MARKET INSIGHT

INLAND NAVIGATION IN EUROPE

PUBLISHED IN APRIL 2025

European Commission

CCNR
CENTRAL COMMISSION FOR THE NAVIGATION OF THE RHINE

Market Insight

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FREIGHT AND PASSENGER TRANSPORT ON INLAND WATERWAYS

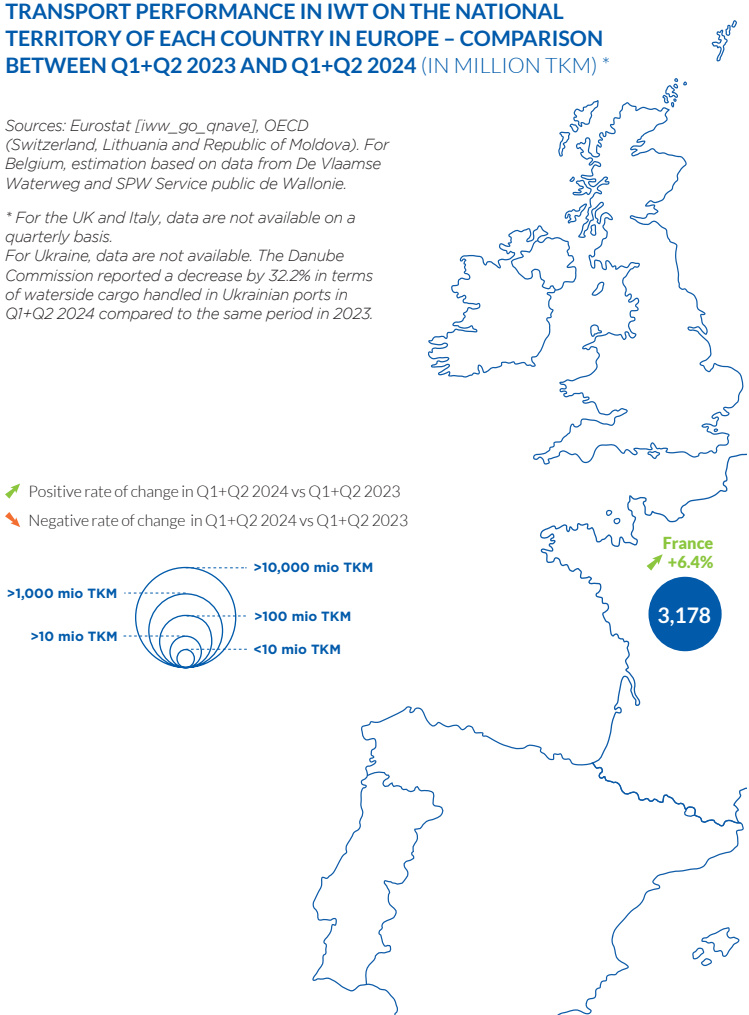
- **In the first half year of 2024, transport demand in the two largest Rhine countries (the Netherlands and Germany) fell below the results observed one year earlier. This was notably the case for the large dry bulk segment, while the results for liquid cargo were slightly higher than the previous year.**
- **In most Danube countries, the first half year of 2024 saw a double-digit growth in transport demand. This was above all influenced by higher harvest results compared to 2023. Transport demand in the two largest Danube countries, Romania and Bulgaria, grew by 21.5% and 33.9% respectively.**
- **In passenger transport, a small increase was observed for cruise vessel traffic on the Rhine, while it decreased on the Danube. Despite the lower number of cruise vessels passing locks on the Danube, the capacity utilization of river cruise vessels was higher than in 2023, and almost as high as in the pre-pandemic year of 2019.**

