

Integration and sustainability strategies for European inland waterway transport

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Abstract: The transformation of European cities includes improving transport through the increasing use of digital technologies and the transition to zero emissions. The study focused on improving inland waterway transport, which is an integral part of urban transport hubs in many European cities. The aim of the study is to identify potential reserves for ensuring sustainable inland waterway transport both at the EU level and within individual countries and cities. The methodological basis of the study is the use of comparative and analytical methods, as well as the application of a cross-sectoral and interdisciplinary approach to the problems of implementing strategies for the integration and sustainable development of inland waterway transport. Analytical and synthetic methods were used to study the problems of inland navigation and ways to overcome them.

Keywords: strategies, waterway transport, legislation, development

Introduction

The economic situation in Europe has been deteriorating for a long time against the backdrop of the rise of the United States and China. The EU faces an urgent need to overcome the barriers and structural weaknesses that are holding back development. Due to lower productivity, the EU lags behind the United States in advanced technologies, while China has caught up in many sectors and is winning the race for leadership in some new growth areas.

The root cause of this is a lack of innovation. Europe is unable to translate its ideas into new, marketable technologies and is unable to integrate these technologies into its industrial base. At the same time, internal constraints are preventing European companies from fighting back. They are under pressure from high energy prices and a heavy regulatory burden. They also face an increasingly uneven global playing field, characterised by the widespread use of industrial subsidies abroad. Europe is also increasingly dependent on strategic resources and highly concentrated supply chains (European Commission, 2025). A review was conducted of selected elements of

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special strategies and legislation on inland waterway transport in the European Union and its member states, focusing on Germany and Romania, which are leaders in Danube freight transport. This article examines ways to improve the regulation of Danube navigation. Although EU transport policy is not the main subject of consideration, it forms the environment against which the legal and administrative components of inland navigation are being improved. The following part of the article is devoted to the consideration of the above-mentioned and related problematic issues of European inland waterway transport and possible ways to solve them.

1. Development of EU strategies (flagship actions)

The European Union uses various strategies to achieve its goals. These include global strategies (The Global Gateway) as well as those addressing specific, narrower issues (European Water Resilience Strategy, EU Maritime Security Strategy, etc.). In implementing the strategic transformation of the water sector, the EU relies on projects and the EU Strategy for Industrial Maritime Transport and the EU Ports Strategy (2025), confirming its commitment to climate neutrality and industrial resilience. Rivers and canals are extremely important for both cities and villages, and for ensuring the competitiveness of the EU's basic industries, small businesses, and large corporations (Inland Navigation Europe, European Barge Union, et al., 2025a). The water sector, which includes maritime and inland navigation, is a cornerstone of both the European economy and global sustainable development (United Nations Economic Commission for Europe [UNECE], 2015). It brings together a diverse ecosystem of shipowners, ports, infrastructure and service providers, shipbuilders, classification societies, equipment manufacturers, research institutions, etc. (Inland Navigation Europe et al., 2025b). The materials reviewed show that several EU strategies only touch upon the problems of inland waterway transport (European Commission, 2020) but there is currently no specific strategy dedicated solely to inland waterway transport (IWT). The result is that inland waterway transport does not receive the same support as maritime shipping and seaports under EU strategies.

Analysis of different EU transport strategies also reveals other individual shortcomings. In particular, the updated EU Maritime Security Strategy (Council of the European Union, 2023) does not address issues related to inland waterway transport. The Maritime Security Strategy of Ukraine (President of Ukraine, 2024) on the other hand, includes issues within its scope of activities. In other words, inland waterway transport is considered a component of maritime security and is given the status of a strategic resource. At the same time, the inclusion of inland water transport issues in Ukraine's Maritime Security Strategy indicates that this mode of transport is considered only as an auxiliary means in the maritime sector, rather than as an independent and competitive mode of water transport.

