

AN INLAND WATERWAY TRANSPORT AGENDA FOR EUROPE 2021-2027

RECOMMENDATIONS
BY THE NAIADES II IMPLEMENTATION EXPERT GROUP

20 December 2019

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1. INTRODUCTION

1.1. Background

The EU NAIADES II action programme is coming to an end in 2020. It was the strategic backbone for a common direction on the development of inland waterway transport at EU level and targeted cooperation between the European Commission, Member States, River Commissions, UNECE and all public and private stakeholders¹.

On 9 September 2019, representatives of the Naiades II Implementation Expert Group held a brainstorm workshop on the future of inland waterway transport, its challenges and ambition towards 2050 and formulated which measures are necessary in the next multi-annual financial period 2021-2027 to achieve the common ambition.

The present report '*AN INLAND WATERWAY TRANSPORT AGENDA FOR EUROPE 2021-2027, Recommendations by the Naiades II Implementation Expert Group*' is the outcome of this workshop.

In parallel to the workshop, the report builds on existing policy documents. In October 2018, the Central Commission for the Navigation of the Rhine released its Mannheim Ministerial Declaration², followed by a Declaration of the Inland Navigation Industry³. In December 2018, the Ministers of Transport adopted Council Conclusions to exploit Inland Waterway Transport to its full potential⁴ and the European Parliament adopted a Resolution early 2019⁵. The above-mentioned institutions and organisations called upon the Commission to update and renew the NAIADES II programme by 2020 and to ensure the potential of inland waterway transport as a safe, sustainable and effective mode of transport in the multimodal transport system is developed and exploited.

The report also takes into account the Ministerial declaration 'Inland Navigation in a Global Setting'⁶ adopted at the International Conference on Inland Water Transport in April 2018 and the White Paper on the progress, accomplishment and future of sustainable inland water transport by UNECE in 2019. Finally, it fully reflects the ambition expressed in the communication by the European Commission - 'A

¹ The first NAIADES action programme was launched in 2006. It was followed up by the NAIADES II action programme in 2013 which runs until 2020.

² Mannheim Declaration "150 years of the Mannheim Act – the driving force behind dynamic Rhine and inland navigation" adopted at the Congress of the Central Commission for the Navigation of the Rhine on 17 October 2018
https://www.ccr-zkr.org/files/documents/dmannheim/Mannheimer_Erklaerung_en.pdf

³ Inland Waterway Industry Declaration adopted on 18 October 2018 in Vienna
<http://www.ebu-uenf.org/wp-content/uploads/Inland-Waterway-Transport-Industry-Declaration-Vienna-10-October-2018-final.pdf>

⁴ Council conclusions on inland waterway transport adopted on 3 December 2018
<http://data.consilium.europa.eu/doc/document/ST-13745-2018-INIT/en/pdf>

⁵ European Parliament resolution adopted on 14 February 2019 on NAIADES II – An action programme to support inland waterway transport http://www.europarl.europa.eu/doceo/document/TA-8-2019-0131_EN.html

⁶ UNECE Ministerial declaration of the International Ministerial Conference on Inland Water Transport 'Inland Navigation in a Global Setting' adopted at the International Conference on Inland Water Transport in Wrocław on 18 April 2018
https://www.unece.org/fileadmin/DAM/trans/doc/2018/sc3/Ministerial-declaration_e.pdf

Clean Planet for All⁷ and 'A Union that strives for more: My agenda for Europe'⁸ by European Commission President Ursula von der Leyen.

The above-mentioned EU policy documents stress the fact that inland navigation is a key component of a future-proof transport system in Europe and thus must receive strong support from European, national and regional levels.

The report and its recommendations were adopted on 19 December 2019 by the Naiades II Implementation Expert Group and are presented to the European Commission.

1.2. Naiades II Implementation Expert Group

The Naiades II Implementation Expert Group is a consultative body set up by the European Commission. It assists the Commission in the implementation of the NAIADES II Action Programme 2014-2020 (COM(2013)623 final of 10 September 2013, 'Towards quality inland waterway transport').

This comprises inter alia assistance in relation to the implementation of existing EU legislation, programmes and policies; in the preparation of legislative proposals and policy initiatives as well as coordination of exchange of views and expertise to the Commission when preparing implementing measures.

The Naiades II Implementation Expert Group consists of representatives from Member States, Third Countries (Switzerland), International River Commissions for the Danube, Mosel, Sava and Rhine, the United Nations Economic Committee for Europe (UNECE) – WP on Inland Water Transport (SC.3) and sector organisations including the European Barge Union (EBU), the European Federation of Inland Ports (EFIP), the European Skippers Organisation (ESO), the European Transport Workers' Federation (ETF), Inland Navigation Europe (INE), Pro Danube International (PDI), Verein für europäische Binnenschifffahrt und Wasserstraßen (VBW) and consultancy STC-NESTRA.

At the workshop of 9 September 2019, the following organisations joined the representatives of the Naiades II implementation expert group: The Directorate for Inland Waterways of the Ministry of Construction, Transport and Infrastructure of the Republic of Serbia, EICB (Expertise- en InnovatieCentrum Binnenvaart), Inland Waterway Transport Platform, Waterborne Technology Platform and EDINNA (Education in Inland Navigation).

⁷ European Commission communication 'A Clean Planet for All' (COM/2018/773 final, 28 November 2018) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0773>

⁸ A Union that strives for more, My agenda for Europe by candidate for President of the European Commission Ursula von der Leyen - Political Guidelines next European Commission https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf

2. ADDED VALUE OF AN INLAND WATERWAY TRANSPORT ACTION PROGRAMME FOR EUROPE

Inland waterway transport is an energy efficient, safe and sustainable alternative to other modes and contributes to decongesting overloaded road and rail networks for goods and people. A better integration of inland navigation into transport chains improves the efficiency of the entire European transport network. In addition, Europe's new industrial future and circular economy - with heavy and chemical industry - relies heavily on inland waterway transport as a transport mode.

To support the achievement of European goals, the Naiades II Implementation Expert Group proposes recommendations for the period 2021-2027 for implementation through a dedicated programme for inland waterway transport, as a joint effort by the European Commission, Member States, River Commissions, International Organisations and all public and private inland waterway transport stakeholders.