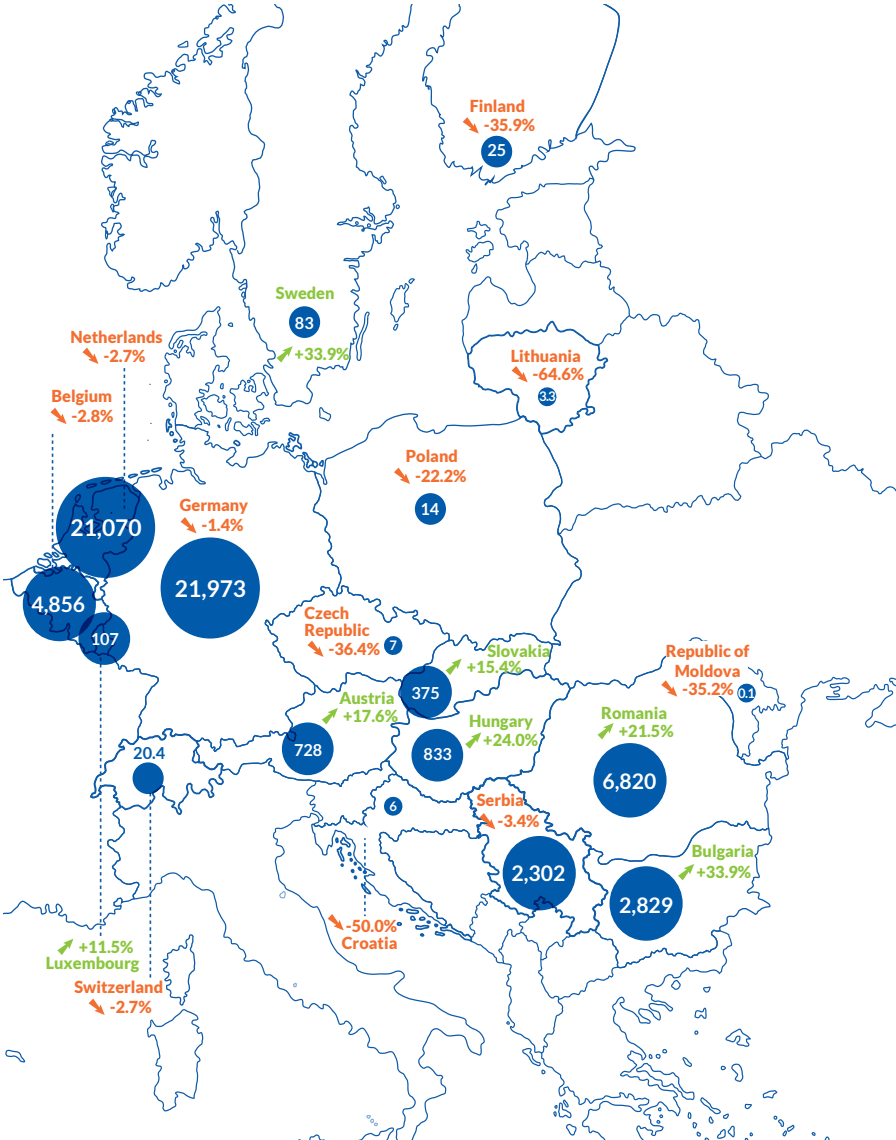
FREIGHT TRANSPORT PERFORMANCE IN EUROPE

TRANSPORT PERFORMANCE IN IWT ON THE NATIONAL TERRITORY OF EACH COUNTRY IN EUROPE – COMPARISON BETWEEN Q1+Q2 2023 AND Q1+Q2 2024 (IN MILLION TKM) *

Sources: Eurostat [iww_go_qnave], OECD (Switzerland, Lithuania and Republic of Moldova). For Belgium, estimation based on data from De Vlaamse Waterweg and SPW Service public de Wallonie.

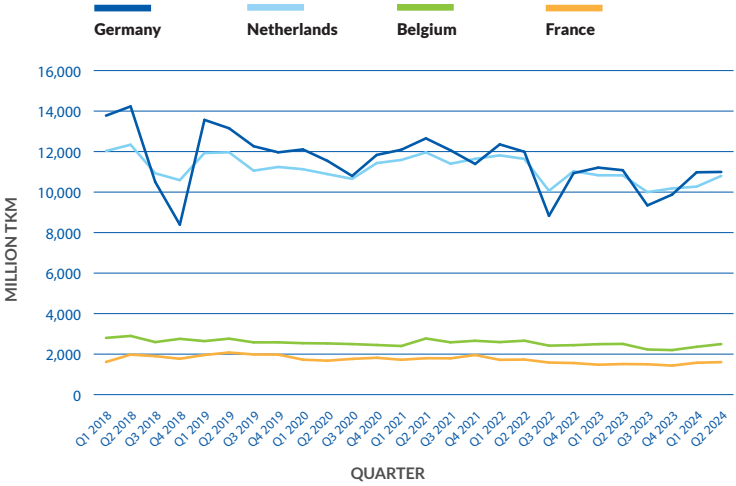
** For the UK and Italy, data are not available on a quarterly basis.*
For Ukraine, data are not available. The Danube Commission reported a decrease by 32.2% in terms of waterside cargo handled in Ukrainian ports in Q1+Q2 2024 compared to the same period in 2023.