As part of the European Green Deal, the implementation of a strategy for the green and digital transformation of the transport sector has begun (European Commission, 2019). Among other things, the European Parliament adopted a resolution on the development of a comprehensive European port strategy emphasizing the strategic importance of ports for the EU economy and the need to protect critical infrastructure (European Parliament, 2024).

The mission letter to the Commissioner for Sustainable Transport and Tourism, *Tzitzikostas*, emphasises the need to develop a new industrial maritime strategy aimed at improving the competitiveness, sustainability, and digitalization of the European maritime sector (EU commits to highly awaited industrial maritime strategy). The implementation of this strategy is reflected in the draft EU Industrial Maritime Strategy, the European Ports Strategy and the Sustainable Transport Investment Plan (Calderón-Rivera et al., 2024a), which are scheduled to be adopted by the strategy aim to accelerate the green and digital transition of the entire water transport value chain, and establish a roadmap for innovation, investment and sustainability. However, these strategies do not address the development of inland waterway transport. The above documents indicate that the EU is more favourable towards maritime transport than inland waterway transport, and confirm the need to change this situation. In our opinion, maritime transport is wrongly portrayed as a self-sufficient and unique activity within water transport, existing in isolation from the transport chain. Representatives of the IWT sector did not agree with these actions, which downplay the importance of IWT in the water management complex, and proposed additions to the maritime strategies in the form of a contribution. At the same time, representatives of the IWT sector and ports emphasised their vision for a number of key areas and called for policy measures that would enhance the importance of water transport as a whole (Inland Navigation Europe et al., 2025a). According to some reports, consultations are currently underway on the EU Strategy for Industrial Waterborne Transport (i.e., maritime, and inland waterway transport) and the EU Strategy for all ports, not just seaports. The revised strategies are also expected to cover the inland waterway transport and the port sector. These refined waterborne and port strategies aim to boost climate goals and industrial resilience (Ports Europe, 2025).

The European Union's strategies for waterborne transport and ports (Inland Navigation Europe et al., 2025a) form a comprehensive policy aimed at ensuring the competitiveness, sustainability, and digital transformation of maritime and inland waterway transport (Kolomiiets, 2019). These strategies are key elements of the European Green Deal and EU industrial policy. The contribution of inland waterway transport to the implementation of these strategies is significant (Inland Navigation Europe et al., 2025a).

The importance of inland waterway transport stems from the fact that it is a strategic and integral part of the European water system. Almost fifty per cent of Europe's population lives near the coast and in the valleys of the fifteen largest

rivers. The water sector is inextricably linked to the environmental integrity, economic viability, and social well-being of Europe. Oceans, seas, rivers, and lakes together form our ecosystems, regulate the planet's climate, and support biodiversity.

The European Union's common strategy on Ukraine is fragmented, as it contains only a general provision on the need to connect its rail and road transport networks to those of the EU, without mentioning inland waterway transport (European Council, 2000). Ukrainian legislation stipulates that the future Strategy for the Development of Inland Waterway Transport should include different development plans. Such a strategy is developed, considering forecasts of freight traffic, investment and sources of financing, plans for the development of the national transport system, river ports (terminals), and other inland water transport infrastructure, as well as measures for ensuring the safety of navigation and protecting the environment.

The Law of Ukraine 'On Inland Water Transport', stipulates that the Strategy for the Development of Inland Water Transport shall contain a plan for the development of the inland waterway network, including in accordance with international treaties of Ukraine.

The draft Strategy for the Development of Inland Water Transport in Ukraine for the period up to 2031 and the action plan for its implementation, as well as the draft order of the Cabinet of Ministers of Ukraine 'On the Approval of the Strategy for the Development of Inland Water Transport in Ukraine for the period up to 2031 and the Approval of the Action Plan for its Implementation', were posted on the internet for discussion (Frtskr, 2021). However, to date, there is no information about the approval of these documents by the Government of Ukraine.

The EU's water transport and port strategies aim to ensure the sustainable, competitive, and safe development of the sector (Pratas et al., 2023). They include investment in innovation, support for environmental initiatives, and strengthening the role of ports in the pan-European transport network.

