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COMMISSION STAFF WORKING DOCUMENT

Mid-term progress report on the implementation of the NAIADES II action programme for the promotion of inland waterway transport (covering the period 2014-2017)

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1. INTRODUCTION

1.1 Background

The NAIADES II action programme for the promotion of inland waterway transport over the period 2014-2020 was announced in the Commission's Communication COM(2013) 623 final of 10 September 20131. It focuses on making structural changes in the inland navigation sector to enable it to contribute fully to the Commission's overall political objectives and priorities. Its implementation relies on coordinated action by the sector and public authorities at Member State, European Union and international levels.

This document constitutes the mid-term report announced in the 2013 Commission's Communication, presenting the progress achieved up to 2017 and the on-going actions that should be considered for the implementing NAIADES II until 2020. It is structured to address the different action fields presented in the Communication showing the development of NAIADES II in terms of regulation, policy and financial support. It also includes best practice examples from the sector.

It takes account of the views and recommendations of the European Court of Auditors in its Special report no 1/20152 of 3 March 2015.

In the following sub-section, the overall context and the market developments in the inland waterways sector are depicted.

1.2 Overall context and economic developments 2014-2017

The main features and trends of the European inland waterway transport (IWT) sector over the period 2014-2017 are described in detail in the Inland Waterways Market Observation 2014-20173.

The following are some of the main factors that have (negatively) affected the performance of inland navigation activities in the overall context of the EU transportation system over the years of activity covered by this report.

- Adverse hydro-meteorological conditions have affected operating conditions during certain periods in key sections of the inland waterways network, both in the Rhine and in the Danube river basins. Water availability (i.e. low water levels or flooding events) and meteorology (e.g. ice) have had an impact both on volumes transported and on freight rates. At the same time, this problem is clearly compounded by lack of timely maintenance (e.g. dredging) which has affected cross-border traffic conditions in particular sections of the Danube.
- There has been a limited economic recovery in the main sectors using inland navigation transport services, which are concentrated in the primary (e.g.

¹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 'Towards quality inland waterway transport' — NAIADES II, COM(2013) 623 final of 10.9.2013 http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:52013DC0623

² Inland Waterway Transport in Europe: No significant improvements in modal share and navigability conditions since 2001 https://www.eca.europa.eu/Lists/ECADocuments/SR15 01/SR15 01 EN.pdf

³ Inland Waterways Market Observation, Special Report 2014-2017 - http://www.inland-navigation-market.org/en/

- agricultural products, raw materials) and secondary sectors (e.g. steel, oil, chemicals, constructions sectors).
- Inland waterway infrastructure, including locks, bridges, minimum draught levels or river information systems (RIS), is inadequate. Bottlenecks on the trans-European transport network (TEN-T) have been identified in the context of the European Commission's corridor activities and are set out in the TEN-T's corridor studies and work programmes and in the European Coordinator's work plans4.

Despite these difficulties, the inland navigation sector has generally proved to be resilient over the last 5 years. After low water periods in 2011, 2015 and 2016, the performance levels of inland navigation transport have since caught up. This catch-up phenomenon is even more significant for growing market segments such as the transport of containers on inland waterways. Taking into account all types of goods and all EU countries, the inland navigation sector's share of EU transportation modes has remained steady at around 6 % at the EU level.

In terms of relevant geographical markets5, the European Union's Rhine countries (Belgium, Netherlands, France and Germany) represent about 85 % of total inland navigation goods transport performance6 (tonnes x kilometres (tkm)) while the European Union's Danube countries (Bulgaria, Croatia, Hungary, Austria, Romania and Slovakia) account for 15 % of goods transport performance. Other countries account for almost less than 0.5 %.

Overall in Europe, the performance of inland navigation transport oscillated between 145 and 152 billion tkm over the last 5 years. Low water periods in 2015 and 2016 negatively affected the maximum loading degrees, resulting in a lower transport performance.

However, passenger transport on inland waterways has seen a significant — 13 % — average increase of passengers on river cruise vessels over the last 5 years.

Future inland navigation growth and development is mainly expected in new markets, e.g. in container transport, the circular economy, and city distribution.

2. IMPLEMENTATION OF THE NAIADES II PROGRAMME

To support the coordination, implementation and monitoring of the NAIADES II action programme, the Commission launched in 2015 a programme support action (PSA) to implement the TEN-T core network related to sea ports, inland ports and inland waterway transport. This was the follow-up to the support action 'Platina II' funded under the seventh framework programme for research and innovation.

The PSA provides effective support in four areas:

- it assesses the potential of maritime and inland ports and inland waterways and of related policy measures;
- it studies the concept of the digital inland waterway area and support to RIS standards;

⁴ https://ec.europa.eu/transport/themes/infrastructure_en

⁵ I.e. EU areas connected by rivers, canals and lakes.

⁶ The percentages indicated are based on transport performance [tkm]. Tkm is the unit for expressing the volume of goods transported over a certain distance (tkm = $tons \times tons$).

- it studies the concept of 'good navigation status' as required by Article 15(3)b of the TEN-T guidelines; and
- it facilitates innovation for inland waterway operations.

It is funded with EUR 4.3 million from the Connecting Europe Facility (CEF) 2014-2020; all the main stakeholders and river commissions are involved.

2.1 **Quality infrastructure**

The adoption of the TEN-T guidelines 7 and of the CEF8 in December 2013 entailed a major change of approach regarding transport infrastructure investments in all transport sectors, including inland waterways.

The **TEN-T guidelines** established, for the first time, infrastructure components, transport infrastructure requirements and priorities for inland waterway infrastructure developments. Furthermore, the TEN-T guidelines designated, as part of the core network, the waterways of European dimension and the inland ports where EU Member States have the legally binding obligation to complete the network by 2030. As a whole, TEN-T projects aim to establish and develop the key links and interconnections needed to:

- removing existing bottlenecks that prevent mobility;
- fill in missing sections and complete the main routes especially their cross-border sections;
- traverse natural barriers; and
- improve interoperability on major routes.

The **CEF pre-identified priority inland waterways projects** in the core network corridors and other sections of the core network.