Finland
-35.9%
25
Sweden
83
+33.9%
Netherlands
-2.7%
Belgium
-2.8%
Lithuania
-64.6%
3.3
Poland
-22.2%
14
21,070
Germany
-1.4%
21,973
4,856
107
Czech Republic
-36.4%
7
Slovakia
+15.4%
375
Republic of Moldova
-35.2%
0.1
Austria
+17.6%
728
Hungary
+24.0%
833
Romania
+21.5%
6,820
20.4
6
Serbia
-3.4%
2,302
Bulgaria
+33.9%
2,829
-50.0%
Croatia
+11.5%
Luxembourg
Switzerland
-2.7%

TRANSPORT PERFORMANCE IN MAIN EUROPEAN IWT COUNTRIES

FIGURE 1A: **INLAND WATERWAY TRANSPORT PERFORMANCE IN MAIN WESTERN EUROPEAN IWT COUNTRIES** (IN MILLION TKM, QUARTERLY DATA OF TRANSPORT PERFORMANCE ON THE NATIONAL TERRITORY OF EACH COUNTRY)

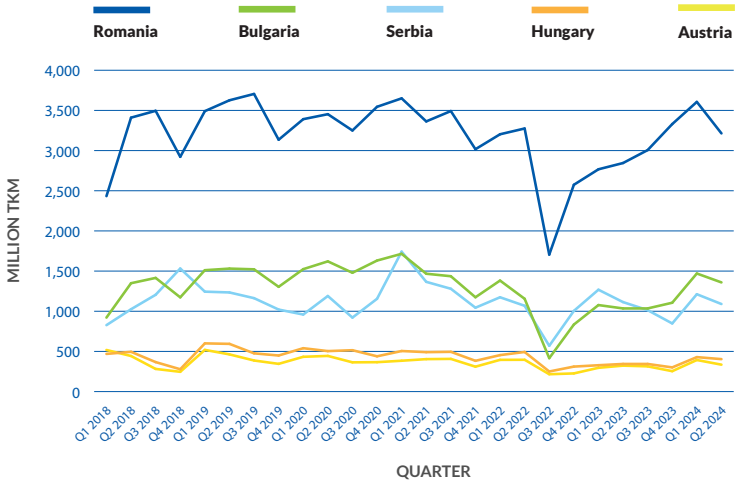


Sources: Eurostat [iww_go_qnave] and own calculation for Belgium, based on data from De Vlaamse Waterweg and SPW Service public de Wallonie

Due to a structural break in the data from the Belgian statistical office between Q4 2017 and Q1 2018, data for Belgium from this quarter onwards were recalculated. This was done by applying the rates of change present in the data from the Flemish and the Wallonian waterway administrations.[1]

[1] *For each quarter, these trend rates were weighted with the respective share of Flanders and Wallonia within the sum of transport volumes of both regions: transport volume in q(t) in Belgium = transport volume in Belgium in q(t-1) x [(transport in Flanders q(t)/q(t-1)) x share Flanders in q(t) + (transport in Wallonia q(t)/q(t-1)) x share Wallonia in q(t)]. Based on this estimated transport volume, an estimation for transport performance was carried out: transport performance in Belgium in q(t) = Transport performance in Belgium in Q4 2017 x [Estimated transport volume in Belgium for q(t) / Transport volume in Belgium in Q4 2017].*

FIGURE 1B: **INLAND WATERWAY TRANSPORT PERFORMANCE IN MAIN CENTRAL AND EASTERN EUROPEAN IWT COUNTRIES** (IN MILLION TKM, QUARTERLY DATA OF TRANSPORT PERFORMANCE ON THE NATIONAL TERRITORY OF EACH COUNTRY)



Source: Eurostat [iww_go_qnave]

DRY BULK, LIQUID BULK AND CONTAINER TRANSPORT IN MAIN IWT COUNTRIES AND REGIONS IN THE FIRST HALF YEAR *

Sources: Destatis, Rijkswaterstaat, Centraal Bureau voor de Statistiek, De Vlaamse Waterweg, SPW Service public de Wallonie, Voies navigables de France, Romanian Institute of Statistics.

