon) DGPS Performance Monitoring” with EU TEN-T contribution implemented DGPS Performance Monitoring in Austria according to IALA standard.

Apart from projects regarding the implementation and operation of RIS, on national level also technology orientated studies and research are carried out. via donau was involved in the projects NAVWAT, SATVeC and ARIADNA. The project NAVWAT - Future High Precision Navigation System for Inland Waterways (2009-2010) focused on the requirements of positioning system for support of skippers in critical areas. The project was funded by national support programme. The project SATVeC (2008-2009) focused on requirements for GNSS supported automatic vehicle control. ARIADNA (2009-2012) aimed to investigate the application of a new volumetric navigation system based on aviation know-how for collision avoidance and efficiency enhancements.

Cross border RIS projects

The participation of via donau in multinational RIS projects has tradition. Austria was among participants of the Compris technology project between 2002 and 2005, which contributed to implementation and harmonisation of RIS in Europe. A focus of Austrian activity was the harmonisation of its RIS applications with other Danube and Western European countries. The projects are agreed on by the Supreme Navigation Authority and via donau.

Austria is very active in the harmonised implementation of RIS in the Danube states according to the RIS Master plan. Several projects with Danube and other countries were carried out for RIS implementation. The international activity of Austria is related to objectives of the National Action Plan Danube. The plan includes the following measures:

- Maintain via donau as European RIS know-how platform and transfer know-how to other (Danube) countries in order to support RIS development
- Support of non-EU Danube countries to acquire funding for RIS development

- Implementation of twinning projects with authorities of other Danube countries

The TEN-T IRIS projects under the lead of via donau and the Austrian Federal Ministry of Transport, Innovation and Technology are the most important projects regarding RIS implementation. IRIS I and IRIS II EU TEN-T co-financed projects, which contributed to RIS implementation and standardisation in Austria and other European countries. IRIS I run over 36 months between 2006 and 2008. The 4.1 mio. € project with 50% co-financing by EU TEN-T focused on several aspects of RIS implementation in the six participating countries. Austrian parties are the Ministry of Transport, Innovation and Technology as beneficiary and via donau as the implementing partner. Austrian achievements include:

- Electronic reporting standard (input via BICS or graphical web user interface)
- National hull data management infrastructure according to directive 2008/87/EC
- ENI number assignment
- Infrastructure for international exchange of RIS data (AIS, ERI, hull data)
- First steps towards technical and administrative agreement regarding international data exchange
- Traffic data exchange with Hungary and Slovakia
- Innovative calamity abatement: implementation of NOT_Emergency message
- Feasibility of AIS transmission and Tracking & Tracing barge identification (pilot service)

The project activities were extensively communicated by different means to stakeholders and the European RIS community. The project activities were evaluated internally. The European commission evaluated the project work with respect to the intended activities.

IRIS II was the successor project. This 11.6 mio. € EU TEN-T project with 50% co-financing by the EU run from 2009 to 2011. The Austrian Federal Ministry of Transport, Innovation and Technology as beneficiary and via donau as implementing body were among the partners from 9 participating countries and 4 partner countries. Activities of IRIS II include:

- Pilot implementation of selected Fairway information services
- Provisioning of actual depth information and water levels
- Enhancement of Notices to Skippers
- Wireless RIS service
- Additional Traffic Information Services
- Pilot implementation of selected Traffic Information Services
- Heading information
- Enhancement of pilot infrastructures (on shore / on board)
- Calamity Abatement Service
- Advanced Services for governmental and logistics RIS users
- Interconnection to European Hull Database
- International RIS Data Exchange among Governmental Services
- European Position Information Service
- Reference data management and international exchange (R2D2)
- Legal agreements
- Quality of RIS applications

The focus of IRIS II for Austria was on international data exchange, standardisation and technical specification of applications. Austria worked on the following

- Improvements for depth data provision in ENC
- Enhancement of NtS applications, e.g. user survey
- International exchange of NtS
- Enhancement of electronic reporting standard
- Web service interconnection to European Hull database
- Interconnection of national hull database with EHDB
- Pilot operation of international data exchange with Hungary and Slovakia (AIS, ERI, hull data)
- National reference data (Inland ENC – RIS index converter) and interconnection to European reference Data Management Service (ERDMS)
- Pilot infrastructure for calamity abatement support
- Pilot implementation of additional services transmitted by AIS, e.g. water level, light signals, emergencies, convoy
- Technical and administrative agreement for data exchange

IRIS II project activities were evaluated internally and the EU evaluated the work programme.

Recently started the EU TEN-T project IRIS III, which is another successor project of the IRIS initiative. This 10.5 mio. € project with 50% EU co-financing runs from 2012 to 2014. 7 countries participate actively and further 7 countries are cooperating in activities. Austria is represented by the Federal Ministry of Transport, Innovation and Technology as beneficiary and via donau as implementing partner. General objectives of the IRIS III project are:

- Continuation of RIS implementation
  - International data exchange
  - RIS applications and enhancements (e.g. FIS, Traffic and Transport information services, information services for logistics and authorities)
- Implementation of Quality of information Services for RIS

Austrian partners participated in the RISING (RIS Services for Improving the Integration of Inland Waterway Transports into Intermodal Chains) project between 2009 and 2012. The focus of the EU framework programme FP-7 (TREN) was on transport-logistic services including seamless traffic and transport-related information and interfaces. 5.3 mio. € of the 7.5 mio. € project budget was granted by the EU. River information services assisting logistic enterprises, port and terminal operators and fleet operators were addressed regarding the following applications:

- Event management
- Voyage planning
- RIS services for transport and logistics

RISING activities in Austria include the development of logistic applications such as the facilitation of transport monitoring by integration of RIS traffic information in internal logistic application.
via donau was involved in several projects focusing on the development of the Danube corridor. The Transnational cooperation programme project NEWADA (Network of Danube Waterway Administrations) aimed to strengthen the collaboration between waterway authorities along the Danube corridor between 2009 and 2012. The project volume of 2.9 mio. € was co-financed with 85% by

ERDF of the EU. Among others RIS activities were included in the project. RIS related achievements focused on the development of a Danube FIS portal with multinational information such as FIS data and harmonised ENC. The work is continued in the successor project NEWADA Duo. Harmonised RIS development along the Danube corridor is also considered in the DAHAR project, which is supported by the EU under the South East Europe Transnational Cooperation Programme. The project with a focus on ports runs from 2011 to 2014. Port of Ennshafen is participating Austrian partner and via donau is associated strategic partner.

Already between 2001 and 2006 the EU Interreg project D4D (Data Warehouse for Danube Waterways) contributed to the development of electronic navigational charts along the Danube and their provision on an inland ENC web portal. Moreover, D4D contributed to the installation of dGPS transmitters.

The EU Interreg project DANewB Data (Digitally Advanced New Cross Border Exchange of Data) contributed to the implementation of RIS along the Danube corridor, too. It focused on a coordinated RIS implementation of Danube countries with harmonised cross-border applications.

via donau participated in some international technology projects related to the development of RIS technologies. Between 2005 and 2007 M-Trade (Multimodal TRAnsportation supporteD by EGNOS) investigated multimodal tracking & tracing opportunities by the European DGPS system EGNOS. Moreover, they participated in projects such as Mar-Use to analyse the potential by implementation of EGNOS and Gallileo in inland navigation. Another project focuses on the opportunities to apply long wave systems for RIS. The technology orientated projects were co-financed by ESA and EU (FP6, FP7, Interreg 3B).

Synergy between EU-support programmes and national initiatives

There are complementarities between TEN-T programmes such as IRIS and the activities financed by the Federal Ministry of Transport, Innovation and Technology and via donau. This is realised, as a large part of RIS development is carried out within TEN-T projects. It does not exist a separate national programme for RIS implementation. Regarding RIS developments the financing of operation after the implementation is ensured. With respect to logistic applications there is a synergy between EU projects such as RISING and national programmes. Regarding projects of other EU programmes such as Interreg there is less synergy with national initiatives. However, usually there are synergies with other EU-projects. The participation of via donau in most of the projects contributes to a realisation of synergies. All EU-projects correspond with national initiatives such as in particular the National Action Plan Danube.

10 Hungary

10.1 Inland shipping in Hungary

Landlocked Hungary is situated entirely within the heart of the Danube basin. The navigable waterways in Hungary comprise an overall length of 1,688 km. Commercial navigation mainly exists on the river Danube and to a very small extent on the Tisza River. Inland waterway transport has a modal share of about 4% in Hungary.

The predominant vessel formation employed by Hungarian shipping companies is the pushed convoy and in this respect the port of Komarom (Hungarian-Slovak border) is of utmost importance for navigation on the Danube. The Hungarian IWT sector comprises several shipping companies of different sizes and with different specializations in regards to the services they provide. Most of the existing companies are somehow connected to the formerly state-owned Mahart Company.

10.2 Legal implementation of RIS

In Hungary the following RIS related regulations are relevant:

- Government Decree 219/2007 on River Information Services (RIS)
- Ministry of National Development Decree 45/2011. (VIII. 25.) on the professional and operational rules of river information services

Other waterway transport related regulations are:
Act XLII of 2000 on waterway transport

- Ministry of National Development Decree 57/2011. (XI.22.) on waterway transport
- Government Decree 312/2011. (XII. 23.) on the monitoring of dangerous cargo transport done by the professional disaster management organization on rail and inland waterways

Regarding the other RIS related regulations of EU, it can be stated that only the AIS usage is obligatory and governed by the Ministry of National Development Decree 45/2011. (VIII. 25.).

The implementation of RIS Directive has been done only for the Danube. River Tisza is Category IV up to Csongrád but it is not international waterway (just used by neighbouring nations on bilateral agreements) and has no connection to international waterways within Hungarian borders. Hence implementation of RIS on Tisza is not obligatory for Hungary. (It should also be noted that the traffic and the volume of transport justifies this neither.)

A detailed analysis of the legal transposition of the RIS Directive and its articles in the legislative framework of Hungary is included in the Annex.

10.3 Technical implementation of RIS

a/ Notices to skippers

The test implementation of the standardised Notices to Skippers (XSD version 3.0) is available at http://www.pannonris.hu/. The WRM and ICEM implementation is operational since 2011. The pilot implementation was the subject of the IRIS Europe II project. The Hungarian National Transport Authority (NTA) is in the final stage of the implementation of its new IT system: Shipping Information System (HIR). Notices to Skippers (FTM) will be integral part of this system. After the exact setup, NTA will forward the FTM messages to the PannonRIS system.

The information will be displayed on the PannonRIS website, where several types of display will be available. Connection is established between the Hungarian hydrological institution and the RIS Centre to receive water level and ice information. Weather related messages (WERM) are expected in 2014. Notices to skippers will be available in PDF, email and XML format. The international NtS data exchange will work in 2013, including FTM, WRM and ICEM. These upgrades are planned in the IRIS Europe III project.

b/ Vessel tracking and tracing systems (Automated Identification System (AIS))

The minister of national development has issued the 45/2011 ministerial decree on the professional and operational requirement of RIS in Hungary. This decree makes the use of AIS mandatory from 1st September 2011 for Hungarian vessels and from 1st January 2012 for all vessels – according to the Danube Commission recommendation.

To support the sector and to ensure smooth introduction of the above requirement regarding the AIS usage, the Hungarian Government (the Ministry of National Development together with the National Transport Authority also as RIS Operator and RSOE as RIS Provider) purchased 150 state-owned Inland AIS transponders within the framework of the IRIS Europe II project. 145 are fixed ones, while 5 are mobile ones. Of the purchased transponders, 128 were installed on various vessels sailing under the Hungarian flag (installations were based on tendering, with the tender having been supervised and issued by the National Transport Authority). Waterway authorities have received 10 transponders, while water police units have been equipped with 3 units. The remaining 9 transponders are kept in reserve for the instances when temporary usage is necessary (e.g. installation on ice breaker vessels) (status as of January 2013). Another equipment program is planned to take place in the IRIS EUROPE III project regarding the Inland ECDIS viewers. The Hungarian project stakeholders plan to purchase pilot on-board application for navigational support displaying new AIS messages. According to the current planning the software and the respective map licenses will be purchased in an open tender, the hardware will have to be provided by the end users.

International data exchange of AIS information has been tested with dummy and real data in 2011-2012. The system is not in operation yet, due to missing international agreement between Danube riparian countries on state level. However, from May 2013 operation of the AIS info exchange is planned to take place with real data in the framework of the IRIS Europe III project.

c/Electronic ship reporting

The transposition of the Commission Regulation (EU) No 164/2010 is ongoing in Hungary. Hungary has also taken part in the IRIS Europe II, within which the upgrade of the data gateway and other solutions have taken place. This infrastructure is currently under development and tested. Interconnection tests and pilot operation have been carried out in 2011 with regard to the ERINOT and ERIRSP messages, and in 2012 concerning PAXLST. BERMAN message will be tested in IRIS EUROPE III in 2013 in case that the relevant XSD will be available.

There is no electronic reporting obligation regarding inland ports, only vessels transporting dangerous goods on the River Danube entering Hungary are obliged to report. The information is currently registered at Radio NAVINFO in a database and an ID number is issued to the skipper to be noted in the logbook. Meanwhile a form is sent to the National Transport Authority via e-mail.

International data exchange with Croatia and Slovakia is currently in a test phase.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

Charts are available at www.pannonris.hu free of charge for the whole Hungarian Danube since 2009 (full coverage of 379 km.). As they were produced based on surveys from 2005-2007, the current version is according to the Inland ECDIS standard 1.02. Development and upgrade of the vessel tracking/replay module is underway to standard 2.1. The charts are not yet provided to a RIS Portal.

However, as the technical specification of ENCs is still missing there is neither force to produce better/newer charts nor the possibility due to lack of budget. Navigational charts can be produced in a technical manner by the Water Management Directorate. Unfortunately this party is supervised by the Ministry of Interior, but issuing navigational charts is the responsibility of the Ministry of Rural Development, the Minister of State for Environmental Affairs, according to the 219/2007 Decree (current situation, 2013). On the other hand, the charts can not be fully used for navigational purposes, since necessary information for safe navigation (such as depth and other fairway data) is missing.

e/Hull database

The National Transport Authority is responsible for the management of the already existing national Hull Database. However, vessel certification data exchange with other vessel certification authorities and RIS Authorities would only be possible after the full legal framework regarding user rights, data protection, etc. will be set up. Due to this, Hungary has not yet uploaded vessel data to the European Hull Database. On the other hand, in Hungary a test operation of data exchange via a web service was carried out during the IRIS EUROPE II project.

In Hungary the assignment of unique hull numbers has started in 2002, the numbering was according to the CCNR regulations. The assignment of ENIs to vessels according to 2008/87/EC is continuous from 2008. All the vessels participating in the international transportation have already received its ENI number. To vessels used in domestic shipping ENIs have assigned in the system,

however it will be issued for the vessel operator after the renewal of its certification documents.

f/RIS Index

Half of the applicable top priority objects of the national RIS Index have been added to the system. Data exchange with regards to RIS Index has been tested in 2011, but EU regulation regarding this has not been implemented. Hungarian experts made high efforts to elaborate the 1p0 version of the RIS Index Encoding Guide in the so called Joint Task Force. Based on this documentation the draft version of the Hungarian RIS index (version 0.7) will be updated in the IRIS III project.

A short summary of the implementation of RIS and its main elements in Hungary are given below:

Summary technical implementation of RIS elements in Hungary

		Hungary	
		Availability?	*When?*
Notices to skippers	Fairway & Traffic Messages (FTM)	Almost	2013
	Water Related Messages (WRM)	Yes	2011
	Ice Message (ICEM)	Yes	2011
	Weather Related Messages (WERM)	No	Expected in 2014
	Method of diffusion	Online portal or e-mail subscription	
AIS	AIS infrastructure	Yes	
	On-board equipment	Yes	
	Exchange	Will start within IRIS III project	2013
Electronic reporting	ERINOT, ERIRSP	Yes	2012
	BERMAN and PAXLISTS	No	
	Exchange	No	
ENC	Coverage	Hungarian Danube	2009
	Provision free of charge	Yes	
Hull database	Exchange with European hull database	No, due to legal framework	
	Vessels have an ENI	Yes	2008
RIS index	Correct use	50%	
	Synchronization with ERDMS	No	
Traffic management		Lock management is not applicable for Hungary	
On board equipment	AIS equipment	Obligatory to use AIS transponder	
	ERI		

10.4 Other characteristics of RIS implementation

The development of the legal framework in Hungary is successful: the regulations in force are transposed well. However, in the field of international data exchange, Hungary still cannot accept the draft version of EU proposal with respect to the data exchange (especially with regard to the management of user rights).

10.5 Conclusions

The transposition of the RIS Directive into the Hungarian legislation was on 15 August 2007. The technical implementation of RIS applications is ongoing, especially with regard to the electronic ship reporting. Notices to skippers are being upgraded within the IRIS III project although the recent version works according to the standards. Also the RIS Index will be upgraded within the framework of this IRIS III project. Hungary does not exchange hull data with third countries as this would only be possible after the implementation of a full legal framework regarding user rights and data protection.

Like in Austria, also Hungary made the use of AIS obligatory. The main objectives of the requirements are the safety of navigation and the environmental protection reasons, next to statistical and law enforcement reasons. AIS information can also be decisive factors when investigating accidents and incidents. There are already benefits of the system: in Hungary dangerous cargo transporting vessels do not have to report via VHF at the former 10+ reporting points, but only when entering or leaving at the country and at port of departure/destination."

10.6 Organisational structure of RIS implementation in Hungary

In Hungary RIS activities are supervised by the **Ministry of National Development**. The Ministry is organised as follows: Minister – Minister of State for Infrastructure – Deputy State Secretary of Transport – Department for Air Traffic and IWT – Department for Inland Waterway Transport. The Ministry's tasks are:

- the preparation of a national transport strategy;
- policy making
- ensuring transport safety

The Ministry regulates the RIS related activities by the Waterway Act, Governmental Decree on RIS, Ministerial Decree on the professional and operational rules of River Information Services.
Regarding the enforcement of these regulations the **National Transport Authority** (NTA) is acting as RIS Authority and Operator. Its main tasks are:

- Information provision towards the stakeholders in IWT
- RIS operation
- Participation in the RIS expert groups and in the RIS Committee

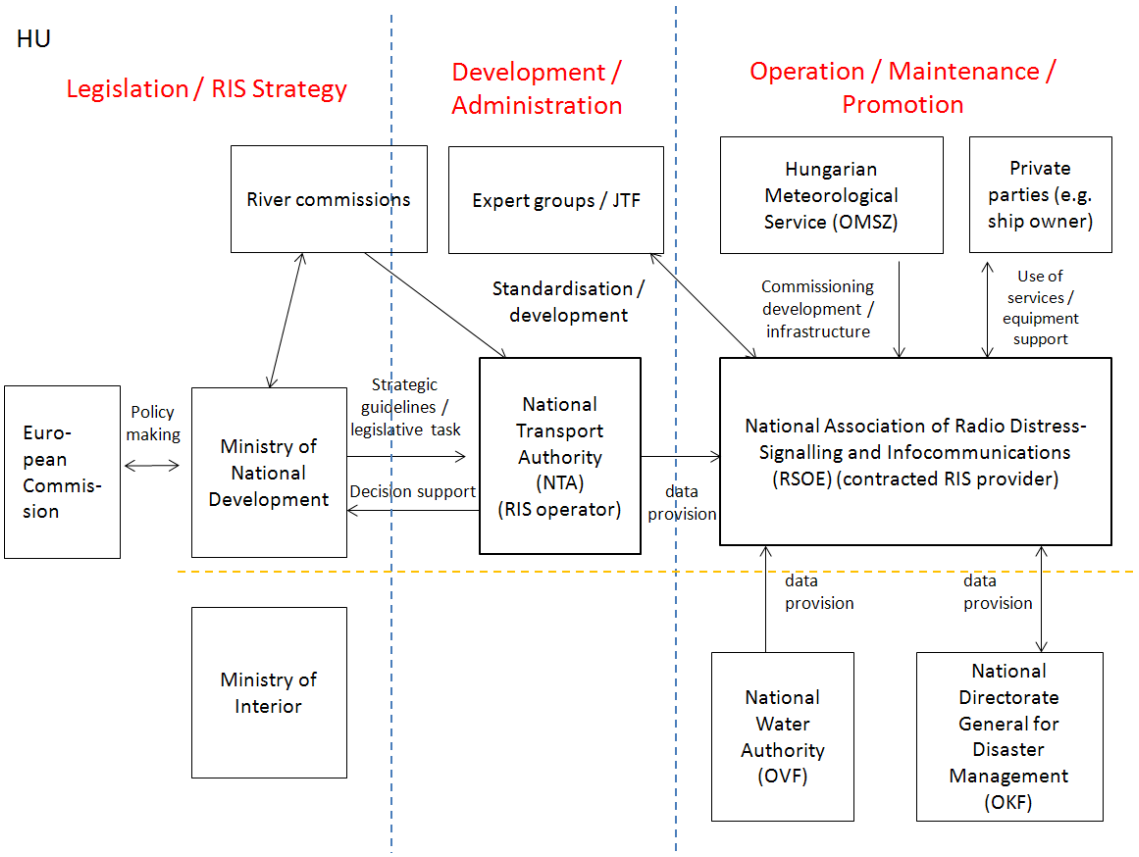
There are several sub-authorities within NTA, the Shipping Authority is responsible for the following RIS related tasks:

- Issuing Notices to Skippers and Notices to Mariners
- Representing the interest of the Hungarian Shipping Authority in national and international organisations and bodies;
- Regulating navigation temporarily
- Keeping the registry of vessels, issuing their international signs and official identification numbers;
- Issuing type approval of floating establishments vessels as well as equipment
- Issuing certificates for vessels transporting dangerous goods
- Licensing navigation activities, operation of pleasure crafts and boats powered or propelled by internal combustion engines in designated areas under restrictions (like for example Lake Balaton), cabotage as well as traffic under a third-country flag,
- Responsible for the operation of River Information Services
- Controlling the RIS operator

The NTA has a 7/24 Dispatcher Centre for controlling IWT on the Danube. The physical infrastructure is state-owned, but the Centre is operated by the **National Radio Distress-Signalling & Info Communication** (RSOE). RSOE, as contracted partner of NTA is the RIS operator in Hungary providing the River Information Services, participates in the RIS Expert Groups, project development and management. RSOE is responsible for most of the RIS related activities on operational level. The Ministry and NTA has its budget from the state, RSOE has a contract for RIS operation with NTA.

Other involved parties in Hungary are the National Water Authority (OVF), Hungarian Meteorological Service (OMSZ) and the National Directorate General for Disaster Management (OKF). OVF is responsible for the provision of water related information. OMSZ provides weather information. However, at this moment there is no official agreement between the RIS operator and OMSZ with regard to the weather related messages. According to the Government Decree 312/2011 (XII, 23) OKF is responsible for the control and monitoring of dangerous cargo transport. Hence, when transporting such goods, the shippers are obliged to report to OKF. In case of waterway transport a report should be sent to NTA's RIS Dispatcher Centre which replaces the message to OKF.

Other parties interested in the RIS implementation in Hungar are the skippers/shipping companies/cargo shippers. They need reliable and proper information on navigation circumstances, fairway conditions for their voyage planning, predictions and safety. However due to a lack of budget they only use the obligatory equipment of RIS (AIS transponder).



10.7 RIS projects

National RIS projects

There are no national RIS-related projects in Hungary, everything is/was implemented in the international projects and initiatives and co-funded partly from national budget and partly from EU resources.

Cross border RIS projects

COMPRIS

RSOE introduced an operational test platform of River Information Service (RIS), ship-to-ship and ship-to-shore demonstration (WP10) and made plans for the implementation of RIS (WP11) in Hungary.

IRIS Europe

Newly developed RIS Services such as traffic and transport information exchange (data gateway, ERI, AIS applications), hull data exchange and calamity abatement service have been validated by means of pilot installations. In Hungary the project has been implemented in close co-operation between the Ministry of Economy and Transport and RSOE.

IRIS Europe II

IRIS Europe II was making use of the well-working platform of the TEN-T project IRIS Europe to address issues focusing on further enhancement and fine-tuning of RIS key technologies, services and applications; the implementation of new

harmonized and interoperable RIS Services. The most important outputs in Hungary were:

- the roll-out of an Inland AIS subsidy programme
- elaboration and start of the new PannonRIS web portal
- upgrade of the data gateway

IRIS Europe 3 (running)

Hungary is also taking part in this project. The Hungarian Ministry of National Development and the relevant Hungarian stakeholders plan to upgrade the PannonRIS infrastructure in the IRIS Europe 3 project. This includes software and hardware elements that contribute to increase the quality and security of services. Participation in the works of the four RIS Expert Groups and their subgroups are also part of the project. The start of the operational international RIS data communication is planned in the project. One of the main elements of the project is the purchase of Inland ECDIS viewer applications that can be provided to the skippers under similar conditions as used in the IRIS Europe II project in case of the Inland AIS transponders.
(As in all TEN-T projects, the beneficiary is the Ministry responsible for transport (now it is Ministry of National Development). At the time of writing the contract is missing between the Ministry and a party that can/should carry out all the project-related tasks. However, for Hungary, the possible partner is RSOE.)

RISING

RSOE, as the RIS operator in Hungary extended the Hungarian river information services for shipping companies, ports and logistic actors, by means of e.g. a fleet management application.

PLATINA

RSOE contributed to the establishment of the European Hull Database and took part in the standardization activities, by means of RIS Reference Data.

DANewBE Data

RSOE was responsible for the elaboration of a DGNSS feasibility study for navigational purposes and for the monitoring of the Austrian DGNSS station besides the electronic exchange of river data. RSOE organized also the dissemination conference in Budapest.

NEWADA

The NEWADA project aimed at increasing the efficiency of the Danube as the European Transport Corridor VII by intensifying cooperation between waterway administrations. In this project RSOE was responsible for the management of two work packages, one of which is dealing with tasks related to knowledge management and dissemination and the other related to ICT tools and services (exchange of water level information, WLAN service etc.)

NEWADA duo (running)

The main objectives of NEWADA duo are:

- Improved waterway management (integrated, sustainable and regionally coordinated)
- Enhanced waterway maintenance (improved and coordinated performance)
- Improved customer orientation of waterway related services

- Harmonized waterway infrastructure related basic data (defined quality, scope and availability of data)
- Enhanced usage of Information and Communication Technologies (harmonized and up-to-date fairway information)
- Increased visibility of waterway authorities
- Provide transition support from pilot implementation to regular operation
- Enable countries to tackle national priorities by involving partners

WANDA

The project “Waste management for inland Navigation on the Danube“ (WANDA) was created in order to ensure the protection of the Danube and its ecosystem from pollution. The aim of WANDA is to find common solutions for a sustainable, environmentally sound and cross-border coordinated approach to ship waste management for cargo vessels along the Danube. A RIS feasibility study has been elaborated with the co-ordination of RSOE. The RIS key services have been investigated from the aspect how RIS can support the proper waste management procedures.

CO-WANDA (running)

Building on the conclusions of the recently finalized 3-year-project ‘WANDA’, the key objective of the CO-WANDA initiative is to draft an International Convention for Ship Waste Management that will be valid for all Danube riparian countries. Based on the RIS feasibility study from WANDA a RIS pilot will be implemented in several countries of project partners with the involvement of inland vessels and waste reception facilities. RSOE is the leader of the Activity for RIS Pilot Tests.

DAHAR

Capitalising on the EU projects RISING, IRIS Europe II, NEWADA and PLATINA, DaHar aims at further developing & testing a combination of some existing services of RIS TLS, which provide added value for the logistical and multi-modal development of ports.

A RIS pilot has been implemented in Dunaújváros and is under testing. The Municipality of Dunaújváros provides a web-based software test environment for the Port of Dunaújváros where AIS image, water level / ice ifnormation is visible. Based on the geofencing solution different types of statistics are also possible to be elaborated.

GYŐRIS - "The Cross Border Development of Inland Navigation Information Infrastructure"

Phare CBC project of RSOE (Hungary) The project was co-financed by the European Union and the Hungarian Republic in the frame of the Phare CBC 2003 Cross-border Transport Infrastructure Networks.

