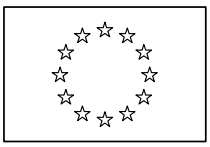

COMMISSION OF THE EUROPEAN COMMUNITIES

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Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on harmonised River Traffic Information Services on inland waterways in the Community

(presented by the Commission)

EXPLANATORY MEMORANDUM

1. INTRODUCTION

The introduction of new technologies in inland navigation began in the last decades of the 20th century with the development of radiotelephone services on inland waterways. This allowed both ship/shore and ship/ship contact for the arrangement of passing manoeuvres. The subsequent development of high resolution radar for inland navigation and the equipping of the waterways with radar reflectors on buoys and beacons permitted navigation in poor visibility. For difficult traffic situations, traffic centres have been established in which the traffic is monitored by means of shore radar stations.

Nowadays, advanced ICT (Information and Communication) technologies find their way also into inland waterway transport. For the use onboard, PCs that are connected to the Internet via mobile communication, as well as satellite positioning-fixing systems, electronic navigational charts and transponders are being developed and implemented. On shore, radar stations with target tracking, as well as ship reporting systems with interconnected databases are being installed.

Each of these technical systems is capable of supporting several inland navigation services. In order to ensure interoperability between services on a national but also European level and to promote cross-border inland waterway transport (IWT), the new information services and their supporting technologies need to be European-wide harmonised.

The role of Inland Navigation

Europe has over 30,000 km of canals and rivers that link together hundreds of key towns and areas of industrial concentration. The core network of around 10,000 km connects the Netherlands, Belgium, Luxembourg, France, Germany and Austria. Although the backbone of this network is constituted by major rivers such as the Rhine and the Danube, many branches in the form of tributaries and canals connect a variety of smaller towns and industrial centres. A considerable number of ports along the network provide access to and links with other modes of transport.

Despite the availability of this network, inland waterways still have a huge capacity that is not fully exploited. Freight transport by inland waterways accounts for 7% of the total inland transport (surface transport) of the EU-15 countries, nine of which have IWT of some importance, equal to 125 billion tonne-kilometres in 2000, whereas road and rail carry 80% and 13% respectively. The share of IWT in total surface transport has declined steadily from 12% in 1970 to the 7% mentioned in 2000, although its traffic volume has increased in that period of 30 years from 102 bn to 125 bn tonne-kilometres (+18%).

The picture is slightly different when considering the EU Member States with inland waterways, in which 12% of the freight is carried by inland navigation. In some regions, e.g. in the hinterland of seaports, such as in Benelux and in Northern France, the modal share of inland waterway transport is much higher and reaches 43% in the Netherlands compared to 14% in Germany and 12% in Belgium.

In the EU accession countries, a total of 8.5 billion tonne-kilometres were transported in 1999, in particular on the Danube. The overall modal share of IWT in the Accession Countries

(Danube countries) is similar to the ones in some Member States. Whilst in Romania and Slovakia IWT totals 9%, it accounts for 6% in Hungary, 3% in Bulgaria and 2% in the Czech Republic.

The White Paper and advanced information and communication technologies on inland waterways

The European Commission recognises the great potential of inland navigation as an alternative transport mode for freight transport. Inland waterway transport is known to be often cheaper, more economical, reliable and more environmentally-friendly than other modes.

Facing tremendous capacity and environmental problems in the land transport modes, in particular road transport, the European transport policy consequently has a great interest in developing inland waterway transport to become a real alternative whilst keeping the environmental burden to a minimum.

The European Commission is not only interested in boosting the use of inland waterway transport as an alternative transport mode, but in making it a key mode in the European intermodal transport system, as set out in the White Paper "European Transport Policy for 2010: time to decide"[1]. As part of this concept, the Commission proposes to link inland waterways into rail and short sea transport systems, providing an accessible, economical, safe and environmentally friendly alternative to the unsustainable and congested road network.

The Commission aims to create favourable conditions for the further development of the sector and to encourage business to use this mode of transport. As part of the White Paper's strategy it is committed to further assist the sector in adapting to new market needs. It strongly encourages the deployment of modern information and communication technologies (ICT), with the particular aim of improving traffic and transport management on inland waterways.

With regard to inland waterway transport the White Paper prescribes "the installing of highly efficient navigational aid and communication systems on the inland waterway network" in order to make this mode of transport still more reliable, efficient and accessible. The European Parliament resolution on the Commission White Paper European transport policy for 2010[2] " […] considers the creation of high-performance, geographically comprehensive information systems on inland waterways to be extremely important in this connection and calls on the Commission to submit a proposal as soon as possible for harmonised technical provisions towards the implementation of River Information Services (RIS)".

The importance of RIS for Inland Navigation

The River Information Services concept, which represents the most substantial change in the sector in several decades, aims at the implementation of information services in order to support the planning and management of traffic and transport operations. The implementation of RIS will not only improve safety and efficiency in traffic but simultaneously enhance the efficiency and security of transport operations.

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1 White Paper European transport policy for 2010: time to decide, European Communities 2001

2 A5-0444/2002 (OJ …)

RIS facilitates the tasks of the competent authorities, in particular traffic management and the monitoring of hazardous goods. Through the provision of data to skippers, it improves the basis for immediate navigational decisions. Safety and environmental protection will be enhanced through better information and reduced reaction times in emergencies.

RIS supports the inland waterway transport sector in coming into line with modern developments in logistics and supply chain management, and thus facilitates the integration of inland waterway transport into the intermodal transport chain which is a prerequisite for a higher modal share for inland waterway transport.

RIS has to be seen as a major step forward, turning inland waterway transport into a transparent, reliable, flexible and easy-to-access transport mode. Together with cost-effective and environmentally-friendly logistics operations, the development of RIS makes inland waterway transport attractive to modern supply chain management.

RIS is important for the entire European inland waterway sector. The revitalisation of inland waterway transport through the implementation of RIS is of special interest with respect to the enlargement of the European Union towards Central and Eastern European countries.

2. POLICY CONTEXT

Given the positive contribution of inland navigation to the achievement of transport policy objectives as highlighted by the White Paper, the development of RIS is reflected upon in European policies and is as well strongly supported by international bodies and institutions.

Decision N° 1692/96/EC of the European Parliament and of the Council of 23 July 1996 on Community guidelines for the development of the trans-European transport network states in Article 11 (4) that the inland waterway network and inland ports shall include the 'traffic management infrastructure'. According to Annex II, Section 4 of the Decision, signalling, guidance and communication systems for inland waterway vessels shall be deemed as projects of common interest and thus be eligible for TEN funding. In this framework, a feasibility study for the implementation of RIS on the Danube in Austria was co-funded in 2001.

The proposal for a Decision of the European Parliament and of the Council amending Decision N° 1692/96/EC on Community guidelines for the development of the trans-European transport network (COM (2001) 544 final) stipulates as priority in Article 5 (f) the "deployment of interoperable intelligent transport systems to optimise the capacity of existing infrastructure and improve safety".

In its report of 27 June 2003, the High Level Group on the trans-European Transport network welcomes the Commission's intention to propose a framework directive to ensure the interoperability of the communication system on the Community inland waterways.[3]

The Declaration of European Ministers of Transport signed in Rotterdam in September 2001 calls upon Member and Accession States to implement pan-European River Information Services by the year 2005.

[3] Van Miert Report

In the session of the Transport Council of 9 October 2003, the Netherlands, supported by other Member States, welcomed the Commission's initiative to put forward a proposal for a Directive on River Information Services.

The development of RIS is also recognised and fostered by the River Commissions as well as by the International Association for Navigation (PIANC). A number of important organizational and standardization prerequisites have been developed. In 2002 PIANC compiled RIS Guidelines on the basis of the results of different European research and development projects. These RIS Guidelines 2002 were formally adopted by the Central Commission for the Navigation on the Rhine in May 2003.