Notes: for Belgium-Wallonia and France, quarterly container statistics in tonnes are not available. The product group "machines/other goods" was assumed to consist mainly of container transport. The data include total IWT on the territory of the country/region. In earlier reports, only the volumes transported on the Traditional Rhine, namely the Rhine from Basel to the German-Dutch border, were communicated. From now onwards, it will become possible to report on transport volumes on the entire Rhine from Basel to the North Sea (including the link to Antwerp via the Rhine-Scheldt link). When calculating the total volume of goods transported on the entire Rhine, all steps were taken to avoid double counting. For further information see the methodological annex of this report.

FIGURE 2: **DRY CARGO TRANSPORT** (IN MILLION TONNES)

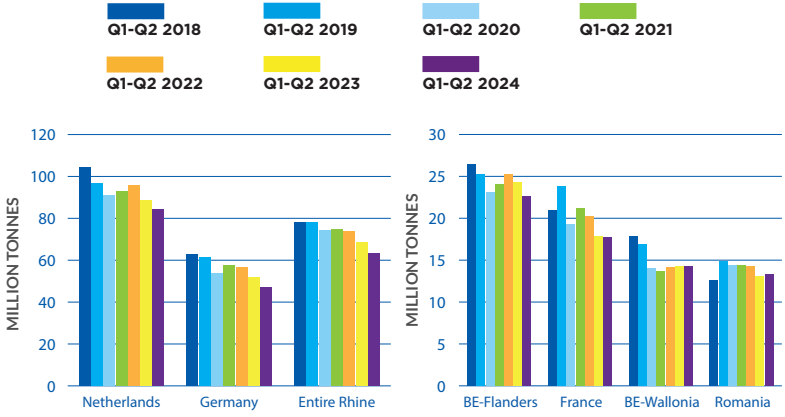


FIGURE 3: **LIQUID CARGO TRANSPORT** (IN MILLION TONNES)

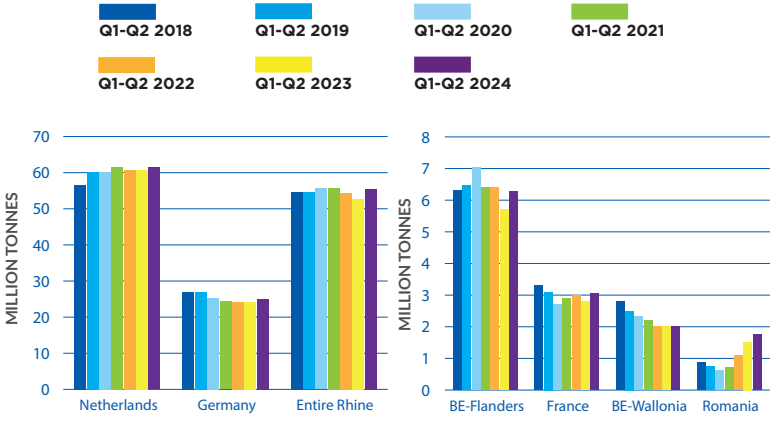
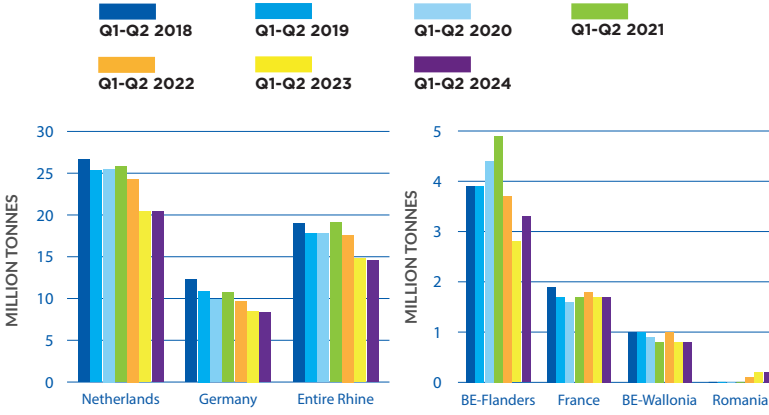
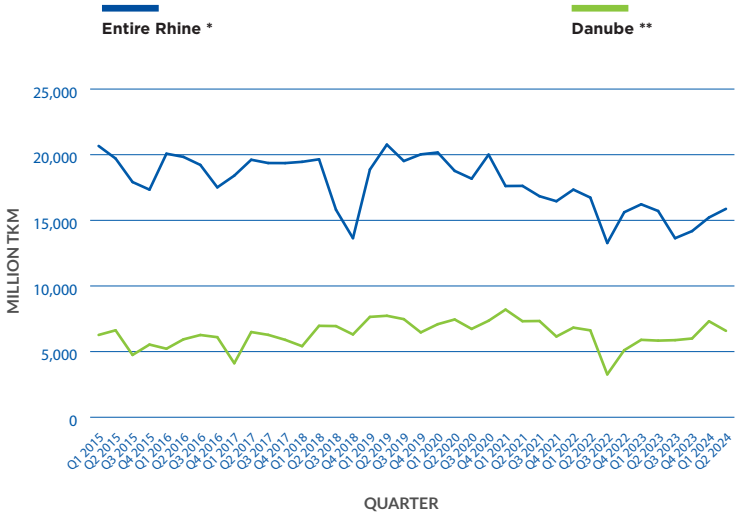