The National Association of Radio Distress-Signalling and Infocommunications (RSOE) has launched a Phare CBC (Austria-Hungary Transport Infrastructure Networks Programme) project together with the Győr-Moson-Sopron County Disaster Management Directorate and other partners in order to elaborate and implement a regional River Information Services test stretch on the Danube, which focuses on the regional users' needs.

In accordance to the principles of the European integration and harmonisation, regionality and partnership RSOE, co-operating with its partners, was to test modern, information technology based EU-compatible services on regional level.

The involvement of governmental and private users in the project ensures that services to be tested were harmonised with user needs. The test stretch enabled users to display satellite positioned waterborne traffic on state of the art electronic river map (so called inland ECDIS).
Project duration: 1 April 2005 - 30 September 2006
The project supports:

- increasing of inland navigation's efficiency,
- safer waterways,
- EU integration and Hungarian-Austrian co-operation,
- decreasing environmental charges,
- know-how transfer between European and regional level,
- public knowledge of modern information technologies, satellite-positioning.

Austrian project partner: via donau Waterway Administration Company (Vienna)
Co-operating partners in the project:

- Győr-Moson-Sopron County Disaster Management Directorate
- North-Danubian Enviroment and Water Directorate
- Danube Water Police Captaincy
- Port of Győr (Győr-Gönyű Port Plc.)

CB RIS
The project was co-funded by European Union in the frame of INTERREG IIIA Slovenia-Hungary-Croatia Neighbourhood Programme.
Project title: Cross-Border Implementation of River Information Services on Danube and Drava Rivers
Project abbreviation: CB-RIS
Project duration: 24(HR)/17(HU) months
Main objectives of the project were improvement of cross-border mobility and accessibility in the border region on the Danube and Drava waterways and the development of accessible ITC technology which will have been a future use in social and economic life of the border area. This was achieved by implementation of River Information Services - RIS in the Baranya county in two RIS centres, one in Osijek and the other in Mohacs. The centres were connected and all relevant transport information shared between them. Target groups of the project were public authorities dealing with the inland waterway transport, navigation safety and environmental protection, as well as the private sector involved in inland navigation such as ports, freight forwarders, fleet operators etc. Expected results were improvement of cross-border traffic and transport management, increase of safety and efficiency of inland navigation as well as making inland navigation more environmentally friendly type of transport. This were fulfilled.

DATRAM - „Dangerous Cargo Transport Monitoring on Inland Waterways”
DaTraM project was co-funded by European Union in the frame of TEN-T Programme and the Ministry of Economy and Transport of the Hungarian Republic.
Project title: Dangerous Cargo Transport Monitoring for Inland Waterways
Project abbreviation: DaTraM
Project duration: 24 months
RSOE was the executer of the project. The project focused on the safety and security issues of River Information Services. During the project a special test

stretch was implemented on the northern Hungarian Danube stretch to monitor dangerous goods carrier vessels. The project also elaborated initiatives for river security measures.
The objective of via-donau and RSOE was to implement a fully operable pilot system between Vienna and Százhalombatta as well as to connect all the relevant participants into this system because of the following purposes:

- To develop, establish and licence RIS services (authority and disaster management services), which related safety questions and to accepting the related standards with the Austrian, Slovakian and Hungarian governmental and economical participants.
- To establish European Reference System relative to the safety related RIS services (authority and disaster management services).
- Development recommendations related safety and security of inland navigation by the experience of the pilot system, which could help in the adaptation of the legal environment for Austria, Slovakia and Hungary.

Main functions of the pilot system were:

- On-board applications:
  RSOE and via-donau equipped all vessels, which transporting dangerous cargo between Hungary and Austria with AIS transponder and electronical navigational charts as well as equipments which are necessary to have resort further RIS services related to safety questions.
- Shore applications:
  RSOE set up a microwave backbone network between Budapest and Győr and also planned to establish AIS network between Százhalombatta and Győr (this is 180 km long stretch of the Hungarian Danube).
- Operational applications:
  RSOE set up the Hungarian RIS centre in the Budapest base of RSOE's, which going to connect to the Austrian RIS centre as well as on-board and user applications (Ministry of Transport, Ministry of Interior, Ministry of Finance, Ministry of Defence, port authorities, conveyors and terminal operators).

Synergy between EU-support programmes and national initiatives
There are no synergies to be mentioned between EU and national projects due a lack of national projects.

11 Slovakia

11.1 Inland shipping in Slovakia

The network of commercially navigable Slovak waterways amounted to 261 km on the rivers Danube, Vah and Bodrog:

- Danube waterway: 172 km.;
- Lower Vah waterway: 80 km. and the
- Bodrog Waterway 9 km. to the Hungarian border.

The main waterway of Slovakia is the Danube along which also three ports are situated: Port of Bratislava, Port of Komarno and Port of Sturovo.

According to the Slovak Ministry of Transport approximately 1,5 millon tons of goods are transported on the Slovak inland waterways annually. According to the CCNR (Rhine's Market Observation for European Inland Navigation edition 2006-1) 267 freight vessels were operated on Slovak inland waterways in 2005. The fleet consists of:

- 25 motorised cargo vessels
- 150 lighters and barges
- 3 motorised tank vessels
- 42 tank lighters and barges
- 8 pushers and
- 39 tugs[1]

11.2 Legal implementation of RIS

In Slovakia one regulation exists related to RIS, this is Act. No 179/2008 amending the previous Act. No 338/on inland navigation. Inland Navigation Act no. 35/2014 is under preparation and will enter into force on 1 April 2014. This amendment shall extend and specify in more detail the provisions of the act related to RIS, e.g. definition of RIS users, access to information provided by RIS and the introduction of the AIS carriage requirement. The Ministry of Transport, Construction and Regional Development is also preparing an implementation regulation for usage of RIS.

RIS is only implemented on the Slovak part of the river Danube, as on the other waterways (Vah and Morava) there is hardly any inland navigation.

A detailed analysis of the legal transposition of the RIS Directive and its articles in the legislative framework of Slovak is included in the Annex.

[1] www.riversoftheworld.nl.

11.3 Technical implementation of RIS

a/ Notices to skippers

The State Navigation Administration provides Notices to skippers according to the proposed amendment of the Commission Regulation (EC) 416/2007. The URL address for the pilot operation of the enhanced SK NtS application is http://nts-pilot.slovris.sk/. The service provides possibility to display and subscribe (e-mail subscription) for receiving all types of standardised NtS messages (FTM, WRM, WERM, ICEM). The messages can be displayed on the website as full text in English, Dutch, German and French; in code (tags and values) format in 12 languages and in XML format.

The fairway and traffic related messages and ICEM are generated manually by SPS, the WRM and WERM are generated automatically based on the data provided by the Hydrometeorological Institute. Regarding the FTM it should be noticed that only SPS is entitled for issuing FTM information: FTM notices from ports, water police, water management companies etc. should be provided via SPS.

Within the GUI of the Slovak application it is possible also to retrieve the NtS messages from other countries – Austria and Germany – via the web service interface. Via the web service interface NtS application also provides information to the NEWADA Danube FIS portal. There is also a subscription service implemented allowing users to receive NtS messages by e-mail.

Although the SLOVRIS system is working already since the IRIS II project, the NtS application is still in pilot operation. There are several reasons for that. During the IRIS projects there was an agreement between SPS and the Hydrometerological Institute with regard to providing water related data to SPS. The agreement was only for the period of the project and now a legal contract is missing between the two parties (however, the data provision is still on going). Furthermore an update of the maintenance contract is necessary: applications and system upgrades including hardware equipment purchased during IRIS I and II are still in the possession of the newly established Transport Authority.

b/ Vessel tracking and tracing systems (Automated Identification System (AIS))

The usage of AIS transponders is legally not obliged in Slovakia. However, as AIS usage is forced in both Hungary and Austria, vessels that sail on the Slovak Danube practically should have an inland AIS transponder. This situation will be changed when the new amendment of the Inland Navigation Act will come into force on 1 April 2014. Currently practically all relevant ships under Slovak flag have transponders on board and newly bought ships intended for international navigation are at once equipped with transponders.

The infrastructure consists of four AIS base stations, which covers the whole Slovak stretch of Danube (including common stretches with Austria and Hungary). Information from AIS transponders located on-board vessels are being transmitted via base stations into RIS centre in Bratislava (or relevant regional centres in Gabčíkovo, Komárno or Štúrovo). The service is organisationally maintained by the Slovak RIS provider – State Navigation Administration.

The Port of Bratislava and Port of Komarno have AIS too, but as authorised RIS users they can have access to the SPS VTT system as well. Within the project IRIS Europe II, the new version of AIS control system has been installed with connection to the Radar system in the area of lock of Gabčíkovo. The lock operator of the Gabčíkovo lock uses RIS as supporting tool in planning and monitoring and the captaincies in Bratislav and Komarno use RIS as support tool for monitoring. Furthermore the SlovRIS system is also connected with the new version of AIS control system, in order to distribute the emergency related information via AIS infrastructure.

From a technical point of view, the AIS data exchange with the EU Position Information System was successfully tested, but currently the exchange is not realised since there is no legal obligation to do so.

In the IRIS II project 45 mobile and 15 portable AIS transponders have been provided and installed on vessels of Slovak fleet operators. No other equipment program is planned at the moment. There is no clear picture about the on board equipment of the vessels sailing on the Danube; it is assumed that most of the vessels sailing on the Slovakian stretch of the Danube have AIS transponders.

c/Electronic ship reporting

The system for electronic reporting was implemented in line with the technical specifications defined in the EC Regulation No. 164/2010 (the ERI standard). The service was put into pilot operation at the end of 2011 (within the IRIS Europe II project). The pilot included the international data exchange with Austria and Hungary. Although technically there was a success, from the legal point of view there is only a “general” obligation to report electronically according to the Inland Navigation Act, but additional respective regulations do not exist. Currently the users (skippers) don’t provide any electronic reports due to this.

However, the system is ready and the pilot operation shall continue in the IRIS Europe 3 project. The system supports ERINOT and ERIRSP messages in version 1.2. The users (skippers) may provide electronic reports to the system either using the SlovRIS web application or the BICS application. Vessels transporting dangerous goods are obliged to report data according to the ADN regulation. The reports have to be provided to the State Navigation Administration either by voice communication (VHF) or in written form.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

Currently the electronic navigational charts are created in accordance with Inland ECDIS standard in version 1.02. At the moment, the ENCs in version 1.02 are available for public (free download) on the web site of Slovak Waterway Management Enterprise. These charts do not contain any data on the depth. Within the project NEWADA duo, newer versions of ENCs in line with Inland ECDIS standard 2.1 are available. In the future, the ENCs will be publicly available for download on the Danube FIS Portal (www.danubeportal.com), SVP website (www.svp.sk) and the SlovRIS portal (www.slovris.sk). These charts will also contain depth data. Updating the charts regularly is a matter of financial resources, since the technical equipment for the measurements and creation of updates are given to SVP.

There is no exact information available on how many vessels have ECDIS viewers, however within the framework of IRIS II 12 viewers were provided to the end users.

e/Hull database

The National Hull Data Base represents the publicly accessible register of vessels maintained by State Navigation Administration (SPS). The SPS shares the data with commercial and governmental users according to the defined access rights and rules. The register contains the vessel data, which maintenance is of importance for the vessel certification purposes (i.e. issuing of vessel community certificate which allows the vessel for navigation on inland waterways of the Community and issuing of the measurement certificate). With regard to European legislation, the system fulfils the requirements set up in Directive 2008/87/EC amending Directive 2006/87/EC of the European Parliament and Council laying down the technical requirements for inland waterway vessels. Currently the system for hull data management is being used in real-time operation by SPS.

In addition to the hull data management system of vessels falling under the Directive 2008/87/EC amending Directive 2006/87/EC, there was also Register of minimum hull data sets used by the RIS provider for RIS purposes (including small crafts and crafts participating in RIS) implemented as a pilot in course of the project IRIS Europe I and II. This part of SlovRIS application is dedicated to the entering and management of vessel hull data by the RIS Provider participating in RIS but no falling under the aforementioned EC regulations (interface for entering RIS related hull data). Both, the national RIS database and Certification database, are interconnected with European Hull Database System (EHDB RIS DB and EHDB CERT DB) by means of web service technology.

ENI has been assigned to nearly half of the registered Slovakian commercial vessels. These vessels are already uploaded to the EHDB as well.

f/RIS Index

The State Navigation Administration (SPS) manages the RIS Index in Slovakia and is responsible for the provision of the Minimum Data (i.e. also the RIS Index) as prescribed in the Annex I of the RIS Directive 2005/44/EC in Slovakia. SPS provide RIS index according the RIS Index Encoding Guide.
SPS provides RIS Index for the section of Danube fairway in Slovakia (km 1880 – 1708). SPS does not provide RIS Index for other waterways. The latest version of the national RIS Index is v1.1 from 1st June 2011. It is published on the SlovRIS website and also on the EU RIS portal (www.ris.eu).

All the high priority objects are already encoded; however the objects in the RIS Index are not aligned with the objects in the currently available ENCs. Objects in the Slovak ENCs aren't encoded with the 20 digit ISRS Location Code since the current version of the ENCs (Inland ECDIS v1.02) doesn't support the ISRS codes. The development of ENCs was not coordinated with development of RIS Index; data are not fully harmonized (e.g. different names of some objects). This shall be fixed in foreseen updates of the ENCs to version 2.1 of the Inland ECDIS standard and the RIS Index to conform the latest RIS Index Encoding Guide v1.0, where the ENCs and the RIS Index shall be aligned. The indexes are applied also to the NtS applications and the exchange with the Reference Data Management System is also operational.

A short summary of the implementation of RIS and its main elements in Slovakia

Summary technical implementation of RIS elements in Slovakia

		Slovakia	
		Availability?	*When?*
Notices to skippers	Fairway & Traffic Messages (FTM)	Yes	2011
	Water Related Messages (WRM)	Yes	2011
	Ice Message (ICEM)	Yes	2011
	Weather Related Messages (WERM)	Yes	2011
	Method of diffusion	Online portal or e-mail subscription (XML)	
AIS	AIS infrastructure	Available on the Slovak stretch of the Danube	2008, enhanced in 2010
	On-board equipment	45 mobile and 15 portable AIS transponders installed (within IRIS II project)	2011
	Exchange	Possible but currently not yet realised	2011
Electronic reporting	ERINOT, ERIRSP	Yes (pilot)	2011
	BERMAN and PAXLISTS	No	
	Exchange	Included in pilot	
ENC	Coverage	Slovak Danube	Not regularly updated
	Provision free of charge	Not decided yet	
Hull database	Exchange with European hull database	Yes	2012
	Vessels have an ENI	Yes, in progress. Nearly half of the registered Slovakian commercial vessels have an ENI	Continuous
RIS index	Correct use	Yes	
	Synchronization with ERDMS		
Traffic management		Lock operator uses RIS as supporting tool in planning and monitoring	2011
On board equipment	AIS equipment	Supplied within IRIS II project	
	ERI		

11.4 Other characteristics of RIS implementation

In Slovakia one major regulation exists related to RIS. The Ministry of Transport, Construction and Regional Development is the superior body to the State Navigation Administration. The State Navigation Authority is the RIS authority and RIS provider in the Slovak Republic. The Waterborne Transport Development Agency was established in 2011 and this agency participates in the development and implementation of new technologies and operational systems for waterways. With respect to this, the agency may play an important role in implementation and development of RIS in the future. There are no national RIS-related projects developed in Slovakia, all RIS developments were supported by international projects.

11.5 Conclusions

Directive 2005/44/EC was fully transposed into the Slovak legislation in the Inland Navigation Act No 179/2008 Z.z (entered into force on 1 June 2008). This was however too late according to the requirements of the Directive.

Slovakia provides the key RIS technologies with an acceptable level (with regard to the traffic density). Further improvements are foreseen:

- in IRIS III the FTM will be improved
- a national FIS portal will be established
- provision of new ENCs
- Information on shallow water sections are to be included in the national FIS portal
- Enhanced interconnection with fire brigades by using calamity abatement services
- Motivation of electronic reporting by changing relevant regulation
- Achieve 7/24 technical support of the contractor
- International data exchange to be improved and operational with at least the neighbouring countries.

11.6 Organisational structure of RIS implementation in Slovakia

In Slovakia, the following parties are involved in the RIS implementation.

The **Ministry of Transport, Construction and Regional Development, Department of Water Transport** is the main organisation with regard to the development of RIS in Slovakia. The Ministry is supervising the State Navigation Administration (Štátna plavebná správa, SPS, RIS provider). The main task of the Ministry related to IWT is to define the concept for the development of inland navigation, ports and waterways. The Ministry plays an important role in policy-making and the development and adaptation of relevant legislation. Also with regard to the financing of the RIS activities the Ministry allocates part of the state budget for SPS (RIS provider) and co-financing projects (e.g. TEN-T projects IRIS Europe).

The **State Navigation Administration** is the RIS authority and RIS provider in Slovakia according to the Inland Navigation Act No. 338/2000. The State Navigation Administration is a state administrative body for inland navigation

and ports subordinate to the Ministry of Transport, Construction and Regional Development of the Slovak Republic in accordance with the provision § 37 of the Inland Navigation Act No. 338/2000. The role and position of the State Navigation Administration results from this Inland Navigation Act.

SPS is responsible for the Slovak RIS administration including international information exchange and serves as the RIS centre. SPS:

- assigns and removes the rights of the RIS users,
- continuously assures
  - receiving, processing, recording and providing information on waterways and the current navigation conditions as well as strategic information on navigation conditions,
  - receiving and processing electronic reports from the ships; in case of cross-border inland navigation transferring these reports to the relevant authorities of a neighbouring country before arrival of vessel at a state border;
- assures security within the RIS in order to prevent misuse of information, including unauthorized access, changes or loss of information;
- establishes regional RIS centres as its permanent workplaces in order to assure operation of RIS.

The **Waterborne Transport Development Agency (Agentúra rozvoja vodnej dopravy, ARVD)** was established in 2011. According to the Inland Navigation Act, the agency participates in development and implementation of new technologies and operational systems for waterways. The Agency:

- provides:
  - development and modernization inland waterways in accordance with approved transport policy,
  - preparation and implementation of construction and reconstruction of the waterways parts and other necessary structures for the operation of water transport on the inland waterways,
  - cooperation on elaboration of material analysis and financial demands to ensure the necessary equipment,
  - promotion of the inland waterway transport
- elaborates documents, proposals and justifications for obtaining and efficient distribution of funds for investment in waterways
- coordinates and ensures the repair, reconstruction and modernization of the waterway parts
- implements pilot develop projects of intermodal transport axis
- participates in the development and implementation of new technologies and operating systems on waterways
- performs the above mentioned activities in interaction with relevant government bodies

With respect to this, the agency may play an important role in implementation and development of RIS in the future. The Agency is State Budgetary Organization of Ministry of Transport, Construction and Regional Development.

The **Slovak Water Management Enterprise** (Slovenský vodohospodársky podnik, SVP) is responsible for the production of navigational charts. Other activities of SVP are: maintenance of waterways, marking the waterways, surveys of riverbeds, calamity abatement service, flood protection.

Tasks of SVP with respect to RIS, as stipulated in the Inland Navigation Act:

- production, update and publication of electronic navigational charts for waterways of class Va and higher
- provision of the following data to SPS for purposes of navigation and voyage planning on waterways:
  - 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
  - location of ports

The **Slovak Hydrometeorological Institute (Slovenský hydrometeorologický ústav, SHMÚ)** is a specialized organization providing hydrological and meteorological services at the national and international level. The SHMÚ was established by the former Ministry of Forestry and Water Management on 1 January 1969, and the scope of its activities is currently laid down in Act no. 201/2009 on state hydrological and meteorological services. The SHMI is the successor of institutions that were providing hydrological and meteorological services in Slovakia from the mid-19th century. It is state-subsidised organisation operating under the Slovak Ministry of Environment.

The SHMÚ's activities include the following:

- monitoring of quantitative and qualitative parameters of the air and water in Slovak territory;
- collecting, verifying, interpreting and archiving data and information on the condition and regime of air and water;
- describing developments in the atmosphere and hydrosphere;
- and issuing forecasts, warnings and other information regarding the atmosphere and hydrosphere.

With regards to RIS this institute is responsible for the provision on water and weather related information to SPS.

KIOS is a private IT company, which is now responsible for the operation and development of the technical background of SLOVRIS system. It provides this service for SPS on a contractual basis.

The **Transport Research Institute VUD (Výskumný ústav dopravný),** is a private joint stock company which has long-term co-operation with the Ministry of Transport and also produces various studies and analysis for them. Scientific, research and development activities of VUD cover all modes of transport, mainly in the field of engineering and technology, operation, infrastructure, economy, legislation, management and organisation, informatics and automation, environment, energy systems, transport safety and quality, transport services and tourism management, transport policy, certification and testing in the field of construction products, special products and interoperability. VUD together with KIOS created a consortium which was implementing the work in IRIS Europe I and II.

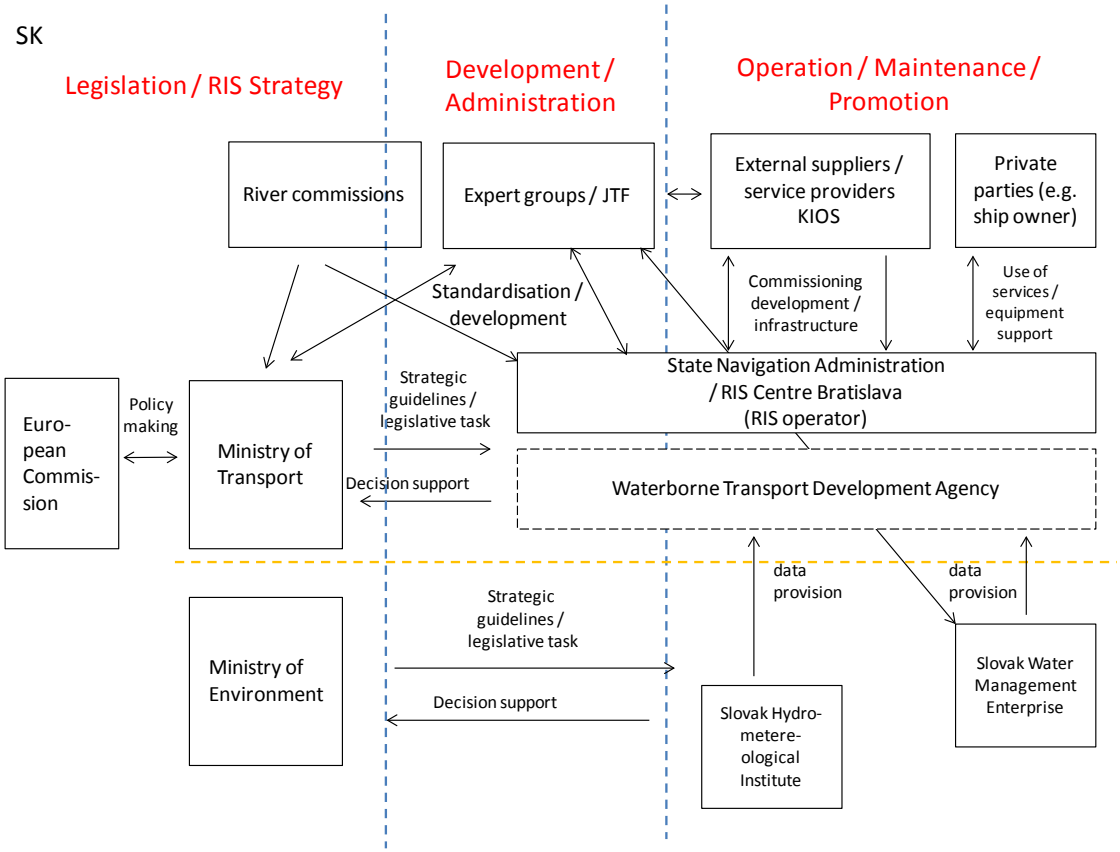
According to Slovak officials, the above mentioned organisations cover well all the tasks related to RIS, no other parties are necessary. The communication and cooperation between them are satisfactory, however a memorandum regarding their interconnection would be beneficial, especially between the ministry of

environment (including SVP and SHMU) and the ministry of transport (including SPS and ARVD). The state owned and state financed parties are suffering from the bad economic situation that makes the financing hard but yet manageable. On the other hand, the newly established Agency shows the willingness of the Slovak government for providing improved services for the sector. It should also be noted that ARVD is not yet involved in RIS implementation and better involvement of SVP would enhance the quality of ENCs.

Ports are not involved in RIS implementation, they are only users of the system. There are only a few private companies involved in inland navigation but they are not really aware of the benefits of the river information services and hence they don't use it too much.

Slovakia is represented in the Danube Commission, and all RIS Expert Groups, however, due to lack of financial resources of relevant institutes (SVP and VUD), the participation in VTT and ENC Expert Groups is not so active. SPS is participating in NtS and ERI EG, at this moment there are no financial problems with regards to the participation.

Activities for implementation, transposition and development of RIS are funded from the budget of the Ministry of Transport, Construction and Regional Development. From this budget the budget for SPS is constituted. The Slovak Water Management Enterprise is funded from the budget of the Ministry of Environment. Pilot TEN-T projects IRIS Europe were funded from TEN-T EA and from the budget of the Ministry of Transport.



RIS organisations in Slovakia

11.7 RIS projects

National projects

There are no national RIS-related projects in Slovakia, everything is/was implemented in the international projects and initiatives and co-funded partly from national budget and partly from EU resources.

Cross border RIS projects

COMPRIS

Financial data (costs and sources of funding):

- total budget. 10 mil. €,
- budget for Slovakia: 440.957 €
- sources: national budget, EU (FP5)

Time frame: 9/2002 – 8/2005
Tasks and results in SK:

- technical report, specification and recommendations on cross border traffic and transport information
- first temporary AIS shore base station set up for testing purposes at SPS in Bratislava
- testing of AIS, electronic reporting (BICS) including cross-border data exchange within the "Operational Test Platform Upper Danube"
- first prototype of Inland ECDIS chart for the river Danube was developed
- first prototype of NtS application was developed

Involved stakeholders: SPS, SVP, VUD, KIOS
Type of action: research and development
Evaluation: no

IRIS Europe

Financial data (costs and sources of funding):

- Total budget: 4 146 000 €,
- Budget for Slovakia: 1 200 000 €
- Sources: national and TEN-T

Time frame: 1/2006 – 12/2008
Tasks and results in SK:

- Implementation of pilot infrastructure for traffic management and vessel tracking and tracing – AIS network on the river Danube (r.km 1880 – 1708)
- Analysis of AIS equipment on Slovak vessels and proposal for AIS equipment programme
- Implementation of electronic ship reporting infrastructure in Slovakia
- Implementation of hull data management infrastructure (in line with new requirements resulting from Directive 2006/87/EC and RIS operation)
- Implementation of infrastructure for international data exchange of AIS, ERI and hull data, including the legal (TAA) and technical (R2D2) framework
- Contribution to the waste management feasibility study, analysis of national waste management processes
- Implementation of calamity abatement service
- Definition of user roles
- Definition of training modules

- Preliminary environmental study (assessment of environmental impacts of RIS infrastructure)

Involved stakeholders:
- Beneficiary: Ministry of Transport, Posts and Telecommunications
- Implementing organization: Transport Research Institute (Výskumný ústav dopravný, VUD) and KIOS

Type of action: implementation
Evaluation: no

IRIS Europe II

Financial data (costs and sources of funding):
- Total budget: 10 578 148 €
- Budget for Slovakia: 1 300 000 €
- Sources: national and TEN-T

Time frame: 1/2009 – 12/2011
Tasks and results in SK:
- Pilot water level model for the Danube between Devin and Bratislava (r.km 1880 – 1868,75), generating and sending water level corrections to WLM server at via donau
- Implementation of new, enhanced NtS application according to the latest standard, including web service interface for exchange of NtS
- Wireless access hotspots in the port of Bratislava and the Gabčíkovo lock for users to access the RIS services
- Update of national RIS Index
- Implementation of national RIS reference data management system, including interface to ERDMS
- Contribution to the work of RIS expert groups
- Enhancement of pilot infrastructure on shore – interconnection of radar system with AIS at the Gabčíkovo lock
- Pilot implementation of lock management system at the Gabčíkovo lock
- Enhancement of pilot infrastructure on board – installation of 45 mobile and 15 portable AIS transponders, and 12 Inland ECDIS viewers on Slovak vessels
- Enhancement of CAS module in SlovRIS system
- Pilot implementation of Safety Related Message distribution via AIS
- Implementation of module for generating statistic reports within the RIS system for purpose of the Statistics Office of the Slovak Republic (in line with the EC regulation 425/2007)
- Implementation of Single Sign-On in the RIS system
- Tactical traffic image for fleet operators
- Enhancement of data gateway for international data exchange
- Pilot operation of international RIS data exchange, incl. electronic reporting
- Interconnection of national hull database with EHDB
- Interconnection of national reference data management system with ERDMS
- Interconnection with EPIS in test environment
- Contribution to TAA
- Contribution to the update of R2D2
- Definition of minimum requirements towards the quality of information services for RIS

Involved stakeholders:
- Beneficiary: Ministry of Transport, Posts and Telecommunications
- Implementing organization: Transport Research Institute (Výskumný ústav dopravný, VUD) and KIOS

Type of action: implementation
Evaluation: no

IRIS Europe 3 (running)
Financial data (costs and sources of funding):
- Total budget: 10.460.000 EUR
- Budget for Slovakia: 1.860.000 EUR
- Sources: national and TEN-T

Time frame: 1/2012 – 12/2014
Tasks and results in SK:
Involved stakeholders:
- Beneficiary: Ministry of Transport, Construction and Regional Development
- Implementing organisation: to be contracted by the beneficiary. Formally the project has not started yet in Slovakia because the ministry still has not contracted the implementing organisation and now it is not clear whether it will be contracted and whether the project will really start in Slovakia...