A necessary focus has been placed on ensuring these projects are completed, as they are of particular relevance for the North Sea-Mediterranean, Rhine-Alpine and Rhine-Danube corridors. The priorities for inland waterways infrastructure projects required for completion of the core network corridors are reflected in the respective work plans of the corridors9 and in the CEF multi-annual work programmes10. The European Commission designated European coordinators and has established corridor 'forums' to support the coordinated implementation of the core network corridors concerned and, in particular, the timely implementation of the relevant work plans. The last corridor work plans were adopted in December 2016.

In two corridors (Rhine-Alpine and Rhine-Danube), dedicated working groups on inland navigation have been established, to analyse the existing bottlenecks in the respective corridor and to consider how best to remove them in terms of concrete steps.

⁷ Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1523892903168&uri=CELEX:32013R1315

⁸ Regulation (EU) No 1316/2013 of the European Parliament and of the Council of 11 December 2013 establishing the Connecting Europe Facility, amending Regulation (EU) No 913/2010 and repealing Regulations (EC) No 680/2007 and (EC) No 67/2010 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013R1316

⁹ https://ec.europa.eu/transport/themes/infrastructure_en

¹⁰ https://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/project-funding/work-programmes_en_

The Rhine-Danube Corridor

The inland waterway portfolio in the Rhine-Danube Corridor consists of 24 actions, receiving EUR 381.9 million in CEF transport funding, which aim to establish and maintain 'Good Navigation Status' (see below) along the Danube and the Sava rivers.

Targeting six major bottlenecks, the CEF-funded inland waterways projects are concentrated mainly on three areas: (i) upgrade and construction of infrastructure, (ii) studies with pilots addressing environmental concerns and (iii) the implementation of RIS along the whole Danube. Examples of specific projects targeting bottlenecks that result in unreliable, unsafe and non-compliant navigation infrastructure are: (i) the reconstruction of the cross-border Komarno-Komarom Bridge11 and Gabcikovo lock12, and (ii) the upgrade of the inland ports of Giurgiu13 and Galati14. The role of the European Coordinator is to focus mainly on raising awareness and stressing the corridor perspective while sharing expertise so that projects can be implemented faster.

Information about the **progress made in implementing** inland waterways infrastructure projects and the investments made for that purpose is available through the interactive geographical and technical information system for the trans-European transport network (TENtec). TENtec has become the tool for mapping and monitoring the development of the TEN-T network. It is accompanied by an online portal, so it is now a natural reference point for analysing cross-border infrastructure investments. Users with national or local expert knowledge can upload information covering parts of the network, and this can be shared across the whole user base. To date, TENtec has set up network databases (geographical information systems) for the three main modes of inland transport — road, rail, and inland navigation — covering the TEN-T core and comprehensive networks.

Regarding **quality infrastructure requirements**, Article 15(3)b of the TEN-T guidelines introduces the 'Good Navigation Status' (GNS) concept, which states that rivers, canals and lakes be maintained to allow inland navigation to flourish, while applicable environmental laws15, such as the Water Framework Directive16 must be complied with. The study17 on GNS, which was published in April 2018, identifies the practical requirements needed to acquire GNS. It takes account of the realities of European waterways and of the roles and responsibilities of different stakeholders, including infrastructure managers and operators. The

¹¹https://ec.europa.eu/inea/en/connecting-europe-facility/cef-transport/connecting-core-network-elements-transport-sector-corridor

¹² https://ec.europa.eu/inea/en/connecting-europe-facility/cef-transport/upgrade-gab%C4 %8D%C3 %ADkovo-locks

¹³ https://ec.europa.eu/inea/en/connecting-europe-facility/cef-transport/high-performance-green-port-giurgiu-stage-ii-construction.

¹⁴ https://ec.europa.eu/inea/en/connecting-europe-facility/cef-transport/galati-multimodal-platform-stage-i-upgrade-waterside.

¹⁵ http://ec.europa.eu/environment/water/water-framework/facts_figures/guidance_docs_en.htm

¹⁶ Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1523894739699&uri=CELEX:02000L0060-20141120

¹⁷ Good Navigation Status Guidelines towards achieving a Good Navigation Status: https://publications.europa.eu/en/search-results?ppid=portal2012searchExecutor WAR portal2012portlet INSTANCE q8EzsBteHybf&pp lifecycle=1&pp state=normal&queryText=Good+Navigation+Status+Guidelines+towards+achieving+a+Good+Navigation+Status&facet.collection=EUPub&language=en&startRow=1&resultsPerPage=10&SEARCH TYPE=SIMPLE

study includes a number of recommendations for further work which were addressed to the European Commission and Member States' responsible authorities.

Rhine-Danube Corridor main action — the 'Fairway Danube' project

As a flagship corridor action, 'Fairway Danube'18, will provide on-time harmonised information about shallow sections, water levels and water level forecasts in the Danube to identify priority measures on maintenance and to implement large-scale work measures to ensure and improve GNS along the whole Danube. Hydrological service equipment (gauging stations, surveying and marking vessels) has been acquired in the beneficiary countries (Austria, Bulgaria, Croatia, Hungary, Slovakia and Romania) to carry out pilot surveying and marking activities in order to collect and analyse the data for the Danube's critical sections. The project has an EU contribution of EUR 19.3 million and ends in June 2020.

In the inland navigation sector there is significant practical experience in providing **effective mitigation measures** for the adverse environmental effects of maintenance and new projects, such as: (i) restoration/reconnection of floodplains; (ii) removal and replacement of riprap19 embankments with soft engineering solutions (nature friendly embankments); (iii) instalment of (by) passes for fish and sediment; (iv) sediment management (re-use of uncontaminated sediment); and (v) the proper timing of works (phasing, seasonality).

Fish passes at new locks

New locks are now equipped with standard fish passes to allow for the migratory movement of fish. Observatories have been installed to monitor the passage of fish and the development, behaviour and health of the fish stock population 20. Examples of locks that are equipped with fish passes are those at Iffezheim, Gambsheim, Strasbourg, Gertsheim, Lanaye, Ivoz-Ramet and Kain.

More generally, investments in TEN-T infrastructure projects are subject to (i) a series of **authorisations and permits** concerning environmental assessments or land use and (ii) regulatory procedures for public procurement or State aid.