A standard concerning an Electronic Chart Display and Information System for Inland Navigation (Inland ECDIS) has been drafted by an Expert Group in the context of INDRIS (Inland Navigation Demonstrator for River Information Services) and was formally adopted by the Central Rhine Commission and the Danube Commission in 2001.

In 2002 the UN/ECE Working party on Inland Waterway Transport adopted by Resolution N° 48 a Recommendation on Electronic Chart Display and Information System for Inland Navigation (Inland ECDIS) and is considering the establishment of common principles and technical requirements for a Pan-European River Information Service (RIS).

3. DEVELOPMENT OF RIS UNTIL TODAY

National stand-alone telematic services have been developed since the late 1980s. The challenge facing the inland waterway transport sector lies in integrating those various services and systems into a single common operational concept.

State of the Art in Member States

In the following a number of examples of national RIS applications are given. An extensive description of the numerous existing national RIS applications can be found in the state of the art report produced by the fifth Framework Programme RTD project COMPRIS.[4]

The German fairway information system ***ARGO*** (Advanced River Navigation) provides inland waterway skippers with data on the fairway and on actual water depths in real time on Inland ECDIS maps. It consists of three components: an electronic navigational chart (ENC), a radar image and water depth information for critical stretches. Through a DGPS (Differential Global Positioning System) receiver it is possible to display the position of the skipper's own vessel very accurately on the image. The system is operational on the Rhine.

The ***BICS*** (Barge Information and Communication System) has been primarily developed for reporting the transport of dangerous goods. Such EDI-messages (Electronic Data Interchange) from skippers to the authorities can be received in the Dutch IVS90 system and the German MIB/MOVES systems. BICS permits detailed information exchange about the cargo and planned loading and unloading points during the voyage. These data are transmitted by PC and mobile telephone to the various waterway and port authorities. The standards used include EDIFACT (Electronic Data Interchange For Administration, Commerce and Transport) as well as standardised protocols. Previously this information had usually been

[4] http://www.euro-compris.org

exchanged orally by phone, and/or by fax. Data only have to be declared once, on departure of the vessel. Data are also stored for statistical purposes. BICS has been operational since 1996. It covers Austria, Belgium, France, Germany, Luxembourg, Switzerland and the Netherlands.

BIVAS (Binnenvaart Intelligent Vraag en Aanbod Systeem) is an interactive internet site where supply and demand for freight can be matched (cargo and fleet management). It presents the demand for transport as well as the supply of vessel capacity, and thus establishes the contact between skipper and shipper. When changes are made to the cargo offered, the skipper receives an SMS notification message. The actual negotiations are left to the market parties themselves. The system does not support the commercial process itself. It has been tested, but not (yet) implemented.

DoRIS (Danube River Information Services) automatically generates traffic information by means of AIS (Automatic Identification Systems) transponders. The tactical traffic image is currently being tested for use by waterway authorities and skippers. Additionally, DoRIS offers opportunities for transport management, lock management (provision of ETA (estimated time of arrival) data to plan lock schedules), navigation (supporting the skipper in his nautical decisions by providing positioning data on an electronic navigational chart) and calamity abatement (by monitoring vessels carrying dangerous goods). All traffic data are stored in a central database. In the event of an accident, these data can be retrieved for risk analysis purposes. The data can also be used for statistical analyses. For commercial users' needs a web interface as well as an XML (eXtensible Markup Language) interface are provided for direct connection of authorised external logistics servers. The test centre has been operational since 2002; the test stretch currently covers 33km within Austria, with planned connections to the rest of the Danube in Austria.

ELWIS is the fully operational German Electronic Waterway Information System, which provides a series of (fairway) information services that are relevant to the inland waterway sector. The website contains notices to skippers, actual and forecast water levels and draughts, information on ice, addresses of authorities, traffic statistics and legal regulations.

IBIS (Informatiesysteem Binnenscheepvaart) is a centralised database system which registers all operations and inputs of the inland navigation attendants. It enables waterway administrators to deliver navigation licences, locate ships within their territory and collect data on inland navigation. The delivery of navigation licences, which is a statutory requirement, takes place near certain locks. IBIS is further able to calculate the estimated time of arrival (ETA) of a ship at e.g. locks or bridges. With this information the lock operator gains a perception of the upcoming traffic and can start to arrange the lock chamber. In the event of an accident, the type of cargo can be looked up in the system and serve as information for the rescue operation. The collected data can be converted into useful information, e.g. for transport management purposes. Policymakers use the statistical overviews for infrastructure planning (identification of bottlenecks, improvement of fairway, etc.) as well as to fulfil international obligations for data collection and to report to the National Statistical Institute. IBIS has been operational since 1999.

GWS (Geautomatiseerd Waterbeheer en Scheepvaartsturing) is a Flemish project in which the various waterway administrations are cooperating. It encompasses two main activities: the setup and realisation of a reliable telematics network, and the managing and processing of data of common interest and related to the different aspects of water management. GWS covers functions such as traffic support; a digital inland navigation market (supply and demand), automated water management; registration of hydrological (and related) data,

remote control of constructions (barrages, outlet sluices, …), collecting data useful for authorities and third parties, data communication as well as data management and data processing.

GINA (Gestion Informatisée de la Navigation) is a reporting application for Wallonia dedicated to the invoicing of navigation fees and the generation of statistics. It also comprises lock pre-announcement functions. The system has been operational since 1986.

IVS90 is a ship reporting system used by the Dutch waterway authorities supporting lock planning, vessel traffic services (VTS), calamity abatement and statistics. The data registered in IVS90 include the vessel data (name, registry number (Europa number), deadweight, length and beam dimensions, owner) and specific trip data (draught, height of cargo, number of personnel on board, port of departure and destination, planned route, cargo-specific data). These data are automatically transmitted between locks and/or regional VTS centres. Data only need to be entered once by the skipper at the beginning of the voyage, by means of marine VHF radio, mobile phone, fax or EDI. The system can be used for electronic data transmission and has been operational since 1994.

MIB/MOVES (Melde- und Informationssystem Binnenschifffahrt/Mosel Verkehrs-erfassungssystem) The German MIB and MOVES services are comparable with IVS90. MIB is used to register and monitor transports of dangerous goods as well as vessel combinations of certain dimensions and exceptional transports. The VTS centre at the start of the trip registers all safety-related data, which are transmitted to all competent authorities along the journey. In the event of an accident, the data are sent to the rescue forces and the police. MOVES has been operational on the Moselle since 2001. The data of ships passing the locks are registered including the passing time and are transmitted to the next lock according to the voyage of the ship. In MIB as well as MOVES, skippers may use the BICS programme to transmit data to the MIB/MOVES database, skippers can also report using VHF radio or fax.

NIF (Nautischer Informations-Funk) is the German VHF service used to transmit messages related to water levels, high-water notifications, water level predictions, ice and mist messages as well as police messages. Additionally, it can be used to receive or broadcast information in cases of emergency.

The RIS applications used on the ***Lake Saimaa*** (Finland) comprise a complete package of RIS services, from fairway information services to waterway infrastructure charges. The 814 km long waterway network is equipped with eight VHF radio stations as well as eight AIS stations. These are linked to the VTS traffic centre, which provides information services to vessels in the network. Vessel traffic movements can be monitored in real-time. The traffic centre can also operate (remote control) all eight locks and seven bridges along the canal. Apart from AIS and VHF it uses GPS and Inland ECDIS.