Type of action: implementation
Evaluation: no

RISING
Financial data (costs and sources of funding):
- Budget for Slovakia: 185.280 EUR
- Sources: EC FP7 and own (KIOS)

Time frame: 2/2009 – 7/2012
Tasks and results in SK:
- Contribution to development of specification for event management services, water level service and vertical clearance service
- Contribution to development of specification for RIS TLS services – positioning services and setting up the “RISING OTP” test platform for RIS TLS
- Contribution to definition of RIS service performance profile for RIS TLS

Involved stakeholders:
- KIOS

Type of action: research and technical development
Evaluation: ex-post, ex-ante evaluations

DANewBE
Financial data (costs and sources of funding):
- Budget for Slovakia: 668 300,- EUR
- Sources: Interreg III B CADSES € 2.091.000. (ERDF funds: € 1.433.375.)

Time frame: 1/2005 – 12/2007
Tasks and results in SK:

- Implementation and setting of the D4D infrastructure on SK level (adjusting issues and development of national database in Oracle, establishment of production process for ENC charts), production of ENC chart in IE standard 1.02
- Collection of data for ENC maps
- Test survey of signal coverage on SK stretch of Danube
- Cooperation with GIS FORUM DANUBE expert group
- Establishment of data exchange between the partners

Involved stakeholders:
- SVP

Type of action: research and development
Evaluation: no

NEWADA

Financial data (costs and sources of funding):
- Budget for Slovakia: 394 500,- EUR
- Sources: co-funded under the EU SEE Transnational Cooperation Programme

Time frame: 4/2009 – 4/2012
Tasks and results in SK:
- Status reports in field of hydrology and hydrography
- Status reports in field of waterway maintenance, implementation of WFD
- FIS portal development, D4D infrastructure updating, web portal installation, development of new functions in maintenance portal, production of ENC charts in IE standard 2.1
- Board of Directors meetings, expert exchange in relevant fields

Involved stakeholders:
- SVP

Type of action: research and development
Evaluation: no

NEWADA Duo (running)

Financial data (costs and sources of funding):
- Budget for Slovakia: 221 150,- EUR
- Sources: co-funded under the EU SEE Transnational Cooperation Programme

Time frame: 10/2012 – 9/2014
Tasks and results in SK - PLAN:
- Status reports in field of water level, water gauges, water level forecast
- Production of ENC chart with depth information, production of Atlas of Berth, production of Paper charts
- FIS portal development (upgrading)
- Board of Directors meetings, waterway maintenance issues, optimization of the waterway maintenance and management processes
- Status reports in flied of waterway maintenance and management

Involved stakeholders:
- SVP

Type of action: research and development
Evaluation: no

Synergy between EU-support programmes and national initiatives
There are no synergies between EU and national projects due to lack of these national projects.

12 Bulgaria

12.1 Inland shipping in Bulgaria

The Danube is the only waterway in Bulgaria. The Bulgarian-Romanian river border section has a total length of some 470 km. The Danube is navigable by ocean ships from the Black Sea to Braila in Romania and by river ships to Kelheim in Germany; smaller craft can navigate further upstream to Ulm in Germany. Since the completion of the German Rhine-Main-Danube Canal in 1992, the river has been part of a trans-European waterway from Rotterdam to the Black Sea (3500 km). In 1994 the Danube was declared one of the Pan-European transport corridors routes in Central and Eastern Europe that required major investments over the following ten to fifteen years.

The existing hydrological and climate conditions along the Danube River imposed measures to be undertaken in order to improve the navigation and give access to vessels of up to 3,000 tons that require a minimum draught of 2,5 m during the whole or at least biggest part of the year.

The Bulgarian ports of national importance along the Danube River are Ports of Vidin, Lom and Rousse. The biggest port is Rousse, which is an important trade, industrial and transport centre providing 60% the processed cargo units of the country.

The Bulgarian River Shipping PLC is the biggest Bulgarian river operator. For the last 15 years – with only a few exceptions – no new vessels were built in Bulgaria. The modernization of the fleet is one of the most urgent tasks for the sector to deal with.

12.2 Legal implementation of RIS in Bulgaria

The RIS Directive has been implemented in Bulgaria through:

Ordinance for the provision of river information services (RIS) on the inland waterways of the Republic of Bulgaria

(in Bulgarian:), available at: http://www.lex.bg/bg/laws/ldoc/2135576189 (last accessed 27th March 2013).

The Ordinance came into force with legal act : Постановление на Министерския съвет за приемане на Наредба; Official Journal: Държавен вестник, number: 3, Publication date: 11/01/2008, Entry into force: 23/10/2009; Reference: (MNE(2008)50416). The regulation defines all requirements to be observed by the BULRIS design and construction in compliance with the Directive 2005/44/EC

Furthermore Regulation No 1/10.010.2003 on registering in the Vessels Register (State Gazette No. 7) is applicable for RIS. This regulation regulates the terms and procedures for vessels registration in the Register of Bulgaria. This regulation does not apply to naval and coast guard vessels. The Register of Vessels of Bulgaria is maintained by the Executive Agency Maritime Administration (EAMA) and is designated for exercising jurisdiction and control

on the identification, ownership, financial burdens and responsibilities of ship-owners and bareboat charters of vessels flying the Bulgarian flag.

One general remark on the implementation of the Directive in Bulgaria: the domestic legislation adds to the minimum requirements contained in the Directive, particularly to the requirements of article 4, and provides for more river information services to skippers. These include the provision of general data on safety and conditions of navigations as well as port infrastructure and traffic. The new edited version of the "Ordinance for the provision of river information services (RIS) on the inland waterways of the Republic of Bulgaria" is currently (August 2013) under consideration at the Ministry of Transport, Information Technologies and Communications. The new edition was needed because some corrections were necessary with regard to soon te be operational national RIS in Bulgaria as well as other changes in legislation (more specific: in the Maritime Space, Inland Waterways and Ports of the Republic of Bulgaria Act). This forthcoming amendments addresses for example a appropriate legal framework for ERI.

A detailed analysis of the legal transposition of the RIS Directive and its articles in the legislative framework of Bulgaria is included in the Annex.

12.3 Technical implementation of RIS in Bulgaria

At this moment (August 2013) the first phase of BULRIS is being implemented. The first phase is expected to be ready at the end of 2013. This first phase includes infrastructure (info transport media, as well as info processing – WAN IT infrastructure, Radio Realy Lie (RRL) along the Bulgarian stretch of the Danube River and an enhancement of the main RIS services namely NtS, ERI, VTT and visualisation, including IENC and AIS subsystem. Currently, the tests of the system are ongoing.

The second phase of BULRIS is foreseen by the end of 2015 which will include further extended services like new ERI messages and NtS services, NRDMS, radar and CCTV activities, as well as WIFI for main ports and other ports.

a/ Notices to skippers

All NtS are available in the conventional format via www.bulris.bg following the standard 2.0.

Within the BULRIS project it is planned to enhance NtS services according to the Notices to Skippers Standard Edition 3.0 and to redesign the website. Implementation of the NtS in BULRIS corresponds to the Common regulation 416/2007 and relevant specifications. The service Notice to Skippers is implemented as a subsystem of BULRIS. Input, publishing, change of notices is made via the web based GUI which is accessible with appropriate credentials. The system allows pull service by means of a website (www.bulris.bg) and also offers push service by e-mail service on subscription.

The following messages are planned (but also already available now in the conventional format): fairway and traffic related messages (FTM), water level related messages (WRM), ice messages (ICEM), and weather related messages (WERM). Standardized notices to skippers will be provided in all three formats as

defined in the standard – full text format in German, English, French and Dutch. The code format (tags and values) will be provided in all the 24 languages of the standard and machine-readable XML-format. Also the compatibility of the standardised data structure of inland ECDIS to facilitate integration of NtS in land ECDIS will be assured. However, as the system is not ready yet, tests are underway and NtS are expected to be in fully operation by the end of 2013.

b/Vessel tracking and tracing systems (Automated Identification System (AIS))

Within the first phase of the project BULRIS a modern infrastructure and communication environment was developed including also AIS. The AIS Module was implemented according the following principles:

- the definition of the requirements concerning systems and of standard messages as well as procedures so that they can be provided in an automated way;
- the differentiation between systems suited to requirements of tactical traffic information and systems suited to the requirements of strategic traffic information, both with regard to positioning accuracy and required update rate;
- the description of the relevant technical systems for vessel tracking and tracing such as inland AIS.
- Compatibility of data formats with the maritime AIS system.

The AIS standard is in accordance to the Inland AIS standard, specified in the Vessel Tracking and Tracing Standard for Inland Navigation, and in accordance with the Commission Regulations 414/2007, 418/2007 en 689/2012. The new editions and especially the RIS EG recommendations are permanently being considered in the implementation phase of BULRIS.

A full set of services related to traffic management will be available once the RIS centre in Ruse is operational.

The Traffic Information Services envisaged to be provided are as follows:

- Tactical Traffic Image (TTI);
- Strategic Traffic Image (STI);
- Automatic Identification System (AIS);
- Electronic Navigational Charts - (ENC);
- Requested Times of Arrival (RTA);
- Support for navigation decisions and resources planning;
- Calamity abatement services.

All these services are foreseen in the next phases of the BULRIS project and will not be part of the first phase which is at the moment being executed.

The Ruse Regional Centre will collect information from all sailing objects via ships' and shore's radio stations, CCTV cameras, AIS data about ships locations, combined voice information and AIS code data, data included in the ships reports and other different channels. The information will be registered in real time and accordingly processed and stored. This information in combination with the electronic charts will be used for visualising the real traffic picture in a region and then will be transferred to the users depending on their needs.

For the coming period international data exchange within AIS is not foreseen, it is planned for next year in the phase 2 of BULRIS. Ship-ship communication is beyond the scope of the project but ship-shore communication is available via VHF (voice and AIS). Shore-ship communications by using AIS will be ready at the end of the year. WIFI is foreseen for the second phase of the project in ports of Vidin, Lom, Oryahovo, Russe, Svishtov and Silistra.

There are no subsidy programmes available in Bulgaria for ship-owners to obtain an AIS transponder for free or at low costs.

c/Electronic ship reporting

The electronic reporting infrastructure (ERI) is another subsystem of BULRIS. The ERI subsystem allows simplification of cross border procedures and its functions are as follows:
data exchange between vessels and competent authorities
available via web application
access according to the user rights.

The technical specifications of ERI are in accordance with the following principles;

- the facilitation of the electronic data exchange between the competent authorities of Bulgaria, between participants in inland as well as maritime navigation and in multi-modal transport where inland navigation is involved
- the use of standardised transport notification message for ship-to-authority, authority-to-ship and authority-to-authority messaging in order to obtain compatibility with maritime navigation
- the use of internationally accepted code lists and classifications, possibly completed for additional inland navigation needs
- the use of a unique European vessel identification number.

As subsystem of BULRIS, ERI consists of a web based GUI to input/request reports, processing logic, mail server for sending reports to users. It is integrated with the data gateway for exchange reports with other RIS. As a part of the Bulgarian RIS, ERI uses common reference data synchronized with other European data sources. Functional tests are begin executed, as well as exchange tests with other national/regional ERI. However, the system is not operational at the moment because the first phase of the BULRIS is currently in process of installing. The ERI subsystem will enter into force after termination of the implementation works of the first phase of BULRIS.

By the end of 2013 the ERINOT and ERIRSP messages will be functional and by the end of 2015 also the PAXLST, ERIVOY and BERMAN messages. The system will allow international data exchange.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

The main function of the VTT work stations is to maintain and visualise the current electronic navigational charts of the Bulgarian section of the Danube. The whole Bulgarian-Romanian sector of Danube River (km375-km845) is covered by ENCs. The charts are available from the website of the Executive Agency for Exploration and Maintenance of the Danube River, responsible for the production

of ENCs (www.appd-bg.org). The charts are available free for download on APPD website. The used version of the standard is 2.1.

e / Hull database

The register of vessels of the Republic of Bulgaria is in accordance with the Regulation № 1 of 10 January 2003 Concerning Entry in the Register of Vessels (State Gazette No.7), regulating the terms and procedures for vessels registration in the Register of the Republic of Bulgaria. Each vessel, authorized to fly the Bulgarian flag, shall be registered. Since 2010, the IMO or ENI number (if any) of ships sailing on European Inland Waterways shall be inscribed in the vessel register. The register is maintained by the Executive Agency Maritime Administration (EAMA) and is designated for exercising jurisdiction and control over identification.

The register of vessels consists of:

- register books of small vessels;
- register books of large vessels;
- register books of vessels, hired under bareboat charter;
- register books of vessels under construction, over 12 m in length.

The BULRIS Hull data are maintained and operated by the National Reference Data Management System – NRDMS. The subsystem NRDMS shall contain the Minimum Hull Dataset and the data are synchronised with EHDB via web services and the R2D2 standard as described in „RIS Data Exchange XML Messaging Reference Guide", „Technical concept for RIS data exchange", "RIS Data Exchange Process Description". The NRDMS will be established in the second phase of the BULRIS project.

f / RIS Index

The BULRIS reference data managed by the NRDMS subsystem are as follows: RIS Index; Reference Code and Tables; Electronic Navigational Charts; HULL data; others data (incl. codes of authorised organisations, contact details, system users, users' rights, etc.)

The RIS Index summarises the information about all objects along the river. The information stored is as follows:

- ISRS code
- UN Country code (2 letters),
- UN Location code (3 letters),
- Fairway section code (5 digits, alphanumerical),
- Terminal code or passage point code (5 digits, alphanumerical),
- Fairway section on hectometre (5 digits, numerical).

The NRDMS subsystem provides functions for RIS index management in accordance with the rules as described in „Encoding Guide for the RIS Index" Version 1.0 and functions for management of data already existing in the RIS Index of ERDMS, according to the rules described in the „European RIS Data Management Services", under the PLATINA Project.

A short summary of the implementation of RIS and its main elements in Bulgaria

Summary technical implementation of RIS elements in Bulgaria

		Bulgaria	
		Availability?	*When?*
Notices to skippers	Fairway & Traffic Messages (FTM)	Yes	New format available at the end of 2013 (BULRIS)
	Water Related Messages (WRM)	Yes	New format available at the end of 2013 (BULRIS)
	Ice Message (ICEM)	Yes	New format available at the end of 2013 (BULRIS)
	Weather Related Messages (WERM)	Yes	New format available at the end of 2013 (BULRIS)
	Method of diffusion	Website; conventional format	Both
AIS	AIS infrastructure	BULRIS, not available yet	BULRIS will be available at the end of 2013
	On-board equipment		
	Exchange		Exchange will be possible at the end of 2013
Electronic reporting	ERINOT, ERIRSP	BULRIS, not available yet	ERI will be available at the end of 2013
	BERMAN and PAXLISTS		Available in 2015
	Exchange		
ENC	Coverage	Bulgarian Danube	
	Provision free of charge	Yes	
Hull database	Exchange with European hull database		
	Vessels have an ENI	Not all vessels	
RIS index	Correct use		
	Synchronization with ERDMS		
Traffic management		Ruse Regional Centre	Not operational yet but a temporary centre will start to function after the implementation of the first phase of BULRIS in 2013
On board equipment	AIS equipment		
	ERI		

12.4 Other characteristics of RIS implementation

In connection with the implementation of the RIS Directive, Bulgaria currently implements BULRIS. This project is included in the priority axes IV of the OP Transport “Improvement of the maritime and inland waterways navigation”. The implementation is planned in three phases and the first phase is planned to be ready at the end of 2013.

BULRIS Project is co-financed by OP “Transport” 2007 – 2013”, priority axes IV “Improvement of the maritime and inland-waterways navigation" with an indicative project budget of about EUR 18 million. Bulgarian Ports Infrastructure Company (BPIC) is the project’s beneficiary and the project’s coverage area is the Bulgarian Danube section from km 374+100 to km 845+000.. The project completion is expected to be at the end of 2015.

Current project implementation status:

- All detailed projects are completed;
- All construction permissions obtained;
- All required equipment is delivered;
- Fully completed systems are NtS, ERI, AIS, Data Gateway
- User manuals of the completed systems are prepared and submitted to the users.

Services by project phase:

Phase 1 – implemented services:

- Fairway information services (FIS - NtS, ENC);
- Traffic information services (VTT – AIS, ENC, ERI);
- Traffic management (VHF, ATIS);
- International RIS data exchange (DGW).

Phase 2 – services under implementation:

- Wireless access to RIS information (WLAN);
- Water level modelling (FIS);
- Calamity abatement services (CAS);
- Video and Radio surveys (TTI/STI);
- RIS portal.

Phase 3 – completion

- Adaptation to the new EU requirements;
- QoIS.

The Bulgarian Ministry of transport, information technology and communications is currently acting as the overall supervisor. The Executive Agency “Maritime Administration” (EAMA) is as RIS Authority responsible for Implementation of the RIS Directive in national legislation. The Bulgarian Ports Infrastructure – as RIS provider - is responsible for technical part of the RIS e.g. operating and providing technical RIS infrastructure according to legislation. EAMA is the authority controlling these activities.

12.5 Conclusions

Bulgaria has transposed the RIS Directive in the Ordinance for RIS on inland waterways on Bulgaria. The Ordinance has been approved by a Decree on 28 December 2007 but did come effective on 23 October 2009 which is not according the implementation schedule of the RIS directive.

With regard to the technical implementation of RIS applications can be mentioned that the RIS activities in Bulgaria are mainly concentrated in the BULRIS project. Although some successful tests were running, BULRIS is not operational yet meaning that the main RIS applications are not available in Bulgaria.

12.6 Organisational structure of RIS implementation in Bulgaria

Within Bulgaria, four institutions are involved in the development and implementation of RIS:

- Ministry of Transport, Information Technology and Communications
- Executive Agency Maritime Administration (EAMA)
- Bulgarian Ports Infrastructure Company (BPIC)
- Executive Agency for Exploration and Maintenance of the Danube River (EA EMDR)

As stipulated by new Maritime Space, Inland Waterways and Ports of the Republic of Bulgaria Act, the Bulgarian RIS system is provided by centres constructed, maintained and operated by the Executive Agency Maritime Administration (EA MA) supported by the Executive Agency for Exploration and Maintenance of the Danube River and Bulgarian Ports Infrastructure Company.

The responsibilities of the above administrations related to the BULRIS system were as follows according to the old regulation of the “Provision of River Information Services”. The responsibilities will be redrafted according to the new legislation:

1. **Ministry of Transport, Information Technology and Communications** – defines the policy on RIS construction and operation and has the role of main supervisor;
2. **Executive Agency Maritime Administration is responsible for:**
   - Observing the navigational rules by the ships sailing on Danube River;
   - Collecting, processing, maintenance of data collected via the systems of Bulgarian and foreign authorised administrations, bodies and stakeholders;
   - Collecting, processing and storage of information and its submission for the needs of the transport logistic;
   - Navigation survey and coordination of ships’ activities along Bulgarian inland waterways;
   - Establishment of centres of Bulgarian river information services provision.

3. **Executive Agency for Exploration and Maintenance of the Danube River is responsible for:**
   - Collecting and provision of complete information about the navigation status along the Bulgarian section of Danube River;
   - Processing, generation and submission to the users of the Bulgarian river information services the navigational charts of the Bulgarian sections of Danube River;
   - Establishment and maintenance of centres' satellite communications required for the ships proper localisations;
   - Collecting and storage of electronic information about the hydro-meteorological situation on the Bulgarian section of Danube River;
   - Collecting, processing and storage of information about the water levels and fairways of the Bulgarian inland waterways.
4. **Bulgarian Ports Infrastructure Company (BPIC)**
   - Collects, processes and stores date about condition and depth of the access channels and ships berths;
   - Provides information about ports charges collected by BPIC.

Bulgaria

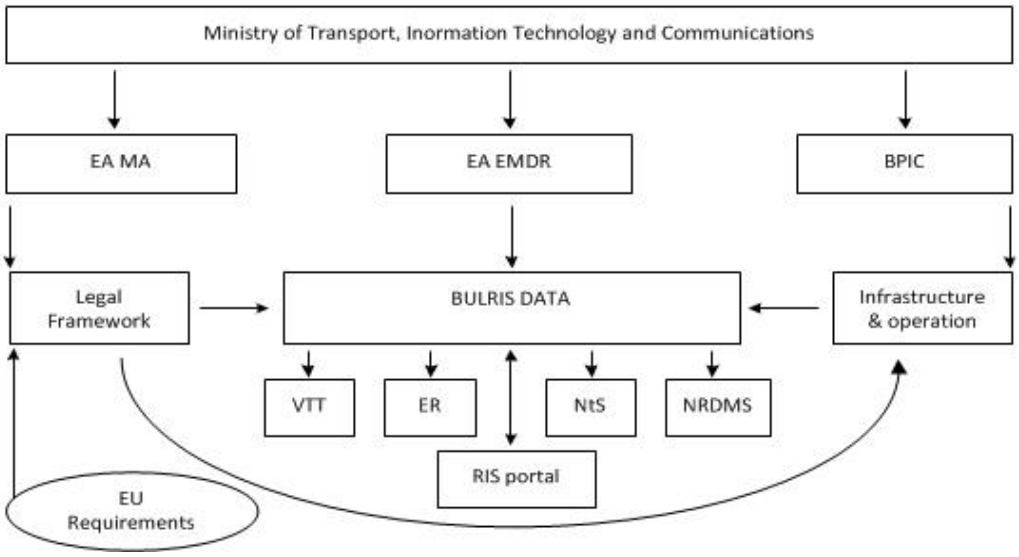


Chart of the administrations' responsibilities related to BULRIS

12.7 RIS projects

National and cross-border RIS projects

Bulgaria participates in several international cross-border projects as follows:

1. **IRIS Europe 3 -** multi-beneficiary TEN-T project focusing on further enhancement and fine-tuning of RIS key technologies, services and applications. IRIS Europe 3 will significantly contribute to a harmonized RIS implementation at European level. IRIS Europe 3 is based on the work of the RIS Expert Groups and of previous RIS implementation projects. The Ministry of Transport, Information Technologies and Communications and the Bulgarian Port Infrastructure Company are the Bulgarian partners participating in the IRIS Europe 3.

2. **HINT** - Project Harmonized Inland Navigation Transport through education and information technology
   HINT aims at establishing a unique harmonized theoretical and practical training system in inland navigation in the Danube Region, delivering support IT applications for Danube stakeholders, deploying e-learning within the participating countries and creating the conditions for an IWT job promotion campaign throughout Danube region using the instruments developed in PLATINA so as to offer a better visibility of career opportunities in inland navigation. Bulgarian partners in the project are the University of Ruse and EA Maritime Administration.

3. **NEWADA Duo** – the project is co-funded under the EU SEE Transnational Cooperation Programme; among other tasks the harmonized waterway infrastructure related basic data (defined quality, scope and availability of data) and the enhanced usage of Information and Communication Technologies (harmonized and up-to-date fairway information) are included. The Bulgarian partner is the EA EMDR.

4. "**Waterway Infrastructure Development and Equipment** (W.I.D.E) - platform for the transport network in Turnu Magurele – Nikopole Cross – border Area"
   Project results: increasing the technical and strategic capacity of the local public administration authorities of Turnu Magurele and Nikopole to jointly manage the development of the transport sector; one coherent and sustainable joint strategy for the development of transport infrastructure in Turnu Magurele Nikopole cross border area(including an action plan for all transport mods); one realistic Joint Feasibility Study for the rehabilitation and modernization of Turnu Magurele and Nikopole ports; a fully operational project website; preparation and dissemination of promotional materials and publications, as well as implementation of information events.

5. **ECOPORT 8** - aims to improve the quality of ports, placing the prevention of pollution and preservation of natural resources in port areas and nearby coastal zones as pivotal to the maritime system. The project is to carry out studies, tests and provide services, attempting to define the basis for environmental port certification. ECOPORT 8 involves PAN-EU corridor VIII ports, integrating existing international dialogue on developments in maritime traffic docking in ports, with a common environmental policy aimed at defining shared standards. The Bulgarian project partners are

Bulgarian Port Infrastructure Company and National Institute of Meteorology and Hydrology of Bulgarian Academy of Science.

6. **GIFT Project - Green Intermodal Freight Transport Project**

The Green Intermodal Freight Transport Project (GIFT Project) is implemented under the South-East Europe Transnational Cooperation Programme. The main goal of the project is to map, analyse, and evaluate the status of the transport sector in the GIFT transport network and propose new policies and strategies in infrastructure, processes, assets, ICT, legislation, norms and harmonization and standardization issues, in order to promote innovative green intermodal freight transport corridors.

The Bulgarian partner in the project - Executive Agency Maritime Administration, is involved in all of the Work Packages and especially in Work Package 4 “Proposal synthesis and GIFT model corridors” as a Coordinator.

13 Romania

13.1 Inland shipping in Romania

Romania is almost entirely situated within the Danube Basin (97,4%). The navigable waterways in Romania comprise an overall length of 1,691 km. Romania is an important riparian state on the Danube, extending from 1075 km. to the Black Sea. It is second to Germany in tonnage carried (4 M tons p.a.). Built between 1975 and 1984, the Danube-Black Sea canal links the Danube with the Black Sea and shortens the shipping route to Constanta by about 400 km.

On the Romanian stretch of the Danube there is an important transit traffic (international) going to the port of Constanta, especially cereals coming from the landlocked countries Hungary and Serbia. The Danube is also transited by Ukrainian ships, coming or going to the Ukrainian ports Reni and Ismail.

The national fleet comprises of approximately 1,200 lighters and barges as well as 250 tug boats and pushers. Most of the national fleet derive from the large national fleet which was built in communist times. Romania has a considerable tradition in deep sea as well as inland navigation and represents the largest inland vessel fleet in South-Eastern Europe.

13.2 Legal implementation of RIS

In Romania the RIS Directive has been implemented through:

Ordinance of the Ministry of Transport on the harmonization of river information services (RIS) on inland waterways in the European Community (in Romanian: *Ordin al ministrului transporturilor privind armonizarea serviciilor de informaţii pe căile navigabile interioare (RIS) din România cu cele din Comunitatea Europeană*), available at: http://www.lege-online.ro/lr-ORDIN-1057-2007-(86383).html (last accessed 20 March 2013). Legal act: *Ordin*, number: *1057*; Official Journal: *Monitorul Oficial al României*, number: *721*, Publication date: *25/10/2007*, Entry into force: *25/10/2007*; Hereinafter: 'the 2007 Ordinance of the Ministry'.