It should be emphasized that there is interaction and mutual support between sustainable development of the transport sector and the rule of law (Mahmudovic & Alhamoudi, 2024). To address long-standing problems related to the uneven distribution of freight between modes of transport, the EU has adopted several legislative acts. Regulation (EU) 2024/1679 of the European Parliament and of the Council of 13 June 2024 on EU guidelines for the development of the trans-European transport network, emphasizes the need to increase the use of inland waterway transport. In this regulation, the term „urban nodes” is used twenty-two times. These nodes will be built with a population of 100,000 or more inhabitants (TEN-T Revision – Romania). The same regulation refers to Directive (EU) 2016/797 of the European Parliament and of the Council of 11 June 'On the interoperability of the rail system within the European Union. A few years ago, Directive (EU) 2016/797 prescribed the need to ensure growth in the volume of inland waterway transport at the expense of road transport.

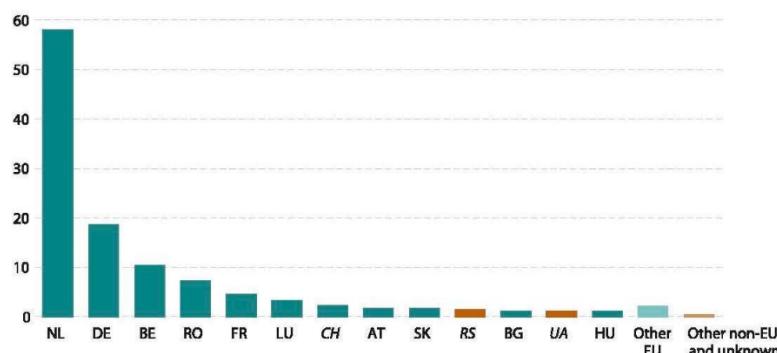
The Directive states that the development and modernisation of terminals should be implemented in such a way that intermodal transport is carried out mainly by rail, inland waterways, or short sea shipping. Any initial or final, or both, stages of transport by road, should be as short as possible (Regulation (EU) 2024/1679). Observations show that an increase in inland waterway transport due to a decrease in volumes on other modes of transport as of mid-2025 has not yet occurred.

2. Development of inland waterway transport, shipping and the law governing it

The development of inland waterway transport and shipping, as well as the legislation governing it, is mainly carried out in accordance with European Union strategic programmes and plans. European Union member states have developed their own strategies for development and sustainability. According to the General Plan for the Development of Inland Waterway Transport in Germany, ninety measures are to be implemented (Federal Ministry for Digital and Transport, 2024). In order to prevent significant losses in prosperity, for example due to a reduction in investment or jobs, measures are being implemented in Germany to improve competitiveness, network stability and the reliability of the entire waterway system. An efficient infrastructure, environmentally friendly and modern inland waterway vessels, optimal integration of inland waterway vessels into the multimodal logistics chain, skilled personnel, and the use of digital services, are key prerequisites for the competitiveness of waterway transport (Federal Ministry of Transport and Digital Infrastructure, 2019).

Inland waterway transport in Romania occupies a leading position against the backdrop of statistics from other European countries.

Figure. 1. Inland waterway freight transport, by nationality of vessel (billion tonne-kilometres, EU, 2023)



Source: Eurostat, 2025

Vessels registered in the Netherlands dominated this mode of transport, as their 58.1 billion tonne-km of inland waterway freight transport in the EU accounted for nearly half (49.9%) of the total. The next largest levels of transport were 18.7 billion tonne-km by German registered vessels (16.1% of the total), and 10.5 billion tonne-km by Belgian registered vessels (9.0%). Romanian-registered vessels accounted for 6.3% of the total, making it the fourth largest level of inland waterway freight transport in the EU at 7.3 billion tonne-km (Eurostat, 2025).