STIS (Shipping and Transport Information Services) is meant as an overall architecture which should be used by various RIS applications for various stakeholders. It intends to make compatible the numerous stand-alone applications available now and in the future. The following system components were planned to be finalised by the end of 2003: a business plan, standards and protocols for data exchange and communication, a system architecture, and a prototype for a nautical-geographical database (Inland ECDIS). The exploratory phase was finished in December 2002.

VNF2000 is a French information network used to invoice navigation tolls and to produce traffic statistics. VNF2000+ will allow companies and ship owners to declare their transports by EDI messages and abandon paper. VNF uses the Dutch BICS for transmission. VNF2000 has been operational since 2000, VNF2000+ finalisation is planned for March 2005.

Research, technological development and implementation

In order to counterbalance the patchwork development of services and applications and to ensure their interoperability, substantial RTD activities have been undertaken in the area of RIS since the late 1990s. The 4th Framework Programme project ***INDRIS*** (Inland Navigation Demonstrator for River Information Services) which lasted from 1998 until 2002 can be considered as the starting point for the development of the European RIS concept. INDRIS described the functions of RIS for all potential users, specified relevant information processes and developed open standards for information content and communication between public and private parties. INDRIS was a joint venture between national public authorities, the transport industry, the ICT industry and research institutes from Austria, Germany, Belgium, France and the Netherlands.

Currently, the ***COMPRIS*** project (Consortium Operational Management Platform River Information Services – start 2002) within the 5th Framework Programme aims to finalise the development of a technical, organisational and functional architecture for River Information Services on a pan-European level as well as to develop and enhance further standards and applications for information exchange in order to prepare for the implementation of RIS on the most important European waterways. COMPRIS should mark the final phase of RIS development before large-scale implementation, having close relations to national RIS projects and initiatives.

In parallel to the research work, first steps were undertaken towards implementation. Some of the national applications mentioned already meet harmonisation requirements either because they are direct results of European research activities, or because they are currently being developed taking into account the results of the research.

Further, the European RIS Platform (ERISP) has been established. The platform is set up for participation of all European (EU and Non-EU) national authorities responsible for and actively involved in the development and implementation of RIS. The platform aims at the exchange of knowledge on RIS and at promoting the harmonised development of RIS.

4. THE JUSTIFICATION FOR THE DIRECTIVE

Many existing RIS applications have been developed independently of each other. There is therefore a clear danger of an emerging patchwork of miscellaneous RIS applications. This is not desirable from a European policy point of view, or from the point of view of the inland waterways transport sector itself. This leads to a strong demand for further co-ordination and harmonisation at a joint level.

Applications need to be interoperable and compatible at national as well as European level to allow for continuous cross-border traffic without technical obstacles. Accordingly, data exchange and communication need to be harmonised at European level in order to facilitate the interoperability of the entire system (applications, technologies etc.).

Users as well as manufacturers of hardware and software require a certain level of 'security' with respect to the services to be expected, and equipment to buy and to manufacture.

The self-regulatory approach pursued so far by the Member States is no longer sufficient and calls for a legal framework at European level.

The decisions of the River Commissions are not binding and are regionally limited. Apart from the European Union there is no institution which can establish the (technical) framework conditions for successful European implementation of RIS.

5. THE AIMS OF THE DIRECTIVE

The Directive aims at a Europe-wide framework for the implementation of the RIS concept in order to ensure compatibility and interoperability between current and new RIS systems at European level and to achieve effective interaction between different information services on waterways. By this means, European suppliers of equipment will be encouraged to produce hardware and software for RIS at reasonable and affordable costs and to perceive European RIS technology as a market opportunity.

In accordance with the principle of subsidiarity, the use of a (framework) directive is considered to be the most appropriate form to achieve the intended purpose. The technical details and standards for the implementation, however, will be adopted by the Commission in cooperation with the Member States by means of a committee procedure.

The RIS concept

The RIS concept is composed of advanced services and functionalities which are supported by various technologies. The provision of these services leads to both operational benefits (e.g. immediate navigational decisions) and strategic benefits (resource planning) for the potential users — the waterways authorities, skipper, terminal manager, lock manager, etc.

The optimal functioning of RIS requires a common architecture. The compatibility and interoperability of services and applications will be ensured through common standards and protocols for data exchange, communication, equipment and frequencies.

River Information Services can be divided into services which are either primarily traffic-related or primarily transport-related. Traffic-related services are Fairway Information Service (FIS), Traffic Information, Traffic Management, and Traffic Monitoring and Calamity Abatement; transport-related services are voyage planning, port and terminal management, cargo and fleet management, statistics and water infrastructure charges.

RIS Services

Fairway Information Systems (FIS) contain geographical, hydrological and administrative data that are used by skippers and fleet managers to plan, execute and monitor a voyage. The FIS provide dynamic information (e.g. water levels) as well as static information (e.g. traffic signs, opening hours of locks) on the conditions of the inland waterway infrastructure, and thereby support tactical and strategic navigation decisions. They contain data on the waterway infrastructure and therefore consist of one-way information — shore to ship/office.

Traditionally, these services are provided through published 'Notices to Skippers', TV and radio broadcasts, internet, VHF nautical information radio, e-mail subscription services and fixed telephones at locks.

Tailor-made advanced Fairway Information Services can be supplied by radiotelephone for urgent information (such as changes of lock times, temporary obstructions in the fairway, navigation restrictions caused by floods and ice) or Internet services for information that needs to be communicated on a daily basis only (such as current and predicted water levels, ice and flood predictions). Additionally, 'Notices to Skippers' can be transmitted by e-mail or SMS subscription.

Finally, the fairway information can be displayed on an Inland ECDIS (Electronic Chart Display and Information System) map. Radar and AIS (Automatic Identification System) information can be integrated into the maps as overlays.

Traffic information services basically consist of tactical traffic information (display of the present vessel characteristics and movements on a limited part of the waterway) and strategic traffic information (display of vessels and their characteristics over a larger geographical area, including forecasts and analyses of future traffic situations).

Tactical traffic information can be displayed in form of a ***Tactical Traffic Image (TTI)***. The Tactical Traffic Image contains information on vessels' positions, time, speed, heading and specific vessel information of all targets identified by radar and – if available – Automatic Identification Systems (AIS) or compatible automatic vessel tracking and tracing systems. It is produced by collecting radar data and vessel-based AIS or compatible signals and by displaying the signals on an Inland ECDIS.

The information provided on the Tactical Traffic Image supports the ship's master in the immediate navigation decisions in the current traffic situation. The Tactical Traffic Image allows skippers also to make navigational arrangements with other vessels (e.g. with respect to turning, overtaking, passing).

The ***Strategic Traffic Image (STI)*** on the other hand provides a general overview of the traffic situation in a relatively large area. The Strategic Traffic Image is mainly used for planning and monitoring. The STI will provide the user with information about intended voyages of vessels, (dangerous) cargo and Requested Times of Arrival (RTA) at defined points.

The Strategic Traffic Image also enables a forecast of the short-term development of traffic within a certain region (e.g. one kilometre) and of future traffic situations. Encounters and overtaking can be calculated and planned in advance.

Traffic Management by waterway authorities aims at optimising the use of the infrastructure as well as facilitating safe navigation. At present so-called Vessel Traffic Services (VTS) centres are installed at some critical points along the European waterway network in the Netherlands and Germany where large amounts of traffic have to be managed.

Radar-based Vessel Traffic Services are services implemented by a Competent Authority, designed to improve the safety and efficiency of vessel traffic and to protect the environment. The service should have the capability to interact with the traffic and to respond to traffic situations arising in the VTS area. RIS enhances and facilitates the work of existing VTS

centres and permits traffic management on larger stretches of the European inland waterway network.