A general remark on implementation of the Directive in Romania: the transposing legislation adds to the minimum requirements of Article 4(3) of the Directive by requiring the administrations of ports and inland waterways to provide general data to the RIS centres on safety and conditions of navigation, port infrastructure, and port traffic. [1]

A detailed analysis of the legal transposition of the RIS Directive and its articles in the legislative framework of Romania is included in the Annex.

[1] Article 4(3)(c) of the 2007 Ordinance of the Ministry.

13.3 Technical implementation of RIS

a/Notices to skippers

Notices to skippers are issued by:

- "the River Administration of the Lower Danube" Galati, AFDJ" and are available as scanned copies of paper documents on their website www.afdj.ro.
- The Administration of Navigable Canals
- The Romanian Naval Authority

Fairway and traffic-, water level-, weather and ice related information issued by an of the above mentioned authorities are now published in electronic format to the latest NtS on the recently finalised website of the RoRIS system: www.roris.ro.

Automatic weather measuring stations are already in operation along the Romanian Danube. The NtS from the RoRIS system are provided automatically to the International Danube FIS portal developed within the NEWADA project. The portal is currently available in a testing phase on http://test.danubeportal.com/FIS_WEB/mohacs.zul.

b/Vessel tracking and tracing systems (Automated Identification System (AIS))

Within the Ro-RIS project, Romania is working on the implementation of a three-level AIS network:

- Local base stations, or isolated points along the Danube
- Four regional centres in Drobeta Turnu Severin, Giurgiu, Galati and Tulcea
- A national centre in Constanta.

The first four AIS base stations in Drobeta Turnu Severin, Giurgiu, Mahmudia and Sulina were installed like also the network servers in Constanta; all during the first phase of the RoRIS implementation 2005-2006. Twelve new AIS base station locations (Moldova Vech, Liubcova, Eibenthal, Orsova, Gruia, Calafat, Bechet, Turnu Magurele, Calarisi, Harsova, Braila and Galati) and new servers in regional centres Drobeta Turnu Severin, Giurgiu, Galati and Tulcea and national center Constanta were installed during the second phase of the RoRIS implementation. This new AIS network is interconnected with the first one. Also the maritime network is connected to the river systems. The last AIS network on the Danube is exchanging information with the Danube-Blac Sea Canal AIS network. Also within the RoRIS 2 project, in order to increase the safety of navigation, 13 new radars and CCTV traffic cameras were installed inside ports and some dangerous areas.

As from March 2013 the RoRIS project has been completed and a full coverage of the Danube is ensured. It should be mentioned that for the Black Sea Canal a separate AIS-system is in operation and it covers the entire Canal (main branch and Poarta Alba Navodari branch). The two systems are compatible and interconnected, so AIS data exchange is possible both ways. Ship-ship and ship-shore communication is available. Furthermore AIS can be used for lock management.

The used AIS technology is compatible with the maritime AIS and the interface with this maritime AIS is in place and working. Within the IRIS II project, Romania has installed 250 inland transponders on Romanian ships. AIS is not mandatory in Romania and there is no international data exchange. However, currently Romania is testing data exchange with Austria. Within the IRIS III project a service agreement will be developed which will be the legal basis fort exchange of information.

c/Electronic ship reporting

Reporting obligations for inland vessels carrying dangerous cargo exist in Romania. The ERINOT message is functional as from 2012/2013 but only obligatory for dangerous cargo. Bot RoRIS systems (on the Danube and the Canal) can send ERIRSP messages when an ERINOT message is received. Currently there is no implementation of PAXLST and BERMAN planned.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

The "River Administration of the Lower Danube" Galati, AFDJ has the obligation to prepare the Electronic Navigation Charts according to the Inland ECDIS standard for the whole network of inland navigable ways in Romania (full coverage of1167 km.). The produced Inland ENCs are in accordance with the Inland ECDIS Standards version 2.1. and are available free of charge at www.afdj.ro for the whole Romanian Danube (Sulina Channel, Danube Black Sea Channel, Maritime Danube, and from Km175 – Km1075) and for both branches of the Danube-Black Sea Canal.

Within the boundaries of their maintenance budget, AFDJ does regular measurements on some of the critical stretches of the Danube and there are updates available for these special fairways and buoys every month. Also the depths are measured but this data is not included in the monthly updates.

e/Hull database

Romania has established a national hull database; international exchange is possible with EHDB and is fully operational. Furthermore, Romania can assign ENI numbers.

f/RIS Index

In Romania for the provision of the Minimum Data (i.e. also the RIS Index) as prescribed in the Annex I of the RIS Directive 2005/44/EC Romanian Naval Authority (RNA) is responsible. RNA cooperates with the River Administration of the Lower Danube (AFDJ) and the Administration of Navigable Canals for the development and maintenance of the national RIS Index. The top priority objects (about 2500) have been encoded in included in the ENCs. The AFDJ is responsible for the ENC encoding.

A short summary of the implementation of RIS and its main elements in Romania

Summary technical implementation of RIS elements in Romania

		Romania	
		Implemented?	*When?*
Notices to skippers	Fairway & Traffic Messages (FTM)	Yes	2013
	Water Related Messages (WRM)	Yes	2013
	Ice Message (ICEM)	Yes	2013
	Weather Related Messages (WERM)	Yes	2013
	Method of diffusion	Website	March 2013
AIS	AIS infrastructure	Full coverage on the Danube and the Danube-Black Sea Canal	2012/2013
	On-board equipment	Yes, 250 AIS transponders	2011
	Exchange	No, testing phase with Austria	
Electronic reporting	ERINOT, ERIRSP	Yes, ERINOT	2013
	BERMAN and PAXLISTS	No	
	Exchange	No international data exchange	
ENC	Coverage	Romanian Danube and Danube-Black Sea Canal	2010
	Provision free of charge	Yes	
Hull database	Exchange with European hull database	Yes	
	Vessels have an ENI	Yes	
RIS index	Correct use	Yes (but prioritized)	
	Synchronization with ERDMS	Yes	
Traffic management		ePort application (pilot)	
On board equipment	AIS equipment	Yes	
	ERI	Yes	

13.4 Other characteristics of RIS implementation

Within Romania there are two fully operational RIS systems: RoRIS on the Danube and RoRIS on the Danube-Black Sea Canal (DBSC). The reason for having two different rIS sytems has mainly to do with the history of the different administrations and the characteristics of the Canal: the Administration of Canals had already a VTMIS system since the 70s and also there are some

particularities of the Canal (lock management, traffic charging, statistics) which are not needed on the Danube. Therefore it was decided to have two separate systems that exchange information. The integration concerns all major aspects:

- there is only one NtS application implemented in the RoRis which is also used by the Canal operators;
- the Canal uses the Hull Database of the RoRis
- the systems exchange voyage information
- the systems exchange AIS information

Therefore in terms of international data exchange and core users the two systems appear as a single system even though physically there are two systems with different administrations.

The first phase of the RoRIS project on the Danube started already in May 2006 and the system was recently upgraded (March 2013) with all necessary RIS technologies. The RoRIS on the DBSC was also recently upgraded to the latest RIS standards and is operational since 2012. Exchange of information is possible between the two systems and in terms of international exchange of data they function as a single system.

Romania has two RIS authorities: the Administration of Navigable Canals (CAN) and the Romanian Naval Authority (RNA). Also the National Company for the Administration of the Lower Danube (AFDJ) is active with regard to RIS-development, mainly for providing navigational charts for the Romanian waterways.

The RoRIS on the Danube is organized hierarchically on three levels, in accordance with the organizational structure of the Romanian Naval Authority:

- Central level and RNA headquartes in Constanta, with terminals at the Ministry of Transport and Ministry of Interior
- Regional level in Drobeta, Giurgiu, Galati and Tulcea
- Local level in 22 smaller Romanian ports on the Danube from Sulina to Bazias.

13.5 Conclusions

Romania has transposed the RIS Directive into the national legislation on 25 October 2007, which is only a few days later than the implementing schedule of the RIS Directive. Romania allocated a high budget for implementing the RIS services; also Romania made progress with regard to international data exchange in the Danube River Basin.

13.6 Organisational structure of RIS implementation in Romania

Within Romania, the **Ministry of Transport/DG for Air & Waterway Transport** is responsible for the policy development of RIS in Romania. Within the Ministry/DG for Air & Waterway Transport a dedicated Directorate for Naval Transport is dealing with all RIS related issues. MoT assigned two RIS authorities for Romania:

- RNA - Romanian Naval Authority

- ACN – Administration of the Navigable Canals

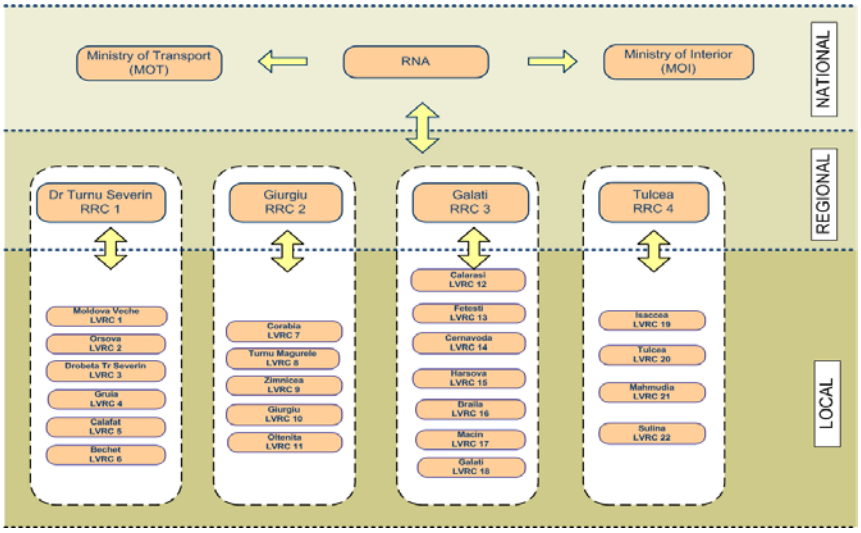
RNA

The Romanian Naval Authority is the specialized technical body subordinated to the Ministry of Transport in the field of safety of navigation. RNA is a public institution, having its headquarters in Constanta Port. The RNA has the following main tasks:

- inspection, control and surveillance of navigation in Romanian navigable waters;
- fulfilment of the obligations assumed from the international agreements and conventions to which Romania is part of;
- represents the Romanian Government within the international organizations in the field of naval transports;
- implementing of the international rules, regulations and conventions into Romanian legislation;
- development, endorsement and, if the case may be, submission of drafts laws and mandatory norms to the Ministry of Transports, Constructions and Tourism for approval;
- Port State Control and Flag State Control;
- coordination of the search and rescue activities in the Romanian navigable waters and the actions to be taken in case of navigation accidents and casualties;
- protection of navigable waters against pollution by vessels;
- sanctioning of the contraventions and investigation of the navigation accidents and casualties;
- registration of ships under Romanian flag;
- registration, endorsing and certification of Romanian seafarers;
- technical surveillance and certification of maritime and inland water ships, offshore drilling units flying the Romanian flag and of naval equipments as per RNA regulations;
- supervises the compliance of the Romanian naval transports with the provisions of the ISM Code and ISPS Code.

ACN

The shipping Canal Danube-Black Sea in the South East of Romania is in operation since 1984. The canal connects the inland waterways and ports to the Constanta port. The main responsibilities of ACN consist of assuring navigational conditions on the Danube – Black Sea Canal and the Poarta Alba – Midia Navodari Canal. ACN also takes care of the maintenance of the IWT ports of Medgidia, Basrabi, Ovidiu and Luminita and the infrastructure along these canals. Furthermore the administration manages the four locks of the canals at Ceranvoda, Agigea, Ovidiu and Navodari.



The Ministry of the Interior plays a minor role with regard to RIS. They have no regulatory or any other kind of role in RIS but as they are in charge with border monitoring they could theoretically benefit from RIS information (for the Danube border) but in reality nothing is done.

The Ministry of Transport and Infrastructure represents the State Authority in the field of transport. The Romanian Naval Authority and ACN are the official RIS authorities.

International stakeholders RIS Romania

The **IENC Romanian-Bulgarian Working Group** was established in 2006 with the main aim to harmonize the objects from ENC cells (marking system, river bank vectors, fairway objects etc.). Two meetings a year were envisaged or more if necessary.

The **IENC Romanian-Serbian Working Group** is still operational and also established in 2006. The main aim of the working Group is to develop a harmonized marking system, distant marks and the river bank vector and boundaries of the fairway and regulating the exchange of information between AFDJ/Romania and PLOVPUT/Serbia.

Romanian RIS experts are active in **different European RIS Expert Groups.** Representatives of RNA, AFDJ, ITS Romania, KDU (Knowledge Design Unit) participate in these expert groups.

13.7 RIS projects

VTMIS on the Danube

The Phare project RO 0107.12-04.01 was developed for the completion of the technical specification and preparation of the tender dossier for procurement. The project started in January 2005 and the costs of the first phase were 4,5 mln. EUR. The project contractors were: ASESOFT/Romania, CSR/Romania, SAAB/Sweden, NAVIELEKTRO/Finland and the supervision was done by Safege/Belgium.

Phase one of the project was to achieve an operational system, representing the nucleus of the complete system. At this phase the system would cover the main dangerous zones and the zones located in the neighbourhood of the ports: Turnu-Severin, Giurgiu, Galati and Tulcea (2005-2006). In Phase two the rest of the zones (less dangerous) were equipped according to the same technical specification used in phase 1 and to be integrated in the system (2007-2008). The budget of phase 2 was EUR 9 mln (is this project RO 2002/00-586.04.09?).

NEWADA

partner AFDJ and leader of WP 4. Within this project activities are being developed in the field of:

- harmonisation of waterway infrastructure
- Update ENC tools and training
- Achieve the FME tools
- Implementation of D4D in Romania
- Preparing the National Strategy Plan for optimisation of waterway maintenance and for hydrology and hydrography

IRIS II and III

IRIS Europe stands for "Implementation of River Information Services in Europe" and represents an international initiative, supported by the European Commission within the TEN-T funding programme, with the main objective to foster harmonised development and implementation of RIS on European level. The focus of this initiative is put on the enhancement of the RIS service portfolio in order to increase safety, efficiency and environmental friendliness of inland navigation.

The ongoing project IRIS Europe 3 is the third project within this initiative following IRIS Europe I (2006-2008) and IRIS Europe II (2009-2011). The projects can be seen as internationally coordinated projects of national priorities with a clear focus on pilot implementations.

NEWADA DUO

The project NEWADA duo supports the waterway management authorities of the Danube riparian states in achieving a common level of service in waterway management along the Danube and its navigable tributaries. This improved cooperation focusses on efficient and effective waterway infrastructure maintenance as well as customer-oriented services. The “NEWADA duo” approach of concerted waterway and information management procedures will translate into new benefits for the users.

The following are among the main goals defined for NEWADA duo:

- Improved waterway management (integrated, sustainable and regionally coordinated)
- Enhanced waterway maintenance (improved and coordinated performance)
- Improved customer orientation of waterway related services
- Harmonized waterway infrastructure related basic data (defined quality, scope and availability of data)
- Enhanced usage of Information and Communication Technologies (harmonized and up-to-date fairway information)
- Increased visibility of waterway authorities

- Provide transition support from pilot implementation to regular operation
- Enable countries to tackle national priorities by involving partners[1]

NELI

The three-year EU co-funded project NELI - Cooperation-Network for Logistics and nautical education focusing on Inland Waterway Transport in the Danube corridor supported by innovative solutions implemented within the South East Europe Transnational Cooperation Programme – SEE addresses specific problems such as discrepancies between national educational systems in the field of inland waterway transport, lack of interaction and communication between training institutions and stakeholders in the sector, limited number of harmonized initiatives, scarce or lacking eLearning services and insufficient promotion of the inland waterway transport sector.

To this end NELI set out to create a cooperation network between partners and stakeholders involved in inland waterway transport, provide support to education and training specialized entities, make an in-depth analysis of education and training in the field of inland waterway transport and advocate inland waterway transport through promotion actions[2].

RISING

RISING has the overall objective of identifying, integrating and further developing information services such as River Information Services (RIS) in order to efficiently support Inland Waterway Transport (IWT) and logistics operations.

IWT has become an integral part of co-modal transport and logistics chains. As such, the IWT sector has to comply with requirements of supply chain management (SCM). Effective transport infrastructure and high-performance Intelligent Transport Systems (ITS) must be further developed which will play a key role in this process.

The following potential RIS services for transport-logistics players will be enhanced in the framework of RISING:

- RIS information for **voyage planning** of IWT operators providing data on water level, water depth, maximum height/bridges, berth availability, lock occupation (actual and predictions/forecasts) used for routing, stowage planning, etc.
- RIS information for the **fleet management** of inland navigation including unpropelled inland vessels, by identifying their current position and status of operation
- RIS information facilitating **event management**, i.e. voyage monitoring for IWT operators, freight integrators, inland port operators, sea port operators providing status information, e.g. vessel positions, passing waypoints, missing administrative reports, predictions of problems in continuation of the voyage
- RIS information for both inland/sea **ports and terminals management** by providing Estimated Time of Arrival (ETA) updates for e. g. transhipment operations, management of terminal resources and of pre- and post-haulages.

[1] www.newada-duo.eu.
[2] www.neliproject.eu.

RISING is a project co-financed by the European Commission (DG MOVE) within the 7th Framework Programme for Research and Technological Development[1].

RIS-COSAR

The overall objectives of the project are:

- Analysis of the current status of implementation of RIS Directive (Directive of the European Parliament and of the Council on harmonized information services for inland navigation traffic) in Romania;
- Define Country specific solutions for the implementation of RIS type additional services, focusing on cross-border currency data and the avoidance and mitigation of disasters;
- Harmonization and standardization of technologies, applications and services RIS aforementioned above the minimum required by the Directive RIS;
- Definition and concept testing of data between national centres schimd RIS
- Create an integrated operating platforms and services CAS electronic warning disaster
- Demonstrator CAS platform and electronic reporting platform;

And the more specific objectives are:

- Developing, together with the client, a platform for monitoring, warning and electronic reporting of disasters and disaster for the Danube - Black Sea
- Defining the area of potential hazards to navigation on the Canal;
- Define sets of messages and their formats for electronic reporting;
- Interconnection authorities in disaster warning network;
- CAS demonstrator services
- demonstrator international data exchange[2].

PLATINA

The main objective of PLATINA is to support the European Commission, Member States and third countries in the implementation of the NAIADES action programme. PLATINA brings together all the relevant actors in the inland waterway sector in a multi-disciplinary knowledge network. Most members of the consortium already play an active role in transport policy in their countries, thus the contribution of the project to the promotion of inland waterway transport in Europe is maximised[3].

EDINNA

The EDINNA association recognizes that all members use the same European waterway system and have a different background in various educational systems in Europe. It is the aim of EDINNA to come to a more structured cooperation and to establish a harmonized education, training and certification system for inland waterway personnel in order to ensure high quality of trained staff on board the vessels.

[1] www.rising.eu
[2] www.ris-cosar.pub.ro
[3] www.naiades.info

14 Croatia

14.1 Inland shipping in Croatia

The Republic of Croatia has an extensive inland waterway network which includes three main rivers: Sava River (navigable stretch in Croatia of 504,2 km), the Drava (198,6 km) and the Danube (137,5 km). All three rivers are part of the European inland waterway network. Croatian inland waterways sector is specific; in fact most of the waterways are rivers which follow Croatia's borders. In consequence, all river projects should be coordinated with the neighbouring countries.

Inland waterways infrastructure in Croatia has not reached its capacity limits. Proper use of inland waterways resources will produce balance between different transport modes. However, weaknesses like insufficient administrative skills and technical capacity for waterways management and operation are some of the bottlenecks to overcome in order to further improve the use of the inland waterways.

The commercial fleet in Croatia consists of 57 ships with a total capacity of just about 44.000 tons participating in international cargo transport, with average age of more then 40 years. This capacity is not sufficient enough to follow the current transport demands to and from Croatian river ports. Therefore domestic operators are able to participate in cargo transport with just 20% of the total amount.

14.2 Legal implementation of RIS

It should be noted that as Croatia is a Member State as from July 1, 2013. The implementation of River Information Services Directive in Croatia is ongoing. There is no transitional period for the RIS implementation in Croatia.

The RIS Directive is transposed in the Croatian legislative framework through the following legislation:

- Act on Inland Navigation and Ports (OG 109/07)
- Correction to the Act on Inland Navigation and Inland Ports (OG 132/07)

It should be mentioned that a new amendment is being developed for the reorganization of the RIS structure which will bring the NCC under the Agency fir inland navigation (jurisdiction). This way it would be easier to further develop and maintain RIS.

The following legislation was derived from the Act on Inland Navigation and Inland Ports; article 174. section 2:

- *Regulation on River Information Services (OG 99/2008)*: This regulation provides requirements and standards necessary to organize the RIS operation, technical specifications for equipment and services, and provisions governing the management and administration of river information services for inland navigation.

- *Amendment to the Regulation on River Information Services (OG 08/2011):* Article 27 was corrected with regards to the on-board AIS transponder regulation (AIS obligation was changed to 01-01-2013)
- *Amendment to the Regulation on River Information Services (OG 39/2012)*: Article 27 was corrected with regard to the on-board AIS transponder regulation (AIS obligation was changed to 01-01-2015)
- *Regulation on inland waterway navigation (OG 138/08; Amendment to the Regulation on inland waterway navigation 8/10 & 74/10)*
  This regulation provides for full rules and standards necessary for the correct use of the Croatian inland waterways, rules for navigation on inland waters, safety terms, rules governing the transport of dangerous substances, and other important issues related to the safe and sustainable use of the inland waterways.

A detailed analysis of the legal transposition of the RIS Directive and its articles in the legislative framework of the Republic of Croatia is included in the Annex.

14.3 Technical implementation of RIS

a/Notices to skippers

Notices to Skippers – NtS application has been available in Croatia since 2005 (NtS std. v2.8; version 3.0 in preparation). NtS was implemented through the CRORIS system, which was initiated by the Ministry of Sea, Transport and Infrastructure in 2003. The first phase of the project implementation was completed in 2005. Notices to skippers are provided by four Harbour master's offices on Croatian inland waterways, Osijek for Danube and Drava waterways, Vukovar for the Danube waterway, Slavonski Brod for the Sava Waterway and Sisak for the Sava and Kupa waterways.

The notices are published by the Agency for Inland Waterways on its website http://nts.vodniputovi.hr/ in standardized form of 12 languages: Croatian, English, German, Bulgarian, French, Hungarian, Dutch, Romanian, Russian, Slovenian, Serbian and Czech. E-mail push service is also available to users after registration at the web site of the Agency for Inland Waterways.

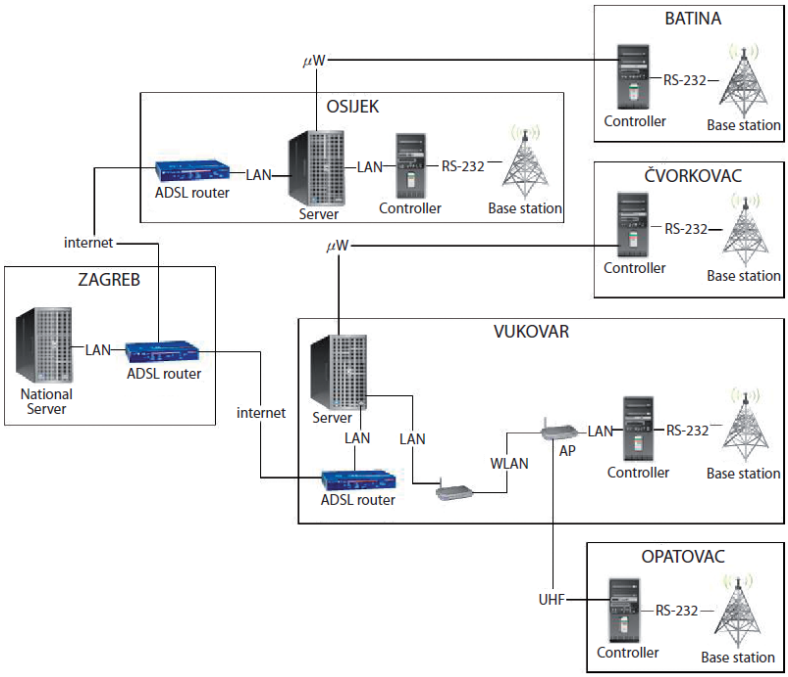
There are four types of messages available in the Croatian Notices to skippers application:

- Fairway and traffic related message (FTM);
- Water related message (WRM);
- Ice message (ICEM);
- Weather message (WERM).

b/Vessel tracking and tracing systems (Automated Identification System (AIS))

Vessel tracking and tracing is enabled by means of a structured AIS network which fully covers the waterways of the Danube and Drava Rivers (upstream from confluence with the Danube until Osijek). The Croatian CRORIS system consists of five AIS base stations located in the cities of Osijek, Vukovar, Opatovac, Čvorkovac and Batina.

Figure CRORIS system - AIS network, full coverage of the Danube and Drava waterways



Source: Ministry of Maritime Affairs, Transport and Infrastructure)

The AIS system, which was also implemented within the scope of the CRORIS implementation project in the period from 2003 to 2005, supports on-board navigation, as well as shore-based traffic monitoring which is done by the RIS centre in Vukovar.

Data that is transmitted via this communication network consists of:

- Static information (vessel number, call-sign, vessel name, vessel type etc);
- Dynamic information (vessel position, accuracy and integrity status etc.);
- Voyage-related information (length, beam, dangerous cargo, etc.);
- Text message communication vessel-shore and vice versa.

A pilot implementation of the AIS infrastructure network on the Sava River waterway has been executed through project "Detailed design and prototype installation for the RIS on the Sava River" in 2010. Full RIS implementation, which is to include AIS network extension over the entire navigable stretch of the Sava River waterway, is expected to be done in years 2014-2015.

Within the same CRORIS implementation project, in the period 2004-2006, governmental vessels were equipped with AIS transponders. Also a few years ago a support programme existed for equipping domestic vessels navigating on international rivers. It was planned to equip the rest of the private fleet in 2013 but according to Croatian legislation the private companies cannot get any financial support if they have not settled all their debts with the state.

With regards to the obligation of carrying AIS transponder on vessels navigating on the Croatian section of the Danube River waterway, according to the latest *Amendment to the Regulation on River Information Services* (OG 39/2012) of 4th April 2012, Article 27, the regulation will be applied as of 01.01.2015.

c/Electronic ship reporting

Electronic ship reporting (ERI) application has been developed in 2008, with regards to the exchange of ERINOT and ERIRSP messages by means of standardized data gateway, which is available but not operational. The final stage of testing of international data is in progress; however the limits of the national budget (other priorities) are hampering an upgraded data gateway. Now that Croatia has become an EU country no legal barriers for data exchange exist. The BERMAN and PAXLST messages have not been developed yet.

The ERI application is available on the internet http://eri.croris.hr/ to registered users. The application is under the jurisdiction of the Ministry of Maritime Affairs, Transport and Infrastructure, National RIS Control Centre.

The current, standard procedure is as follows - arrival of the ship must be announced to the Port Authority at least 24 h before the foreseen arrival at the port by the captain or the agent.
The announcement must contain the following data:

- name and/or ship identification number, nationality, deadweight tonnage, draft and the length of the ship and convoy vessels;
- number and the names of the crew members and the passengers;
- type and cargo volumes on the ship and the vessels in convoy,
- type and cargo volumes for loading/unloading at the port;
- the previous port, date and time of departure;
- date and time of foreseen arrival.

The announcement is submitted via electronic reporting system from the ship, electronic mail, radio connection or telefax. The announcement via electronic reporting is foreseen in the regulatory documents but it is normally not used in daily operations.
The arrival of the ships transporting dangerous cargo must be announced at least 48 hours before the arrival to the port.

d/Electronic chart display and information system for inland navigation (inland ECDIS)

In Croatia national IENCs – Inland Electronic Navigation Charts are provided for the rivers Danube, Drava, Sava and Kupa by the Croatian Agency for Inland Waterways (AVP). Total length of inland waterways in Croatia covered by IENCs is showed in the table below.