The port of Constanta is connected via the Danube Canal and the Danube to Ukraine, Moldova, Bulgaria, Serbia, Hungary, the Czech Republic, Slovakia, Germany, and Austria. The navigable part of the Danube from Ulm, Germany, to the Black Sea is 2588 km long, of which 1075 km passes through Romania. The Danube crosses the territory of nine countries and four capitals and is an important historical waterway (Ciortan & Vasilache, 2018). The following strategies related to shipping are being implemented on Romania's inland waterways (Government Decision No. 665/2008 of 24 June 2008): National Strategy for Sustainable Development of Romania until 2030; National Long-Term Renovation Strategy (2020-2050); Romania's Territorial Development Strategy (SDTR) 2018-2035; General Transport Plan and Urban Mobility Plans; Romania's Urban Policy 2020-2035; National Strategy for a Digital Agenda for Romania – post-2020 (Ministry of Investment and European Projects, 2024).

Romania's National Recovery and Resilience Plan (NRRP) of 08.12.2023, includes reforms and investments aimed at mitigating the socio-economic impact of the crisis caused by the COVID-19 pandemic, the energy crisis, and the cost-of-living crisis. The plan amounts to €28.5 billion, or 12.8% of the country's gross domestic product in 2019 (European Parliament, 2022). Among other things, the plan includes measures for navigation on the Danube River, the main artery of Romania's inland waterways. However, Romanian experts acknowledge that the potential of the Danube is underutilised and cite reasons for this. In particular, the shipping channels have shortcomings in terms of width and depth, which negatively affect navigational reliability. Passage through the channels is less advantageous compared to other modes of transport.

There are thirty ports along the Danube and Romania's navigable canals, eight of which are located in the central TEN-T transport network. However, twelve of the Danube ports are not yet connected to the railway network. Poor maintenance, outdated infrastructure, lack of multimodal connections and slow handling procedures for existing flows, reduce the attractiveness of these ports for potential users. Even the location of the city of Constanta, Romania's most important seaport on the Black Sea does not fully compensate for the existing shortcomings, although it has direct connections to the Danube and its ports, and is connected to the central road and rail network, which are part of the TEN-T. Romanian researcher, Ionescu, cites a number of other factors that negatively affect the development of Danube shipping. In particular, the EU is unable to finance the strong sustainable

development of inland waterway transport. Only EU member states that have achieved a high level of economic development will be able to finance inland waterway transport. The economic disparities between coastal states are too great. In this regional context, Romania faces major challenges in supporting its Danube sector. The costs are too high, and the Romanian inland waterway fleet is too old. Even the Intermodal Transport Strategy in Romania and the General Transport Development Plan, do not provide for significant funding for inland waterway transport (Ionescu, 2016).

3. Measures to support the development of navigation on the Danube

To support navigation on the Danube, it is necessary to reduce the impact of shortcomings related to navigation, and to improve the reliability and attractiveness of inland waterways. There is a long-standing need to modernise infrastructure and improve access to Danube ports and cross-border sections. Romania's national transport strategy, along with international support programmes, provide for increasing the attractiveness of inland waterway transport by improving navigation conditions on the Danube, and by boosting investment in port infrastructure and connections with hinterland areas. It is planned to improve the reliability of navigation on the Danube channels to the Black Sea by strengthening the banks and modernising the locks, as well as modernising the Danube fleet operated by Romanian operators with environmentally friendly engines (European Commission, 2021).

The EU Strategy for the Danube Region covers countries that share borders with the Danube River, including Austria, Bulgaria, Croatia, the Czech Republic, Germany, Hungary, Romania, Moldova, and Ukraine. The EU Strategy for the Danube Region (SUERD), is one of four macro-strategies existing at the European Union level. It is a joint initiative of Romania and Austria and represents a mechanism for cooperation between the Danube basin countries aimed at the economic, social, and territorial development of the Danube macro-region. The strategy is based on four main objectives, each corresponding to specific areas of activity, grouped into eleven priority areas. Each priority area is coordinated by two countries in the region. The strategy aims to improve mobility and multimodality on inland waterways through road, rail, and air connections.