The Naiades II Implementation Expert Group also proposes closer collaboration and a cooperative approach between inland waterway transport and other sectors to pool resources, close gaps and offer more effective solutions to the challenges of our times. Therefore, the new Inland Waterway Transport Agenda for Europe 2021-2027 shall form the basis to further integrate inland waterway transport in other EU policies.

The added value of a dedicated programme for inland waterway transport is indisputable. There would be no prominence of inland waterways in TEN-T and other important areas without NAIADES. For a sector that operates to a large extent across borders and in cooperation with other modes and sectors, this is simply indispensable. NAIADES has offered the possibility for inland waterway transport to speak with one voice and to shape a joint inland waterway transport vision, an implementation roadmap and cross-border cooperation with a focused approach and clear priorities at EU level. More Member States than before have a national policy on inland waterway transport which is complementary to the European action programme.

The implementation of the NAIADES II action programme has resulted in increased awareness of inland waterway transport and improved insight in market developments, increased innovation and investment, improved governance and market access as well as increased mobility of workers thanks to harmonised legislation and uniform standards. NAIADES has facilitated national implementation and linked up regions.

The modal shift for freight transport in the European Union (EU) must still materialise⁹. However, the successive NAIADES action plans surely contributed to maintaining the modal share of inland waterway transport at 6% in the overall transport mix, despite an economic crisis, growing road transport, changing markets, an imperfect policy framework and the lack of dedicated funding. In addition, inland waterway transport is particularly relevant for certain corridors, for instance, current market characteristics show that for cross-border traffic within the Rhine-Alpine Corridor, inland waterways have a share of 54%. Inland waterway transport is especially important for some goods segments. In particular, inland navigation is successful in conquering new market shares within the

⁹ In particular, the 2011 White Paper on Transport set the objective of shifting "30% of road freight over 300 km [...] to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050".

liquid cargo and container segments. The modal share by inland waterway transport for chemicals and containers show the most potential for further increase, at least since 2008. Waterways in the heart of main European cities start playing an increasing role in the transport of people and the urban distribution of consumer goods, building materials and waste which helps to reduce traffic problems and emissions.¹⁰

The work is not finished yet. Much remains to be done to make better use of inland waterway transport and thereby create added value for Europe.

Without an Inland Waterway Transport Agenda for Europe, there is the risk of returning to fragmented and uncoordinated actions- hampering the EU single market- to little silos that result in more redundancies and barriers, deteriorating cross-border traffic, widening the digital divide and jeopardising synergies. It would lead to a declining role of inland waterway transport in the transport system while we need all modes to act and inland waterways and fleet provide available capacity. It would also deprive our economy and society from the benefit of innovations resulting from cooperation with other sectors.

3. STRATEGIC RECOMMENDATIONS BY THE NAIADES II IMPLEMENTATION EXPERT GROUP

Together towards 2050

In her Agenda for Europe 'A Union that strives for more: My Agenda', the new Commission President Ursula von der Leyen lays down a European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy.

No long-term strategy for Europe's industry can succeed without a fit-for-future transport and energy network as backbone, no circular economy without sustainable and climate proof logistics. There is no doubt that transport will look quite different in 2050 and so will inland waterway transport, infrastructure and ports.

The next period 2021-2027 is a crucial period to effectively transform inland waterway transport and ports with the right policy framework into a climate neutral, clean, safe and smart transport mode to make it the 'incontournable' option to help beat road congestion and reach EU decarbonisation goals.

A stronger inland navigation sector also offers quality jobs, career opportunities and high social, safety and security standards to attract well-trained people.

In addition, the path suggested in this report creates new opportunities and business models for Europe's innovative entrepreneurs and transport companies which are mostly family businesses or

¹⁰ Figures are provided in Annex II and in the Inland Navigation market report 2014-2017 and in the Study on the integration of inland waterway transport in the European transport logistics chain from a regulatory, funding and transport economics perspective

https://www.ccr-zkr.org/files/documents/ompublicationssp/Market-report-2014-2017_Web.pdf

https://www.ccr-zkr.org/files/documents/ompublicationssp/Multimodality_Report_Final_01-2019.pdf

small and medium sized enterprises, as well as shipyards and other industry players at home and abroad on a firm course towards a climate neutral and climate resilient economy and society.

This also requires integration of inland waterway transport in other EU policies, not only transport-related. Land use plans allocating eco-industrial and recycling sites to inland ports and hubs along our waterways allow new industrial synergies and anchor European jobs. Cargo consolidation and reverse logistics by water enable an optimal use of infrastructure leading to less congestion and less emissions.

A new Inland Waterway Transport Agenda for Europe 2021-2027 addressing these challenges and reflected in other EU policies will contribute to a climate neutral economy and create an attractive and future-oriented work place. It will turn inland waterway transport know-how into a product to be exported to other waterborne regions in the world.

The scope of action

It has to be acknowledged that there are external factors relevant for inland navigation that cannot be influenced by the stakeholders addressed by this document. This refers to weather conditions (like extended dry periods or heavy rainfall), but also macro-economic and socio-cultural developments (such as the strong demand for flexible delivery and personalized goods). These factors put - partly not predictable - limits on the targets that can be achieved for inland navigation.

However, there is a considerable sphere of influence for the European Commission, Member States, River Commissions and all public and private inland waterway transport stakeholders. Within that sphere of influence, smart and effective measures can be applied to make a real difference for the success of inland waterway transport. And that is an essential objective on the way to reaching EU sustainability goals.

Ready for climate change

Climate change is especially relevant for inland navigation. Recent drought periods as well as floods have shown that inland waterway transport is vulnerable because of its reliance on precipitation and water levels. Extreme water levels may disrupt inland navigation activities by imposing restrictions on the amounts of loads transported, increasing the number of vessels to compensate reduced load factors or even a shift to less energy-efficient modes.