Table IENC coverage in Croatia

WATERWAY	CLASS	rkm	LENGTH (km)
Danube	VIc	1295,5 – 1433	137,5
Drava	IV	0 – 22	22
Sava	III – IV	211 – 594	383
Kupa	II	0 – 5	5
		TOTAL:	557,5

Both on the Danube and on the Sava waterways there are joint international sections where the waterways are national borders. Danube in its total length of 137,5 km is the national border with Serbia, and Sava with Bosnia and Herzegovina from rkm 211 up to rkm 515, whereas the rest of the navigable Sava waterway up to Sisak (rkm 594) as well as parts of rivers Drava and Kupa that are covered with IENCs are Croatia's national waterways. All joint sections are fully covered by Croatian IENCs.

IENC production in Croatia, initiated in 2004, has been in line with the European Electronic Chart Display Information System – inland ECDIS standard. Latest versions are available in standard 2.1. All Croatian IENCs (standard 2.0 and standard 2.1) are available for free download at the web site of the Agency for Inland waterways: http://vodniputovi.hr/index.php?page=encCharts .

None of the IENCs have been updated since 2010.

e/Hull database

The Ministry has issued 81 ENI numbers according to the Regulation (name, mark and ENI number NN 56/12) but Croatia did not solve yet the way of publishing ENI numbers to other countries. A Croatian Hull Database has not been developed yet as it is not a national priority. Within the to be started project "Implementation of the RIS and voice VHF system on the Sava River" a minimum dataset of hulls will be developed and set up. Further developed of a hull database will be financed from national budget.

f/RIS Index

There is no availability or use of a harmonised RIS index in Croatia. Only location codes were developed in 2007, without including them in the RIS index, but simply for the purposes of ERI and NtS applications. However, within the forementioned project "Implementation of the RIS and voice VHR system on the Sava River" a RIS index for Croatia will be provided.

A short summary of the implementation of RIS and its main elements in Croatia

Summary technical implementation of RIS elements in Croatia

		Croatia	
		Availability?	*When?*
Notices to skippers	Fairway & Traffic Messages (FTM)	Yes	2005
	Water Related Messages (WRM)	Yes	2005
	Ice Message (ICEM)	Yes	2005
	Weather Related Messages (WERM)	Yes	2005
	Method of diffusion	Online portal or e-mail subscription	2005
AIS	AIS infrastructure	5 Base stations available	2004-2006
	On-board equipment	All vessels	2004-2006
	Exchange	No due to technical restrictions	

		Croatia	
		Availability?	*When?*
Electronic reporting	ERINOT, ERIRSP	Yes	2008
	BERMAN and PAXLISTS	No	-
	Exchange	Yes/no: data gateway available but not operational due to legal restrictions	2008
ENC	Coverage	Croatian Danube, Sava and Drava	2004-2008
	Provision free of charge	Yes	2004
Hull database	Exchange with European hull database	No	
	Vessels have an ENI	No	
RIS index	Correct use	In preparation	
	Synchronization with ERDMS	No	
Traffic management		Traffic monitoring centre in Vukovar	Since 2006
On board equipment	AIS equipment	Small program only for governmental vessels	2004-2006
	ERI	Web access	2005

14.4 Other characteristics of RIS implementation

As Croatia has recently become an EU Member State, there is also a legal obligation to implement the RIS Directive. The process of implementation of the Directive is however ongoing, with a major role for the Ministry of Maritime Affairs, Transport and Infrastructure. Within the Ministry, the Directorate for Maritime and Inland Navigation, Shipping, Ports and Maritime Domain is dealing with the IWT sector. The Agency for Inland Waterways assures the functionality of the RIS system as competent authority and is amongst others responsible for the technical maintenance of RIS applications and equipment.

The backbone of the RIS system, the AIS infrastructure network has been fully operational and provides full coverage of the Danube and Drava Rivers. Full implementation of the RIS system on the Sava River is expected in the first half of 2016 (the expected date of full implementation of RIS on the Sava River according to the project description “Implementation of the RIS and voice VHR systems on the Sava River”; the project is now in tendering/contracting phase).

AIS transponder on-board obligation on Croatian waterways is expected to be enforced as of 1st January 2015 (it is likely however that this date will be postponed). All Croatian fleet vessels which navigate on international waterways have AIS equipment, mostly co-financed through national budget support and partly through other programs and sources (private, other countries). Other vessels will be equipped through national budget support in next period/years. Electronic ship

reporting and data exchange are from a technical point of view available but not operational due to legal constraints. Lack of both the Hull Database and RIS Index, hampers any international data exchange and will be a problem. For Croatia this is still work in progress and it should be noted that in Croatia inland navigation only accounts for 1% of the total transportation capacity.

14.5 Conclusions

The implementation of the RIS Directive legislation is well on its way in Croatia, both from a legal and technical perspective. However, lack of both the Hull Database and RIS Index, hamper international data exchange. Now that Croatia joined the EU, the possibilities of international electronic data exchange need to be examined. It has to be determined whether international data exchange is permitted or additional multi/bilateral Technical Administrative Agreements are required.

14.6 Organisational structure of RIS implementation in Croatia

The **Ministry of Maritime Affairs, Transport and Infrastructure** is responsible for the RIS legislation and strategic issues of RIS development. **The National RIS Centre** was established at the beginning of 2013 as a separate organisational unit within the Ministry of Maritime Affairs, Transport and Infrastructure, having no characteristics of a separate legal entity. According to the Regulation on River Information Services (OG 99/2008), the National RIS Centre is responsible for RIS management. The operational tasks are being executed through the regional RIS centres which are formed within the Harbour Master's Offices. RIS management to be done by the National RIS Centre includes:

- Providing relevant navigational data to the RIS users in an appropriate electronic format;
- Providing standardized ENCs;
- Providing international electronic reporting, to foreign parties as well as relevant national authorities
- Standardized NtS publication'
- Supervision and maintenance of the system;
- Data base administration.

The National RIS Centre is managed by the **National RIS Coordinator**, whose duty is to create and regularly improve the official RIS Handbook based on the inputs provided by the Harbour Master's Offices. The official RIS Handbook contains procedures performing RIS system operational tasks. The National RIS Centre is obliged to deliver the official RIS Handbook together with alterations to the managing director of the authority in charge of inland navigation safety, all port captains and employees in the RIS centres.

The National RIS Centre has just been established and its duties are proscribed by the Act on Inland Navigation and Inland Ports (OG 109/07) and Regulation on River Information Services (OG 99/2008). The national RIS Centre is however not yet fully in operation: some of the duties are operational but some are still in a testing phase and/or (soon) to be established. Currently, the tasks listed above

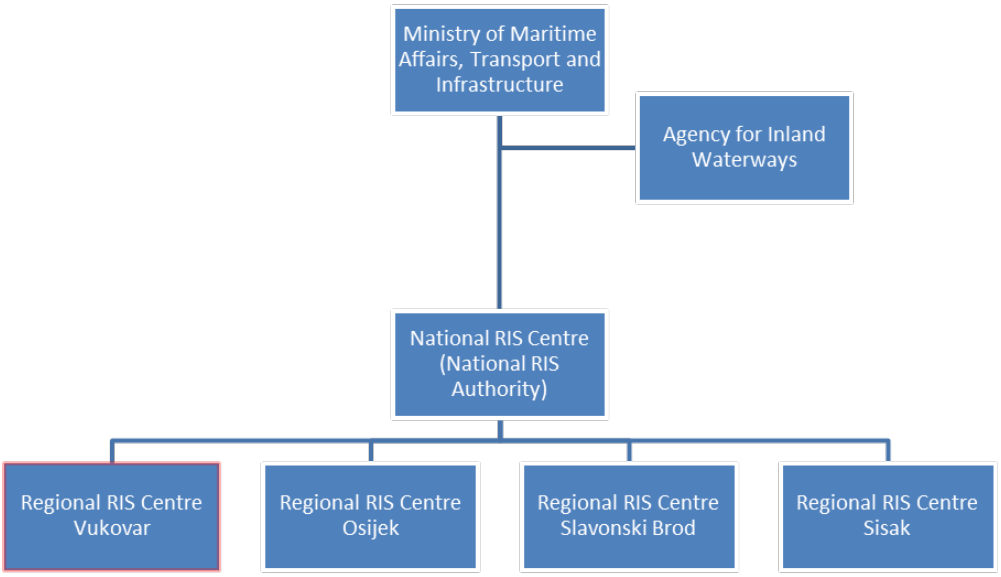
are distributed among the Ministry of Maritime Affairs, Transport and Infrastructure and the Agency for Inland Waterways. With the development of the new Amendment the abovementioned RIS structure will be reorganized in order to become more sufficient in developing and maintaining RIS in Croatia.

Currently, only one **regional RIS centre** is operational, the RIS Centre in Vukovar (situated within the Harbour Master's Office Vukovar). This is the only RIS traffic monitoring provided in Croatia.

The **Agency for Inland Waterways** is currently executing all the RIS activities that should be done by the National RIS Centre, except international electronic reporting due to the fact that international electronic is not operational (restrictions personal data exchange). The Agency for Inland Waterways is the owner of the AIS infrastructure network. According to the article 109 of the Act on Inland Navigation and Inland Ports, the Agency is responsible for technical maintenance of waterways, including objects, equipment and software related to RIS. In more detail the Agency is responsible for the development and maintenance of the following RIS segments: AIS infrastructure, Notices to Skippers, electronic navigational charts for the Danube, Sava and Drava rivers.

The parties involved in RIS implementation are the National RIS Centre under the jurisdiction of Ministry of Maritime Affairs, Transport and Infrastructure, the regional RIS centre in Vukovar and the Agency for the Inland Waterways (AVP). As National RIS centre has just recently been formed, and is not operational at this moment, its duties are largely executed by the Agency for Inland Waterways. Also, according to the Act on Inland Navigation and Inland Ports (OG 109/07), four Regional RIS centres in the Harbour Master's Offices are foreseen: Vukovar, Osijek, Slavonski Brod and Sisak. However, only one is operational in term of traffic monitoring, RIS centre in Vukovar.

Figure: Organisational structure of RIS in Croatia



14.7 Organisational structure of RIS implementation in Croatia

As mentioned earlier, the organisational structure of RIS will be reorganised with the new Amendment. However, today the parties involved in RIS implementation are the National RIS Centre under the jurisdiction of Ministry of Maritime Affairs, Transport and Infrastructure, the regional RIS centre in Vukovar and the Agency for the Inland Waterways (AVP). As National RIS centre has just recently been formed, and is not operational at this moment, its duties are largely executed by the Agency for Inland Waterways. Also, according to the Act on Inland Navigation and Inland Ports (OG 109/07), four Regional RIS centres in the Harbour Master's Offices are foreseen: Vukovar, Osijek, Slavonski Brod and Sisak. However, only one is operational in term of traffic monitoring, RIS centre in Vukovar.

According to the Inland Waterway Transport Development Strategy of the Republic of Croatia (2008-2018) (OG 65/08) technical implementation of RIS in Croatia has largely met the requirements of the Directive 2005/44/EC on harmonised River Information Services. However, what remains to be defined and implemented is the legal framework for full RIS operation. This means including the full operation of the National RIS Authority – National RIS Centre, as well as strengthening the administrative capacity of the system beneficiaries. A more precise organisational structure needs to be defined, particularly once the National RIS Centre is operational.

14.8 RIS projects

National RIS projects

The national RIS projects include the *CroRIS project* and the *Detailed design and prototype installation for the Sava River Waterway*.

The beginning of River Information Services in Croatia (CroRIS) dates back to 2001, when Croatia signed the Declaration of European Ministers of Transport which called upon Member and Accession States to implement pan-European RIS by the year 2005. The Croatian national RIS project was carried out parallel to other national RIS projects and was managed on two different levels. The first level was the administrative one, led by the Ministry of the Sea, Transport and Infrastructure, Agency for Inland Waterways and port authorities, while the second level included the commercial activities executed by the port operators and shippers.

The project was carried out in two phases:

I. research and development phase, 2004 – 2005, included all preparatory activities for harmonized RIS implementation in Croatia. RIS was implemented on Croatian part of the Danube River for test purposes only;
II. full implementation phase, 2006 – 2008, when RIS was fully implemented on the Croatian part of Danube and Drava rivers and in 2006 the first RIS Centre in Vukovar was opened.

Since 2006, new infrastructure and maintenance operations were done on annual basis.

The second national RIS project was the *Detailed design and prototype installation for the Sava River*, financed by the governments of the Republic of Croatia, Serbia and Bosnia and Herzegovina. The project time frame extended from the September 2009 to May 2010. The development and verification of RIS on the Sava River waterway was the main project objective, leading to improvement of navigation safety and efficiency, as well as the environmental policy. The project will provide complete technical specification with the aim of enabling the procurement of a proper RIS system, the implementation and operation on the Sava River, in accordance with the EU RIS Directive (2005/44/EC).

In May 2013 a Contract forecast notice was published for the Implementation of the RIS and VHF systems on the Sava River, hopefully leading to full RIS implementation on the Sava waterway by year 2016 (total project budget EUR 1,6 million). This project is divided in two parts:
1. Implementation of the RIS and voice VHF systems on the Sava river – evaluation of tenders is in progress
2. Supply of equipment for the RIS and voice VHF systems on the Sava river – evaluation of tenders is in progress.

Cross border RIS projects
The cross border RIS projects are as follows:

Cross-Border Implementation of River Information Services on Danube and Drava Rivers (CB-RIS)
Cross-Border Implementation of River Information Services on Danube and Drava Rivers (CB-RIS) included cooperation between the Republics of Croatia and Hungary. The project was 85% co-financed by the EU within the INTERREG IIIA Slovenia-Hungary-Croatia programme. The project was implemented in period 2006 - 2008, with the co-operating partners: relevant Ministries, Port Authorities, Harbour Master's Offices, Customs and Police. The main objectives of the project included improvement of cross-border mobility and accessibility in the border region on the Danube and Drava waterways and the development of accessible ITC technology. River Information Services (RIS) were implemented in four RIS centres for the project needs, two in Baranya county, one in Osijek and one in the Mohacs.

Cross Border Port an River Information Services (CB-RIS 2)
After successful implementation of CB-RIS, followed CB-RIS II project. This was a project with special importance for the region when taken into consideration that Croatia is a future Schengen border country. The partners on the project were National Association of Radio Distress-Signalling and Infocommunications – RSOE (Hungary), Port Authority Osijek (Croatia) and as associated partner Ministry of Interior (Croatia). The project was funded by the IPA Cross-border Cooperation Programme Hungary-Croatia and was carried out from May 2010 to August 2011. Areas covered by the project were Baranya County in Hungary and Osječko-baranjska County in Croatia. The objective of the project is to strengthen Danube co-operation by using River Information Services (RIS) and by providing harmonised port and risk management software solutions. The first application was a risk management software application to improve daily work of the border control authorities.

The second was a RIS based port management software application developed to support the port operator with up-to-date RIS information to improve daily operations.

NEWADA

The main objective of the NEWADA project was to increase the efficiency of corridor VII by intensifying cooperation between waterway administrations. The main objectives were as follows: cooperation on hydrological and hydrographical tasks, physical accessibility of the waterway infrastructure to be improved, access to ICT networks and services to be enhanced in order to overcome shortcomings, integration of responsible stakeholders and enable cooperation. The project budget was funded within the framework of the South East Europe Transnational Cooperation Programme. The project implementation took place from April 2009 to March 2012.

NEWADA DUO

NEWADA DUO project, which started in October 2012, aims at improved waterway management (integrated, sustainable and regionally coordinated), enhanced waterway maintenance (improved and coordinated performance), improved customer orientation of waterway related services, harmonized waterway infrastructure related basic data (defined quality, scope and availability of data), enhanced usage of ICT (harmonized and up-to-date fairway information), increased visibility of waterway authorities, providing transition support from pilot implementation to regular operation and enabling countries to tackle national priorities by involving partners. One of the key activities in Croatia is the pilot implementation of the remote AtoN monitoring system via available RIS infrastructure (AIS network) as well as development of the virtual AtoN system. Both will provide better and faster response time of the waterway administration when navigation conditions are concerned on the Danube waterway.

Synergy between EU-support programmes and national initiatives

Al EU projects that were implemented by any of the public bodies in the IWT sector in Croatian correspond with national RIS priorities. Therefore, EU support programmes complement national initiatives as much as possible. An equipment programme was carried out in Croatia. Legal enforcement of the national obligation of carrying the AIS transponder on-board has been postponed two times. With regards to the current legislation, the final date is 1st January 2015. This date will however probably be postponed due to delay in tender procedures.

15 Serbia

15.1 Inland shipping in Serbia

The geographical position of the Republic of Serbia provides natural advantages for intensive river transportation, thanks to its rivers (Danube, Sava and Tisza) as well as its canal network, notably the Danube-Tisza-Danube canal system (DTD Hydrosystem). There are a total of 1,419 km. of navigable km in Serbia; the river Danube is navigable along 588 km. and accounts for 85% of all cargo transported by ship in Serbia. Approximately 6 million tons are being transported annually in Serbia; most domestic transport. The Inland Waterways Maintenance and Development Agency (PLOVPUT) is responsible for the management of all rivers in Serbia.

15.2 Legal implementation of RIS

As the Republic of Serbia is not an EU Member State yet, there is currently no legal obligation to implement the RIS Directive. However, before the last election Serbia was interested and active in RIS development and implementation. It must be noted that after the last election in Serbia (May 6, 2012) the winning coalition decided to cut the administrative body of the country which also affected the state-owned RIS operator PLOVPUT.

The existing regulations related to RIS are:

- Law on navigation and inland ports (entered into force on 20th of October 2010)
- Law on changes and amendments of Law on navigation and inland ports (entered into force on 1st of January 2013)

A detailed analysis of the legal transposition of the RIS Directive and its articles in the legislative framework of the Republic of Serbia is included in the Annex. It must be mentioned that legally RIS is recognized and transposed, but without any obligations for the users. This means that the usage of the RIS applications is not mandatory to anybody; the law states that the Minister of Transport has the right to decide when the application will be mandatory.

15.3 Technical implementation of RIS

RIS is currently implemented on the River Danube which is part of the TEN-T network. Also on the Serbian stretch of the Sava River, RIS is available. Both rivers are under the jurisdiction of the Ministry of Transport, Directorate for Inland Waterways (the Serbian RIS operator). The Tisa River is also a class IV waterway but there are no plans to extend implementation of RIS to this waterway; the same is true for the Danube-Tisa Canal system.

a / Notices to skippers

System for publishing electronic Notices to Skippers are implemented in the Republic of Serbia and transferred into full operation, from a technical point of view. The system was set up in 2011 and was in a test operation for two years.

Full operation started in March 2013, when the implementation program was successfully finished. Access for users to the system is possible via https://nts.risserbia.rs. The system also has an administrative part, where different system settings can be managed. The Serbian RIS operator – Directorate for Inland Waterways (part of the Ministryof Transport) is responsible for this administration.

The Serbian NtS system provides full functionality in provision of standardized NrS messages (FTM, WRM, WERM, ICEM). The messages can be displayed on the website as full text in English and most of the languages used alongside the Danube as code (tags and values) format as well as in XML format. The system also supports email subscription for the users. Water level related messages (WRM) are generated automatically, and the corresponding data are official data from Serbian hydro meteorological institute (official Serbian institution for publishing water levels). WRM are updated on a daily basis.

Captaincies, as a part of the Ministry of Transport, Sector for Inland Waterway Transport, are responsible and in-charge of publishing the other messages (FTM, ICEM, WERM). However, there is no obligation for the Captaincy as competent authority to publish those messages in electronic format, using Notices to Skippers system as a part of the RIS in Serbia. Therefore this is currently done in the traditional way, in a paper form (this is obliged).

Further improvement of NtS is planned within the framework of the NEWADA FIS Portal meaning an interconnection with the Serbian RIS system will be established. For the moment there is no NtS data exchange between neighbouring countries, as there is no real usage of the system. Also legal issues first need to be solved with regard to data privacy protection.

b/Vessel tracking and tracing systems (Automated Identification System (AIS))

In past period, Serbian authorities have implemented an AIS based tracking and tracing system that consists of three segments:

- a central segment located in the premises of Serbian RIS Operator, Directorate for Inland Waterways (being part of the Ministry of Transport),
- a shore segment that consist of 15 AIS basestations alongside the Danube River and 3 AIS basestations alongside Sava River,
- a user segment consisting of 50 land-user-working-stations installed within different competent authorities such as RIS operator, Police (border police, river police, gendarmerie, Captaincies, Customs offices, lock-masters offices, etc).

Currently tracking and tracing system is fully operational, offering the possibility to users to have an overview over 588km of the Serbian Danube River, as well as complete overview on the Serbian Section of Sava River. Users can access to the real time data as well as to historic data (kept at the central segment), using a specially developed shore version of ECDIS application that offers some advanced features related to vessel tracking and tracing, monitoring the traffic, filtering, alarming, communication by means of broadcasted or addressed messages, etc. System supports also creation of alarm zones, XML interface, definition of various users and user groups with different access rights, etc. The

AIS database is managed and maintained by Directorate for Inland Waterways – PLOVPUT.
There is possibility (based on access rights) to use a webbased application that offers ECDIS like interface (mostly used by commercial users, even though available to the governmental users), with reduced scope of functionalities, but offering basing functions related to vessel tracking and tracing.

Tracking and tracing system is connected to NIDES (National and International Data exchange System) that enables international data exchange with other countries, however this is not in use. Main reason is that is Serbia is not an EU Member State meaning difficult legal aspects of data exchange with EU countries. Apart from that, vessels are not obliged to carry or use their inland AIS transponder on Serbian waters. Most of the vessels have however an AIS transponder and they also use it (concluded from a comparison of the AIS statistics and the possible number of Danube-navigating vessels).

Serbia has launched a equipment program for 14 months in 2011-2012; each vessel that sails through the Serbian stretch of the Danube could get an AIS transponder and ECDIS system. The program was open to vessels of all flags. During that period, in total 172 commercial vessels owned by 51 different companies from different countries have applied. 42% out of the 172 vessels were vessels sailing under the Serbian flag. There is no further equipment program planned.

c/Electronic ship reporting
The system for Electronic Reporting is implemented in Serbia, and is available via https://eridgw.risserbia.rs. The Electronic Reporting system supports the ERI notification message ERINOT (version ERINOT 1.2g) and ERI response and receipt message (version ERIRSP 1.2c), both in EDIFACT format (messages received by Barge information and communication system BICS) and XML format (web interface and data exchange). Web interface can be used for creation of electronic reports. BERMAN and PAXLST standards are also implemented. Technical preconditions for exchange of Electronic reports with other national systems are met, and tested with dummy data.

For all competent Serbian authorities, all technical preconditions to receive Electronic reports are met. However, there is no legal obligation for the users neither for authorities to use the system. The reporting (also for dangerous cargo) is done by the traditional way using paper or fax.

d/Electronic chart display and information system for inland navigation (inland ECDIS)
For all international and interstate waterways in Serbia are ENCs are available (Danube River, River Sava and River Tisa). ENCs are available in two versions of ENC standard, v1.02 and v2.1. The production and update of the charts are the responsibility of the Directorate for Inland Waterways. Charts are regularly updated (twice a year), and available for download from the website of Directorate for Inland Waterways (www.plovput.rs). As the former company PLOVPUT was state-owned and now as its successor, the Directorate is a part of the Ministry of Transport, these activities are financed from the state budget.

ENCS production platform is considered to be state of the art using latest version of data processing, production and conversion tools by 7Cs, FME, EIWA. Serbian ENCs don't contain detailed bathymetry. The main problem is lack of quality depth information. A pilot project was done on a short section of river Danube, but it is not published as Serbian official ENCs. Charts just show range where depth is over 2.5m (or in case of the Danube, 3.5m downstream from Belgrade). In the NEWADA duo project some activities are planned regarding the provision of bathymetric data as well. The Serbian Directorate for Inland Waterways provides fairway information via the so called D4D portal (rs.d4d-portal.info) which is regularly updated. On the RIS portal there is a link to the site of Directorate for Inland Waterways - PLOVPUT.

e/Hull database

The National Hull Data Base is implemented in Serbia and hosted within the National RIS Centre. The database is in line with the requirements of Directive 2008/87/EC, amending Directive 2006/87/EC of the European Parliament and Council laying down the technical requirements for inland waterway vessels. For the moment, the database is populated with minimum hull data sets used by other RIS systems, in accordance with the Directive 2008/87/EC amending Directive 2006/87/EC.

Data exchange is successfully tested with European Hull Database by means of web service technology. System is functionally accepted, currently not in usage, but being in the period of performance and stability tests. Currently database contains information about 50% of the vessels registered in Serbia. The Hull database can be accessed by authorized users at a web address: https://hull.risserbia.rs

The hull database is connected to the Data Gateway that enables data exchange between different users and applications. But, due to missing legal agreement regarding the data exchange between EHDB and non-EU countries, no Serbian vessels are uploaded to the EHDB.

The assignments of unique hull numbers is ongoing in Serbia. The ENI is either issued upon request from the vessel operator or issued automatically after the renewal of vessels certification documents. The assignment of ENI upon request can be stated as rather smooth, as the whole administrative process can be done within a week. It should also be noted that in the Equipment Program done by Directorate for Inland Waterways – PLOVPUT, having an ENI was a precondition, so most of the active Serbian vessels have its ENI.

f/RIS Index

A RIS index is created and available in Serbia, maintained by Serbian RIS operator Directorate for Inland Waterways. The Serbian RIS index includes only the mandatory objects (such as: bridges, locks, lock basins, harbors, harbors basins, waterway gauges, turning basins, anchorage areas, junction points) according to the RIS Index Encoding guide version 0.8., and is used in different applications within Serbian RIS system.

The latest version of Serbian ENCs for the river Danube are done in compliance with Inland ECDIS Standard 2.1 version, and all of the objects defined within Serbian RIS Index are also encoded into the ENCs and have ISRS code defined. The latest version of Serbian RIS index available is version 1.2 that can be found on the FIS Portal web site.

A short summary of the implementation of RIS and its main elements in the Republic of Serbia is given below:

Summary technical implementation of RIS elements in Serbia

		Serbia	
		Availability?	*When?*
Notices to skippers	Fairway & Traffic Messages (FTM)	Yes	Since 2011 in test mode; since 2013 full operational
	Water Related Messages (WRM)	Yes	Since 2011 in test mode; since 2013 full operational
	Ice Message (ICEM)	Yes	Since 2011 in test mode; since 2013 full operational
	Weather Related Messages (WERM)	Yes	Since 2011 in test mode; since 2013 full operational
	Method of diffusion	Online portal or e-mail subscription	
AIS	AIS infrastructure	Over 588 km. of the Serbian Danube River and total coverage Serbian part of Sava River	2013
	On-board equipment	More than 100 ships equipped	2013
	Exchange	Technical possible but not in practice due to legal restrictions	
Electronic reporting	ERINOT, ERIRSP	Yes	2013
	BERMAN and PAXLISTS	Yes	2013
	Exchange	Technical preconditions for exchange of electronic reports are met and tested. No use of the system due to missing legal framework	
ENC	Coverage	All international and interstate waterways of Serbia	2013
	Provision free of	Yes	

		Serbia	
		Availability?	*When?*
	charge		
Hull database	Exchange with European hull database	Successfully tested but not in practice yet	
	Vessels have an ENI	Most of the active Serbian vessels have an ENI	Assignment is continous
RIS index	Correct use	Yes	2013
	Synchronization with ERDMS		
Traffic management		At a low level; only at Iron Gate Locks	2013
On board equipment	AIS equipment	Available (>100 ships)	2013
	ERI		2013

15.4 Other characteristics of RIS implementation

In Serbia, RIS applications have been implemented rather technically than on the administrative, operational level. The basic applications of RIS are working and could be used and legal transposition has been done, but due to lack of obligation the use of the system is limited.

Although the benefits of RIS technologies are clear, it can be stated that within the captaincies there is rather reluctance, rejection and neglect regarding RIS. Other competent authorities, such as customs and water police have proper understanding, and are actively using RIS based services (especially tracking and tracing based services) since the moment of the implementation. The lock authorities consider RIS applications to be essential tools for traffic management in the vicinity of locks (and therefore within zone of responsibility of the lock-masters).