Of course, the overall effectiveness of the implementation of the TEN-T projects is impacted by the quality of these regulatory and administrative procedures, which are often perceived to be complex, especially in the case of cross-border projects. Notably, inefficiencies in the organisation, the coordination and the duration of permit granting procedures can lead to unnecessary delays and increased costs for infrastructure projects of high EU added value. The European Commission has responded to such concerns with carefully prepared **simplification proposals**, presented as part of the Mobility Package III on the 17 May

¹⁸ http://www.fairwaydanube.eu/

¹⁹ Riprap, also known as rip rap, rip-rap, shot rock, rock armour or rubble, is rock or other material used to protect shorelines, streambeds, bridge abutments, pilings and other shoreline structures against scour and water or ice erosion. It is made from a variety of rock types, commonly granite or limestone, and occasionally concrete rubble from building and paving demolition. It can be used on any waterway or water containment where water erosion could potentially occur. 20 Example of EU funded fish pass project: http://www.life-

conflupo.eu/prj2013/index.php?option=com_content&view=category&layout=blog&id=39&Itemid=249&lang=en_or_http://www.passage309.eu/fr/les-espaces-visiteurs/passe-%C3 %A0-poissons/

201821. The envisaged measures would specifically streamline procedures for environmental and other assessments to ensure more effectiveness, transparency and greater synchronisation of permit granting procedures, especially in a cross-border context.

2.2 Quality through innovation

Many innovative projects are emerging locally and new-build activity shows that this sector is undergoing an upswing. This is particularly true in the passenger transport segment, where approximately one quarter of new vessels that entered into service in 2016 were powered by diesel-electric engines. However, more generally innovation remains limited, and one of the main challenges for inland navigation in the coming years will be to foster more widespread innovation taken up within the market, such as innovative measures aimed at reducing emissions from inland navigation transport.

The Commission's support for innovation in the sector has been provided by various initiatives under the seventh framework programme and under Horizon 2020. Under the 'PLATINA II' project22, the Commission put in place a European coordination action enabling inland navigation organisations to analyse the strengths and weaknesses of innovation measures for 'greening' the fleet and to examine how best to improve the uptake of such measures.

Technological innovation matters have been examined under PROMINENT23, a project funded from the Horizon 2020 programme. This project examined the market uptake of liquefied natural gas (LNG), dual fuel, Stage V engines, and hybrid-propulsion with buffer battery. The project has further examined aspects related to the development of autonomous inland navigation vessels based on advanced digital technologies.

Additionally, innovation in the inland navigation sector has also been supported in the CEF calls for applications — such as the PORT-LINER project24, which aims to electrify inland waterways ships with battery swapping technology.

The CEF support action25 on facilitating innovation for inland waterway operations projects intends to establish a European inland waterway innovation platform that provides technical assistance to suppliers and users of innovative solutions in the sector. The platform aims to bring about the necessary critical mass and economies of scale by bringing together — and raising the interest of — technology suppliers, investors and users around common initiatives to bring innovation to the market. It is envisaged that the project will be finalised by 2019. As from 2020, the platform will aim to become financially self-sufficient.

NOVIMAR (NOVel Iwt and MARitime transport concepts)

²¹ COM(2018) 277 final - 2018/0138 (COD) - Proposal for a Regulation of the European Parliament and of the Council on streamlining measures for advancing the realisation of the trans-European transport network, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018PC0277

²² PLATINA II (2013 - 2016) was a European coordination action supporting the implementation of the NAIADES 2. The project followed up the results of the PLATINA project (2008-2012).).

²³ http://www.prominent-iwt.eu/

²⁴ https://ec.europa.eu/inea/en/connecting-europe-facility/cef-transport/2017-nl-tm-0056-w

²⁵ https://ec.europa.eu/transport/themes/infrastructure/ten-t-guidelines/project-funding/work-programmes_en

The NOVIMAR project²⁶, supported by Horizon 2020, develops a new inland transport concept called the Vessel Train, consisting of a lead vessel, followed by a series of lightly staffed, digitally connected follower vessels. This concept will reduce operational costs and increase economies of scale due to better usage of existing infrastructure. Envisaged reduction of personnel costs will significantly enlarge the economic potential for smaller vessels. This in turn will lead to improved access to urban environments for smaller vessels, thereby reducing congestion in populated areas. The project has an EU contribution of EUR 8 million.

Watertruck+

Watertruck+ is a CEF-funded project²⁷ that aims to gradually introduce an innovative concept for transporting goods on small waterways (CEMT I-IV) that can unlock the economic potential of a region through the use of small, self-propelled or unpropelled, standardised barges. Combined with large or small environmentally-friendly push boats, used for pushing the convoys, the concept ensures maximum flexibility of operations while maintaining maximum regional coverage by connecting small inland waterways with the TEN-T network. The Watertruck+ project aims to find a solution for reactivating the network of smaller inland waterways (of limited navigation capacity), therefore enlarging the market potential for inland navigation services. The project has an EU contribution of EUR11.5 million.

2.3 Smooth functioning of the market

As indicated in the NAIADES II Communication, the inland navigation sector operates in liberalised markets in which the possibilities for public intervention are limited.

In 2014, there were almost 10000 inland waterway companies operating in the market: 60 % of the companies were active in goods transport, and 40 % in passenger transport.

The **inland navigation fleet structure** is slowly developing in Europe: while overall tonnage decreased in 2016, the number of both tanker cargo and dry cargo vessels has decreased by nearly 3 % in the same period. Therefore, the average tonnage per vessel is higher. But further consolidation is needed The overall fleet remains rather old; dry cargo and tanker cargo vessels have an average age of 50 and 39 years respectively. Moreover, the utilisation rate of the fleet remains between 55 % and 85 % depending on the vessel types. These percentages are below the levels that were experienced before the economic crisis. This leaves the sector turnover vulnerable to freight rate fluctuations.

In respect of the **specific actions** announced in the NAIADES II Communication, the Commission (i) started a consultation on the use of infrastructure charging, (ii) proposed a new directive reviewing technical standards for inland navigation vessels and (iii) revised the State aid applying to infrastructure investments in inland ports.

The stakeholder consultation on the use of **infrastructure charging** to help achieve the internalisation of external costs in inland waterways transport was carried out in the context of PLATINA II. It involved a review of the currently available European datasets for external

²⁶ https://ec.europa.eu/inea/en/horizon-2020/projects/h2020-transport/waterborne/novimar

²⁷ https://ec.europa.eu/inea/en/connecting-europe-facility/cef-transport/2014-be-tm-0578-s

cost calculations on emissions and resulted in a number of recommendations on how to improve the knowledge base for external cost calculations on emissions for inland navigation.