Therefore, waterway transport needs a reliable, safe, cost-effective and climate resilient infrastructure network. This requires an integrated water policy, in which inland navigation is fully recognised as a valuable water use. In parallel to that, the multi-dimensional functions of rivers, canals and lakes must be taken into account when developing waterways. An integrative approach among all water users towards ecologic, societal, economic and safety-related functions is a *conditio sine qua non* for a successful climate responsive policy in terms of mitigation and adaptation.

Structure of the present report

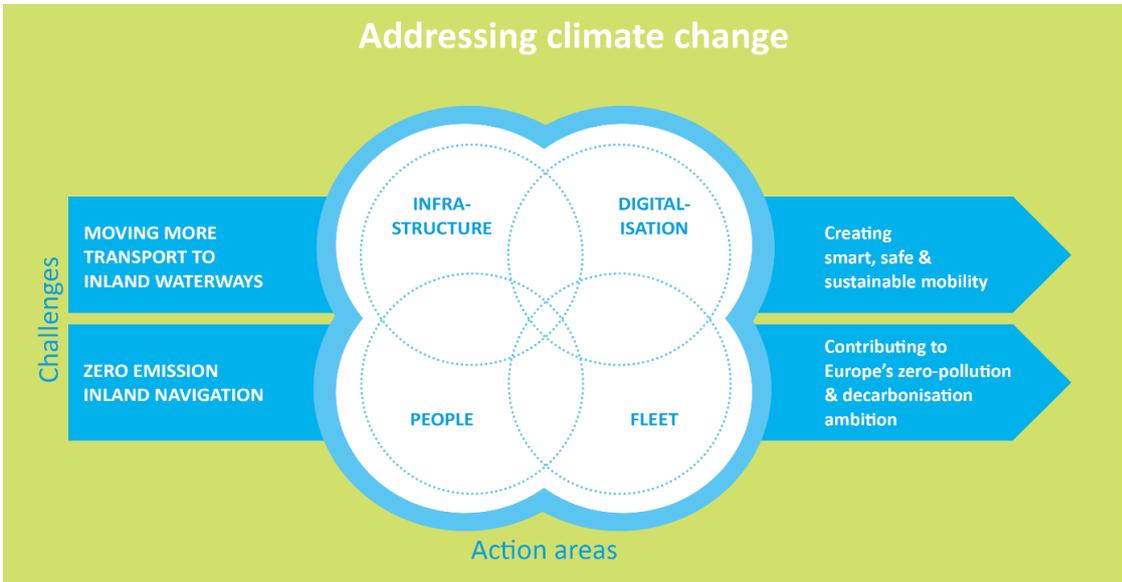
The Inland Waterway Transport Agenda for Europe focuses on the following challenges in order to successfully address climate change and fulfil Europe’s transport related, economic, environmental and societal goals:

- 1. **MOVING MORE TRANSPORT TO INLAND WATERWAYS – Creating smart, safe and sustainable mobility** by making inland waterway infrastructure and shipping fit-for-future and by integrating inland navigation into multimodal mobility of people and freight so inland waterway transport unfolds its full potential. This shall ultimately lead to an increase in the modal share of inland waterway transport, a reduction of road congestion, safer and more reliable transport, quality jobs and a more sustainable transport system as a whole;
- 2. **ZERO-EMISSION INLAND NAVIGATION - Contributing to Europe’s zero-emission and decarbonisation ambition** embedded in a coordinated transport and energy policy to pool resources among energy and transport actors to operate on renewables and supply clean fuel to transport, households and industries. Inland navigation is ideally placed to do so, as it is most energy-efficient, a pre-requisite for decarbonised and zero-emission systems.

The main action areas in which to tackle the two core challenges mentioned above were identified during the brainstorm session of the Naiades II Implementation Expert Group on 9 September 2019:

- 1. **People**: create an attractive work place with high social, qualification, safety and security standards;
- 2. **Fleet**: enable the transition towards zero-emissions and decarbonisation of the fleet while safeguarding competitiveness and safety;
- 3. **Infrastructure**: achieve the continuous and reliable navigability of the trans-European inland waterway network and ensure swift links to other modes while assuring sustainability of infrastructure, protecting the environment and adapting to climate change ;
- 4. **Digitalisation**: develop and use digitalisation as an instrument to support the developments towards smart and sustainable jobs, fleet and infrastructure connected to other transport modes and sectors.

The action areas are intertwined, hence an integrated approach is required in order to reach results. This approach can be illustrated via the following scheme:



For each of the challenges, ambitions towards 2050 and activities in priority action areas for the period 2020-2027 are outlined in the following chapters. Proposed measures are presented in the Annex. These ideas shall serve as input to the policymaking level and further involved stakeholder groups such as industry and education.

3.1. MOVING MORE TRANSPORT TO INLAND WATERWAYS – Creating smart, safe and sustainable mobility

Ambition 2050

By 2050, cities and regions with waterways make full use of this asset thanks to Europe's high-quality and climate resilient waterway network of larger and smaller rivers, lakes and canals and the implementation of synchro-modal transport. Fit-for-purpose infrastructure and smart land use planning ensure swift and reliable shipping on short and long-distances between ports, urban areas, industrial and agricultural centres. Entrepreneurs extensively exploit the opportunities provided by improved infrastructure, address existing and new transport demands, and develop new business models.

Sea and inland ports act as multimodal hubs for fully integrated mobility and logistics systems. Connectivity is supported by digitalised processes and inland waterway transport is sailing paperless. Data are interoperable across all transport modes, nodes and national borders on a "reporting once only" basis, integrating inland waterway transport into synchro-modal logistics operations. People commuting over water into and within urban conurbations swiftly switch to other transport modes to reach their end destinations on a multimodal single ticket. Smart inland shipping serves an ever-growing role in urban logistics with inland ports fulfilling the role of city logistics hubs. Integrated land use planning allocates eco-industrial and recycling sites to inland ports and hubs along our waterways, allowing new industrial synergies and anchoring jobs in Europe.

Water infrastructure management strategies and tools respond to the effects of climate change, and so do the development of inland vessels, water-related infrastructure and multimodal connections. Smart sensors support continuous monitoring and diagnosis and optimise the rehabilitation and regeneration of infrastructure and assets in a life cycle approach. Connectivity and automation increase safety and operational performance, energy efficiency and the capacity use of inland navigation. Highly qualified staff aboard and ashore work in an environment with fitting social conditions and opportunities for vocational training making the sector attractive for new entrants. Market observation provides in-depth analyses of shifting patterns for freight and passengers in inland waterway transport and ports, to understand needs and to enable evidence-based policymaking and better respond to developments, emerging trends and new markets.