According to the Serbian RIS provider – a first step for wider RIS usage should be the better organisation and building of staff capacity notwithstanding also improvements of the legal structure.

15.5 Conclusions

As Serbia is not a Member State, there is no legal obligation to transpose the RIS Directive into national legislation. However, the Directive has already been transposed on 20 October 2010. RIS is currently implemented on the River Danube as part of the TEN-T network and on the Serbian stretch of the River Sava. Both of these rivers are under the jurisdiction of the Ministry of Transport, Directorate for Inland Waterways which is the Serbian RIS operator.

The RIS system is encountering many difficulties and the Directorate for Inland Waterways is lacking budget for the regular ris operations and maintenance.

Furthermore there are no clear ideas within the Ministry of Transport on further development of RIS.

15.6 Organisational structure of RIS implementation in Serbia

Ministry of Transport, Directorate for Inland Waterways
The main authority with regard to the RIS implementation of Serbia, is Ministry of Transport, Directorate for Inland Waterways (nowadays being part of the Ministry, formerly known as PLOVPUT). This organization is recognized as RIS operator in Serbia and assigned with responsibility to implement, operate and maintain RIS, according to the Law on navigation and inland ports. Other RIS related activities of the Directorate are:

- production, update and publication of electronic navigational charts for waterways of class Va and higher;
- maintenance of waterways;
- marking the waterways;
- surveys of riverbeds.

Captaincies (being part of the Ministry of Transport)
With relation to RIS the Captaincies are responsible for traffic management, issuing the notices for skippers, management of reporting related inland waterway transport and vessel certification. There are 13 captaincies in Serbia: Bezdan, Apatin, Bačka Palanka, Novi Sad, Beograd, Pančevo, Smederevo, Veliko Gradište, Kladovo, Prahovo, Sremska Mitrovica, Senta and Titel.

Republic Hydrometeorological Service of Serbia, RHMS
RHMS is the water level provider for the Serbian RIS system. Interconnection, data provision with PLOVPUT is done automatically. The Service is obliged by law to provide the necessary data for the Notices to Skippers Water related Messages.

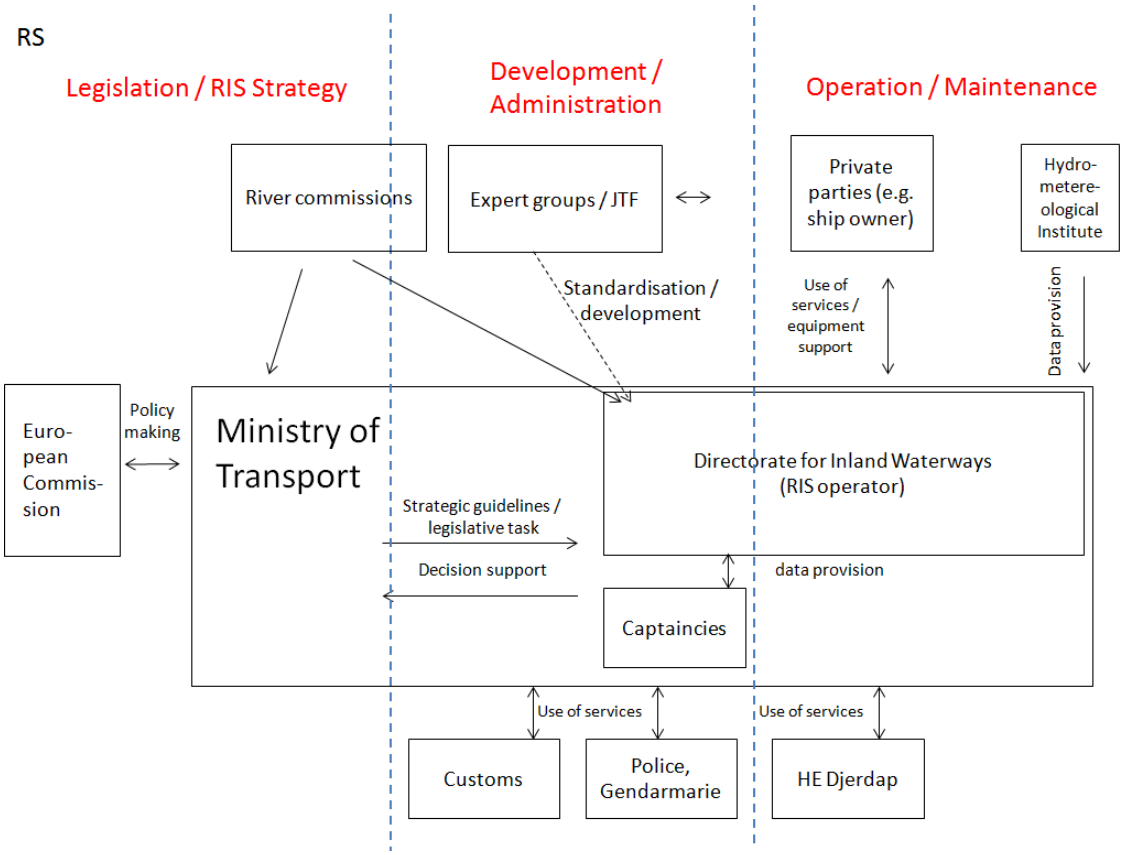
Lock management is done by the Serbian Public enterprise "**HE Djerdap**". However RIS systems are hosted and "operated" in terms of provision of the Service by Plovput (Directorate for Inland Waterways).

Considering the RIS organisational system in Serbia, it can be stated that most of the relevant and necessary parties are involved. At the moment, there is no organisation in Serbia for the promotion of inland navigation. All the already involved parties are state-owned and financed from the state budget. The interaction between the RIS provider and the other parties is not really working, sufficient communication exists only if the attitude of relevant personnel to RIS is good.

After assimilation to the Ministry of Transport, RIS provider PLOVPUT (Directorate for Inland Waterways) is not organised properly. The formerly rather independent institute now – as a part of state administration – suffers from high level of bureaucracy, which hinders the activities very much.

At this moment Serbia is represented by Plovput (Directorate for Inland Waterways) in some international organisations, such as Danube Commission,

Sava Commission and GIS Forum for the Danube. Due to lack of budget, participating in the working of RIS Expert Groups is not possible now.



RIS organisations in Serbia

15.7 RIS projects

National RIS projects

RIS implementation in Serbia was started with an implementation program that consisted of three parts:

- Implementation of River Information Services (RIS) on the Danube River
- Supply of the equipment for Implementation of River Information Services (RIS) on the Danube River
- Supervision of Implementation of River Information Services (RIS) on the Danube River

First, the implementation was planned only to River Danube, but later – due to available budget and permission of EU (IPA) – the implementation was extended to River Sava as well. The program's budget was approximately 11 million EUR, duration from 10/2009 to 03/2013. The program was 100% funded by the EU Instrument for Pre-Accession Assistance (IPA). Beneficiary was the Directorate for Inland Waterways PLOVPUT. All the key RIS technologies (AIS, NtS, ERI, HULL DB, etc.) were successfully implemented.

Cross border RIS projects

The cross border RIS projects are as follows:

MARUSE

IRIS Europe II

IRIS Europe 3 (running)

RISING

DANewBE

NEWADA

NEWADA duo (running)

16 Italy

As Italian inland waterways are not connected to the main TEN-T IWT network, there is no legal obligation to implement the RIS Directive in the Italian legal framework. However, Italy sees RIS as an opportunity for further developing the inland shipping sector on the Po River.

Therefore Italy is currently working on the roll-out of RIS on the River Po. This initiative is supported with TEN-T funding:

Studies for the Development of the RIS Operability along the Northern Italy Waterway System

Project activities:

- Drafting of a plan for the implementation of RIS along the entire NIWS
- Testing and implementation of RIS pilot project along a defined stretch of the NIWS, that will be used for the future application of the RIS system along the entire NIWS
- Increase NIWS efficiency through vessels tracking and tracing, locks remote control
- Increase NIWS competitiveness and convenience for operators making navigation quicker and safer.
- Increase NIWS safety for barges and vessels by monitoring their locations, loads, journeys, reducing environmental hazards and improving transport sustainability
- Implement a training system for skilled operators in the use of RIS technology.

Project goals:

- Developing the Northern-Italy waterway system as a part of a global multimodal network supporting and completing corridors I and V
- creation of a Trans-European multimodal axis including waterway and sea transport interconnected with road and rail transport reinforcing the east-west connection of Northern Italy and Balkan Area towards the Danube and Black sea
- Creation of an efficient and sustainable connection of continental Europe with the Mediterranean sea ports by rail (Brenner) – waterway – short-sea-shipping / Motorways of the sea
- reduction of road traffic congestion and CO2 emissions in the Po Plain through a modal shift from road transport to the more environmentally friendly waterway transport

Total budget of the project: EUR 5,06 million of which EUR 2,53 million. Italian state budget and EUR 2,53 million. TEN-T financing.

Parties involved: Sistemi Territoriali SpA, AIPO, Province of Mantova, Venice Port Authority.

Infrastructural improvements in the inland waterways system of Nothern Italy

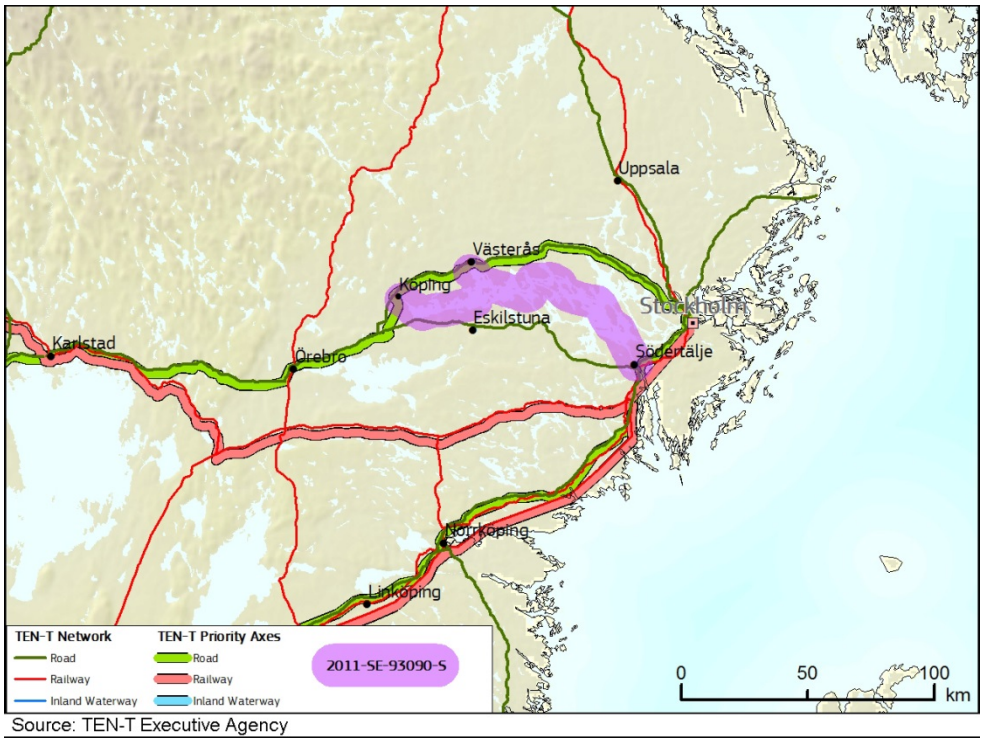
Besides the RIS project, Italy is working also on the upgrading of the waterway network in Nothern Italy (the Po river and its canals) with support of the TEN-T programme. The waterway network will be upgraded to class Va meaning it will be capable of accommodating vessels up to 110 metres long and displacing 3,000 tonnes with 3 layers of containers loaded. Additionally it will also develop the multimodal interconnections with the existing road and rail networks as well as the Adriatic Sea.

The ultimate objective is to increase the capacity of the Nothern Italian waterway system to meet the existing and future demand for freight transport in this heavily industrialized and congested region of Italy. More in detail the objectives are to improve the accessibility of the industrial pole of South East Lombardy, to foster the interoperability of the Valdaro port area with road and rail networks and to increase the efficiency of safety of navigation. The project started in May 2009 and will end in December 2013. Total budget is EUR 93,020,000 of which the EU contributed 10% meaning EUR 9,302,000.

17 Sweden

Inland shipping in Sweden is not very common although Lake Malaren and Lake Vanern offer good opportunities to develop this transport mode in Sweden. Main bottlenecks for developing this transport mode are a.o.: the locks length of life is too short (80 years old lock; new lock will cost around EUR 66 mln.), high pilotage fees, the shipping sector has to pay it's own infrastructure, there is an ignorance about shipping possibilities and the freight transport times are too long for high value goods. However, with the start of the TEN-T project about upgrading the Lake Malaren, Sweden is investigating the possibilities for inland shipping development. It should be noticed that Sweden is not part of the RIS eligible countries so Sweden is not obliged to fulfil any part of the RIS Directive and technical regulations.

Figure Priority project 12 Upgrading of maritime infrastructure in Lake Malaren



Source: TEN-T Executive Agency

Sweden acknowledges the unused potential in the Lake Malaren and would like to increase the role of sea transport in the intermodal transport chain. In the geographical zone around Lake Malaren, a number of bottlenecks related to the railway system and the main road system leading into and passing through Stockholm wit hits congestion during peak hours lead to constraints in capacity.

With the project "Upgrading of maritime infrastructure in Lake Malaren" Sweden aims at improving the maritime infrastructure in the Lake Malaren in order to improve efficiency, safety of navigation and environmental performance. The works included increased depth and width of fairways and canal, increased clearance and lengthening ad widening of the lock. The total project budget is EUR 5,520,000 of which both the European Commission and Sweden support 50%.

The upgrading of this infrastructure will support a modal shift from the overburden TEN-T Priority project 12 Nordic triangle to sea transport, making sea transport more sustainable and cost efficient.

The current action is part of Global project and aims at preparing all necessary technical and environmental studies of the proposed investments in order to obtain a formal request for building consent from the Swedish Land and Environment Court. After project execution of the Global project, Lake Malaren will be navigable for larger ships and give possibility to direct calls to other European ports. This will increase the cost-and time efficiency in sea transportation.

Annex 1 Transposition tables of (candidate) Member States

The Netherlands

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Article 1 (Subject matter)	No need for legislation	-
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)	Article 21 of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, appendix
Paragraph 2 (RIS could be applied also to other waterways)	Article 21 of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, appendix
Article 3 (Definitions)		
(a) definition of RIS	Article 1p Scheepvaartverkeerwet	2 October 2007
(b) definition of fairway information	Article 1q Scheepvaartverkeerwet	2 October 2007
(c) definition tactical traffic information	Article 1r Scheepvaartverkeerwet	2 October 2007
(d) definition strategic traffic information	Article 21, first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 7
(e) definition RIS application	Article 21, first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 1e

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
	gegevensverwerkingen scheepvaart)	
(f) definition RIS centre	Article 21, first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 1f
(g) definition RIS users	Article 21, first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 1g
(h) definition RIS interoperability	Article 21, first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 7
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	Article 21, first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 7
Paragraph 2 (MS implement efficient, expandable and interoperable)	Article 21, first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 7

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Paragraph 3 (in order to set up RIS, MS shall:)		
(a) supply all relevant data concerning navigation and voyage planning	Article 21, first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 7
(b) ensure ENCs for all waterways of class IV and above	Article 21, first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 7
(c) enable competent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	With regard to electronic ship reports: Article 21 first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart) With regard to transmitting to competent authorities:	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 7 with regard to electronic ship reports And with regard to transmitting to competent authorities abroad: transposed since 2 October 2007/Besluit gegevens scheepvaart 2007, article 8 but also article 9.07 of the already existing Binnenvaartpolitiereglement and the Regeling communicatie rijksbinnenwateren and article 12.01 of the Rijnvaartpolitiereglement are valid.
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	Article 21, first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 7

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	Article 21, first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 7
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	Article 21, first paragraph of the Besluit van 4 mei 2012, houdende regels voor de scheepvaart over meldingsformaliteiten en over de verwerking van de ontvangen gegevens door organisaties en personen die niet aan het scheepvaartverkeer deelnemen (Besluit meldingsformaliteiten en gegevensverwerkingen scheepvaart)	Transposed since 2 October, 2007/Besluit gegevens scheepvaart 2007, article 7
Paragraph 6 (MS shall encourage users to fully profit from the services)	No need for legislation	-
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	No need for legislation	-
Article 5 Technical guidelines and specifications		
Paragraph 1 EC shall define technical guidelines for	Regulations: no need for national legislation.	
(a) inland ECDIS	Not published yet	-
(b) electronic ship reporting	Commission Regulation (EC) N° 164/2010	25th of January 2010
(c) notices to skippers	Commission Regulation (EC) N° 416/2007	22nd of March 2007
(d) vessel tracking and tracing systems	Commission Regulation (EC) N° 415/2007 Commission Regulation (EC) N° 689/2012	13th of March 2007 27th of July 2012
(e) compatibility of the equipment		
Paragraph 2 timeline establishment technical guidelines and specifications	Commission Regulation (EC) N° 414/2007	13nd of March 2007
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for implementation	-
Article 6 Satellite positioning		
The use of satellite positioning	No need for legislation	-

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
technologies is recommended		
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	If necessary, article 8 of the Binnenvaartwet offers the possibility to create a scheme. Article 4.06 of the Binnenvaartpolitiereglement already contains a basis for type approval of radar equipment on board of inland ships. Article 4, paragraph 8 of the Scheepvaartverkeerswet offers the possibility to define rules with regard to equipment and software applications being used by persons who are not part of shipping traffic	13th of September 2007
Paragraph 2 MS notify EC the national bodies responsible for type approval	No need for legislation	-
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	On the basis of Article 3.1.2 of the Binnenvaartwet a regulation will be defined including mutual recognition of type approvals of other national MS bodies	?
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	Article 1.5.a and 10 of the Besluit meldingsformaliteiten en gegevensverwerking scheepvaart	Article 1c Besluit gegevens scheepvaart, 2nd October 2007
Article 9 Rules on privacy, security and the re-use of information		
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC	Article 4, paragraph 4 of the Scheepvaartverkeer is related to processing of personal data. Article 4 has been further elaborated on in Articles 6-9 and 21.2 and 21.3 of the Besluit meldingsformaliteiten en gegevens verwerking scheepvaart.	Article 7 of the Besluit gegevens scheepvaart 2nd October 2007
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	Article 4, paragraph 4 of the Scheepvaartverkeer is related to processing of personal data. Article 4 has been further elaborated on in Articles 6-9 and 21.2 and 21.3 of the Besluit meldingsformaliteiten en gegevens verwerking scheepvaart.	Article 7 of the Besluit gegevens scheepvaart 2nd October 2007

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	Article 4, paragraph 4 of the Scheepvaartverkeer is related to processing of personal data. Article 4 has been further elaborated on in Articles 6-9 and 21.2 and 21.3 of the Besluit meldingsformaliteiten en gegevens verwerking scheepvaart.	In Chapter V-A of the Wet openbaarheid bestuur is referred to data exchange/re-use of data between public authorities in general (31st of October 1991)
Article 10 Amendment procedure		
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended	No need for specific legislation	-
Article 11 Committee Procedure	Not relevant for transposition	-
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		-
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		-
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		-
Article 12 Transposition		
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions	No need for specific legislation	-
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)	No need for specific legislation	-
Paragraph 3 Commission may extend the period provided laid down in article 11	The Netherlands will not use this possibility	-
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law	No need for specific legislation	-
Paragraph 5 MS shall assist one another where necessary	No need for specific legislation	-
Paragraph 6 Commission shall monitor the setting up of RIS	No need for specific legislation	-

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Article 13 Entry into force		
Directive shall enter into force 20 days following publication (30 September 2005)	No need for specific legislation	-
Article 14 Addressees		
Directive is addressed to MS which have inland waterways falling within the scope of article 2	No need for specific legislation	-

Belgium

As the RIS Directive in Belgium is implemented on a regional level (Brussels, Flanders and Wallonia) instead of the federal level, there are three separate transposition tables.

Brussels

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
Article 1 (Subject matter)	Not relevant for transposition	
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)	Order 11 September 2008, Art. 3	17th of September 2008
Paragraph 2 (RIS could be applied also to other waterways)	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17h of September 2008
Article 3 (Definitions)		
(a) definition of RIS	Order 11 September 2008, Art. 2, §1	17th of September 2008
(b) definition of fairway information	Order 11 September 2008, Art. 2, §1	17th of September 2008
(c) definition tactical traffic information	Order 11 September 2008, Art. 2, §1	17th of September 2008
(d) definition strategic traffic information	Order 11 September 2008, Art. 2, §1	17th of September 2008
(e) definition RIS application	Order 11 September 2008, Art. 2, §1	17th of September 2008
(f) definition RIS centre	Order 11 September 2008, Art. 2, §1	17th of September 2008
(g) definition RIS users	Order 11 September 2008, Art. 2, §1	17th of September 2008
(h) definition RIS interoperability	Order 11 September 2008, Art. 2, §1	17th of September 2008
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17th of September 2008
Paragraph 2 (MS implement efficient, expandable and interoperable)	Order 11 September 2008, Art. 4, §1	17th of September 2008
Paragraph 3 (in order to set up RIS, MS shall:)	Order 11 September 2008, Art. 5, §1	17th of September 2008
(a) supply all relevant data concerning navigation and voyage planning	Order 11 September 2008, Art. 5, §1	17th of September 2008
(b) ensure ENCs for all waterways of class IV and above	Order 11 September 2008, Art. 5, §1	17th of September 2008
(c) enable competent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	Order 11 September 2008, Art. 5, §1	17th of September 2008
(d) ensure provision of Notices to	Order 11 September 2008, Art. 5, §1	17th of September 2008

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
Skippers (standardised, encoded and downloadable)		
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	Order 11 September 2008, Art. 5, §2	17th of September 2008
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17th of September 2008
Paragraph 6 (MS shall encourage users to fully profit from the services)	Order 11 September 2008, Art. 5, §3	17th of September 2008
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	Task of the EC	
Article 5 Technical guidelines and specifications		
Paragraph 1 EC shall define technical guidelines for		
(a) inland ECDIS	Not published yet	
(b) electronic ship reporting	Commission Regulation (EC) N° 164/2010	25th of January 2010
(c) notices to skippers	Commission Regulation (EC) N° 416/2007	22nd of March 2007
(d) vessel tracking and tracing systems	Commission Regulation (EC) N° 416/2007 Commission Regulation (EC) N° 689/2012	13th of March 2007 27th of July 2012
(e) compatibility of the equipment		
Paragraph 2 timeline establishment technical guidelines and specifications	Commission Regulation (EC) N° 414/2007	13th of March 2007
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for transposition	
Article 6 Satellite positioning		
The use of satellite positioning technologies is recommended	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17h of September 2008
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	Order 11 September 2008, Art. 5, §4	17h of September 2008
Paragraph 2 MS notify EC the	No specific mention, however Order	17h of September 2008

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
national bodies responsible for type approval	of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17h of September 2008
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	Order 11 September 2008, Art. 5, §2	17h of September 2008
Article 9 Rules on privacy, security and the re-use of information		
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC	Order 11 September 2008, Art. 6	17h of September 2008
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17h of September 2008
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17h of September 2008
Article 10 Amendment procedure	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17h of September 2008
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended		
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of		

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
1999/468/EC shall apply		
Article 12 Transposition		
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17h of September 2008
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17h of September 2008
Paragraph 3 Commission may extend the period provided laid down in article 11	Task of the EC	
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17h of September 2008
Paragraph 5 MS shall assist one another where necessary	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17h of September 2008
Paragraph 6 Commission shall monitor the setting up of RIS	Task of the EC	
Article 13 Entry into force		
Directive shall enter into force 20 days following publication (30 September 2005)	Not relevant for transposition	
Article 14 Addressees		
Directive is addressed to MS which have inland waterways falling within the scope of article 2	No specific mention, however Order of 11 September 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	17h of September 2008

Flanders

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
Article 1 (Subject matter)	Not relevant for transposition	
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)	Decree 19 December 2008 Art. 4, 1°, 2°	19th of February 2009
Paragraph 2 (RIS could be applied also to other waterways)	Decree 19 December 2008, Art. 4, last sentence	19th of February 2009
Article 3 (Definitions)		
(a) definition of RIS	Decree 19 December 2008, Art.3, 2°	19th of February 2009
(b) definition of fairway information	Decree 19 December 2008, Art.3, 3°	19th of February 2009
(c) definition tactical traffic information	Decree 19 December 2008, Art.3, 4°	19th of February 2009
(d) definition strategic traffic information	Decree 19 December 2008, Art.3, 5°	19th of February 2009
(e) definition RIS application	Decree 19 December 2008, Art.3, 6°	19th of February 2009
(f) definition RIS centre	Decree 19 December 2008, Art.3, 7°	19th of February 2009
(g) definition RIS users	Decree 19 December 2008, Art.3, 8°	19th of February 2009
(h) definition RIS interoperability	Decree 19 December 2008, Art.3, 9°	19th of February 2009
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	Decree 19 December 2008 (Not regulated in a specific article but through the transposition in general and the setting up in practice)	19th of February 2009
Paragraph 2 (MS implement efficient, expandable and interoperable)	Decree 19 December 2008 Art. 5°	19th of February 2009
Paragraph 3 (in order to set up RIS, MS shall:)	Decree 19 December 2008 Art. 6, §1	19th of February 2009
(a) supply all relevant data concerning navigation and voyage planning	Decree 19 December 2008 Art. 6, §1, 1°	19th of February 2009
(b) ensure ENCs for all waterways of class IV and above	Decree 19 December 2008 Art. 6, §1, 2°	19th of February 2009
(c) enable compentent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	Decree 19 December 2008 Art. 6, §1, 3°	19th of February 2009
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	Decree 19 December 2008 Art. 6, §1, 4°	19th of February 2009
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	Decree 19 December 2008 Art. 6, §3	19th of February 2009
Paragraph 5 (for use AIS regional arrangement concerning	Federal competence and transposed in federal legislation.	