The Integrated Strategy for the Sustainable Development of the Danube Delta aims to strengthen territorial links, in order to ensure access to markets in Tulcea and other cities in Romania and the European Union; ensure equal access for businesses, citizens and goods to the Danube Delta, with particular attention to the protection of the existing natural heritage; improving accessibility in the centre of the Danube Delta to support the development of tourism and fishing, as well as the mobility of residents of sparsely populated areas, taking into account the specific characteristics of the region. Currently, all ports need to be modernised to facilitate movement

between settlements in the Danube Delta and their connection to the TEN-T network (Ministry of European Funds, 2020).

4. Development of the Trans-European Transport Network (TEN-T)

The further development of inland waterway transport as part of the European transport network, is in one way or another, linked to the results of the implementation of the revised TEN-T Regulation in the EU, Ukraine, and Moldova. The regulation establishes a specific framework for development, including for inland waterway transport. They enable member states to better coordinate cross-border actions and projects. To support the development of inland waterway transport, researchers recommend making use of the existing potential of small and medium-sized ports. This is because ports make a significant contribution to the sustainable and digital development of port ecosystems. The authors emphasize the importance of integrating such ports into the pan-European transport network (Gerlitz & Meyer, 2021).

Some Polish researchers note, that in Poland, inland waterways are largely excluded from the TEN-T programme due to their technical inadequacy (Zaloga & Kuciaba, 2016). However, other researchers, using the example of the Kuyavian-Pomeranian Voivodeship, draw attention to the importance of sections that are part of the TEN-T international transport corridors, emphasising their logistical importance (Wasielewska-Marszałkowska, 2014).

The importance of the Danube inland waterways for Europe is demonstrated by their inclusion in the TEN-T to ensure efficient and sustainable transport links. Thanks to the European Commission's Strategy and the TEN-T guidelines, the following is planned for shipping on the Danube: completion of the missing links, especially the cross-border ones; improvement of infrastructure standards, particularly in Central and Eastern Europe; connection of different modes of transport for passengers and freight; reduction of greenhouse gas emissions in the transport sector by 60% by 2050 compared to 1990; and harmonisation of rules and requirements for all modes of transport to facilitate transport (Szabolcs, 2015).

At the same time, Central and Eastern Europe need further modernisation, expansion, and integration of the transport sector (Platz, 2009). The sections included in the Trans-European Transport Network (TEN-T) must ensure economic, social, and territorial cohesion in the European Union (Luca et al., 2025). In the fight against climate change, as stated in the EU proposal on TEN-T, this programme is a driving force, as it requires both greater urgency and greater attention from the EU.

The evaluation of the TEN-T programme for 2007-2013 (Gleave, 2011) shows that waterways are underused. This is even though waterborne freight transport has a certain potential for reducing emissions. Recognising the potential of waterways in Europe, the European Commission intends to develop a 'European Maritime Transport Space without Barriers' (European Commission, 2009), to ensure free

maritime transport in and around Europe. The Blue Belt Initiative (European Commission, 2013) aims to promote maritime transport within the EU, and improve the functioning of the system by integrating the use of monitoring tools by all relevant authorities, ensuring full compatibility between transport systems in the water sectors, guaranteeing the monitoring of ships and cargo, and creating appropriate port facilities (Sys, 2020). To achieve this, administrative barriers in EU ports (such as customs, veterinary and plant protection controls) (Calderón-Rivera et al., 2024b) should be reduced, in particular through 'Blue Lanes' (fast-track procedures), which will ensure the rapid transport of goods (Mihić, 2012).

The EU is planning various measures to ensure the successful development of the TEN-T transport network. These include strengthening synergies between infrastructure planning and the operation of transport services. An example is the guaranteed adequate navigability of each river basin on the TEN-T inland waterways (De Nederlandse Grondwet, 2021). Innovative technologies such as 5G, are planned to be used to further digitise transport infrastructure, develop increased efficiency, and improve the safety, security, and resilience of the network.