The availability of vessel tracking and tracing technologies such as AIS leads to new developments in the traffic management concept that do not necessarily provide for a central VTS management function, but rather decentralised decision support for navigational decisions. However, current trends show that the one will not replace the other, but more likely they will complement each other. In addition, the possibility should be explored of using e.g. AIS not only for safety-related information (as originally intended), but also for the provision of additional information such as on dangerous cargo.

RIS facilitate ***lock and bridge operation and planning.*** Lock and bridge operators are supported in their medium-term decisions through data exchange with adjacent locks and bridges. RIS assist further in the calculation of Estimated Times of Arrivals (ETAs) and Requested Times of Arrival (RTAs) for a chain of locks.

Calamity abatement services register vessels and their transport data at the beginning of a trip and update the data during the voyage with the help of a ship reporting system. In the event of an accident, the responsible authorities are capable of providing the data immediately to the rescue and emergency teams.

Voyage Planning means skippers and fleet managers can plan Estimated Times of Arrival (ETA) based on fairway information. Traditionally this information is made available by means of 'Notices to Skippers', which provide information on the availability of the waterway infrastructure (e.g. constraints due to construction works). However, voyage planning also calls for reliable information and forecasts on water levels and currents for an entire route, which at present are not available even for international voyages e.g. between Rhine and Danube.

Terminal and port operators need Estimated Time of Arrival (ETA) information in order to be able to plan resources for port and terminal processes - ***Port and Terminal Planning***. ETA information of approaching vessels supports the overall terminal utilisation and allows for a smooth passage of vessels through the terminal facilities. As a result, transhipment processes – and especially waiting times – can be reduced. In case of insufficient terminal capacities, the terminal operator can inform the individual skipper of the Requested Time of Arrival (RTA).

Cargo and fleet management basically comprises two types of information, information on the vessels and the fleet and detailed information on the cargo transported.

RIS allows for logistics applications such as fleet planning support, ETA/RTA negotiations between vessels and terminals, tracking and tracing, and electronic market-places. Fleet managers and logistics service providers can for instance use the Strategic Traffic Image to track and trace their fleet. The identification of the availability and position of all connected vessels potentially results in optimised utilisation of transport capacities within an existing fleet.

This fleet planning capability can even be extended towards a logistics data pool among different companies. For instance, the ALSO Danube project – a project of the European Commission within the 5th Framework Programme GROWTH – developed and tested the concept of a Common Source Logistics Database (CSL.DB). The CSL.DB is among others fed by traffic data registered by the traffic information services. The CSL.DB links logistical

information with the tactical traffic information of the vessels. These data are collected in the database and used for logistical and transport planning by shippers and logistics service providers.

RIS will contribute to a better and easier collection of relevant inland waterway **statistical data** in the Member States. These are mainly of interest to the waterway authorities for strategic planning and monitoring purposes. Statistics can be made available in different formats such as general traffic data, cargo statistics, vessel statistics, lock statistics, accident statistics, and port/transhipment statistics.

In relation to geographical information, the INSPIRE specifications and guidelines shall be considered.

RIS can assist in levying ***waterway charges***. The travel data of the ship can be used to automatically calculate the charge and initiate the invoicing procedure.

RIS technologies

Several RIS-related technological innovations have been introduced in the inland waterway sector during the last decade:

- Electronic Navigation Charts (ENC) for visualisation of fairway and ship position information;
- Internet applications and Inland ECDIS for Notices to Skippers;
- Electronic ship reporting systems for information collection on voyage-related data (ship and cargo);
- Vessel tracking and tracing technologies such as Automatic Identification System AIS for automatic reporting on the position of ships.

Inland ECDIS (Electronic Chart Display and Information System for Inland Navigation) is the European standard for Electronic Navigational Charts, adopted by the Central Commission for the Navigation on the Rhine (in May 2001) and the Danube Commission. Inland ECDIS maps are based on and compatible with maritime ECDIS (promoted by IMO and IHO – International Hydrographic Organisation), and are expected to be available for the Rhine and the Danube within a short period of time. By using the same standard, maps can be produced for estuaries of rivers, where both maritime and inland vessels navigate. Inland ECDIS can be used in two modes – the navigation and information mode – respectively with and without traffic information by radar or AIS overlay.

A personal computer with modem and mobile communication facilities (GSM – Global System for Mobile Communication) is required to receive e-mail and gain access to the internet. Many RIS applications are based on web technology, e.g. internet is needed for electronic reporting and for the display of Electronic Navigable Charts (ENC). GSM/GPRS (General Packet Radio Service) is already available on a large scale, whereas Wireless LAN (Local Area Network) and UMTS (Universal Mobile Telecommunication System) are considered as promising technologies.

Transmission of data and internet communication by inland skippers via GSM is limited because of the high costs and relatively low transmission speeds. GPRS is a world-wide

standard for mobile data transmission that is potentially cheaper. The user of GPRS does not pay per time unit but according to the amount of data sent and received.

Vessel tracking and tracing systems are an additional source of navigational information, which supports radar systems. For example, the Automatic Identification System (AIS) uses dynamic digital broadcast radios carried on vessels (transponders). AIS automatically broadcasts relevant information about the vessel at regular intervals. These data are received and integrated by other AIS devices (ships or shore stations), which can be displayed as real-time navigation data on a radar or Inland ECDIS. The use of AIS could reduce language barriers, as a major part of the information is exchanged electronically. Many verbal reports from skippers to the VTS centre could be replaced by electronic information. Vessels that may not be visible to on-board radar systems can be identified by AIS (e.g. in cases of river bends, dikes).

The satellite positioning technology offers new possibilities that can be integrated into RIS. The technical performance of the Galileo system provides enough capabilities for information systems. The open access service can serve general positioning requirements. The safety-of-life service, through its integrity provision, allows for safer operations to be developed. Finally, the commercial service, which provides service guarantees through contractual relationships between the Galileo operator and the end user, permits new types of applications which can assist RIS. Early services are available through the precursor "EGNOS" system, while full Galileo operational services will be provided as from 2008 onwards.

6. BENEFITS OF RIS FOR THE FUTURE DEVELOPMENT OF INLAND NAVIGATION

RIS is expected to provide four types of strategic benefits

- Increased competitiveness
- Optimised use of infrastructures
- Improved safety and security
- Increased environmental protection

Competitiveness of Inland Waterway Transport

RIS permits the establishment of competitive inland waterway transport services. It provides up-to-date information that can be used to plan voyages and calculate more reliable time schedules.

Based on the current and expected positioning data of the various vessels that are under way in the network, lock/bridge/terminal operators can calculate and communicate the Required Times of Arrival (RTA) to the individual skippers. While approaching the lock/terminal, the skipper can decide to adjust his cruising speed (more homogeneous travel speeds), which in the end results in a reduction of waiting times at locks and terminals.

Hence, RIS complies with the information needs of modern supply chain management, since it allows optimised use and monitoring of resources and possibilities for flexible reactions in case of any deviation from the original planning.

Secondly, RIS principally provides information interfaces with all supply chain members as well as with other transport modes. These interfaces, which eliminate fractures in the information chain, permit the integration of inland waterway transport into inter-modal supply chains.

Thirdly, RIS allows real-time monitoring of the inland navigation fleet and of changing fairway conditions en route. This allows improved fleet management, optimised deployment of personnel and fleet based on up-to-date information as well as more detailed trip planning and draught management based on up-to-date information on fairway conditions. Real-time information is provided that can be used to load ships according to the current navigational conditions.

Optimised use of infrastructure

Terminal and lock operators are capable of producing better planning of terminal resources through receipt of Estimated Times of Arrival (ETA) and additional information (e.g. stowage plans, vessel dimensions) of approaching vessels. These pre-announcement data allow a pro-active approach towards terminal or lock scheduling. Before the vessel enters the port or lock, the operator can prepare and schedule the handling activities. For skippers this means shorter waiting times and an optimised chain of processes for the entire voyage. Public infrastructures benefit from the pre-announcement data through better utilisation rates.