FIGURE 4: **CONTAINER TRANSPORT** (IN MILLION TONNES)

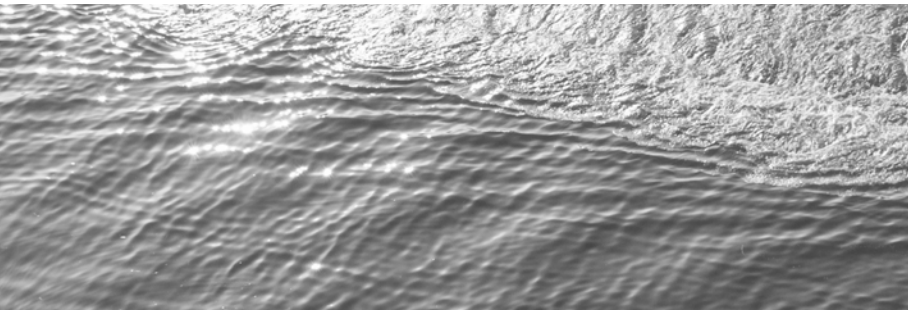


RHINE AND DANUBE NAVIGATION

FIGURE 5: **TRANSPORT PERFORMANCE ON THE ENTIRE RHINE AND THE DANUBE PER QUARTER** (IN MILLION TKM)



Sources: Eurostat [iww_go_qnave], Destatis, Rijkswaterstaat, CCNR analysis
** Entire Rhine = Rhine from Rheinfelden (CH) to the North-Sea (including link to Antwerp via the Rhine-Scheldt link)*
*** Danube = TKM in all Danube countries but without Ukraine*



Rhine

- Transport performance on the entire Rhine amounted to 31,092 billion TKM in the first six months of 2024. This represented a decrease of -2.6%. On the Danube, transport performance reached 13,893 billion TKM in (Q1+Q2) 2024, representing an increase of +18.4% compared to the first half year 2023.

- Regarding transport volume measured in tonnes, freight transport on the entire Rhine (from Basel to the North Sea) amounted to 143.1 million tonnes in the first half year 2024, compared to 145.4 million tonnes in the same period of the previous year. This represented a decrease of -1.5%. The main reason for this decline was the reduction of dry bulk transport by -7.8%, reaching 63.3 million tonnes. Liquid bulk, on the other hand, increased its transport volume by +5.4%, reaching a volume of 55.6 million tonnes. Container transport experienced a small decline of -1.3%, resulting in a transport demand of 14.6 million tonnes. This can be explained by strong sideways fluctuations in container traffic in European ports, even though, overall, container throughput in European ports seemed to be on a recovery path in the first half of 2024.[2]

- As table 1 shows, not all of the goods segments of dry bulk transport experienced a decline. Positive examples for a growing transport demand can be found for agribulk and foodstuff (+2.7%) as well as for iron ore (+1.8%). However, the sharp decline in sand, stones, building materials and coal caused a downward trend in the entire dry bulk goods segment.