The number of transhipment hubs and multimodal passenger terminals in cities will increase, which should promote multimodality, in particular for «the last mile» of passenger or freight travel (Anisimov & Uzakova, 2023). Only limited changes to the core network are proposed. Cities are important transfer points and «last-mile» connections within or between different modes of transport on the TEN-T. It is important to ensure that neither bottlenecks in capacity, nor insufficient network connections in urban nodes, hinder multimodality along the trans-European transport network. For this reason, the new provisions introduced by the revised TEN-T Regulation require that by 2040, at least one multimodal passenger hub and one multimodal freight terminal with sufficient transhipment capacity be established within, or in the vicinity of, an urban node.

According to the EU's transport network development plan, 424 cities identified in the updated TEN-T Regulation are developing Sustainable Urban Mobility Plans (SUMP) (Ministry of Investment and European Projects, 2024), that include measures to integrate different modes of transport and promote zero-emission mobility. The implementation of the TEN-T Regulation will make the Trans-European Transport Network fit for the future. The regulation aligns the development of the TEN-T network with the objectives of the European Green Deal, and the climate objectives of the EU Climate Legislation.

5. Classification of inland waterways

The TEN-T guidelines set out priorities for inland waterway transport. These include measures to achieve inland waterway standards (IWW), including upgrading IWWs to class IV (Muškatirović, 2021). The list of basic standards and parameters for inland waterways is contained in the European Agreement on Main Inland

Waterways of International Importance (United Nations Economic Commission for Europe, 1996) and the Blue Book (United Nations Economic Commission for Europe 2012; 2023). The latter reflects details and current changes in the network. To classify an inland waterway according to a particular standard (class), it must first be classified according to certain criteria. Classification is necessary to improve the efficiency of IWT in urban and interurban transport, as it determines the characteristics of the waterway network and its infrastructure. The ability of IWW to provide uninterrupted, safe, and sustainable connections in a single multimodal network, optimally combining mobility and logistics, is determined by a number of factors. For waterways to have effective connections with other modes of transport, and to be the basis for physical, digital, and green energy infrastructure, their classification is again necessary. The classification of waterways can be defined as the ordering and organisation of river infrastructure components, according to a set of specified criteria. Classification reveals the potential of waterways (Alekseievska et al., 2023), organizes them, and allows for the clear definition of operating parameters and vessel dimensions within established parameters or the increase of vessel dimensions, particularly when planning road works.

Romania is increasingly attracting the attention of researchers of European transport problems due to its geostrategic position, which is important for the EU. Romania's location in the eastern part of the Danube-Main-Rhine Canal, with a powerful port in Constanta, the largest in the Black Sea basin, and connected to extensive river ports on the Danube, forms the axis with the Black Sea ports, the Eastern Mediterranean and the Middle East. As a result, Romania offers connections to any port in the world. The interest of carriers in using Romania's geostrategic position is confirmed by the construction of two major pan-European transport corridors that cross its territory from west to east (Săgeată, 2012). These circumstances also indicate the existence of a single intermodal transport chain, whose activities are related to the regulation of inland waterway parameters. The emergence of navigation rules in certain areas is linked to their regulation. Knowledge of the parameters of waterways is necessary to better determine their suitability for urban or interurban transport. Classification also plays a vital role in improving the efficiency and safety of inland waterways.

The parameters of inland waterways are determined by the ordinances of the Romanian Government, orders of the Minister of Transport and Infrastructure. These are Ordinances No. 42/1997 and No. 22/1999. The classification of inland waterways is regulated by Order of the Minister of Transport and Infrastructure No. 1.286/2012. In total, there are eighteen waterways of international importance in Romania - category 'E' (Blue Book database, 2025). In addition, Romania's inland waterways by Order of the Ministry of Transport No. 1.472 are divided into four zones. Zone 'R' includes those sections of inland waterways for which inspection certificates are issued in accordance with Article 22 of the Revised Convention for Rhine Navigation. Owners, operators, and masters of vessels flying the Romanian flag are

required to be familiar with and comply with the requirements arising from the classification of inland waterways. It should be noted that the classification of existing inland waterways, may be changed by the Romanian Ministry of Transport upon request to the European Commission.