Additionally, RIS permits the automated collection of statistical and customs data. Traditionally, this is connected with paper work, which is time-consuming and prone to data errors. RIS makes the automatic collection of required data possible in an efficient way, ultimately resulting in lower public expenditure.

Safety and security of inland navigation

With the introduction of RIS, skippers are offered up-to-date and complete overviews of traffic situations. This allows them to take well-informed navigational decisions, which will consequently lead to a reduction of incidents and injuries/fatalities. Traditionally, for example, ship masters had to rely on information shown on the radar and verbal information provided by vessel traffic service (VTS) centres in order to take navigational decisions. The application of RIS has dramatically improved this picture: skippers use electronic charts, which are necessarily up-to-date, receive precise positioning data on approaching vessels, and are informed electronically about current fairway and weather conditions.

Moreover, RIS allows detailed monitoring of dangerous goods transports, thus helping prevent shipping accidents. These and other data allow safe navigation.

RIS also contributes to the transparency of freight transport. Transparency is a main prerequisite for enhanced security of transport operations. It requires a continuous information flow which advances and/or accompanies the material process. By developing harmonised interfaces, RIS supports the generation of comprehensive and transparent information processes and the smooth exchange of data (pre-announcement declarations, exchange of data on cargo/containers, e.g. customs data) between all relevant partners in a transport chain.

Environmental protection

RIS leads to a reduction of fuel consumption as a consequence of better voyage planning and more reliable time scheduling. In addition, RIS contributes to a modal shift of cargo from road to waterway, leading to a reduction of exhaust gases such as CO_2 and NO_x, but also of noise nuisance. RIS therefore supports the reduction of emissions caused by transport activities both directly and indirectly.

Finally, RIS provides the possibility to monitor the transport of dangerous goods. This allows timely responses in the event of accidents and potential environmental calamities. Since data on all traffic movements can be stored in a database, reconstruction of incidents can be helpful in the analysis of causes for the accident. All in all this contributes to environmental protection in relation to inland navigation.

7. DESCRIPTION OF THE DIRECTIVE

The purpose of the proposed Directive is to establish a framework for a harmonised and interoperable development and deployment of River Information Services on all Community inland waterways of Class IV or higher[5] in order to improve the safety, security, and efficiency of traffic and transport operations. It will also apply to inland ports as defined in the framework of the TEN with at least 500.000 tonnes freight volume per year.[6] (Article 1 and 2)

The Directive is addressed to the Member States. However, Member States without navigable inland waters are not obliged to apply the provisions of this Directive. Member States of which the inland waterway network is not linked to the network of another Member State (isolated network) may exempt those waterways from the application (Art.2§2). However they are recommended to apply the rules of the Directive on these waterways (whereas n°3). In addition, for inland waterways within the scope of the Directive but with a demonstrated low traffic density, the period for the implementation may be extended. (Article 11 § 3)

Article 3 sets out the definitions applicable for the purposes of this Directive.

Article 4 lays down the obligation for Member States to take the necessary measures to implement River Information Services and sets the principles for their development. It identifies the different types of potential River Information Services (such as information on the fairways to enhance voyage planning, traffic-related information to support navigational decisions and/or calamity abatement, information to facilitate transport management etc.) and defines the specific obligations of the Member States as regards the provision of data necessary for the execution of the voyage, the provision of electronic navigational charts and of notices to skippers as well as the capability of the competent authorities to receive electronic ship reports on the vessel and cargo. These obligations are further specified in the technical Annex.

In principle, the Directive does not oblige private users, boat masters and ship operators to install the equipment necessary for participating in RIS. However, Member States must take appropriate measures to encourage users (boat masters, operators, vessel agents, shippers, cargo owners) and vessels to comply with the reporting procedures and equipment requirements implied by this Directive. (Article 4 § 6)

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5 Classification of European Inland Waterways, Resolution N° 30 of the UN/ECE Working Party on Inland Waterway Transport of 12 November 1992

6 Decision N° 1346/2001/EC (OJ L 185, 6.7.2001, p.1).

Article 5 recalls that in order to ensure harmonised and interoperable implementation of RIS, guidelines and technical specifications need to be established. The principles for the guidelines and technical specifications are further described in Annex II to the Directive.

The *guidelines* will cover the technical principles and requirements for the planning, implementation and operational use of RIS, related systems and the RIS architecture as well as specifications for data exchange, contents and communication.

Technical specifications are envisaged in particular for Inland ECDIS, electronic ship reporting, notice to skippers, and vessel tracking and tracing systems such as AIS (Automatic Identification Systems). With a view to mixed traffic zones and estuaries the specifications must be compatible with maritime standards where applicable and in particular as regards Inland ECDIS and vessel tracking and tracing technologies such as AIS.

The technical guidelines and specifications will be established by the Commission with the help of a Member States' committee. To this effect, a time-table is indicated (Article 5 § 2).

In Article 6, the use of satellite positioning technologies is stipulated for the purpose of RIS.

Article 7 stipulates further that as far as the safety of navigation is concerned, equipment and software applications shall be certified for compliance by national bodies to be notified by the Member States. The certification shall be mutually recognised by all Member States. Member States shall further designate and notify the competent authority(ies) for RIS.

Article 9 refers to the rules on privacy and security as well as the re-use of information.

Article 10 sets out the procedures for amending the technical annex.

Article 11 provides the basis for the RIS Committee. In adopting the necessary decisions, the Commission will be assisted by the Committee created under Directive 91/672 and composed of representatives of the Member States. In particular, the Committee will assist the Commission in defining the technical specifications and details for the implementation of the services. For these measures the use of a regulatory procedure is considered to be the most appropriate.[7]

In its transitional provisions, Article 12 provides for a graduated transition period for the implementation of the Directive. In principle, Member States must implement the requirements set out in Article 4 not later than 24 months after the entry into force of the technical guidelines and the relevant specifications.

Article 13 sets the date for the entry into force of the Directive.

[7] Decision 1999/468/EC (OJ L 184, 17.7.1999, p. 23).

2004/0123 (COD)

Proposal for a

DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

on harmonised River Traffic Information Services on inland waterways in the Community

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 71 thereof,

Having regard to the proposal from the Commission ([8]),

Having regard to the opinion of the European Economic and Social Committee ([9]),

Having regard to the opinion of the Committee of the Regions ([10]),

Acting in accordance with the procedure laid down in Article 251 of the Treaty ([11]),

Whereas:

(1) The deployment of information and communication technologies on inland waterways helps to increase significantly the safety and efficiency of transport by inland waterway.

(2) In some Member States national applications of information services are already being deployed on various waterways. In order to ensure a harmonised, interoperable and open navigational aid and information system on the inland waterway network of the Community, common requirements and technical specifications should be introduced.

(3) On national navigable inland waterways not linked to the navigable network of another Member State, these requirements and technical specifications need not be mandatory. It is however recommended to implement River Traffic Information Services as defined in this Directive on those inland waterways and to make existing systems interoperable with it.

(4) The development of River Traffic Information Services (RIS) should be based on objectives such as safety, security, efficiency and environmental friendliness of inland navigation which are fulfilled by tasks like traffic and transport management, environment and infrastructure protection and the enforcement of specific rules.

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8 OJ C […], […], p. […].
9 OJ C […], […], p. […].
10 OJ C […], […], p. […].
11 OJ C […], […], p. […].

(5) The requirements regarding RIS should concern at least the information services to be provided by the Member States.