The European Commission has recently finalised a case study analysis on the burden of taxation and charges on transport. It gathered information on taxes, charges and subsidies for 20 carefully selected representative routes for all modes of transport28. This prepared the ground for a more comprehensive study on the internalisation of external costs, which is ongoing and will allow to assess the extent to which the 'user pays' and 'polluter pays' principles are implemented in the EU countries.

The Directive on **technical standards for inland navigation vessels** was adopted by the European Parliament and the Council in October 201629. Member States have until October 2018 to adopt corresponding national implementing measures. The Directive takes account of the standards established by the 'European Committee for Inland Navigation Standards' (CESNI)30 and the new European standard laying down technical requirements for inland navigation vessels ES-TRIN 2017 has been incorporated into EU legislation via a Delegated Act31.

This Directive:

- strengthens the Internal Market ensuring technical harmonisation along the different river basins while providing flexibility for taking into account the particular features of each inland waterway section in the EU;
- promotes the development of uniform, modern, and user-friendly requirements;
- ensures convergence at European level; and
- takes into account the sustainable development objectives of EU transport policy.

After a long consultation with stakeholders, the Commission adopted a new approach on applying **State aid rules** to aid projects in support of **infrastructure investments** in inland navigation ports32. The Commission's approach fully takes into account the particular situation of inland ports and the need for support regarding intermodality and logistics integration. The revised General Block Exemption Regulation also speeds up the processing of certain unproblematic projects, up to EUR 40 million (or up to EUR 50 million per project in an inland port included in the work plan of a core network corridor). Indeed, Member States can implement such measures without prior Commission scrutiny.

 $^{28 \}underline{https://ec.europa.eu/transport/themes/sustainable/studies/case-study-analysis-burden-taxation-and-charges-transport-january-2018_en$

²⁹ Directive (EU) 2016/1629 of the European Parliament and of the Council of 14 September 2016 laying down technical requirements for inland waterway vessels, amending Directive 2009/100/EC and repealing Directive 2006/87/EC, https://eurlex.europa.eu/legal-content/EN/TXT/?qid=1523879018003&uri=CELEX:32016L1629 30 https://www.cesni.eu/

³¹ Commission Delegated Directive (EU) 2018/970 of 18 April 2018 amending Annexes II, III and V to Directive (EU) 2016/1629 of the European Parliament and of the Council laying down technical requirements for inland waterway vessels, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L .2018.174.01.0015.01.ENG&toc=OJ:L:2018:174:TOC

³² Commission Regulation (EU) 2017/1084 of 14 June 2017 amending Regulation (EU) No 651/2014 as regards aid for port and airport infrastructure, notification thresholds for aid for culture and heritage conservation and for aid for sport and multifunctional recreational infrastructures, and regional operating aid schemes for outermost regions and amending Regulation (EU) No 702/2014 as regards the calculation of eligible costs, https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1523895576007&uri=CELEX:32017R1084

Barriers to the further development of inland ports in the context of multimodal integration in the TEN-T are examined in the core network corridor forums. Priority for funding projects that address those barriers was given in the successive calls for applications under CEF 2014, 2015, 2016 and in the 2017 Transport Blending Call. The study on the assessment of the potential of maritime and inland ports and inland waterways33 and of related policy measures focuses specifically on identifying policy measures aiming to help the sector reach its maximum potential. The study is expected to be concluded in 2018.

2.4 Environmental quality through low emissions

Recent studies 34 on environmental emissions from inland navigation vessels appear to confirm that these vessels emit relatively few greenhouse gases, but have rather high levels of other pollutant emissions when compared to railways and trucks under comparable load-distance conditions. According to a detailed analysis of the emission profiles of engines in the inland waterways fleet, the German research institute IFEU came to the conclusion that inland navigation has reduced its emissions since 1970 by 80 % for particulate matter 10 micrometres or less (PM_{10}) and by 40 % for nitrogen oxides (NOx).

Nevertheless, in terms of future development, rail and road traffic modes are making more progress in reducing their emissions in comparison to inland waterways transport. For rail traffic, this is due to the increasing share of electric traction, which, in combination with a rising share of renewable energies in the electricity sector, leads to progressive pollutant and CO₂ emissions reduction. For road traffic, new pollutant emission standards are being adopted to make them more stringent, and here too there is an increasing move towards electrification.

Many emission reduction measures for inland waterways vessels exist, but they are often very costly to apply in terms of investment. Therefore, they are difficult to implement in a market structure with a high share of family businesses.

The **non-road mobile machinery (NRMM) Regulation** 35 was approved by the European Parliament and the Council and published in September 2016. It has been applied since 1 January 2017 and introduces more stringent compulsory rules and emission limits for new engines in the inland navigation sector — engines up to 300 KW as of 1 January 2019 and above 300 KW as of 1 January 2020. The NRMM Regulation provides requirements not only for conventional engines but also for LNG engines. The existing engines are not affected and are allowed to continue operating until the end of their economic life. Also, there are no obligations for retro-fitting existing engines.

So public authorities, whether at EU, national, regional or local level, will need to step up their efforts to support the greening of the inland navigation sector, and in particular the use of **alternative fuels**.

³³https://ec.europa.eu/transport/sites/transport/files/facts-fundings/tenders/doc/specifications/2015/s125-228607-specifications.pdf

³⁴ CE Delft (2016), STREAM Freight transport 2016. Well-to-wheel emissions approach https://www.cedelft.eu/publicatie/stream_freight_transport_2016/1855

³⁵Regulation (EU) 2016/1628 of the European Parliament and of the Council of 14 September 2016 on requirements relating to gaseous and particulate pollutant emission limits and type-approval for internal combustion engines for non-road mobile machinery, amending Regulations (EU) No 1024/2012 and (EU) No 167/2013, and amending and repealing Directive 97/68/EC https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1523895850443&uri=CELEX:32016R1628

In 2014, the European Parliament and the Council also adopted the Directive on the deployment of alternative fuels infrastructure 36. The Directive's main purpose is to establish a common framework for the large-scale roll-out of alternative fuels infrastructure in Europe to accompany the deployment on the market of alternatively fuelled vehicles and vessels.