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
radiotelephone service shall apply)		
Paragraph 6 (MS shall encourage users to fully profit from the services)	Not relevant for transposition	
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	Task of the EC	
Article 5 Technical guidelines and specifications		
Paragraph 1 EC shall define technical guidelines for		
(a) inland ECDIS	Not published yet	
(b) electronic ship reporting	Commission Regulation (EC) N° 164/2010	25th of January 2010
(c) notices to skippers	Commission Regulation (EC) N° 416/2007	22nd of March 2007
(d) vessel tracking and tracing systems	Commission Regulation (EC) N° 415/2007 Commission Regulation (EC) N° 689/2012	13th of March 2007 27th of July 2012
(e) compatibility of the equipment		
Paragraph 2 timeline establishment technical guidelines and specifications	Commission Regulation (EC) N° 414/2007	13th of March 2007
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for transposition	
Article 6 Satellite positioning		
The use of satellite positioning technologies is recommended	Federal competence and transposed in federal legislation.	
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	Federal competence and transposed in federal legislation.	
Paragraph 2 MS notify EC the national bodies responsible for type approval	Federal competence and transposed in federal legislation.	
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	Federal competence and transposed in federal legislation.	
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application and international exchange of data	Decree 19 December 2008, art. 3, paragraph 1, 1° Order of 23 January 2009, art. 2	19th of February 2009

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
and notify this the Commission	Also federal competence and also transposed in federal legislation	
Article 9 Rules on privacy, security and the re-use of information		
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC	Decree 19 December 2008 Art. 6, §4 Also federal competence and also transposed in federal legislation	19th of February 2009
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	Decree 19 December 2008 Art. 7 Also federal competence and also transposed in federal legislation	19th of February 2009
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	Decree 19 December 2008 Art. 6 Also federal competence and also transposed in federal legislation	19th of February 2009
Article 10 Amendment procedure	Not relevant for transposition	
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended		
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		
Article 12 Transposition		
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions	Not relevant for transpostion	
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)	Not relevant for transpostion	
Paragraph 3 Commission may extend	Not relevant for transposition	

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
the period provided laid down in article 11		
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law	Not relevant for transposition	
Paragraph 5 MS shall assist one another where necessary	Not relevant for transposition	
Paragraph 6 Commission shall monitor the setting up of RIS	Not relevant for transposition	
Article 13 Entry into force		
Directive shall enter into force 20 days following publication (30 September 2005)	Not relevant for transposition	
Article 14 Addressees		
Directive is addressed to MS which have inland waterways falling within the scope of article 2	Not relevant for transposition	

Wallonia

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
Article 1 (Subject matter)	Not relevant for transposition	
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)	Order 17 April 2008, Art. 2	24th of April 2008
Paragraph 2 (RIS could be applied also to other waterways)	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Article 3 (Definitions)		
(a) definition of RIS	Order 17 April 2008, Art. 3, a)	24th of April 2008
(b) definition of fairway information	Order 17 April 2008, Art. 3, b)	24th of April 2008
(c) definition tactical traffic information	Order 17 April 2008, Art. 3, c)	24th of April 2008
(d) definition strategic traffic information	Order 17 April 2008, Art. 3, d)	24th of April 2008
(e) definition RIS application	Order 17 April 2008, Art. 3, e)	24th of April 2008
(f) definition RIS centre	Order 17 April 2008, Art. 3, f)	24th of April 2008
(g) definition RIS users	Order 17 April 2008, Art. 3, g)	24th of April 2008
(h) definition RIS interoperability	Order 17 April 2008, Art. 3, h)	24th of April 2008
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	Order of 17 April 2008, Art. 5, §1	24th of April 2008
Paragraph 2 (MS implement efficient, expandable and interoperable)	Order 17 April 2008, Art. 5, §2	24th of April 2008
Paragraph 3 (in order to set up RIS, MS shall:)	Order 17 April 2008, Art. 5, §3	24th of April 2008
(a) supply all relevant data concerning navigation and voyage planning	Order 17 April 2008, Art. 5, §3, a)	24th of April 2008
(b) ensure ENCs for all waterways of class IV and above	Order 17 April 2008, Art. 5, §3, b)	24th of April 2008
(c) enable competent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	Order 17 April 2008, Art. 5, §3, c)	24th of April 2008
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	Order 17 April 2008, Art. 5, §3, d)	24th of April 2008
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	Order 17 April 2008, Art. 5, §4	24th of April 2008
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
Paragraph 6 (MS shall encourage users to fully profit from the services)	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	Task of the EC	
Article 5 Technical guidelines and specifications		
Paragraph 1 EC shall define technical guidelines for		
(a) inland ECDIS	Not published yet	
(b) electronic ship reporting	Commission Regulation (EC) No 164/2010	25th of January 2010
(c) notices to skippers	Commission Regulation (EC) No 416/2007	22nd of March 2007
(d) vessel tracking and tracing systems	Commission Regulation (EC) No 415/2007 Commission Regulation (EC) No 689/2012	13th of March 2007 27th of July 2012
(e) compatibility of the equipment		
Paragraph 2 timeline establishment technical guidelines and specifications	Commission Regulation (EC) No 414/2007	13th of March 2007
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for transposition	
Article 6 Satellite positioning		
The use of satellite positioning technologies is recommended	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Paragraph 2 MS notify EC the national bodies responsible for type approval	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application	Order 17 April 2008, Art. 4	24th of April 2008

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
and international exchange of data and notify this the Commission		
Article 9 Rules on privacy, security and the re-use of information		
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Article 10 Amendment procedure	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended		
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		
Article 12 Transposition		
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
Paragraph 3 Commission may extend the period provided laid down in article 11	Task of the EC	24th of April 2008
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Paragraph 5 MS shall assist one another where necessary	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008
Paragraph 6 Commission shall monitor the setting up of RIS	Task of the EC	
Article 13 Entry into force		
Directive shall enter into force 20 days following publication (30 September 2005)	Not relevant for transposition	
Article 14 Addressees		
Directive is addressed to MS which have inland waterways falling within the scope of article 2	No specific mention, however Order of 17 April 2008, Art. 1: "This decree Transposes Directive 2005/44/EG …"	24th of April 2008

France

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
Article 1 (Subject matter)	Not relevant for transposition	
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)	Decree n° 2008-168 of 22 February 2008, Art. 7 Order of 18 March 2008, Art. 1	25th of February 2008
Paragraph 2 (RIS could be applied also to other waterways)	No specific information	
Article 3 (Definitions)		
(a) definition of RIS	Order of 18 March 2008, Art. 2. a)	25th of March 2008
(b) definition of fairway information	Order of 18 March 2008, Art. 2. b)	25th of March 2008
(c) definition tactical traffic information	Order of 18 March 2008, Art. 2. c)	25th of March 2008
(d) definition strategic traffic information	Order of 18 March 2008, Art. 2. d)	25th of March 2008
(e) definition RIS application	No specific information	
(f) definition RIS centre	No specific information	
(g) definition RIS users	Order of 18 March 2008, Art. 2. i)	25th of March 2008
(h) definition RIS interoperability	Order of 18 March 2008, Art. 2. h)	25th of March 2008
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	Decree n° 2008-168 of 22 February 2008, Art. 5	25th of February 2008
Paragraph 2 (MS implement efficient, expandable and interoperable)	Order of 18 March 2008, Art. 3. 1.	25th of March 2008
Paragraph 3 (in order to set up RIS, MS shall:)	Order of 18 March 2008, Art. 3	25th of March 2008
(a) supply all relevant data concerning navigation and voyage planning	Order of 18 March 208, Art. 3. 2.	25th of March 2008
(b) ensure ENCs for all waterways of class IV and above	Order of 18 March 2008, Art. 3. 3.	25th of March 2008
(c) enable competent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	No specific information	
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	Order of 18 March 2008, Art. 3. 4.	25th of March 2008
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	No specific information	
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	Order of 18 March 2008, Art. 3. 5.	25th of March 2008

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
Paragraph 6 (MS shall encourage users to fully profit from the services)	No specific information	
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	Task of the EC	
Article 5 Technical guidelines and specifications		
Paragraph 1 EC shall define technical guidelines for		
(a) inland ECDIS	Not published yet	
(b) electronic ship reporting	Commission Regulation (EC) N° 164/2010	25th of January 2010
(c) notices to skippers	Commission Regulation (EC) N° 416/2007	22nd of March 2007
(d) vessel tracking and tracing systems	Commission Regulation (EC) N° 415/2007 Commission Regulation (EC) N° 689/2012	13th of March 2007 27th of July 2012
(e) compatibility of the equipment		
Paragraph 2 timeline establishment technical guidelines and specifications	Commission Regulation (EC) N° 414/2007	13nd of March 2007
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for transposition	
Article 6 Satellite positioning		
The use of satellite positioning technologies is recommended	No specific information	
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	Decree n° 2008-168 of 22 February 2008, Art. 8	25th of February 2008
Paragraph 2 MS notify EC the national bodies responsible for type approval	No specific information	
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	No specific information	
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	Decree n° 2008-168 of 22 February 2008, Art. 5	25th of February 2008

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
Article 9 Rules on privacy, security and the re-use of information		
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC	Decree n° 2008-168 of 22 February 2008, Art. 6	25th of February 2008
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	No specific information	
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	No specific information	
Article 10 Amendment procedure	No specific information	
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended		
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		
Article 12 Transposition		
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions	No specific information	
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)	Decree n°2008-168 of 22 February 2008, Art. 4	25th of February 2008
Paragraph 3 Commission may extend the period provided laid down in article 11	Task of the EC	
Paragraph 4 MS shall communicate to Commission the text of the main	No specific information	

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
provisions of national law		
Paragraph 5 MS shall assist one another where necessary	No specific information	
Paragraph 6 Commission shall monitor the setting up of RIS	Task of the EC	
Article 13 Entry into force		
Directive shall enter into force 20 days following publication (30 September 2005)	Not relevant for transposition	
Article 14 Addressees		
Directive is addressed to MS which have inland waterways falling within the scope of article 2	No specific information	

Luxembourg

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
Article 1 (Subject matter)	Order grand-ducal of 12 February 2008, Art. 1	February 2008
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)	Order grand-ducal of 12 February 2008, Art. 2	February 2008
Paragraph 2 (RIS could be applied also to other waterways)	Order grand-ducal of 12 February 2008, Art. 2	February 2008
Article 3 (Definitions)		
(a) definition of RIS	Order grand-ducal of 12 February 2008, Art. 3, a)	February 2008
(b) definition of fairway information	Order grand-ducal of 12 February 2008, Art. 3, b)	February 2008
(c) definition tactical traffic information	Order grand-ducal of 12 February 2008, Art. 3, c)	February 2008
(d) definition strategic traffic information	Order grand-ducal of 12 February 2008, Art. 3, d)	February 2008
(e) definition RIS application	Order grand-ducal of 12 February 2008, Art. 3, e)	February 2008
(f) definition RIS centre	Order grand-ducal of 12 February 2008, Art. 3, f)	February 2008
(g) definition RIS users	Order grand-ducal of 12 February 2008, Art. 3, g)	February 2008
(h) definition RIS interoperability	Order grand-ducal of 12 February 2008, Art. 3, h)	February 2008
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	Order grand-ducal of 12 February 2008, Art. 4, (1)	February 2008
Paragraph 2 (MS implement efficient, expandable and interoperable)	Order grand-ducal of 12 February 2008, Art. 4, (1)	February 2008
Paragraph 3 (in order to set up RIS, MS shall:)	Order grand-ducal of 12 February 2008, Art. 4, (2)	February 2008
(a) supply all relevant data concerning navigation and voyage planning	Order grand-ducal of 12 February 2008, Art. 4, (2) a	February 2008
(b) ensure ENCs for all waterways of class IV and above	Order grand-ducal of 12 February 2008, Art. 4, (2) b	February 2008
(c) enable competent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	Order grand-ducal of 12 February 2008, Art. 7	February 2008
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	Order grand-ducal of 12 February 2008, Art. 4, (2) c	February 2008
Paragraph 4 (competent authorities	Order grand-ducal of 12 February	February 2008

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
shall establish RIS centres according to regional needs)	2008, Art. 4, (3)	
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	Order grand-ducal of 12 February 2008, Art. 4, (4)	February 2008
Paragraph 6 (MS shall encourage users to fully profit from the services)	Order grand-ducal of 12 February 2008, Art. 4, (5)	February 2008
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	Task of the EC	
Article 5 Technical guidelines and specifications		
Paragraph 1 EC shall define technical guidelines for		
(a) inland ECDIS	Order grand-ducal of 12 February 2008, Annex II.2	
(b) electronic ship reporting	Commission Regulation (EC) N° 164/2010 Order grand-ducal of 12 February 2008, Annex II.3	25th of January 2010
(c) notices to skippers	Commission Regulation (EC) N°416/2007 Order grand-ducal of 12 February 2008, Annex II.4	22nd of March 2007
(d) vessel tracking and tracing systems	Commission Regulation (EC) N°415/2007 Commission Regulation (EC) N°689/2012 Order grand-ducal of 12 February 2008, Annex II.5	13th of March 2007 27th of July 201 2
(e) compatibility of the equipment	Order grand-ducal of 12 February 2008, Art. 4 (1)	February 2008
Paragraph 2 timeline establishment technical guidelines and specifications	Commission Regulation (EC) N°414/2007	13nd of March 2007
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for transposition	
Article 6 Satellite positioning		
The use of satellite positioning technologies is recommended	Order grand-ducal of 12 February 2008, Art. 4, (8)	February 2008
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network	Order grand-ducal of 12 February 2008, Art. 5	February 2008

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
equipment shall be type-approved		
Paragraph 2 MS notify EC the national bodies responsible for type approval	Order grand-ducal of 12 February 2008, Art. 5	February 2008
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	Order grand-ducal of 12 February 2008, Art. 5	February 2008
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	Order grand-ducal of 12 February 2008, Art.6	February 2008
Article 9 Rules on privacy, security and the re-use of information		
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC	Order grand-ducal of 12 February 2008, Art. 7, (1)	February 2008
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	Order grand-ducal of 12 February 2008, Art. 7, (2)	February 2008
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	Order grand-ducal of 12 February 2008, Art. 7, (3)	February 2008
Article 10 Amendment procedure	Not relevant for transposition	
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended		
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		
Article 12 Transposition		

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions	Order grand-ducal of 12 February 2008, preface	
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)	No specific mention	
Paragraph 3 Commission may extend the period provided laid down in article 11	Task of the EC	
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law	No specific mention	
Paragraph 5 MS shall assist one another where necessary	No specific mention	
Paragraph 6 Commission shall monitor the setting up of RIS	Task of the EC	
Article 13 Entry into force		
Directive shall enter into force 20 days following publication (30 September 2005)	Not relevant for transposition	
Article 14 Addressees		
Directive is addressed to MS which have inland waterways falling within the scope of article 2	No specific mention	

Czech Republic

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Article 1 (Subject matter)	Not relevant for transposition	
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)	114/1995 §32a (1) Decree 356/2009 §3	21st August 2008 (coming in force 1st January 2009) 6th October 2009
Paragraph 2 (RIS could be applied also to other waterways)	No transposition found in public acts	
Article 3 (Definitions)		
(a) definition of RIS	114/1995 §32a (1)	21st August 2008 (coming in force 1st January 2009)
(b) definition of fairway information	No transposition found in public acts	
(c) definition tactical traffic information	No transposition found in public acts	
(d) definition strategic traffic information	No transposition found in public acts	
(e) definition RIS application	No transposition found in public acts	
(f) definition RIS centre	No transposition found in public acts	
(g) definition RIS users	No transposition found in public acts	
(h) definition RIS interoperability	No transposition found in public acts	
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	114/1995 §§32a, 32b	21st August 2008 (coming in force 1st January 2009)
Paragraph 2 (MS implement efficient, expandable and interoperable)	No transposition found in public acts	
Paragraph 3 (in order to set up RIS, MS shall:)		
(a) supply all relevant data concerning navigation and voyage planning	356/2009 §4	6th October 2009
(b) ensure ENCs for all waterways of class Va and above	356/2009 §4	6th October 2009
(c) enable competent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	356/2009 §§4,6; international data exchange is not covered yet; amendments in preparation	6th October 2009
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	356/2009 §§4,6 and reference to regulation 416/2007/EC	6th October 2009
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	No transposition found in public acts	
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	Amendment of AIS regulations in preparation	
Paragraph 6 (MS shall encourage	114/1995 § 32a (1)	21st August 2008 (coming

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
users to fully profit from the services)		in force 1st January 2009)
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	No transposition found in public acts	
Article 5 Technical guidelines and specifications		
Paragraph 1 EC shall define technical guidelines for		
(a) inland ECDIS	No transposition found in public acts	
(b) electronic ship reporting	No transposition found in public acts	
(c) notices to skippers	General reference to EC regulation 416/2007/EC	
(d) vessel tracking and tracing systems	General reference to EC 415/2007/EC	
(e) compatibility of the equipment	No transposition found in public acts	
Paragraph 2 timeline establishment technical guidelines and specifications	Not relevant for implementation	
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for implementation	
Article 6 Satellite positioning		
The use of satellite positioning technologies is recommended	No transposition found in public acts	
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	114/1995 §32d	
Paragraph 2 MS notify EC the national bodies responsible for type approval	114/95 §41 in connection with 114/1995 §32d	
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	114/1995 §32d	
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	114/1995 §40 in connection with §32	
Article 9 Rules on privacy, security and the re-use of information		
Paragraph 1 MS shall ensure processing personal data carried out	Probably 114/1995 §32c	21st August 2008 (coming in force 1st January 2009)

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
in accordance Directives 95/46/EC and 2002/58/EC		
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	114/1995 §32c 356/2009 §5	21st August 2008 (coming in force 1st January 2009) 6th October 2009
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	Probably 114/1995 §32c	21st August 2008 (coming in force 1st January 2009)
Article 10 Amendment procedure		
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended	Not relevant for transposition	
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		
Article 12 Transposition		
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions	Not relevant for transposition	
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)	Not relevant for transposition	
Paragraph 3 Commission may extend the period provided laid down in article 11	Not relevant for transposition	
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law	Not relevant for transposition	
Paragraph 5 MS shall assist one another where necessary		
Paragraph 6 Commission shall monitor the setting up of RIS	Not relevant for transposition	
Article 13 Entry into force		

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Directive shall enter into force 20 days following publication (30 September 2005)	Not relevant for transposition	
Article 14 Addressees		
Directive is addressed to MS which have inland waterways falling within the scope of article 2	Not relevant for transposition	

Poland

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Article 1 (Subject matter)	Not relevant for transposition	
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)	Act of Inland Navigation Art. 47a (1), (3); more detailed in Regulation of Ministry of Transport, Construction and Maritime Economy from 8th January 2013	10th June 2011 coming in force 1st January 2013; regulation from 8th January 2013
Paragraph 2 (RIS could be applied also to other waterways)	No transposition found	
Article 3 (Definitions)		
(a) definition of RIS	Inland Navigation Act Art. 5	10th June 2011 coming in force 1st January 2013
(b) definition of fairway information	Inland Navigation Act Art. 47a (1)	10th June 2011 coming in force 1st January 2013
(c) definition tactical traffic information	Inland Navigation Act Art. 47a (1)	10th June 2011 coming in force 1st January 2013
(d) definition strategic traffic information	Inland Navigation Act Art. 47a (1)	10th June 2011 coming in force 1st January 2013
(e) definition RIS application	No transposition found	
(f) definition RIS centre	No transposition found	
(g) definition RIS users	Inland Navigation Act Art. 5	10th June 2011 coming in force 1st January 2013
(h) definition RIS interoperability		
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	Inland Navigation Act Art. 9; Amendment of Inland Navigation Act from 10th June 2011 Art. 4-7	10th June 2011
Paragraph 2 (MS implement efficient, expandable and interoperable)	No transposition found	
Paragraph 3 (in order to set up RIS, MS shall:)		
(a) supply all relevant data concerning navigation and voyage planning	Inland Navigation Act Art. 47c (1)	10th June 2011 coming in force 1st January 2013
(b) ensure ENCs for all waterways of class IV and above	Inland Navigation Act Art. 47c (1)	10th June 2011 coming in force 1st January 2013
(c) enable compentent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	Inland Navigation Act Art. 47c (1)	10th June 2011 coming in force 1st January 2013
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	Inland Navigation Act Art. 47c (1)	10th June 2011 coming in force 1st January 2013
Paragraph 4 (competent authorities shall establish RIS centres according	Inland Navigation Act Art. 47c (2)	10th June 2011 coming in force 1st January 2013

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
to regional needs)		
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	Inland Navigation Act Art. 47h	10th June 2011 coming in force 1st January 2013
Paragraph 6 (MS shall encourage users to fully profit from the services)	No transposition found	
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	Inland Navigation Act Art. 47c	10th June 2011 coming in force 1st January 2013
Article 5 Technical guidelines and specifications		
Paragraph 1 EC shall define technical guidelines for	Inland Navigation Act Art. 47c	10th June 2011 coming in force 1st January 2013
(a) inland ECDIS		
(b) electronic ship reporting		
(c) notices to skippers		
(d) vessel tracking and tracing systems		
(e) compatibility of the equipment		
Paragraph 2 timeline establishment technical guidelines and specifications	Not relevant for implementation	
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for implementation	
Article 6 Satellite positioning		
The use of satellite positioning technologies is recommended	Inland Navigation Act Art. 47c (1)	10th June 2011 coming in force 1st January 2013
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	Inland Navigation Act Art. 47e,f	10th June 2011 coming in force 1st January 2013
Paragraph 2 MS notify EC the national bodies responsible for type approval	Inland Navigation Act Art. 47e	10th June 2011 coming in force 1st January 2013
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	Inland Navigation Act Art. 47e	10th June 2011 coming in force 1st January 2013
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	Inland Navigation Act Art. 9.2d; Paragraph 1 Order of Minister of Transport, Construction and Maritime Economy (which directly states that Inland Navigation Office Szczecin is responsible for managing RIS in	10th June 2011 10th January 2012

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
	Poland).	
Article 9 Rules on privacy, security and the re-use of information	Inland Navigation Act Art. 47b	10th June 2011 coming in force 1st January 2013
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC		
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records		
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information		
Article 10 Amendment procedure	Not relevant for transposition	
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended		
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		
Article 12 Transposition	Not relevant for transposition	
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions		
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)		
Paragraph 3 Commission may extend the period provided laid down in article 11		
Paragraph 4 MS shall communicate to Commission the text of the main		

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
provisions of national law		
Paragraph 5 MS shall assist one another where necessary		
Paragraph 6 Commission shall monitor the setting up of RIS		
Article 13 Entry into force	Not relevant for transposition	
Directive shall enter into force 20 days following publication (30 September 2005)		
Article 14 Addressees	Not relevant for transposition	
Directive is addressed to MS which have inland waterways falling within the scope of article 2		

Germany

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Article 1 (Subject matter)	Not relevant for transposition	
Article 2 (Scope)	Not relevant for transposition	
Paragraph 1 (RIS obliged for waterway of class IV and above)		
Paragraph 2 (RIS could be applied also to other waterways)		
Article 3 (Definitions)	Not relevant for transposition	
(a) definition of RIS		
(b) definition of fairway information		
(c) definition tactical traffic information		
(d) definition strategic traffic information		
(e) definition RIS application		
(f) definition RIS centre		
(g) definition RIS users		
(h) definition RIS interoperability		
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	Technical implementation by waterways and shipping administration.	2006/2007
Paragraph 2 (MS implement efficient, expandable and interoperable)	Technical implementation by waterways and shipping administration. Requirements are considered for the new development of an electronic reporting system (see Art. 4 Paragraph 3c)	2006/2007
Paragraph 3 (in order to set up RIS, MS shall:)		
(a) supply all relevant data concerning navigation and voyage planning	Technical implementation by waterways and shipping administration. Requirement will via electronic waterways information system of the waterways and shipping administration implemented in due time (deadline for implementation 24.09.2009)	2006/2007
(b) ensure ENCs for all waterways of class IV and above	Technical implementation waterways and shipping administration. Major share of production is already completed (no deadline for implementation as specifications have not been adopted yet)	2006/2007
(c) enable competent authorities to receive electronic ship reports and	Technical implementation waterways and shipping administration.	2006/2007

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
transmitted to the competent authorities abroad	administrative agreements with bordering states on Rhine and Mosel	
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	Technical implementation waterways and shipping administration. Requirement is implemented already today via the electronic waterways information system of the waterways and shipping administration (deadline for implementation 24.09.2009).	
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	with the organization of the waterways and shipping administration already implemented. No measures for implementation required.	
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	Implemented by § 4.05 No. 1 inland waterway regulation, which says that radiotransmission on German waterways is only used due to regional agreements	
Paragraph 6 (MS shall encourage users to fully profit from the services)	Technical implementation process is carried out in communication with the inland shipping industry.	
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	Not relevant for transposition	
Article 5 Technical guidelines and specifications	No national implementation measures required.	
Paragraph 1 EC shall define technical guidelines for		
(a) inland ECDIS		
(b) electronic ship reporting		
(c) notices to skippers		
(d) vessel tracking and tracing systems		
(e) compatibility of the equipment		
Paragraph 2 timeline establishment technical guidelines and specifications	Not relevant for implementation	
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for implementation	
Article 6 Satellite positioning	No national implementation measures required	
The use of satellite positioning technologies is recommended		
Article 7 Type approval of RIS	Responsible German institution for	

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
equipment	type approval: Traffic Technologies Centre of the waterways and shipping administration	
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved		
Paragraph 2 MS notify EC the national bodies responsible for type approval		
Paragraph 3 MS shall recognise type-approvals of other national MS bodies		
Article 8 Competent authorities	Responsible German agency for RIS applications: waterways and shipping administration	
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission		
Article 9 Rules on privacy, security and the re-use of information	Act to amend Federal Data privacy Act from 23. Mai 2001 Act on the subsequent use of information of public institutions from 13.12.2006 ("Informationsweitergabegesetz")	
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC		
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records		
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information		
Article 10 Amendment procedure	No national implementation measures required.	
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended		
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7		

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		
Article 12 Transposition	Not relevant for transposition	
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions		
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)		
Paragraph 3 Commission may extend the period provided laid down in article 11		
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law		
Paragraph 5 MS shall assist one another where necessary		
Paragraph 6 Commission shall monitor the setting up of RIS		
Article 13 Entry into force	Not relevant for transposition	
Directive shall enter into force 20 days following publication (30 September 2005)		
Article 14 Addressees	Not relevant for transposition	
Directive is addressed to MS which have inland waterways falling within the scope of article 2		

Austria

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Article 1 (Subject matter)	Not relevant for transposition	
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)	Schifffahrtsgesetz, §24 (1) in connection with §15	4th June 2008 completing first RIS regulations from 9th June 2005
Paragraph 2 (RIS could be applied also to other waterways)	No, § 24 (3) prohibits the application at other waterways*	4th June 2008
Article 3 (Definitions)		
(a) definition of RIS	Schifffahrtsgesetz, §2	4th June 2008
(b) definition of fairway information	Schifffahrtsgesetz, §2	4th June 2008
(c) definition tactical traffic information	Schifffahrtsgesetz, §2	4th June 2008
(d) definition strategic traffic information	Schifffahrtsgesetz, §2	4th June 2008
(e) definition RIS application	Schifffahrtsgesetz, §2	4th June 2008
(f) definition RIS centre	Schifffahrtsgesetz, §2	4th June 2008
(g) definition RIS users	Schifffahrtsgesetz, §2	4th June 2008
(h) definition RIS interoperability	Schifffahrtsgesetz, §2	4th June 2008
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	Schifffahrtsgesetz, §24	4th June 2008 more detailed than in amendment of 9th June 2005
Paragraph 2 (MS implement efficient, expandable and interoperable)	Schifffahrtsgesetz, §24 (by reference to technical standards of EC regulations)	4th June 2008 more detailed than in amendment of 9th June 2005
Paragraph 3 (in order to set up RIS, MS shall:)		
(a) supply all relevant data concerning navigation and voyage planning	• Schifffahrtsgesetz §24, in connection with §16	• 4th June 2008 more concrete than in amendment of 9th June 2005
(b) ensure ENCs for all waterways of class IV and above	Schifffahrtsgesetz § 24 (3)	4th June 2008
(c) enable compentent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	Schifffahrtsgesetz § 24 (7), (8), international data exchange conditional on agreement with other countries (16)	4th June 2008
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	Schifffahrtsgesetz §24 (4)	4th June 2008
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	no regional needs	
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	Basel agreement	

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Paragraph 6 (MS shall encourage users to fully profit from the services)	Wasserstraßen-Verkehrsordnung §4.07, §14.01	6th June 2008
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	not relevant for transposition	
Article 5 Technical guidelines and specifications		
Paragraph 1 EC shall define technical guidelines for		
(a) inland ECDIS	Schifffahrtsgesetz §24 (3)	4th June 2008
(b) electronic ship reporting	Schifffahrtsgesetz §24 (7)	4th June 2008
(c) notices to skippers	Schifffahrtsgesetz §24 (4)	4th June 2008
(d) vessel tracking and tracing systems	Schifffahrtsgesetz §24 (10); Wasserstraßen-Verkehrsordnung §14.01	6th June 2008
(e) compatibility of the equipment	Wasserstraßen-Verkehrsordnung §4.07, §14.01	6th June 2008
Paragraph 2 timeline establishment technical guidelines and specifications	Not relevant for implementation	
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for implementation	
Article 6 Satellite positioning		
The use of satellite positioning technologies is recommended	Schifffahrtsgesetz §24 (10) Wasserstraßen-Verkehrsordnung §4.07, §14.01	4th June 2008 6th June 2008
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	Schifffahrtsgesetz, §24 (by reference to technical standards of EC regulations)	4th June 2008
Paragraph 2 MS notify EC the national bodies responsible for type approval	No national bodies in Austria	
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	Schifffahrtsgesetz, §24 (by reference to technical standards of EC regulations)	4th June 2008
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	Schifffahrtsgesetz, §24 Wasserstraßengesetz § 10	4th June 2008 31th December 2004
Article 9 Rules on privacy,		

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
security and the re-use of information		
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC	Schifffahrtsgesetz, §24 (13-19)	4th June 2008; (19) regarding dissemination of data conditional on permission of concerned parties added 25 March 2009
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	No dedicated legal transposition, covered by general data protection legislation	4th June 2008
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	Schifffahrtsgesetz, §24 (13-19)	4th June 2008; (19) regarding dissemination of data conditional on permission of concerned parties added 25 March 2009
Article 10 Amendment procedure		
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended	Not relevant for transposition	
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		
Article 12 Transposition		
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions	Not relevant for transposition	
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)	Not relevant for transposition	
Paragraph 3 Commission may extend the period provided laid down in article 11	Not relevant for transposition	
Paragraph 4 MS shall communicate to Commission the text of the main	Not relevant for transposition	

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
provisions of national law		
Paragraph 5 MS shall assist one another where necessary	Schifffahrtsgesetz, §24 (17)	4th June 2008
Paragraph 6 Commission shall monitor the setting up of RIS	Not relevant for transposition	
Article 13 Entry into force		
Directive shall enter into force 20 days following publication (30 September 2005)	Not relevant for transposition	
Article 14 Addressees		
Directive is addressed to MS which have inland waterways falling within the scope of article 2	Not relevant for transposition	

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Waterways according to §15 Schifffahrtsgesetz are Danube (including Vienna Danube Canal), March, Enns and Traun, with all arms, side canals, port and brance, excluding the following water section (according to annex 2):

1. Die Neue Donau (Entlastungsgerinne) vom Einlaufbauwerk (Strom-km 1938,060) bis zum Wehr II (Strom-km 1918,300);
2. Staustufe Greifenstein: der oberhalb der Schwelle (Strom-km 1948,890, rechtes Ufer) gelegene Teil des Donaualtarmes;
3. Staustufe Altenwörth: der oberhalb der Schwelle (Strom-km 1979,550, linkes Ufer) gelegene Teil des Donaualtarmes.