(6) The establishment of technical specifications should include systems such as electronic navigational charts, electronic ship reporting, notices to skippers and vessel tracking and tracing.

(7) The introduction of RIS will entail the processing of personal data. Such processing should be carried out in accordance with European rules, as set out inter alia in Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data([12]) and Directive 2002/58/EC of the European Parliament and of the Council of 12 July 2002 concerning the processing of personal data and the protection of privacy in the electronic communications sector([13]).

(8) Since the objectives of the action to be taken, namely to establish harmonised RIS in the Community, cannot be sufficiently achieved by the Member States and can therefore, by reason of their European dimension, be better achieved at Community level, the Community may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality, as set out in that Article, this directive does not go beyond what is necessary in order to achieve those objectives.

(9) The measures necessary for the implementation of this Directive should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission,[14]

HAVE ADOPTED THIS DIRECTIVE:

Article 1
Subject matter

This Directive establishes a framework for the deployment and use of harmonised River Traffic Information Services (RIS) in the Community in order to support inland waterway transport with a view to enhance safety, security, efficiency and environmental friendliness and to facilitate the interface with other transport modes.

This Directive provides a framework under which technical requirements, specifications and conditions to ensure harmonised, interoperable and open RIS on the Community Inland Waterways will be developed. Continuity shall be ensured with other modal traffic management services, in particular maritime vessel traffic management and information services.

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12 OJ L 281, 23.11.1995, p. 31.
13 OJ L 201, 31.7.2002, p. 37.
14 OJ L 184, 17.7.1999, p. 23.

Article 2
Scope

1. This Directive applies to the implementation and operation of RIS on all inland waterways of class IV and above according to the Classification of European Inland Waterways provided for in UN/ECE Resolution No 30 of 12 November 1992 including the ports referred to in Decision No 1346/2001/EC of the European Parliament and of the Council of 22 May 2001 amending Decision 1692/96/EC as regards seaports, inland ports and intermodal terminals as well as project No 8 in Annex III([15]).

2. A Member State may, after consulting the Commission, exempt national waterways not linked by a waterway of class IV or higher to the navigable network of another Member State from the application of this Directive.

Article 3
Definitions

For the purposes of this Directive, the following definitions shall apply:

(a) *River Information Services* (RIS) means the harmonised information services to support traffic and transport management in inland navigation, including interfaces to other transport modes. RIS does not deal with internal commercial activities between one or more of the involved companies, but is open for interfacing with commercial activities.

(b) *Fairway Information* means geographical, hydrological, and administrative information regarding the waterway (fairway). Fairway Information is one-way information: shore to ship or shore to office.

(c) *Tactical Traffic Information* means the information affecting immediate navigation decisions in the actual traffic situation and the close geographic surroundings.

(d) *Strategic Traffic Information* means the information affecting the medium and long-term decisions of RIS users.

(e) RIS *application* means the provision of river information services through dedicated systems.

(f) RIS *centre,* means the place where the services are managed by operators. It is established by the competent authority.

(g) RIS *users* means all different users groups including boat masters, RIS operators, lock/bridge operators, waterway authorities, terminal operators, operators in calamity centres of emergency services, fleet managers, cargo shippers and freight brokers.

(h) *Interoperability* means that services, data contents, data exchange formats and frequencies are harmonised in such a way that RIS users have access to the same

[15] OJ L 185, 6.7.2001, p.1

services and information on a European level without the need to change the equipment.

Article 4
Setting- up of River Information Services

1. Member States shall take the necessary measures to implement RIS on inland waterways according to Article 2.

2. RIS shall comprise services such as:

   (a) Fairway Information

   (b) Traffic Information

   (c) Traffic Management

   (d) Calamity Abatement Support

   (e) Information for Transport Management

   (f) Statistics and customs services

   (g) Waterway charges and port dues

3. Member States shall develop the services in such a way that the RIS application is efficient, expandable and interoperable so as to interact with other RIS applications and, if possible, with systems for other modes of transport. It shall also provide interfaces to transport management systems and commercial activities.

4. In order to set up RIS, Member States shall:

   (a) supply to RIS users all relevant data concerning navigation on the inland waterways referred to in Article 2. These data shall be provided at least in an accessible electronic format;

   (b) ensure that for all European Inland Waterways of class Va and above in accordance with the Classification of European Inland Waterways, in addition to the data referred to in point (a), electronic navigational charts suitable for navigational purposes are available to RIS users;

   (c) enable, as far as ship reporting is required by national or international regulations, the competent authorities to receive electronic ship reports on the voyage and cargo data of ships. In cross-border transport, this information shall be transmitted to the competent authorities of the neighbouring state before arrival of the vessels at the border;

   (d) ensure that notices to skippers, including water level and ice reports of their inland waterways, are provided as standardised, encoded and downloadable messages. The standardised message shall contain at least the information

necessary for safe navigation. The notices to skippers shall be provided at least in an accessible electronic format.

The obligations referred to in this paragraph shall be fulfilled in compliance with the specifications defined in Annexes I and II.

5. The Member States shall establish RIS centres according to regional necessities.

6. The Member States shall make available the VHF channels for the purposes of Automatic Identification Systems as determined in the Regional Arrangement concerning the radiotelephone service on inland waterways concluded in Basel on 6 April 2000 in the framework of the radio regulations of the International Telecommunication Union (ITU).

7. Member States shall take all necessary measures to monitor and ensure that the boat masters, operators or agents of vessels navigating on their waterways, shippers or owners of goods carried on board such vessels as well as the vessels comply with the requirements under this Directive.

Article 5
Technical guidelines and specifications

1. In order to support the services mentioned in Article 4 (2) and to ensure their interoperability as required by Article 4 (3), the Commission shall define pursuant to paragraph 2 technical guidelines for the planning, implementation and operational use of the services (RIS guidelines) as well as technical specifications in particular in the following areas:

   (a) Electronic Chart Display and Information System for Inland Navigation (Inland ECDIS)

   (b) Electronic Ship Reporting

   (c) Notices to Skippers

   (d) Tracking and Tracing Systems.

   These guidelines and specifications shall be based on the technical principles set out in Annex II.

2. The technical guidelines and specifications referred to in paragraph 1 shall be established by the Commission in accordance with the procedure laid down in Article 11 (3), according to the following time-table:

   (a) the RIS guidelines not later than nine months after the entry into force of this Directive,

   (b) the technical specifications regarding the Inland ECDIS, the Electronic Ship Reporting and the Notices to Skippers not later than twelve months after the entry into force of this Directive,

(c) the technical specifications regarding the Tracking and tracing systems not later than fifteen months after the entry into force of this Directive.

3. The RIS guidelines and specifications shall be published in the *Official Journal of the European Union*.

Article 6
Satellite positioning

For the purpose of River Information Services satellite positioning technologies shall be used.

Article 7
Certification of RIS equipment

1. Where necessary for the safety of navigation and required by the relevant technical specifications, RIS equipment and software applications shall be certified for compliance with those specifications.

2. Member States shall notify to the Commission and to the other Member States the national bodies responsible for the certification. All Member States shall acknowledge certificates issued by the approved bodies.

Article 8
Competent Authorities

Member States shall designate competent authorities for the RIS applications and for the international exchange of data. These authorities shall be notified to the Commission.

Article 9
Rules on privacy, security and the re-use of information

1. Member States shall ensure that processing of personal data necessary for the operation of RIS is carried out in accordance with the European Rules protecting the freedoms and fundamental rights of individuals, including Directive 95/46/EC and Directive 2002/58/EC. They may use this information only for the purposes of the intended services as described in Article 4 (2).

2. Member States shall implement and maintain security procedures and services to protect the RIS messages and their records against untoward events or misuse including improper access, alteration or loss.