The Directive also applies to the inland navigation sector: it requires the building-up of an appropriate amount of LNG infrastructure by 2030, along the main European waterways. Under this Directive, the European Commission adopted a delegated regulation for standards on shore-side electricity supply and LNG refuelling points for inland waterway vessels37.

Furthermore, there have been projects for deploying alternative fuel infrastructure in the inland navigation sector; in particular LNG facilities have been supported in the CEF calls 2014-2017.

LNG plays an important role in IWT — not only as a fuel for vessels but also as a new type of cargo. In order to allow the use of LNG in IWT it was essential to amend or to set up new rules to ensure safety operations.

LNG as a cargo is treated as a dangerous good. The requirements related to the transport of dangerous goods are covered by the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN)38 established by the United Nations Economic Commission for Europe (UNECE). Until 2015 there was no regulation related to LNG transport. To allow such transport the ADN had to be amended and new regulations established for the transport of LNG in inland tanker vessels which are in force since the 1 January 2015. The ADN has been incorporated into EU law through Directive 2008/68/EC on the inland transport of dangerous goods39.

To allow the use of LNG as a fuel to propel inland vessels it was necessary to set up appropriate rules. The first provisions on the use of LNG engines in IWT were included in the 2015 version of ES-TRIN (to which the Directive (EU) 2016/1629 refers). As the NRMM Regulation has provided provisions for LNG engines (September 2016) it has become necessary to amend ES-TRIN to ensure legal compatibility between ES-TRIN and the NRMM Regulation. The alignment of ES-TRIN and the NRMM Regulation is already ensured in the 2017 version of ES-TRIN.

The CEF project LNG Masterplan40 aims to create a platform for authorities and industry stakeholders to cooperate in order to create a harmonised European regulatory framework for LNG as a fuel and cargo in inland navigation and to promote the introduction of LNG as a

³⁶ Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1523896787493&uri=CELEX:32014L0094

³⁷ Commission Delegated Regulation (EU) 2018/674 of 17.11.2017 supplementing Directive 2014/94/EU of the European Parliament and of the Council as regards recharging points for L-category motor vehicles, shore-side electricity supply for inland waterway vessels and refuelling points for LNG for waterborne transport, and amending that Directive as regards connectors for motor vehicles for the refuelling of gaseous hydrogen:

https://ec.europa.eu/transparency/regdoc/rep/3/2017/EN/C-2017-7348-F1-EN-MAIN-PART-1.PDF

³⁸ http://www.unece.org/trans/danger/publi/adn/adn e.html

³⁹ Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1523897113520&uri=CELEX:02008L0068-20180307

⁴⁰ LNG Masterplan for Rhine-Main-Danube 2012-EU-18067-S https://ec.europa.eu/inea/en/ten-t/ten-t-projects/projects-by-18067country/multi-country/2012-eu-18067-s

fuel and cargo for inland shipping. This project (i) provides technical designs for new and retrofitted vessels that are being propelled by LNG as well as those that transport LNG, (ii) carries out a significant number of pilot deployments of vessels and the related LNG bunkering. It also develops a comprehensive strategy together with a detailed roadmap for implementing LNG in line with the EU transport/energy/environmental policy goals and actions.

The Commission assesses the compatibility of **State aid for cleaning the inland waterway fleet** directly on the basis of Article 93 TFEU which allows aid for the coordination of transport. The concept of 'coordination of transport' used in Article 93 TFEU has significance which goes beyond simply facilitating the development of an economic activity. It implies an intervention by public authorities which is aimed at guiding the development of the sector in the common interest. In this regard, the Commission notes that measures for coordinating transport may be needed when certain modes of transport do not bear the costs of the negative externalities which they impose on society. Compared to road transport, which is often confronted with congestion and pollution problems, inland waterway transport is recognised as an environmentally-friendly and reliable alternative to road transport. Therefore, the Commission believes that promoting a shift from road to inland waterway transport contributes to an objective of common interest. Adapting vessels to reduce their environmental footprint, for example with measures to (i) reduce pollution, (ii) optimise energy on board vessels or (iii) treat waste on board vessels, has generally been recognised as contributing to an objective of common interest.

Example of recent State aid exemption

The Commission gave the green light to 'Prolongation et adaptation de Plan, d'aides à la Modernisation et à l'Innovation de la flotte fluviale (PAMI)' for the period 2018-2022, which supports the French inland waterway fleet in adapting to new environmental and market challenges and facilitates access for new market entrants (Decision Number SA.4880441). This new 'PAMI' prolongs and adapts the previous one for the period 2012-2017 which was approved by the Commission in 2013.

In addition, in October 2017, the Commission adopted a Decision42 authorising the use of EUR 7 million from the **Inland Waterways Fund** established by Council Regulation (EC) No 718/1999 for the purpose of setting up a 'European Inland Waterways Transport platform'. Managed by the European Barge Union and the European Skippers Organisation, the platform will promote projects of common interest (e.g. greening and innovation of the fleet, safety and environmental protection, education, training and working conditions of crew or nautical technical aspects) for the entire EU inland navigation sector.

2.5 Skilled workforce and quality jobs

The total number of **people working on inland ships in the EU** is approximately 44000. On average in the EU, there are five workers per company belonging to the inland navigation sector (transport and goods transport taken into account). This number is largely influenced

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⁴¹ http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=3_SA_48804

⁴² Commission Decision C(2017)6663 final of 5.10.17 authorising the use of Inland Waterways Fund established by Council Regulation (EC) No 718/1999.

by Germany and the Netherlands where respectively 86 % and 97 % are mainly family owned companies (with fewer than 10 employees).

Important milestones took place in the first part of the implementation of NAIADES II related to workforce and jobs.

In 2014, Directive 2014/112/EU43, which concerned certain aspects of the organisation of working time in inland waterway transport, was adopted on the basis of the agreement concluded by the social partners.