[2] Based on RWI/ISL Container Throughput Index

TABLE 1: FREIGHT TRANSPORT ON THE ENTIRE RHINE IN THE FIRST HALF OF 2021, 2022, 2023 AND 2024, BY MAIN FREIGHT SEGMENTS *

	First half year 2021 in mio t.	First half year 2022 in mio t.	First half year 2023 in mio t.	First half year 2024 in mio t.	Rate of change 2024/2023 in %
Total transport	159.4	155.3	145.4	143.1	-1.5
Mineral oil products	33.2	30.7	31.7	32.8	+3.5
Chemical products	25.4	26.2	22.9	24.8	+8.3
Sand, stones, gravel, building materials	28.5	26.2	25.7	23.3	-9.4
Container	19.1	17.6	14.8	14.6	-1.3
Agribulk and foodstuff	14.6	14.8	13.3	13.6	+2.7
Iron ore	11.6	11.0	11.3	11.5	+1.8
Solid fuel (coal)	11.5	14.4	11.8	8.6	-27.0
Metals and metal products	7.8	8.3	7.5	7.5	-0.1

Sources: Destatis, Rijkswaterstaat, CCNR analysis
** The sum of the main freight segments does not correspond to total transport as only the major freight segments were chosen.*
Entire Rhine = Rhine from Rheinfelden (CH) to the North-Sea (including link to Antwerp via the Rhine-Scheldt link).

- The continuing decline in the transport of coal, sand, stones and building materials had a negative impact on the overall development of dry bulk. While coal transport still followed an upward trend in 2022, mainly due to the high coal demand during the energy crisis, this trend disappeared in 2023 and 2024. Accordingly, the significant downward trend in coal transport, which had already begun in 2013, continued. It had a strong impact on overall development of dry bulk. The main reason for the declining coal transport is the energy transition in Germany.

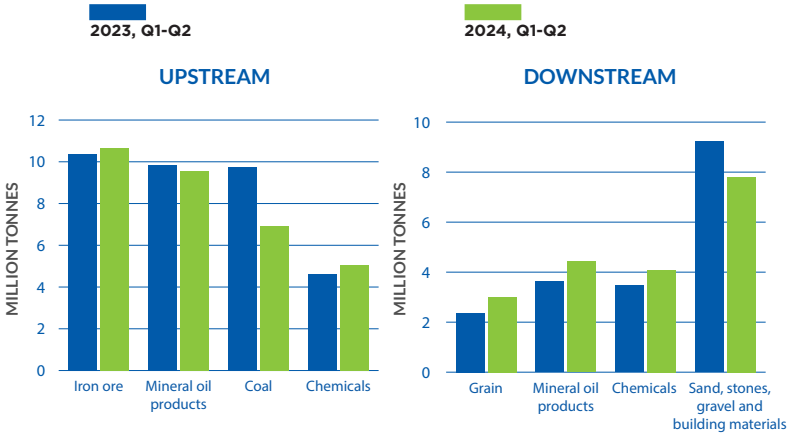
- Of relevance for the transport of sand, stones and building material is the activity in the construction sector. This sector suffered from disruptions and delays in the supply chain as well as from a shortage of labour force. Another key factor influencing construction activity and thus transport demand for sand, stones and building materials was the lower construction activity in the Netherlands due to the nitrogen crisis. Policies were taken to limit nitrogen emissions by postponing construction activity.

- In the largest goods segment, mineral oil products, demand for transport increased slightly (by +3.5%) in the first half of 2024. The fact that oil prices followed a downward trend in the first half of 2024 is likely to have played a role here. The economic conditions in this goods segment were therefore better than in most other segments. The downward trend in chemical products also came to an end due to falling prices for chemical raw materials.

- While taking into consideration only the traditional Rhine,[3] during the first semester of 2024, it can be observed that cargo transport amounted to 74.8 million tonnes, compared to 77.4 million tonnes in the first semester 2023. This represents a decrease by -3.4%.

[3] *Rhine from Rheinfelden (CH) to the German-Dutch border*

FIGURES 6 AND 7: **TRADITIONAL RHINE TRANSPORT VOLUME UPSTREAM AND DOWNSTREAM FOR MAJOR CARGO SEGMENTS ***
(IN MILLION TONNES, FOR Q1-Q2 OF 2023 AND 2024)



Sources: CCNR analysis based on Destatis – statistics for the entire Rhine according to upstream or downstream direction not available
** Traditional Rhine = Rhine from Rheinfelden (CH) to the German-Dutch border*

- The trends per goods segment for the traditional Rhine are the same as for the entire Rhine - a growing transport demand for iron ore, mineral oil products,[4] chemicals and grain, and a decreasing transport demand for coal and for sand, stones and gravel.