Priorities 2021-2027 and intermediate goals to be reached by 2027 by action area

The uptake of inland waterway transport does not only depend on the raised awareness of market actors that it is a sustainable and safe mode of transport which helps to reduce their carbon footprint, but also depends on purposeful regulation, research, investment and favourable framework conditions, which make inland waterway transport an economic and reliable alternative to market actors.

People

Measures to counter the lack of qualified personnel in administrations as well as in the sector are being taken. Manning requirements are revised and regulated to allow for sufficient flexibility, also in the light of technological progress, while ensuring safe navigation at the same time. Moreover, measures are taken to identify and where needed address the difficulties with the current rules on social security and on posting of workers enabling fair and flexible mobility of workers.

Personnel is coping well with digitalisation, synchro-modality and automation of vessels and infrastructure, which is reflected in the harmonised qualification rules. Policies for life-long learning are put in place so that new technology can be introduced in a smooth manner, while the sector is innovative enough and receives support to develop new markets.

Infrastructure

The infrastructure is well underway to reach the Good Navigation Status goals. There is a clear understanding of the needs caused by climate change resulting in a mitigation and adaptation strategy that is implemented with respective tools. Good Navigation Status is revised according to research results and indicators are improved.

All relevant Member States have infrastructure plans that guarantee cross-border cooperation including beyond EU boundaries, at least related to core network corridors. Guidelines for planning, design and adaptation of waterways and ports enable the deeper integration of inland waterway transport with other modes of transports and allow for adaptations to future developments. High quality infrastructure comprises eco-friendly engineering as well as smart technology for maintenance and rehabilitation. The automation of locks and ports has made progress, so that a non-stop service is easier attainable.

Reaching high-quality and climate proof infrastructure is supported by dedicated European funds which cover research as well as investment in rehabilitation, development and construction. Consideration is also given to raising bridges and other improvements of infrastructure to improve navigability.

Fleet

A modern, cost efficient fleet forms part of a climate resilient inland waterway transport. Vessel design reflects changed climatic circumstances and their impact on the waterways and increases the reliability and usability of inland waterway transport. If new constructive developments are to be tested, lean administrative practices provide for real world test beds if necessary. Fast and simple procedures are in place for innovative vessels and new approaches to technical regulation have been evaluated so that data and statistics – contrary to a descriptive approach – find their way in technical regulation.

Digitalisation

Finally, digitalisation is not regarded as a self-serving purpose. Digitalisation makes the use of inland waterway transport more accessible and helps to make ports, locks and vessels work more efficiently. Smart, connected, cooperative and automated shipping takes root in inland waterway transport with all relevant tools (river information services, databases and platforms, intelligent infrastructure, on-board and on-shore digital tools, electronic documents, cyber risk management including well defined fall back scenarios if risks materialise etc.) and fosters synchro-modality. Development and full implementation of an overarching digitalisation framework centred on the Digital Inland Navigation Area (DINA) includes inter alia the revised River Information Services (RIS), electronic freight transport information (eFTI), smart shipping and multimodal data interoperability including Internet of Things (IoT). Moreover, organising and conducting carriage of cargo or persons is eased by harmonised services accessible through single points of access. For the re-use of data and a lean data management, it is analysed which operational databases are needed by the different transport modes, which are then integrated in a wider cross-disciplinary operational service. This supports logistics users in their strategic and operational decisions and facilitates economic management of transport.

3.2. ZERO-EMISSION INLAND NAVIGATION - Contributing to Europe's zero-emission and decarbonisation ambition

Ambition 2050

Inland waterway transport will reduce greenhouse gas and pollutant emissions by 35% compared with 2015 by 2035 and largely eliminate greenhouse gases and other pollutants by 2050. Clean on-shore power supply and refuelling infrastructure is available along the network making use of smart solutions at locks, transshipment sites, berths and ports.

The waterway infrastructure is integrated in the energy grid. The waterway infrastructure reliably generates its own renewable energy for navigation and provide excess power to the grid. Ports are energy hubs that produce, store and supply clean fuels to all modes of transport as well as the surrounding industry and households.

The deployment of a clean fleet is largely linked to synergies with the green energy sector and taps into the overall potential of waterway infrastructure and vessels for a smarter production, storage and supply of renewable energy.

Energy producing infrastructure and green inland vessels for freight and passengers, large and small, help to scale up and speed up the deployment of clean energy. These are a top product of the EU energy sector, shipyards and equipment manufacturers and are an export product to the world. Europe leads the way for all large inland waterway networks in the world.

Priorities 2021-2027 and intermediate goals to be reached by 2027 by action area

On the basis of a comprehensive energy transition strategy and with due consideration of other sectors, different technologies are reducing the emissions of inland waterway transport. Dedicated funds reflecting the specific needs of the sector and other financing tools, e.g. for sustainable finance,

help the sector with realising research projects and implementing new technologies. Inland waterway transport is integrated in the Sustainable Plan and Strategy for Green Financing.

A technology-neutral approach ensures that the most suitable technologies are deployed in a safe manner. Amended technical standards give room for safe testing of new technologies, innovation and adaptation to such technologies in consideration of the long life-time of vessels and infrastructure.

People

People working in the sector are well trained and yield the skills necessary to operate innovative technologies and alternative fuels. There is awareness of eco-friendly navigation and the advantages of shifting to such technology.

Infrastructure

In combination with innovative vessels, the infrastructure provides a dense network of stations for alternative fuels and energy, shore-side electricity and facilities for stationary vessels. The application of the Convention on the Collection, Deposit and Reception of Waste produced during Navigation on the Rhine and Inland Waterways (CDNI) is at least widened to further rivers and EU Member States, while a cooperation between the EU and CDNI is mutually supportive.