3. Directive 2003/98/EC on the re-use of public sector information applies.

Article 10
Amendment Procedure

Annex I and II may be amended in the light of the experience gained from the application of this Directive and adapted to technical progress in accordance with the procedure laid down in Article 11 (3).

Article 11
RIS Committee

1. The Commission shall be assisted by the Committee instituted by Article 7 of Directive 91/672/EEC.

2. Where reference is made to this paragraph, Article 3 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

3 Where reference is made to this paragraph, Article 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof. [The period laid down in Article 5 (6) of Decision 1999/468/EC shall be three months.]

Article 12
Transposition

1. Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by […] at the latest [*not later than 18 months after the date of entry into force of the Directive*]. They shall forthwith communicate to the Commission the text of those provisions and a correlation table between those provisions and this Directive.

   When Member States adopt these provisions, they shall contain a reference to this Directive or shall be accompanied by such reference on the occasion of their official publication. Member States shall determine how such reference is to be made.

2. Member States shall take the necessary measures to comply with the requirements set out in Article 4 not later than 24 months after the entry into force of the relevant technical guidelines and specifications referred to in Article 5. The technical guidelines and specifications shall enter into force on the day following that of their publication in the *Official Journal of the European Union*.

3. Following a request by a Member State, the Commission may extend in accordance with the procedure laid down in Article 11 (2), the period provided for in paragraph 2 for the implementation of one or more requirements of Article 4, in respect of inland waterways as defined in Article 2 but with low traffic density. This period may be extended by 24 months; the extension may be renewed. The justification to be provided with the request by the Member State shall refer to the traffic density and economic conditions on that particular waterway.

4. Member States shall communicate to the Commission the text of the main provisions of national law which they adopt in the field governed by this Directive.

5. Where necessary, Member States shall assist one another in the implementation of this Directive.

Article 13
Entry into force

This Directive shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Article 14

This Directive is addressed to the Member States.

Done at Brussels,

For the European Parliament	*For the Council*
The President	*The President*

Annex I

Minimum data requirements

As referred to in Article 4 (4) (a), in particular the following data shall be supplied:

- Waterway axis with kilometre indication,
- Restrictions for vessels or convoys in terms of length, width, draught and air draught,
- Operation times of restricting structures, in particular locks and bridges,
- Location of ports and transhipment sites,
- Reference data for water level gauges relevant to navigation.

Annex II

Principles for RIS guidelines and technical specifications

1. RIS Guidelines

The RIS guidelines referred to in Article 5 shall respect the following principles:

a) the indication of technical requirements for the planning, implementing and operational use of services and related systems,

b) the RIS architecture and organisation, and

c) recommendations for vessels to participate in RIS, for individual services and for the stepwise development of RIS.

2. Inland ECDIS

The technical specifications to be established in accordance with Article 5 for an electronic chart display and information system (Inland ECDIS) shall respect the following principles:

a) compatibility with the maritime ECDIS in order to facilitate traffic of inland vessels in mixed traffic zones of the estuaries and sea-river traffic,

b) the definition of minimum requirements for Inland ECDIS equipment as well as the minimum content of electronic navigational charts with a view to the safety of navigation, in particular

- a high level of reliability and availability of the Inland ECDIS equipment used,
- the robustness of the Inland ECDIS equipment in order to withstand the environmental conditions typically prevailing on board of a vessel without any degradation in quality and reliability,
- the inclusion in the electronic navigational chart of all kinds of geographical objects (e. g. boundaries of the fairway, shoreline constructions, beacons) that are needed for safe navigation,
- the monitoring of the electronic chart with overlaid radar image when used for conning the vessel,
- the integration of depth information on the fairway in the electronic navigational chart and display to a predefined or the actual water level,
- the integration of additional information (e.g. of other parties than the competent authorities) in the electronic navigational chart and display in the Inland ECDIS without affecting the information that is needed for safe navigation.

c) the accessibility of electronic navigational charts to all users.

d) the availability of the data for electronic navigational charts to all manufacturers of applications.

3. Electronic Ship Reporting

The technical specifications for Electronic Ship Reporting in inland navigation in accordance with Article 5 shall respect the following principles:

a) the facilitation of the electronic data exchange between the competent authorities of the Member States, between participants in inland as well as maritime navigation and in multi-modal transport where inland navigation is involved,

b) the use of a standardised transport notification message for ship-to-authority, authority-to-ship and authority-to-authority messaging in order to obtain compatibility with maritime navigation,

c) the use of internationally accepted code lists and classifications, possibly complemented for additional inland navigation needs,

d) the use of a unique European vessel identification number.

4. Notices to Skippers

The technical specifications for Notices to Skippers in accordance with Article 5, in particular regarding fairway information, traffic information and management as well as voyage planning, shall respect the following principles:

a) a standardised data structure using predefined text modules and encoded to a high extent in order to enable automatic translation of the most important content into other languages and to facilitate the integration of notices to skippers into voyage planning systems,

b) the compatibility of the standardised data structure with the data structure of Inland ECDIS to facilitate integration of notices to skippers in Inland ECDIS.

5. Tracking and tracing systems

The technical specifications for vessel tracking and tracing systems in accordance with Article 5 shall respect the following principles:

a) the definition of the requirements on systems and of standard messages as well as procedures so that they can be provided in an automated way,

b) the differentiation between systems suited to requirements of tactical traffic information and systems suited to requirements of strategic traffic information, both with regard to positioning accuracy and required update rate,

c) the description of the relevant technical systems for vessel tracking and tracing such as Inland AIS (Inland Automatic Identification System),

d) compatibility with the maritime AIS system in order to facilitate traffic of inland vessels in mixed traffic zones of the estuaries and sea-river traffic,

e) the capability of the shore-based infrastructure on the inland waterway network to accommodate maritime AIS messages.

LEGISLATIVE FINANCIAL STATEMENT

Policy area(s):	**Energy and Transport**
Activit(y/ies):	**Sustainable mobility policy**

TITLE OF ACTION:	**DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL ON HARMONISED RIVER INFORMATION SERVICES (RIS) ON INLAND WATERWAYS IN THE COMMUNITY**

1. BUDGET LINE(S) + HEADING(S)

Budget line: A – 7031, Heading: Meetings and invitations in general (ABB nomenclature: 06.01.02.11)

2. OVERALL FIGURES

2.1. Total allocation for action (Part B): € million for commitment

2.2. Period of application:

start: 2005 end: not determined

2.3. Overall multiannual estimate of expenditure:

(a) Schedule of commitment appropriations/payment appropriations (financial intervention) *(see point 6.1.1)*

€ million (*to three decimal places)*

	2005	2006	2007	2008	2009	subs. Years	Total
Commitments	-	-	-	-	-	-	-
Payments	-	-	-	-	-	-	-

(b) Technical and administrative assistance and support expenditure*(see point 6.1.2)*

Commitments							
Payments							

Subtotal a+b							
Commitments							
Payments							

(c) Overall financial impact of human resources and other administrative expenditure *(see points 7.2 and 7.3)*

Commitments/ payments	0.119	0.119	0.119	0.119	0.119		0.595

TOTAL a+b+c							
Commitments	0.119	0.119	0.119	0.119	0.119		0.595
Payments	0.119	0.119	0.119	0.119	0.119		0.595

2.4. Compatibility with financial programming and financial perspective

[x] Proposal is compatible with existing financial programming.

Proposal will entail reprogramming of the relevant heading in the financial perspective.

Proposal may require application of the provisions of the Interinstitutional Agreement.

2.5. Financial impact on revenue:[16]

[x] Proposal has no financial implications (involves technical aspects regarding implementation of a measure)

OR

Proposal has financial impact – the effect on revenue is as follows:

(NB All details and observations relating to the method of calculating the effect on revenue should be shown in a separate annex.)