Hungary

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Article 1 (Subject matter)	Not relevant for transposition	
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)	219/2007. 1.§ (a)	
Paragraph 2 (RIS could be applied also to other waterways)	*not found*	
Article 3 (Definitions)		
(a) definition of RIS	219/2007. 2.§ (a)	
(b) definition of fairway information	219/2007. 2.§ (b)	
(c) definition tactical traffic information	219/2007. 2.§ (c)	
(d) definition strategic traffic information	219/2007. 2.§ (d)	
(e) definition RIS application	219/2007. 2.§ (e)	
(f) definition RIS centre	219/2007. 2.§ (f)	
(g) definition RIS users	219/2007. 2.§ (g)	
(h) definition RIS interoperability	219/2007. 2.§ (h)	
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	219/2007. 6.§ (1)	
Paragraph 2 (MS implement efficient, expandable and interoperable)	219/2007. 3.§ (1)(a)	
Paragraph 3 (in order to set up RIS, MS shall:)		
(a) supply all relevant data concerning navigation and voyage planning	219/2007. 3.§ (4)(a)	
(b) ensure ENCs for all waterways of class IV and above	219/2007. 3.§ (4)(b)	
(c) enable competent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	219/2007. 3.§ (4)(c)	
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	219/2007. 3.§ (4)(d)	
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	219/2007. 3.§ (3)	
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	45/2011. 5.§ (1) 45/2011. 5.§ (2)	
Paragraph 6 (MS shall encourage users to fully profit from the services)	*not found*	
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	*not found*	
Article 5 Technical guidelines and		

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
specifications		
Paragraph 1 EC shall define technical guidelines for	219/2007. 4.§ (1)	
(a) inland ECDIS	219/2007. 6.§ (1)(b) 45/2011. 3.§ (2)(k)	
(b) electronic ship reporting	219/2007. 3.§ (4)(c)	
(c) notices to skippers	219/2007. 3.§ (4)(d) 45/2011. 3.§ (1)(d) 45/2011. 3.§ (1)(g)	
(d) vessel tracking and tracing systems	45/2011. 5.§	
(e) compatibility of the equipment	*not found*	
Paragraph 2 timeline establishment technical guidelines and specifications	Not relevant for implementation	
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for implementation	
Article 6 Satellite positioning		
The use of satellite positioning technologies is recommended	219/2007. 5.§	
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	219/2007. 4.§ (2)	
Paragraph 2 MS notify EC the national bodies responsible for type approval	219/2007. 3.§ (1)(b)	
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	219/2007. 4.§ (3) 45/2011. 4.§	
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	219/2007. 3.§ (2) 219/2007. 6.§ (4)	
Article 9 Rules on privacy, security and the re-use of information	not transposed in 219/2007. (11.§)	
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC	45/2011. 3.§ (1)(a)	
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	45/2011. 3.§ (1)(e) 45/2011. 3.§ (2)(c) 45/2011. 3.§ (2)(e)	
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	45/2011. 3.§ (1)(f)	

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Article 10 Amendment procedure		
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended	not transposed	
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		
Article 12 Transposition		
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions	219/2007. 11.§	
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)	219/2007. 8.§ (2)	
Paragraph 3 Commission may extend the period provided laid down in article 11	219/2007. 8.§ (2)	
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law	not transposed	
Paragraph 5 MS shall assist one another where necessary	not transposed	
Paragraph 6 Commission shall monitor the setting up of RIS	not transposed	
Article 13 Entry into force		
Directive shall enter into force 20 days following publication (30 September 2005)	219/2007. 8.§ (1) 219/2007. 8.§ (2) 48/2011. 9.§ (1)	
Article 14 Addressees		
Directive is addressed to MS which have inland waterways falling within the scope of article 2	*not found*	

Slovakia

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Article 1 (Subject matter)	Not relevant for transposition	
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
Paragraph 2 (RIS could be applied also to other waterways)	n.a.	
Article 3 (Definitions)		
(a) definition of RIS	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
(b) definition of fairway information	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
(c) definition tactical traffic information	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
(d) definition strategic traffic information	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
(e) definition RIS application	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
(f) definition RIS centre	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
(g) definition RIS users	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
(h) definition RIS interoperability	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
Paragraph 2 (MS implement efficient, expandable and interoperable)	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
Paragraph 3 (in order to set up RIS, MS shall:)		
(a) supply all relevant data concerning navigation and voyage planning	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
(b) ensure ENCs for all waterways of class IV and above	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
(c) enable competent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
Paragraph 6 (MS shall encourage users to fully profit from the services)		
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)		
Article 5 Technical guidelines and specifications		
Paragraph 1 EC shall define technical guidelines for		
(a) inland ECDIS		
(b) electronic ship reporting		
(c) notices to skippers		
(d) vessel tracking and tracing systems		
(e) compatibility of the equipment		
Paragraph 2 timeline establishment technical guidelines and specifications	Not relevant for implementation	
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for implementation	
Article 6 Satellite positioning		
The use of satellite positioning technologies is recommended		
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved		
Paragraph 2 MS notify EC the national bodies responsible for type approval		
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1stJune 2008
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	Act No. 179/2008 amending Act No. 338/2000 on inland navigation Act No. 575/2001 as amended	1st June 2008 1st January 2006
Article 9 Rules on privacy, security and the re-use of		

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
information		
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	Act No. 211/2000 as amended	2nd January 2006
Article 10 Amendment procedure		
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended		
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		
Article 12 Transposition		
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions	Act No. 179/2008 amending Act No. 338/2000 on inland navigation	1st June 2008
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)		
Paragraph 3 Commission may extend the period provided laid down in article 11		
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law	Act No. 575/2001 as amended	1st January 2006
Paragraph 5 MS shall assist one another where necessary		
Paragraph 6 Commission shall		

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
monitor the setting up of RIS		
Article 13 Entry into force		
Directive shall enter into force 20 days following publication (30 September 2005)		
Article 14 Addressees		
Directive is addressed to MS which have inland waterways falling within the scope of article 2		

Bulgaria

Directive 2005/44/EC	*Transposed in (legal documents): the 2008 Ordinance*	*Transposed since Signed: 11 January 2008 (entry into force: 23 October 2009)*
Article 1 (Subject matter)	**Article 1**	23 October 2009
Article 2 (Scope)	**Article 2**	
Paragraph 1 (RIS obliged for waterway of class IV and above)	Art. 2	23 October 2009
Paragraph 2 (RIS could be applied also to other waterways)	-	-
Article 3 (Definitions)	**Additional orders, Section 4**	
(a) definition of RIS	Section 4(1) Section 4(2)	23 October 2009
(b) definition of fairway information	Section 4(3)	23 October 2009
(c) definition tactical traffic information	Section 4(4)	23 October 2009
(d) definition strategic traffic information	Section 4(5)	23 October 2009
(e) definition RIS application	Section 4(6)	23 October 2009
(f) definition RIS centre	Section 4(7)	23 October 2009
(g) definition RIS users	Section 4(8)	23 October 2009
(h) definition RIS interoperability	Section 4(9)	23 October 2009
Article 4 (Setting-up of RIS)	**Article 4** **Article 7** **Article 11**	
Paragraph 1 (MS takes necessary measures)	Art. 4(1)	23 October 2009
Paragraph 2 (MS implement efficient, expandable and interoperable)	Art. 4(2)	23 October 2009
Paragraph 3 (in order to set up RIS, MS shall:)	Art. 4(4) Art. 4(5)	23 October 2009
(a) supply all relevant data concerning navigation and voyage planning	Art. 4(4)(2) Art. 4(4)(3) Art. 4(5)(3)	23 October 2009
(b) ensure ENCs for all waterways of class IV and above	Art. 4(5)(1)	23 October 2009
(c) enable competent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	Art. 7(1) Art. 7(5)	23 October 2009
(d) ensure provision of Notices to Skippers (standardized, encoded and downloadable)	Art. 4(5)(4) Art. 4(5)(5)	23 October 2009
Paragraph 4 (competent authorities shall establish RIS centers according	Art. 4(4)(5)	23 October 2009

Directive 2005/44/EC	*Transposed in (legal documents): the 2008 Ordinance*	*Transposed since Signed: 11 January 2008 (entry into force: 23 October 2009)*
to regional needs)		
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	Art. 11	23 October 2009
Paragraph 6 (MS shall encourage users to fully profit from the services)	-	-
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	-	-
Article 5 Technical guidelines and specifications	**Article 8**	
Paragraph 1 EC shall define technical guidelines for	Art. 8	23 October 2009
(a) inland ECDIS	Art. 8(1)(1)	23 October 2009
(b) electronic ship reporting	Art. 8(1)(2)	23 October 2009
(c) notices to skippers	Art. 8(1)(3) (in accordance with Regulation 416/2007/EC)	23 October 2009
(d) vessel tracking and tracing systems	Art. 8(1)(4) (in accordance with Regulation 415/2007/EC)	23 October 2009
(e) compatibility of the equipment	Art. 8(1)(5)	23 October 2009
Paragraph 2 timeline establishment technical guidelines and specifications	Not relevant for implementation	
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for implementation	
Article 6 Satellite positioning	**Article 4**	
The use of satellite positioning technologies is recommended	Art. 4(5)(2)	23 October 2009
Article 7 Type approval of RIS equipment	**Article 10**	
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	Art. 10(1)	23 October 2009
Paragraph 2 MS notify EC the national bodies responsible for type approval	Art. 10(2) Art. 10(3)	23 October 2009
Paragraph 3 MS shall recognize type-approvals of other national MS bodies	Art. 10(4)	23 October 2009

Directive 2005/44/EC	*Transposed in (legal documents): the 2008 Ordinance*	*Transposed since Signed: 11 January 2008 (entry into force: 23 October 2009)*
Article 8 Competent authorities	**Article 10**	
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	Art. 10(2) Art. 10(3)	23 October 2009
Article 9 Rules on privacy, security and the re-use of information	**Article 18**	
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC	Art. 18(1)	23 October 2009
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	Art. 18(2)	23 October 2009
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	Art. 18(3)	23 October 2009
Article 10 Amendment procedure	Not relevant for transposition	
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended	-	-
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC	-	-
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply	-	-
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply	-	-
Article 12 Transposition	**Additional orders, Section 1**	
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions	Section 1	23 October 2009
Paragraph 2 MS shall take necessary measures to comply with article 4	-	-

Directive 2005/44/EC	*Transposed in (legal documents): the 2008 Ordinance*	*Transposed since Signed: 11 January 2008 (entry into force: 23 October 2009)*
not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)		
Paragraph 3 Commission may extend the period provided laid down in article 11	-	-
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law	-	-
Paragraph 5 MS shall assist one another where necessary	-	-
Paragraph 6 Commission shall monitor the setting up of RIS	-	-
Article 13 Entry into force	Not relevant for transposition	
Directive shall enter into force 20 days following publication (30 September 2005)	-	-
Article 14 Addressees	Not relevant for transposition	
Directive is addressed to MS which have inland waterways falling within the scope of article 2	-	-

Romania

Directive 2005/44/EG	*Transposed in (legal documents): The 2007 Ordinance of the Ministry*	*Transposed since Signed: 19 Oct 2007 (entry into force: 25 Oct 2007)*
Article 1 (Subject matter)	Not relevant for transposition	
Article 2 (Scope)	**Article 1 (Objective) and Article 2 (Area of applicability)**	
Paragraph 1 (RIS obliged for waterway of class IV and above)	Art. 1(1) and Art. 2	19 Oct 2007
Paragraph 2 (RIS could be applied also to other waterways)	Art. 1(2)	19 Oct 2007
Article 3 (Definitions)	**Article 3 (Definitions)**	
(a) definition of RIS	Art. 3(l)	19 Oct 2007
(b) definition of fairway information	Art. 3(g)	19 Oct 2007
(c) definition tactical traffic information	Art. 3(i)	19 Oct 2007
(d) definition strategic traffic information	Art. 3(h)	19 Oct 2007
(e) definition RIS application	Art. 3(b)	19 Oct 2007
(f) definition RIS centre	Art. 3(e)	19 Oct 2007
(g) definition RIS users	Art. 3(m)	19 Oct 2007
(h) definition RIS interoperability	Art. 3(j)	19 Oct 2007
Article 4 (Setting-up of RIS)	**Article 4 (Implementation of RIS)**	
Paragraph 1 (MS takes necessary measures)	Art. 4(1)	19 Oct 2007
Paragraph 2 (MS implement efficient, expandable and interoperable)	Art. 4(2)	19 Oct 2007
Paragraph 3 (in order to set up RIS, MS shall:)	Art. 4(3)	19 Oct 2007
(a) supply all relevant data concerning navigation and voyage planning	Art. 4(3)(a)	19 Oct 2007
(b) ensure ENCs for all waterways of class IV and above	Art. 4(3)(b)	19 Oct 2007
(c) enable competent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	Art. 4(3)(d)	19 Oct 2007
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	Art. 4(3)(e)	19 Oct 2007
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	Art. 4(5) + Annex 3	19 Oct 2007
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	Art. 4(6)	19 Oct 2007

Directive 2005/44/EG	*Transposed in (legal documents): The 2007 Ordinance of the Ministry*	*Transposed since Signed: 19 Oct 2007 (entry into force: 25 Oct 2007)*
Paragraph 6 (MS shall encourage users to fully profit from the services)	Art. 4(7)	19 Oct 2007
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	--	
Article 5 Technical guidelines and specifications	**Article 5 (Specifications and technical guidelines)**	
Paragraph 1 EC shall define technical guidelines for	Art. 5	19 Oct 2007
(a) inland ECDIS	Art. 5(c)	19 Oct 2007
(b) electronic ship reporting	Art. 5(c)	19 Oct 2007
(c) notices to skippers	Art. 5(b) (in accordance with Regulation 416/2007/EC)	19 Oct 2007
(d) vessel tracking and tracing systems	Art. 5(a) (in accordance with Regulation 415/2007/EC)	19 Oct 2007
(e) compatibility of the equipment	--	
Paragraph 2 timeline establishment technical guidelines and specifications	Not relevant for implementation	
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for implementation	
Article 6 Satellite positioning	**Article 6 (Satellite positioning)**	
The use of satellite positioning technologies is recommended	Art. 6	19 Oct 2007
Article 7 Type approval of RIS equipment	**Article 7 (Type-approval of RIS equipment)**	
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	Art. 7(1)	19 Oct 2007
Paragraph 2 MS notify EC the national bodies responsible for type approval	Art. 7(2)	19 Oct 2007
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	Art. 7(3)	19 Oct 2007
Article 8 Competent authorities	**Article 8 (Notification to the European Commission)**	
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	Art. 8	19 Oct 2007
Article 9 Rules on privacy,	**Article 9 (Rules on privacy,**	

Directive 2005/44/EG	*Transposed in (legal documents): The 2007 Ordinance of the Ministry*	*Transposed since Signed: 19 Oct 2007 (entry into force: 25 Oct 2007)*
security and the re-use of information	**security and the re-use of information)**	
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC	Art. 9(1)	19 Oct 2007
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	Art. 9(2)	19 Oct 2007
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	Art. 9(3)	19 Oct 2007
Article 10 Amendment procedure	**Article 12**	
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended	Art. 12 (and Annexes 1 and 2)	19 Oct 2007
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC	--	
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply	--	
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply	--	
Article 12 Transposition	**Articles 10; 11; 13; 14**	
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions	Art. 13	19 Oct 2007
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)	Art. 11	19 Oct 2007
Paragraph 3 Commission may extend the period provided laid down in article 11	--	
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law	-- (only publication of the law is requested under Art. 14)	19 Oct 2007

Directive 2005/44/EG	*Transposed in (legal documents): The 2007 Ordinance of the Ministry*	*Transposed since Signed: 19 Oct 2007 (entry into force: 25 Oct 2007)*
Paragraph 5 MS shall assist one another where necessary	Art. 10	19 Oct 2007
Paragraph 6 Commission shall monitor the setting up of RIS	--	
Article 13 Entry into force	**Article 13**	
Directive shall enter into force 20 days following publication (30 September 2005)	Art. 13	19 Oct 2007
Article 14 Addressees		
Directive is addressed to MS which have inland waterways falling within the scope of article 2	--	

Croatia

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
Article 1 (Subject matter)		
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)		
Paragraph 2 (RIS could be applied also to other waterways)		
Article 3 (Definitions)		
(a) definition of RIS	Act on Inland Navigation and Inland Ports (OG 109/07), Art. 4 Regulation on River Information Services (OG 99/2008), Art. 2	10th October 2007
(b) definition of fairway information	Regulation on River Information Services (OG 99/2008), Art. 2	13th August 2008
(c) definition tactical traffic information	Regulation on River Information Services (OG 99/2008), Art. 2	13th August 2008
(d) definition strategic traffic information	Regulation on River Information Services (OG 99/2008), Art. 2	13th August 2008
(e) definition RIS application	Regulation on River Information Services (OG 99/2008), Art. 2	13th August 2008
(f) definition RIS centre	Regulation on River Information Services (OG 99/2008), Art. 2	13th August 2008
(g) definition RIS users	Regulation on River Information Services (OG 99/2008), Art. 2	13th August 2008
(h) definition RIS interoperability	Regulation on River Information Services (OG 99/2008), Art. 2	13th August 2008
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	Act on Inland Navigation and Inland Ports (OG 109/07), Art. 114, Art. 109	10th October 2007
Paragraph 2 (MS implement efficient, expandable and interoperable)	Act on Inland Navigation and Inland Ports (OG 109/07), Art. 171	10th October 2007
Paragraph 3 (in order to set up RIS, MS shall:)		
(a) supply all relevant data concerning navigation and voyage planning	Act on Inland Navigation and Inland Ports (OG 109/07). Art. 173	10th October 2007
(b) ensure ENCs for all waterways of class IV and above		
(c) enable competent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	Act on Inland Navigation and Inland Ports (OG 109/07), Art. 173	10th October 2007
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	Act on Inland Navigation and Inland Ports (OG 109/07), Art. 173	10th October 2007

Directive 2005/44/EG	***Transposed in (legal documents)***	***Transposed since (date of publication)***
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	Act on Inland Navigation and Inland Ports (OG 109/07), Art. 172	10th October 2007
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	Not specified	
Paragraph 6 (MS shall encourage users to fully profit from the services)	Not specified	
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)		
Article 5 Technical guidelines and specifications		
Paragraph 1 EC shall define technical guidelines for		
(a) inland ECDIS	Act on Inland Navigation and Inland Ports (OG 109/07), Art. 110 Regulation on River Information Services (OG 99/2008), Art. 13	10th October 2007
(b) electronic ship reporting	Regulation on River Information Services (OG 99/2008), Art. 15	13th August 2008
(c) notices to skippers	Act on Inland Navigation and Inland Ports (OG 109/07), Art. 173 Regulation on River Information Services (OG 99/2008), Art. 10	10th October 2007
(d) vessel tracking and tracing systems	Regulation on River Information Services (OG 99/2008), Art. 9	13th August 2008
(e) compatibility of the equipment	Regulation on River Information Services (OG 99/2008)	13th August 2008
Paragraph 2 timeline establishment technical guidelines and specifications		
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union		
Article 6 Satellite positioning		
The use of satellite positioning technologies is recommended	Not specified as a recommendation	
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	Act on Inland Navigation and Inland Ports (OG 109/07), Art. 174	10th October 2007
Paragraph 2 MS notify EC the	Not specified	

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since (date of publication)*
national bodies responsible for type approval		
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	Act on Inland Navigation and Inland Ports (OG 109/07) , Art. 174	10th October 2007
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	Regulation on River Information Services (OG 99/2008) , There is no reference to the obligation to notify the Commission.	13th August 2008
Article 9 Rules on privacy, security and the re-use of information		
Paragraph 1 MS shall ensure processing personal data carried out in accordance Directives 95/46/EC and 2002/58/EC	Act on Inland Navigation and Inland Ports (OG 109/07), Art. 175. There is reference to personal data protection but Directives 95/46/EC and 2002/58/EC are not specifically listed.	10th October 2007
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	Act on Inland Navigation and Inland Ports (OG 109/07), Art. 176	10th October 2007
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	Not specified	
Article 10 Amendment procedure		
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended	Not specified	
Article 11 Committee Procedure		
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		
Article 12 Transposition		

Directive 2005/44/EG	***Transposed in (legal documents)***	***Transposed since (date of publication)***
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions		
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)		
Paragraph 3 Commission may extend the period provided laid down in article 11		
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law		
Paragraph 5 MS shall assist one another where necessary		
Paragraph 6 Commission shall monitor the setting up of RIS		
Article 13 Entry into force		
Directive shall enter into force 20 days following publication (30 September 2005)		
Article 14 Addressees		
Directive is addressed to MS which have inland waterways falling within the scope of article 2		

Serbia

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Article 1 (Subject matter)	Not relevant for transposition	
Article 2 (Scope)		
Paragraph 1 (RIS obliged for waterway of class IV and above)	Not transposed completely, it is indicated that RIS shall be established but not obliged - Law on navigation and inland ports	20th of October 2012
Paragraph 2 (RIS could be applied also to other waterways)		
Article 3 (Definitions)		
(a) definition of RIS	Law on navigation and inland ports	20th of October 2010
(b) definition of fairway information	Law on navigation and inland ports	20th of October 2010
(c) definition tactical traffic information	Law on navigation and inland ports	20th of October 2010
(d) definition strategic traffic information	Law on navigation and inland ports	20th of October 2010
(e) definition RIS application	Law on navigation and inland ports	20th of October 2010
(f) definition RIS centre	Law on navigation and inland ports	20th of October 2010
(g) definition RIS users	Law on navigation and inland ports	20th of October 2010
(h) definition RIS interoperability	Law on navigation and inland ports	20th of October 2010
Article 4 (Setting-up of RIS)		
Paragraph 1 (MS takes necessary measures)	Law on navigation and inland ports	20th of October 2010
Paragraph 2 (MS implement efficient, expandable and interoperable)	Law on navigation and inland ports	20th of October 2010
Paragraph 3 (in order to set up RIS, MS shall:)	Law on navigation and inland ports	20th of October 2010
(a) supply all relevant data concerning navigation and voyage planning	Law on navigation and inland ports	20th of October 2010
(b) ensure ENCs for all waterways of class IV and above	Law on navigation and inland ports	20th of October 2010
(c) enable competent authorities to receive electronic ship reports and transmitted to the competent authorities abroad	Law on navigation and inland ports	20th of October 2010
(d) ensure provision of Notices to Skippers (standardised, encoded and downloadable)	Law on navigation and inland ports	20th of October 2010
Paragraph 4 (competent authorities shall establish RIS centres according to regional needs)	Law on navigation and inland ports	20th of October 2010
Paragraph 5 (for use AIS regional arrangement concerning radiotelephone service shall apply)	Not transposed completely, refers only to AIS, radiotelephony is not mentioned, Law on navigation and Inland Ports	20th of October 2010

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
Paragraph 6 (MS shall encourage users to fully profit from the services)	Law on navigation and inland ports	20th of October 2010
Paragraph 7 (EC takes appropriate measures to verify interoperability, reliability and safety of RIS)	Law on navigation and inland ports	20th of October 2010
Article 5 Technical guidelines and specifications	Law on navigation and inland ports	20th of October 2010
Paragraph 1 EC shall define technical guidelines for	Law on navigation and inland ports	20th of October 2010
(a) inland ECDIS	Law on navigation and inland ports	20th of October 2010
(b) electronic ship reporting	Law on navigation and inland ports	20th of October 2010
(c) notices to skippers	Law on navigation and inland ports	20th of October 2010
(d) vessel tracking and tracing systems	Law on navigation and inland ports	20th of October 2010
(e) compatibility of the equipment	Law on navigation and inland ports	20th of October 2010
Paragraph 2 timeline establishment technical guidelines and specifications	Not relevant for implementation	
Paragraph 3 Publication of RIS technical guidelines and specifications in the Official Journal of the European Union	Not relevant for implementation	
Article 6 Satellite positioning	Law on navigation and inland ports	20th of October 2010
The use of satellite positioning technologies is recommended	Law on navigation and inland ports	20th of October 2010
Article 7 Type approval of RIS equipment		
Paragraph 1 Where necessary and required, RIS terminal and network equipment shall be type-approved	Law on navigation and inland ports	20th of October 2010
Paragraph 2 MS notify EC the national bodies responsible for type approval	Not relevant	
Paragraph 3 MS shall recognise type-approvals of other national MS bodies	Law on navigation and inland ports	20th of October 2010
Article 8 Competent authorities		
MS shall designate competent authorities for the RIS application and international exchange of data and notify this the Commission	Not transposed	
Article 9 Rules on privacy, security and the re-use of information	Not transposed	Not transposed
Paragraph 1 MS shall ensure processing personal data carried out	Not transposed	Not transposed

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
in accordance Directives 95/46/EC and 2002/58/EC		
Paragraph 2 MS shall implement and maintain security measures to protect RIS messages and records	Law on navigation and inland ports	20th of October 2010
Paragraph 3 Directive 2003/98/EC shall apply on the re-use of public sector information	Not transposed	Not transposed
Article 10 Amendment procedure		
Annexes I (minimum data requirements) and II (principles for RIS guidelines and technical specifications) may be amended		
Article 11 Committee Procedure	Not relevant for transposition	
Paragraph 1 EC shall be assisted by the Committee instituted by art. 7 91/672/EEC		
Paragraph 2 where reference is made to this paragraph, art. 3 and 7 of 1999/468/EC shall apply		
Paragraph 3 where reference is made to this paragraph, art. 5 and 7 of 1999/468/EC shall apply		
Article 12 Transposition	Not transposed	Not transposed
Paragraph 1 MS which have inland waterways falling within scope of article 2 shall bring into force the laws, regulations and administrative provisions		
Paragraph 2 MS shall take necessary measures to comply with article 4 not later than 30 months after the entry into force of relevant technical guidelines and specifications (art. 5)		
Paragraph 3 Commission may extend the period provided laid down in article 11		
Paragraph 4 MS shall communicate to Commission the text of the main provisions of national law		
Paragraph 5 MS shall assist one another where necessary		
Paragraph 6 Commission shall monitor the setting up of RIS		
Article 13 Entry into force	not applicable since RS is not	

Directive 2005/44/EG	*Transposed in (legal documents)*	*Transposed since*
	member state	
Directive shall enter into force 20 days following publication (30 September 2005)		
Article 14 Addressees	not applicable since RS is not member state	
Directive is addressed to MS which have inland waterways falling within the scope of article 2		