Fleet & digitalisation

The legislation and technical standards for alternative fuels, fuel cells and batteries are developed, allowing for progressive upgrades and preceded by dedicated research. The transition is further eased by revised energy taxation rules facilitating the use of zero emission fuels. Digital services and applications foster energy efficient navigation and operation of infrastructure.

4. IMPLEMENTATION AND COOPERATION: REALISING THE AMBITION

The Inland Waterway Transport Agenda for Europe represents an important step after NAIADES II: not only will it continue efforts to provide the best conditions for the reliability and service quality of inland waterway transport to increase its modal share, but it will also facilitate possibilities for innovative European companies, including in a cross-sectoral perspective. Implementing the Inland Waterway Transport Agenda for Europe will enable inland waterway transport to provide the strongest added value for EU policies, in particular for Europe's Green Deal.

Joint efforts, financial backing and simplified procedures needed

Success for inland waterway transport will require a united and specified cooperation effort between all actors. On the one hand the European Commission, Member States, International River Commissions and other international organisations, who bring in the pan-European, corridor and national perspectives at policy level. On the other hand, the industry, research & development and education institutions as well as further public and private stakeholders who drive the economic and societal activities which will *in fine* define the European inland navigation sector's contribution to the sustainable development of the EU and the welfare of its citizens. Coordination must also not end at

the boundaries of inland waterway transport: land use planning, environment, new market segments and more need to be integrated when developing further actions.

Success also requires dedicated easy-to-access funding and financing by European funds and financial institutions, including the EIB, and further exemptions in state aid rules. The specifics of inland waterway transport, such as the high amount of owner-operators and small companies, need to be taken into account when defining the funding and financing instruments. Procedures and support mechanisms need to be simplified and streamlined in order to foster efficient coordination of all actors. With regard to the Comité Européen pour l'Élaboration de Standards dans le domaine de Navigation Intérieure (CESNI), the European Commission shall ensure continuity through guaranteed financing.

Towards Implementation

To ensure the Inland Waterway Transport Agenda for Europe effectively responds with its action areas to the critical challenges for Europe, a matrix with concise and concrete actions, a timeframe and responsible organisations shall be developed. To evaluate implementation, also a structured monitoring framework is recommended including Key Performance Indicators tracking the implementation of goals and intermediate milestones. As change is taking place at a rapid pace, it is important that action areas can be updated to respond to important new economic and societal needs.

The Inland Waterway Agenda for Europe shall take effect in 2021. Wide market uptake of innovative solutions shall take place by the end of the programme in the year 2027. The legal framework, the R&D and market environment as well as the support structures shall be able to accelerate the time-to-market significantly. In 2027, a follow-up programme shall be in the starting blocks to swiftly prepare the next actions on the path towards 2050.

By 2030, road freight shall be significantly shifted to sustainable transport modes to which inland waterway transport belongs. A further shift shall be reached by 2050. This goes hand in hand with largely eliminating greenhouse gases and other pollutants by 2050.

ANNEX I: Proposed measures by challenge and action areas 2021-2027

The proposed measures cover different types of actions and where relevant a combination of measures

- Coordination: cooperation and coordination within and between organisations such as the Commission, International River Commissions, other international and European organisations, Member States and relevant others
- Research: research and innovation activities
- Regulation: legislation and standardisation, subject to the principle of subsidiarity
- Support: investment support

MOVING MORE TRANSPORT TO INLAND WATERWAYS		Type of measures			
People		coordination	research	regulation	support
1	Deploy market observation to monitor labour market developments		x		x
2	Strengthen institutional capacity, human resources and skills within national administrations to carry out long-term plans	x			x
3	Adapt professional qualifications standards to qualify people for future challenges such as multimodality, digitalisation and automation	x		x	
4	Develop an up-to-date and flexible framework on manning requirements for safe navigation			x	
5	Analyse social security and posting of workers legislation and how in general the implementation of labour law for the sector can be clarified to facilitate labour mobility and ensure the protection of workers	x	x	x	
6	Design and implement recruitment campaigns and lifelong learning strategy linked to the European Education Area and the European Climate Pact: - training and exchange programmes for education institutes, waterway managers, port authorities, terminal operators and crew members on smart skills and multimodality including climate capacity building; - improve educational infrastructure and make it smart; - training programmes for logistics and mobility professionals to learn using inland waterway transport in multimodal transport; - tailor-made recruitment campaigns and promotion programmes on innovative and 'green' jobs.	x	x		x
Infrastructure		coordination	research	regulation	support
7	Review and prepare the revision of the TEN-T regulation: including the definition of - performance upgrades, good navigation status, integrate climate change adaptation to ensure fit-for-purpose asset management and high-quality waterways; - requirements for high-quality port and multimodal connection infrastructure; - requirements for electric power supply and bunkering of alternative fuels; - requirements for smart infrastructure; - requirements for well-equipped mooring places;	x	x	x	x

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	- secure smooth and reliable functioning of inland waterway transport at cross-border areas with non-EU countries. Implement the TEN-T policy by ensuring the availability of dedicated research, funding and financing of inland waterway and port infrastructure projects				
8	Integrate inland navigation and ports in the EU Climate Adaptation Strategy, and map future requirements for planning and adapting waterway and port infrastructure: increase soft and eco-friendly engineering, improve infrastructure management tools, set up smart rehabilitation and maintenance tools	x	x		x
9	Balance & align water uses, water and nature protection in cross-disciplinary EU policies, regulation and support measures with transparent and non-conflicting procedures, integrate inland waterway transport in the EU Biodiversity Strategy	x			x
10	Establish national infrastructure plans for waterways and ports including cross-border cooperation in and between core network corridors	x			x
11	Integrate inland waterway transport in future-ready and circular economy action plan	x		x	
Fleet		coordination	research	regulation	support
12	Evaluate and possibly implement alternative regulatory approach, especially to support innovation including the review of the framework for technical requirements (to contribute to clarifying market access and easing the introduction of digital vessel certificate)		x	x	
13	Review market access regulation to ensure the legislation is fit-for-purpose and helps to ensure a smooth and fair internal market			x	
14	Facilitate the creation of test beds for innovative concepts and ensure publicity of results to support regulation		x		
Digitalisation		coordination	research	regulation	support
15	Realise a comprehensive digitalisation framework for inland waterway transport in Europe including: - revision of Directive 2005/44 on harmonised River Information Services, taking into account emerging regulatory, organisational and technical needs of the sector (e.g. quality requirements, reference data, cybersecurity, federated platforms, intermodal interfaces); - provision of quality river information services; - support for the development and roll out of open port community systems; - support for the development and application of technical CESNI standards; - effective governance, management and extension of inland navigation databases and platforms as well as definition of guaranteed quality levels; - digital tools for implementation/enforcement of inland waterway transport legislation; - dematerialisation of transport documents and implementation of eFTI; - exploit digital synergies with other modes of transport; - measures to facilitate the connectivity of inland waterway transport including internet of things and framework conditions	x	x	x	x