(€ million to one decimal place)

		Prior to action	Situation following action					
Budget line	Revenue	[Year n-1]	[Year n]	[n+1]	[n+2]	[n+3]	[n+4]	[n+5]
	a) Revenue in absolute terms							
	b) Change in revenue	*Δ*						

(Please specify each budget line involved, adding the appropriate number of rows to the table if there is an effect on more than one budget line.)

16 For further information, see separate explanatory note.

3. BUDGET CHARACTERISTICS

Type of expenditure		New	EFTA contribution	Contributions form applicant countries	Heading in financial perspective
Non-comp	Non-diff	NO	NO	NO	

4. LEGAL BASIS

ARTICLE 71 OF THE EC TREATY

5. DESCRIPTION AND GROUNDS

5.1. Need for Community intervention

5.1.1. Objectives pursued

The Commission White Paper on Transport policy (COM (2001) 370) stipulates the installing of highly efficient navigational aid and communication systems on the inland waterway network of the Community.

The Community has already put some financial effort in the development of river information systems in the framework of the research and development framework programmes.

On this basis, Member States have developed a variety of stand-alone telematic services and systems and put them into place on their inland waterways. Sometimes, there exist even various applications within one Member State.

The Directive creates the necessary framework and conditions in order to ensure that the services and systems are implemented in a harmonised and interoperable way on the inland waterways in the Community.

In adopting the necessary decisions for a harmonised deployment of the services, the Commission will be assisted by a committee composed by representatives of the MS. In particular the committee will assist the Commission in defining the technical specifications and details for the implementation of the services.

5.1.2. Measures taken in connection with ex ante *evaluation*

Not applicable

5.1.3. Measures taken following ex post *evaluation*

Not applicable

5.2. Action envisaged and budget intervention arrangements

The general objective of the action is the establishment of a framework for a harmonised and interoperable deployment and use of River information services on

Community inland waterways. The action is addressed to the Member States concerned which shall take the necessary measures to implement the services on their waterways within the framework and provisions laid down by the Directive.

Beneficiaries are the users of the services, i.e. the shipping industry as such, the ship operators and boat masters as well as infrastructure managers.

The objective shall be achieved by the definition of technical guidelines for the implementation and the functioning of the services as well as by defining the technical specifications for the various applications.

To this end, Article 11 of the proposed Directive provides for a committee of Member States' representatives with practical experience in the field of information and communication technologies on inland waterways. The committee will help the Commission in preparing the relevant decisions on a properly informed basis. Such a committee does not exist yet and will therefore have to be set up. It will base its work on the findings of research projects conducted under the research and development framework programme, in particular on the COMPRIS project which is dealing with implementation issues of RIS.

The following matters, and possibly others in the framework of the Directive, will be referred to the Committee:

– Guidelines covering the technical principles and requirements for the planning, implementing and operational use of services and related systems as well as the RIS architecture and organisation;

– preparation of technical specifications for an electronic navigational chart display and information system (Inland ECDIS);

– preparation of technical specifications for Electronic Ship Reporting;

– preparation of technical specifications for Notices to Skippers;

– preparation of technical specifications for vessel tracking and tracing systems.

5.3. Methods of implementation

The work will be carried out by the Committee and working groups of outside experts chosen jointly in cooperation with the Committee and paid by the Commission which will also be responsible for the monitoring of the Committee and the expert groups.

6. FINANCIAL IMPACT

6.1. Total financial impact on Part B - (over the entire programming period)

(The method of calculating the total amounts set out in the table below must be explained by the breakdown in Table 6.2.)

6.1.1. Financial intervention

Commitments (in € million to three decimal places)

Breakdown	[Year n]	[n+1]	[n+2]	[n+3]	[n+4]	[n+5 and subs. Years]	Total
Action 1							
Action 2							
etc.							
TOTAL							

6.1.2. Technical and administrative assistance, support expenditure and IT expenditure (commitment appropriations)

	[Year n]	[n+1]	[n+2]	[n+3]	[n+4]	[n+5 and subs. years]	Total
1) Technical and administrative assistance							
a) Technical assistance offices							
b) Other technical and administrative assistance: - intra muros: - extra muros: *of which for construction and maintenance of computerised management systems*							
Subtotal 1							
2) Support expenditure							
a) Studies							
b) Meetings of experts							
c) Information and publications							
Subtotal 2							
TOTAL							

6.2. Calculation of costs by measure envisaged in Part B (over the entire programming period)[17]

(Where there is more than one action, give sufficient detail of the specific measures to be taken for each one to allow the volume and costs of the outputs to be estimated.)

Commitments (in € million to three decimal places)

Breakdown	Type of outputs (projects, files)	Number of outputs (total for years 1…n)	Average unit cost	Total cost (total for years 1…n)
	1	2	3	4=(2X3)
Action 1 - *Measure 1* - *Measure 2* Action 2 - *Measure 1* - *Measure 2* - *Measure 3* *etc.*				
TOTAL COST				

If necessary explain the method of calculation

7. IMPACT ON STAFF AND ADMINISTRATIVE EXPENDITURE

7.1. Impact on human resources

Types of post		Staff to be assigned to management of the action using existing and/or additional resources		Total	Description of tasks deriving from the action
		Number of permanent posts	Number of temporary posts		
Officials or temporary staff	A B C				*If necessary, a fuller description of the tasks may be annexed.*
Other human resources					
Total					

[17] For further information, see separate explanatory note.

7.2. Overall financial impact of human resources

Type of human resources	Amount (€)	Method of calculation *
Officials Temporary staff		
Other human resources (specify budget line)		
Total		

The amounts are total expenditure for twelve months.

7.3. Other administrative expenditure deriving from the action

Budget line: A - 7031 (number and heading)	Amount €	Method of calculation
Overall allocation (Title A7) A0701 – Missions A07030 – Meetings A07031 – Compulsory committees [1] A07032 – Non-compulsory committees [1] A07040 – Conferences A0705 – Studies and consultations Other expenditure (specify)	119 100	Standard costs 2004 - € 650 for EU 25 - € 1000 for future Member States - € 800 for non-government. experts 2 Committee meetings per year: 27 participants (25 Member States + 2 future Member States). € 18 250 per meeting for the reimbursement of travel expenses. 4 Expert working group meetings/year: 20 participants (25 Member States + 2 future Member States + 3 non-government. experts). € 20 650 per meeting for the reimbursement of travel expenses
Information systems (A-5001/A-4300)		
Other expenditure - Part A (specify)		
Total	119 100	

The amounts are total expenditure for twelve months.

[1] Specify the type of committee and the group to which it belongs.

I.	Annual total (7.2 + 7.3)	€119 100
II.	Duration of action	5 years
III.	Total cost of action (I x II)	€595 500

The needs in terms of human and administrative resources shall be covered within the allocation granted to the managing DG in the framework of the annual allocation procedure.

8. FOLLOW-UP AND EVALUATION

8.1. Follow-up arrangements

The execution of the tasks laid down by the Directive will be monitored by the Commission on the basis of the work programme of the RIS Committee. The work programme and the related timetable for the execution of the tasks under the Directive will be established at the initial meetings of the committee. The first of these tasks is to introduce the technical guidelines for the implementation of RIS and the adoption of the technical specifications for the various systems at Community level.

8.2. Arrangements and schedule for the planned evaluation

At the latest three years after the entry into force of the Directive, the Commission will draw up a report analysing the functioning of the RIS. The aim is to ensure that the services are being deployed in accordance with the objectives of the Directive and with the technical specifications adopted until then. The assessment will be carried out in cooperation with the RIS Committee.

9. ANTI-FRAUD MEASURES

Not applicable