That same year, the Commission carried out an evaluation study of the EU legislation governing professional qualifications in inland navigation, specifically Directives 91/672/EEC44 and 96/50/EC45. Following this evaluation, the Commission adopted in February 2016 a proposal for a new directive. On 12 December 2017, **Directive** (EU) 2017/239746, on the recognition of professional qualifications in inland navigation and repealing Council Directives 91/672/EEC and 96/50/EC, was adopted by the European Parliament and the Council. With this Directive, crew members can find work more easily in a cross-border environment as the EU certificates of qualification will be valid on all EU inland waterways. At the same time, the new rules will be built on a modern competence-based system that will provide new career prospects and contribute to safety.

Recital 35 of Directive (EU) 2017/2397 indicates that, with a view to further modernising the inland waterway sector and to reducing the administrative burden while rendering the documents less prone to being tampered with, the Commission should, taking into account the principle of better regulation, consider examining the possibility of replacing the paper version of Union certificates of qualification, service record books and logbooks by electronic tools, such as electronic professional cards and electronic vessel units

In autumn 2017, the Commission started an impact assessment process47 to assess options for such **digital tools** that could facilitate the compliance and enforcement of inland waterway transport legislation.

On **crewing requirements**, the social partners received EU funding to carry out a two-year project48 with the objective of setting up a modern, sustainable and flexible system at EU level. The project is expected to end in early 2019.

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⁴³ Council Directive 2014/112/EU of 19 December 2014 implementing the European Agreement concerning certain aspects of the organisation of working time in inland waterway transport, concluded by the European Barge Union (EBU), the European Skippers Organisation (ESO) and the European Transport Workers' Federation (ETF) (OJ L 367, 23.12.2014, p. 86).

⁴⁴ Council Directive 91/672/EEC of 16 December 1991 on the reciprocal recognition of national boatmasters' certificates for the carriage of goods and passengers by inland waterway (OJ L 373, 31.12.1991, p. 29).

⁴⁵ Council Directive 96/50/EC of 23 July 1996 on the harmonisation of the conditions for obtaining national boatmasters' certificates for the carriage of goods and passengers by inland waterway in the Community (OJ L 235, 17.9.1996, p. 31).

⁴⁶ Directive (EU) 2017/2397 of the European Parliament and of the Council of 12 December 2017 on the recognition of professional qualifications in inland navigation and repealing Council Directives 91/672/EEC and 96/50/EC (OJ L 345, 27.12.2017, p. 53).

⁴⁷ Inception impact assessment: Digital tools for inland waterway transport legislations; http://ec.europa.eu/info/law/better-regulation/initiatives/ares-2017-6171228 en 48 TASCS study.

The Interreg project 'Danube SKILLS' aims to increase the institutional capacity in Danube navigation by boosting joint transnational competences and skills in education and public development services. The Danube SKILLS consortium consists of a well-balanced structure of 15 organisations which cover 8 Danube countries: Romania, Austria, Bulgaria, Croatia, Hungary, Slovakia, Germany and Serbia. The project has an EU contribution of EUR 1.6 million and will end in 2019.

The Lyon Vessel-handling simulator for training in inland navigation was inaugurated in April 2016. It can simulate five types of boats on 70 km of the Rhone. The total investment is EUR 2.7 million with support from the European Regional Development Fund.

2.6 Integration of inland waterway transport into the multimodal logistics chain

The main work carried out in the period 2014-2017 for improving multimodal integration of inland waterway transport has been carried out in the context of the implementation of the TEN-T core network corridors and of the projects supported by CEF. The CEF has also given priority to actions that support the deployment of RIS, such as the 'CoRISMA' project49, which is focused on the improved international harmonisation of the information services, and legal issues on the sharing and privacy of data; or the RIS-COMEX project50 which aims to ensure that the Corridor RIS' continues to operate51.

Pilot implementation of an Upper Rhine traffic management platform52 'RPIS'

This CEF-funded project, involving France and Germany and a neighbouring country, Switzerland, aims to implement an innovative ICT traffic management platform for inland waterway transport. The studies will improve the overall logistic processes in nine inland ports on the Rhine-Alpine Core Network Corridor (EU contribution: EUR 1 million)

With regard to the review and identification of the future direction for **RIS**, the Commission services evaluated RIS implementation for the period 2006-2011, which included detailed country reports53. The evaluation found positive developments. However, differences in the level of implementation between the Member States have been identified.

The Commission contributes to the RIS-Week which gathers experts from the sector (from both public and private institutions) aiming to discuss and agree on a common approach on technical issues relating to RIS. The meetings are held twice a year and are hosted by a national authority. The Commission is facilitating the discussions by organising a one-day 'common issues meeting', offering a platform for a more general and strategic discussion. The Commission has announced its intention to carry out a new evaluation54 to assess the implementation of the RIS Directive55. External expertise will be used to update and complete the information between 2011 and 2018. Member States' authorities and river

51 See section on funding.

⁴⁹ http://www.riscomex.eu/documents/

⁵⁰ http://www.riscomex.eu/

⁵² https://ec.europa.eu/inea/en/connecting-europe-facility/cef-transport/2014-eu-tm-0210-s

 $^{53 \}underline{https://ec.europa.eu/transport/sites/transport/files/modes/inland/studies/doc/2014-07-evaluation-of-ris-implementation-country-reports.pdf$

⁵⁴ http://ec.europa.eu/info/law/better-regulation/initiatives/ares-2017-5329205_en

⁵⁵ Directive 2005/44/EC on harmonised river information services (RIS) on inland waterways in the Community

commissions will be contacted to obtain quantitative information to address the data needs mentioned above. Qualitative indicators will be developed to cover areas where quantitative information is not available or not relevant.

In addition, the Commission services launched a study to reflect on how to interconnect information on infrastructure, people, operations, fleet and cargo in the inland waterways transport sector and to connect this information with other transport modes. This study56 called 'Towards a Digital Inland Waterway Area and Digital Multimodal Nodes' (DINA) was published in November 2017. Subsequently, an informal Commission Expert Group57 on DINA was formed with more than 30 private and public stakeholders participating by the end of 2017. A Commission Staff Working Document on Digital Inland Navigation58 maps existing initiatives and tools in the area of digitalisation of inland navigation in an integrated way.

The revision of the Combined Transport Directive 59 was proposed in the Mobility Package II in November 2017 with the aim of (i) maintaining the existing benefits, (ii) clarifying the definition, (iii) facilitating enforcement and (iv) enabling digitalisation and updates of the incentives. The Commission proposal contains provisions as regards additional support measures for all combinations of combined transport operations, including inland navigation and road.