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	<ul style="list-style-type: none"> for multimodal data interoperability; - provision of guidance for data ownership, data protection and liability; - automation of inland waterway transport; - information safety, especially management of cybersecurity; - measures for crew training and qualifications; - facilitation of test beds and field tests for unmanned shipping and ensure publicity of results to support relevant regulation; - measures to strengthen public-private cooperation in inland waterway transport and facilitate a structured dialogue with the sector on digitalisation. 				
16	<ul style="list-style-type: none"> Develop and implement cross-disciplinary information and operation systems for water- and waterway management using collaborative data harvesting to facilitate <ul style="list-style-type: none"> - strategic and operational decision making about capacity management of infrastructure and assets based on meteorological and hydro-morphological conditions for waterways; - energy use optimisation and mobility/logistics decision making; - coordination between and management of water uses (transport, environment, energy, water supply) and improvement of safety and calamity management; - up-to-date accessible information and projections available to all logistics users to enable optimisation and rerouting. 	x	x		x

ZERO-EMISSION INLAND NAVIGATION		Type of measures			
People		coordination	research	regulation	support
17	Support provision of adequate skills for alternative fuels/energies operations	x			
18	Develop standards for energy-efficient navigation	x			
19	Support behavioural changes from senior management to crew				x
Infrastructure		coordination	research	regulation	support
20	Develop future requirements for inland waterway and port infrastructure for noise abatement, progressive energy transition and climate neutrality, including refuelling infrastructure, charging stations, shore-side electricity and synergies with energy sector - ensure the revision of the alternative fuels directive integrates the zero-emission ambition in inland waterway transport	x	x	x	x
21	Support the Convention on the collection, deposit and reception of waste produced during navigation on the Rhine and inland waterways of 9 September 1996 (CDNI)	x			x
Fleet & digitalisation		coordination	research	regulation	support
22	<ul style="list-style-type: none"> Adopt energy transition and emission reduction strategy to progressively reduce and eliminate greenhouse gases and other pollutants by new and existing propulsion systems; Review existing emission legislation in terms of implementation and effectiveness; Enable a progressive adaptation of vessels end engines, backed with targeted research and funding as well as synergies with other sectors (waterborne, automotive, energy, ...). 	x	x	x	x

AN INLAND WATERWAY TRANSPORT AGENDA FOR EUROPE 2021-2027
 Recommendations by the Naiades II Implementation Expert Group

23	Support development and uptake of ICT applications necessary for zero-emission propulsion of inland navigation vessels, but also to further safety and reliability	x	x	x	x
24	Develop further requirements and corresponding CESNI standards to support innovation, inter alia for the use of alternative energy (e.g. fuels, batteries, fuel cells and other electric storage) and ease pilot implementation'	x		x	
25	Ensure the revision of the energy taxation directive to facilitate the greening of the fleet and refuelling infrastructure while preserving the competitiveness of inland waterway transport			x	
26	Establish a level playing field among modes by defining emission objectives for the transport sector as a whole while adopting mode specific zero-emission regulatory paths	x		x	
27	Integrate inland waterway transport in Sustainable Investment Plan and Strategy for Green Financing				x
28	Assess the creation of an Energy index for inland vessels	x			

ANNEX II: Inland Waterway Transport facts and figures

1. MARKET

1.1. Freight market

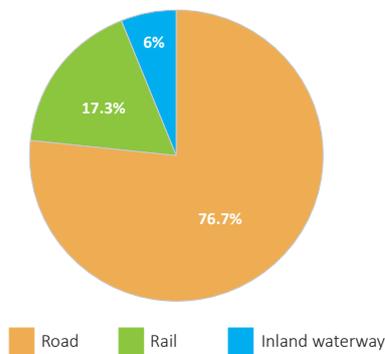
Market share in EU and per country

6% of all goods in Europe are transported on inland waterways. Despite its small relative size, it makes a considerable contribution of 145 billion tonne kilometres per year to the EU transport system.

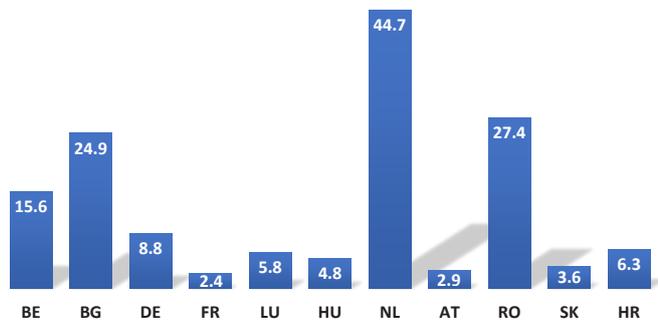
A very large proportion (86%) of European inland waterway transport takes place on the river basins of the Danube, the Rhine and the large network of waterways in the Netherlands, Belgium and North of France (North-South axis).

The modal split at country level varies considerably. In the Netherlands, 44.7% of inland freight transport is carried by inland waterways, in Romania this is 27.4% and in Bulgaria 24.9%.