The above-mentioned regulation implements Directive (EU) 2016/1.629 of the European Parliament and of the Council of 14 September 2016 and Directive 2009/100/EC, which lay down technical requirements for inland waterway vessels operating on inland waterways of different classes. Control over compliance with these requirements, in accordance with Article 37 of the Regulation, is entrusted to the Water Transport Directorate and the Romanian Maritime Authority. Romania also has another classification of Vessel Safety Classes. According to Romanian Government Decision No. 665/2008 of 24 June 2008, the list of Romanian IWW includes five types (Danube sector from kmD 170). These are the Danube and its main and secondary branches, navigable canals, internal border rivers, and navigable inland lakes. According to the Romanian understanding of the concept of „inland waterway,” the section of the Danube River (from km D 170 to the mouth of the Sulina Canal) has been given the status of a sea waterway. This means that sea areas are included in the list of inland waterways. A similar composition of inland waterways (river and sea sections) was contained in Resolution No. 640 of the Cabinet of Ministers of Ukraine, as well as in the first edition of the Water Code of Ukraine, which have been repealed. In the first edition of the Water Code of Ukraine, internal waterways of general use included canals, as well as waterways in internal sea waters and in territorial waters, which are currently unjustifiably excluded from the current list of IWWs. The Romanian decision to include maritime areas in the IWWs is a correct attempt to resolve the conflict of interests between maritime and inland water transport. In the United States, the Netherlands, and Belgium, certain maritime areas have also been granted the status of inland waterways.

Moldova has acceded to the European Agreement on Inland Waterways of International Importance. The Blue Book, which contains a list of existing and planned category E waterways and ports in Europe, states that Moldova has four category E waterways on the Prut and Dniester rivers of international importance. The Moldovan legislature pays considerable attention to inland waterways. The Moldovan Law on Inland Waterways contains five separate articles devoted to their operation, while the Ukrainian Law on Inland Water Transport does not contain any such articles. The aforementioned Moldovan law provides for the classification of inland waterways, the nomenclature of which is approved by a specialised central executive body. The categories of navigable vessels and the conditions for their operation, the guaranteed dimensions of navigable fairways, and the conditions for the operation of hydraulic engineering structures, are determined by a specialised body and published in the Official Gazette of the Republic of Moldova, in accordance with the established procedure.

European research and the activities accompanying it play a significant role in the development of transport and shipping law. This topic is also successfully developed at the University of Iasi (Romania), whose hallmark is the Centre for European Studies.

Conclusions

The study showed that the main prerequisites for increasing the competitiveness of inland waterway transport are the development of effective infrastructure, environmentally friendly and modern inland waterway vessels, optimal integration of inland waterway vessels into the multimodal logistics chain, improvement of specialists' qualifications, and expansion of the use of digital services. Accessibility to Danube ports and cross-border sections needs to be improved.

When developing European inland waterway transport and the legislation governing it, it is advisable to draw on the experience of implementing the national strategies and plans of Germany and Romania. In Ukraine, due to the lack of necessary regulations, it is advisable to make greater use of international law and European Union legislation. National programmes will have better results in terms of transport links between EU member states and their neighbours if they are unified and more closely aligned with the Trans-European Transport Network (TEN-T) programme. The growing influence of the classification of inland waterways on the improvement, efficiency and safety of navigation should be used as the economic situation of European countries evens out and their contribution to inland waterway transport increases.

These conclusions are limited in nature, as not all issues of EU strategies on inland waterway transport were examined. In the future, it is necessary to deepen the study of economic and legal issues related to improving the status of inland waterway transport operators, in order to increase their competitiveness. It would also be advisable to study the regulation of relations concerning the use of autonomous and environmentally neutral watercraft.

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