As part of the Mobility Package III, a proposal for a Regulation on electronic freight transport information 60 was adopted on 17 May 2018. The proposal provides for mandatory acceptance of certain electronic transport freight documents, including in relation to inland waterways freight transport. This will accelerate the integration of inland waterways transport into the multimodal logistics chain.

Another important dimension related to multimodality is linked to the fact that over 70% of Europeans live in cities which leads to a commensurate growth in traffic, making seamless logistics and mobility a paramount concern. Urban nodes require good connections with ports and industrial centres for optimal supplies and efficient mobility. The EU waterway network is an arterial system that reaches deep into the heart of many towns and cities. Uncongested waterways provide a major opportunity to increase the multimodal access to cities. The Horizon 2020 urban mobility programme called CIVITAS can support inland waterways.

CIVITAS urban logistics project CITYLAB61

The project included activities related to inland waterways transport; specifically, in Amsterdam the project implemented an improved network through the use of a floating depot

⁵⁶ https://ec.europa.eu/transport/sites/transport/files/studies/2017-10-dina.pdf

⁵⁷http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail&groupID=3505&NewSearch=1&NewS earch=1

⁵⁸ Com/2018/...

⁵⁹ Proposal for a Directive of the European Parliament and of the Council amending Directive 92/106/EEC on the establishment of common rules for certain types of combined transport of goods between Member States COM/2017/0648 final — 2017/0290 (COD) http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52017PC0648

⁶⁰ COM(2018) 279 final, Proposal for a Regulation of the European Parliament and of the Council on electronic freight transport information, https://ec.europa.eu/info/law/better-regulation/initiatives/com-2018-279_en 61 www.citylab-project.eu

on its waterways. PostNL wants to build and operate a floating depot for delivering and picking-up parcels and smaller items in city centres that are easily reachable by canals and waterways. The floating depot is pushed by a hybrid push-boat, and operates in a fully electric manner on the canals. Instead of using six diesel vans, the parcels will be brought into the city centre on one floating depot. From there, the parcels will be distributed using small electric vehicles.

3. QUALITY OF GOVERNANCE

The adoption of the two Directives on technical standards for inland navigation vessels62 (2016) and on professional qualifications of inland navigation crews63 (2017) represents a major step forward for consolidating the governance model in the inland navigation sector in the EU.

The scope of application of the EU *acquis* now covers all waterways of a European dimension serving the needs of the internal market. The Directives take appropriate account of the international river commissions' role and of the UNECE's work in the inland navigation sector.

EU action in the inland navigation sector aims to ensure uniformity in developing technical requirements for inland waterway vessels to be applied in the EU. Where necessary, the EU competence in this field is to be ensured as required by the TFEU provisions and in particular Article 91(1) in conjunction with Article 218(9) thereof64.

In 2014-2017, the Commission strengthened cooperation with the **Central Commission for Navigation on the Rhine (CCNR) and with the Danube Commission.** This cooperation has involved funding arrangements for ensuring the CCNR and the Danube Commission contribute to the preparation and smooth implementation of the EU *acquis*. Concrete results in this regard have been:

- cooperation in the CESNI, both at the level of expert groups and of standardisation procedures;
- inland waterways transport market insight in the Market Observation reports65 including detailed analysis of trends and market dynamics;
- support provided in the context of the TEN-T core network corridors regarding inland waterways transport projects and follow-up of IWT information in the TENtec database;
- support for the completion and entry into operation of a new hydro-meteorological database for inland navigation in the Danube Region; and

⁶² Directive (EU) 2016/1629 of the European Parliament and of the Council of 14 September 2016 laying down technical requirements for inland waterway vessels, amending Directive 2009/100/EC and repealing Directive 2006/87/EC https://eurlex.europa.eu/legal-content/EN/TXT/?qid=1523879018003&uri=CELEX:32016L1629

⁶³ Directive (EU) 2017/2397 of the European Parliament and of the Council of 12 December 2017 on the recognition of professional qualifications in inland navigation and repealing Council Directives 91/672/EEC and 96/50/EC https://eurlex.europa.eu/legal-content/EN/TXT/?qid=1523898249293&uri=CELEX:32017L2397

⁶⁴ See e.g. Council Decision (EU) 2017/1192 of 26 June 2017, OJEU 172 of 5 July 2017, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32017D1192

⁶⁵ http://www.inland-navigation-market.org/en

• support for the Mixed Environmental and Transport External Expert Team whereby workshops are given to representatives of ministries of transport and environment in a Danube riparian country.

At the same time cooperation with UNECE has continued, concentrating mainly on the exchange of information on ongoing activities, with the Commission actively participating in the work of respective bodies.

In 2016, the quality of the governance of the whole sector was boosted by means of several **Commission expert groups** being set up gathering stakeholders, Member States, and international organisations (river commissions and the UNECE). These expert groups will strive to streamline and align policy advice in crucial fields such as digitalisation, the social aspect and technical requirements for the inland navigation vessels.

The European Committee for drawing up Standards in Inland Navigation (CESNI)66

CESNI was created in 2015 under the auspices of the CCNR and is open to experts from all EU and CCNR Member States. In creating the Committee, the European Commission — together with the CCNR — is looking to simplify procedures in regulating inland navigation.

CESNI adopts technical standards in various fields, in particular on vessels, information technology and the crew to which the respective regulations at the European and international level, including the European Union and the CCNR, refer to. At EU level, the reference to these standards is reflected in Directive (EU) 2016/1629 and Directive (EU) 2017/2397.

ES-TRIN 2017 — the most updated version of technical requirements for inland navigation vessels — was prepared by CESNI. It amends the previous version to the current legislation in relation to emissions limits (NRMM Regulation), amends the rules to improve safety navigation (e.g. requirements for elevating wheelhouses), and provides rules for specific vessels (e.g. traditional vessels).

The Commission will continue to financially support CESNI's activities for the period 2019-202167.

4. FUNDING AND FINANCING

The CEF has proved to be an effective and targeted instrument for infrastructure investment with high absorption capacity and fast delivery. So far in the transport sector it has invested EUR23 billion which has resulted in around EUR50 billion of overall infrastructure investments in the EU, therefore contributing the Commission's priorities.