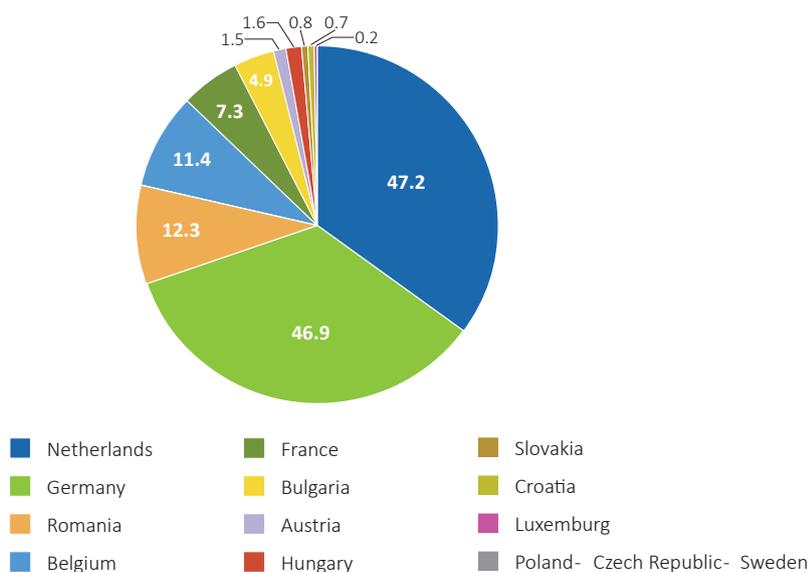
Modal split (2016)



Modal share of inland navigation by country (2017)¹



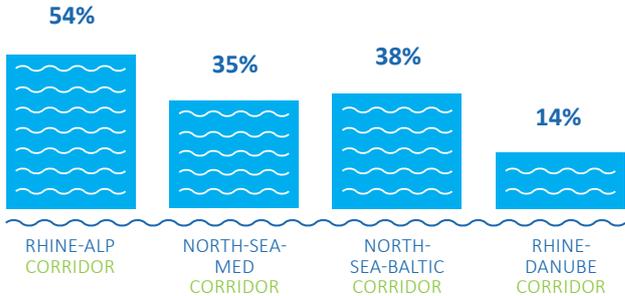
Yearly inland waterway transport performance in EU countries (in billion tkm in 2018)



Market share per waterway corridor

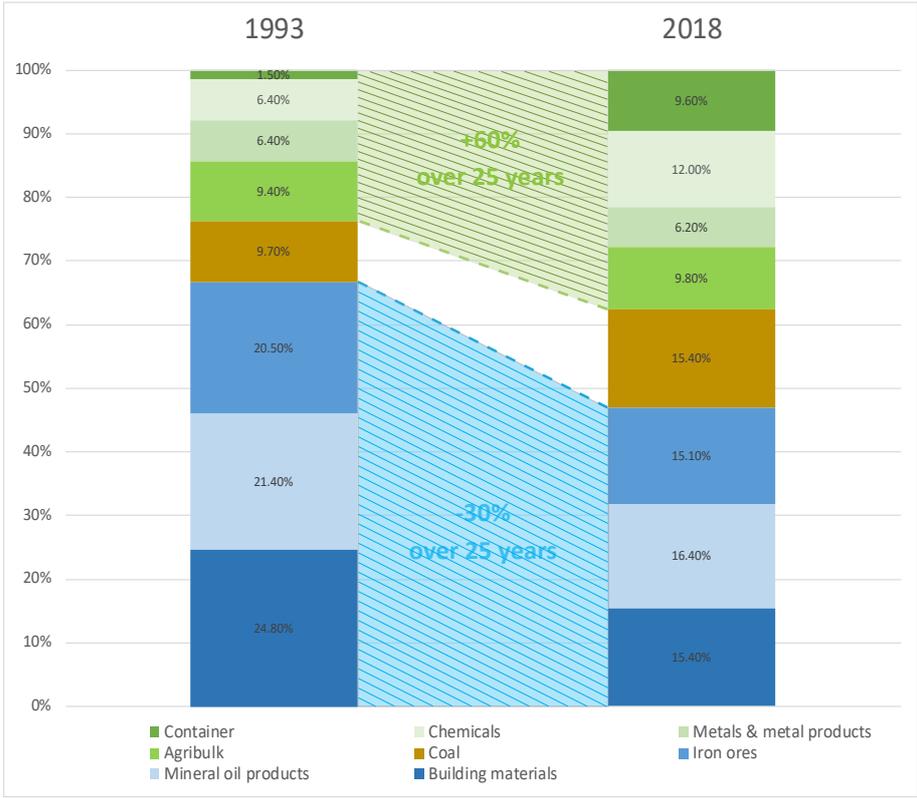
A large percentage of inland navigation in the EU crosses borders. Cross-border transport performance had a share of 52% of all IWW transport performance in the EU in 2018, and this figure has been quite stable since 2007.

Share waterways transport in cross-border freight flows



Changing markets

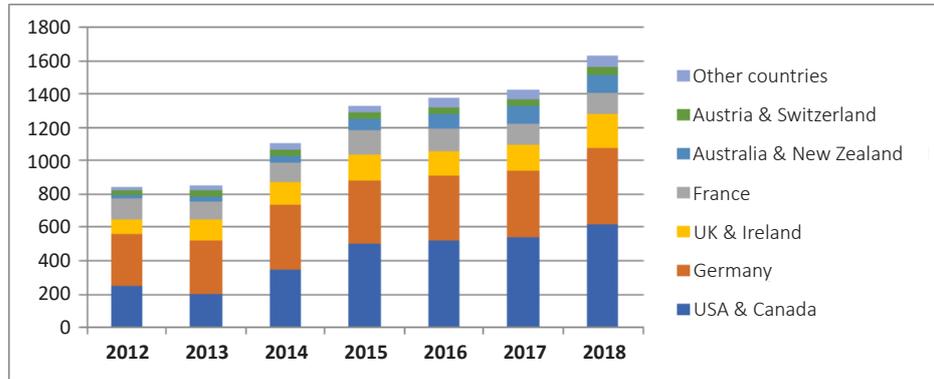
Structure of Rhine transports (1993 vs 2018)



1.2. Passenger market

The river cruise passenger sector had a year-on-year growth rate of 14.6% (between 2017 and 2018). River cruise vessels in Europe annually carried 1.64 million tourists (in 2018). Day trip vessels annually transport 34 million people in Germany, 16 million in the Netherlands and 10.6 million in France.

Number of passengers on European cruise vessels by nationality (per 1000)

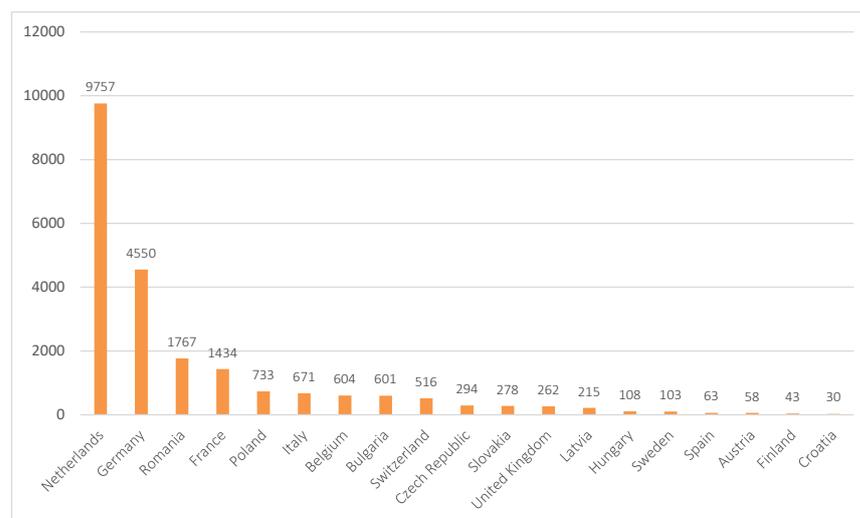


2. PEOPLE

Around 10,000 companies operate in the sector, with an overall workforce on board of about 44,000. On shore, many more work in inland waterways transport operations, waterway administrations, and inland ports.

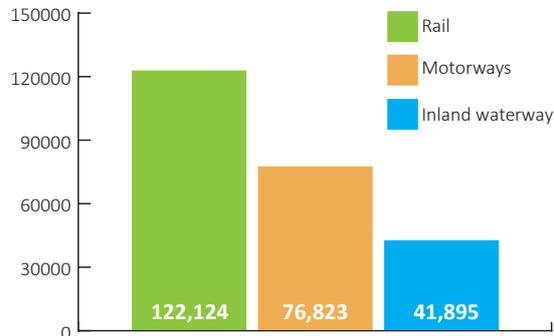
60% of companies are active in goods transport and 40% in passenger transport. A very high percentage of companies (80%) is operated by their owners.

Number of employees in IWT goods transport in Europe (2017)



3. INFRASTRUCTURE

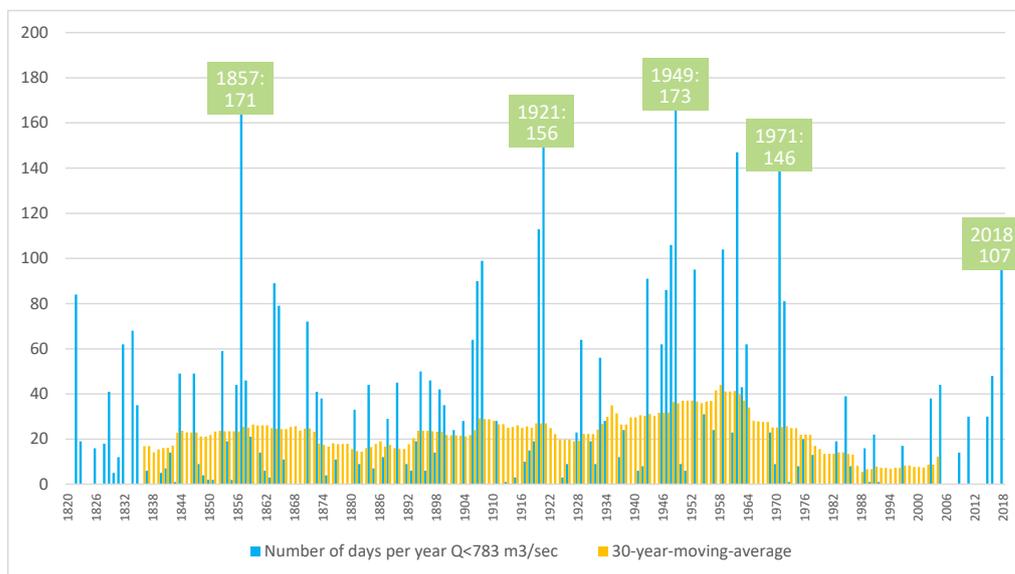
Total length of infrastructure in km (2016)



Water levels

- European inland navigation in 2018 was strongly impacted by the extreme and extended low water period in the second half of the year 2018.
- The influence of the extreme drought on transport activity varied according to the regions. The impact of low water was particularly pronounced on the Rhine, on its tributaries, on the Upper and Middle Danube, and on the Upper and Middle Elbe.
- The interruption in the logistics chains caused considerable economic losses. For Germany this materialised in a decrease of its industrial production by 5 billion Euros.

Number of days per year with a discharge $Q < 783 \text{ m}^3/\text{s}$ at KAUB, Middle Rhine including 30-years-moving average



4. FLEET

Number of Inland vessels in Europe (2018)

	Dry cargo	Liquid cargo	Push & tug boats	Total
Rhine fleet	7,000	1,462	1,240	9,702
Danube fleet	2,652	204	657	3,513
Other countries	1,381	26	419	1,826
Total	11,033	1,692	2,316	15,041

Information sources

- Eurostat
- CCNR market observation
- European corridor studies
- Federal German Office of Hydrology
- IG River Cruise / German Travel Association (DRV) / SeaConsult

For further information, consult the [Market Observation- Inland Navigation in Europe](#) website.

¹Road data used to present the modal split figure in this table are based on transport on national territory (Eurostat database [tran_hv_frm]). However, given that road data based on transport on national territory are only available for the overall road transport and not according to market segments, different road data (Eurostat database [road_go_ta_tg]), based on nationality of registration of the vehicle, had to be used in the CCNR annual market observation report 2019, referred to above, in order to present modal split figures per market segments. This methodological difference explains the disparity in the modal split figures presented in this document and the CCNR annual reports.