The Rhine-Danube Corridor received the largest share of CEF funding (19%), followed by the North Sea-Baltic Corridor (16%). In terms of the number of projects, the Mediterranean Corridor is in the lead (108) followed by the Rhine-Danube Corridor (82).

⁶⁶ https://www.cesni.eu/en/

⁶⁷ Cf. Annex to the Commission Implementing Decision C(2018) 146 final of 17.1.2018 amending Implementing Decision C(2014)1921 establishing a Multi-Annual Work Programme for financial assistance in the field of Connecting Europe Facility (CEF) — Transport sector for the period 2014-2020.

The CEF transport Inland waterway action portfolio68 includes actions concerning inland waterway infrastructure, inland ports, innovation and greening of IWT and river information services. 52 Inland Waterways actions were selected under the 2014-2017 CEF calls receiving Euro1.7 billion in CEF transport funding for a total investment of Euro3.8 billion.

Examples of how CEF funds have been used include:

- the raising of bridges on the Albert Canal in Belgium;
- promoting LNG as a fuel for inland navigation in Germany; and
- improving the existing infrastructure and developing missing links within northern Italy's inland waterway transport network.

In addition, the CEF has supported several IWT projects in the context of the 2017 Transport Blending Call (second cut-off date).

In the context of the alternative fuel action plan adopted by the Commission in November 2017, the financial support given to alternative fuel projects has been stepped up. In particular, an additional budget of EUR350 million was made available under the 2017 Blending Call under the innovation priority. Projects for deploying alternative fuels infrastructure for inland navigation, including those supporting the greening of vessels, are eligible for the CEF Blending Call.

Albert Canal69 — lifting of bridges — an example of a project financed by the CEF 2017 Blending Call

The aim of this global project (divided into smaller projects) is to raise all 63 bridges to an under-clearance of 9.1 metres. This will enable the transport of four layers of containers and the smooth navigation of class VIb ships along the whole length of the Albert Canal. New locks are also commonly equipped with a combined pumping installation and hydroelectric power station. When there is sufficient water, the installations are used to generate green power from hydropower. At present, the world's largest hydraulic cylinder for this application is at the Ham lock complex on the Albert Canal which produces power that is used to operate the lock as well as supply energy to around 1000 households.

A comprehensive overview of the CEF-funded projects in inland navigation is available at: https://ec.europa.eu/transport/modes/inland en

The Horizon 2020 research transport work programme for 2018-201970 was published at the end of October 2017. It includes support for autonomous inland shipping, sustainable infrastructure and innovative inland vessels and next generation propulsion systems for inland shipping.

Other sources of potential funding include:

• the European Structural and Investment Funds;

⁶⁸ https://ec.europa.eu/transport/modes/inland/promotion en

⁶⁹ https://ec.europa.eu/inea/en/connecting-europe-facility/cef-transport/2017-be-tm-0015-w

⁷⁰ https://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-transport_en.pdf

- the Instrument for Pre-Accession Assistance II;
- the Danube transnational programme the financing instrument of European Territorial Cooperation, better known as Interreg, which has supported several projects, such as DAPhNE71 — the Danube Ports Network, and DANTE72 — Improving Administrative Procedures and Processes for Danube inland waterways transport.

5. ON-GOING ACTIONS FOR THE IMPLEMENTATION OF NAIADES II **UNTIL 2020**

The actions originally planned in the NAIADES II Communication for strengthening the contribution of inland waterways transport to the broader objective of a sustainable transport system for the EU are well advanced, as described in the Chapters 2 to 4 above.

The recommendations made by the European Court of Auditors73 shortly after the Communication was adopted have also been a valuable input for guiding the EU action in this field. Progress has been significant in terms of better integrating the planning and evaluation of inland waterways infrastructure projects in the context of the TEN-T guidelines and of the CEF.

The Market Observation services carried out in partnership with the CCNR and the Danube Commission provide the basis for in-depth analysis of market trends and structural features of the European inland navigation sector. This is a key requirement for further assessing how to fully exploit the sector's full potential. It is also important to better target the actions required for achieving multimodality and an increased modal share in the geographical markets where the sector is present.

Taking stock of the progress achieved in the period 2014-2017, the following are the on-going actions for further implementation of NAIADES II.

- Preparation of delegated and implementing acts envisaged in Directive (EU) 2016/1629 on technical standards for inland navigation vessels and Directive (EU) 2017/2397 on professional qualifications.
- Monitoring of the progress on multimodal and innovation projects on inland waterways transport in CEF and Horizon 2020 calls.
- Guidance by the Commission Services for achieving and preserving 'Good Navigation Status' of TEN-T waterways will continue.
- The River Information Services Directive EC/2005/44 is under evaluation.
- An impact assessment on digital tools for inland waterway transport legislation is being prepared.

⁷¹ http://www.interreg-danube.eu/approved-projects/daphne

⁷² http://www.interreg-danube.eu/approved-projects/dante

⁷³ Inland Waterway Transport in Europe: No significant improvements in modal share and navigability conditions since 2001 https://www.eca.europa.eu/Lists/ECADocuments/SR15_01/SR15_01_EN.pdf

- Cooperation with the Rhine Commission, the Danube Commission, the UNECE and all other relevant bodies in neighbouring countries in order to achieve a solid framework for governance and international cooperation in matters related to inland waterways transport at European level.
- Contributions to the discussion on multimodal transport by means of possible studies:
 - o an update of the study on external costs;
 - o a fresh analysis on the total and average external costs;
 - an assessment and comparison of internalisation measures with external costs; and
 - o an assessment and comparison of infrastructure charges and infrastructurerelated expenditure.

Actions of the European inland navigation sector:

- The sector plans to finalise and agree a Research & Innovation roadmap to identify European, national and private research and innovation priorities;
- There is a need for the sector to consider continuing close coordination with other European strategic Research & Innovation planning activities such as the European technology platforms "Waterborne"74 and the Alliance for Logistics Innovation through Collaboration in Europe "ALICE"75.

To ensure the continuity of the measures and the long-term successful implementation of a European inland waterway transport policy in a way which underpins the EU goals of decarbonisation, digitalisation, jobs and growth, the joint effort of public — EU, national, regional and local — and private bodies should be continued.

⁷⁴ https://www.waterborne.eu/

⁷⁵ https://www.etp-logistics.eu/