- When it comes to waterside goods handling in Rhine ports, German, French and Swiss Rhine ports data can be studied. For the largest Upper Rhine ports in Germany,[5] the volume of waterside cargo handling in the first six months of 2024 (Q1+Q2 2024) was 6.0% below the result of Q1+Q2 2023. For the largest French Rhine ports,[6] the result in (Q1+Q2 2024) was 0.2% higher than one year earlier. And for the Swiss Rhine ports of Basel, waterside cargo handling was 16.9% lower than one year earlier.

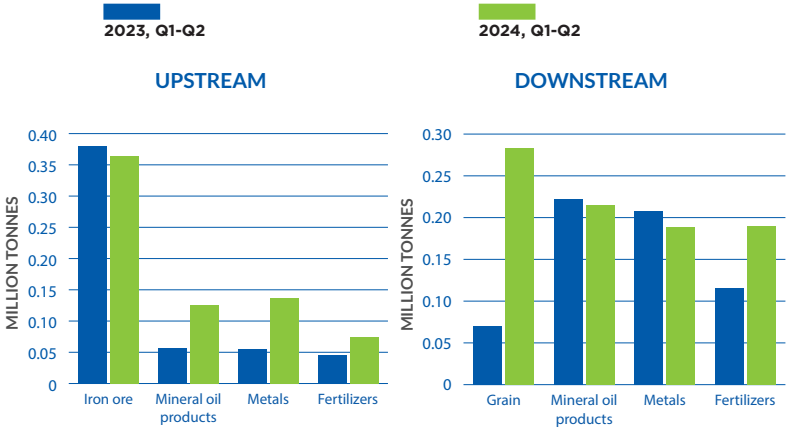
[4] The upstream transport of mineral oil products decreased, while the downstream transport increased. In total there was an increase by 4% for the entire volume of mineral oil products on the traditional Rhine
[5] The ports of Mannheim, Karlsruhe, Ludwigshafen, Kehl and Wörth
[6] The ports of Strasbourg, Mulhouse and Colmar-Neuf-Brisach

Danube

- For the Danube, two determining factors for the transport market in 2024 can be highlighted.

- First, the impact of Russia's large-scale military invasion of Ukraine, which led to the emergence of additional risks and disruptions in certain transport sectors on the Danube navigation market, low growth in steel demand and production, rising prices for energy resources and raw materials, all of which led to a partial reorientation of the market. The war also led to a partial destruction of port infrastructure in the Ukrainian Danube ports. During the first half of 2024, Russia carried out a series of attacks on Ukraine's port infrastructure on the Danube. However, the damages that were inflicted were repaired. Hence, the port infrastructure was rebuilt and is operating at the same level of efficiency as before.

FIGURES 8 AND 9: **MIDDLE DANUBE TRANSPORT VOLUME UPSTREAM AND DOWNSTREAM FOR THE MAJOR CARGO SEGMENTS** (IN MILLION TONNES, FOR Q1-Q2 2023 AND 2024)



Source: Danube Commission market observation report

- The second determining factor was hydrology. The absence of ice phenomena ensured uninterrupted navigation during the first quarter of 2024. In addition, stable water conditions required for efficient navigation throughout the six-month period of 2024 were observed. This enabled vessels to be loaded when travelling upstream on the Middle Danube at the maximum draught of 2.5 to 2.7 metres, and downstream at a draught of 2.3 to 2.4 metres.

- These favourable water conditions were helpful for enabling positive framework conditions for the transport development on the Danube. Transport on the Middle Danube (at Mohács in southern Hungary, the border point with Croatia and Serbia) increased sharply in the first half year of 2024, by +30.3%, reaching 2.109 million tonnes. Above all, this was due to a rise in the downstream transport of grain (see figure 9).

- Not only the Middle Danube, but also the Upper Danube, saw a strong increase in goods transport. For the measurement point at the German-Austrian border (lock of Jochenstein), cargo transport in the first half year 2024 reached 1.5 million tonnes, which was 36.1% above the level of the first half year 2023. For the other measurement point at the Upper Danube, the lock of Gabčíkovo at the Slovakian-Hungarian border, cargo transport reached 2.4 million tonnes, an increase of +15.3% compared to the first half year of 2023.[7] The main reason for the uptake of transport through the lock of Gabčíkovo was a rise in the upstream transport of grain, food products and fertilizers.

- For the Lower Danube, it should be mentioned that new logistics systems are being created, based on the export of Ukrainian grain via the Ukrainian, Moldavian and Romanian Danube ports. These new logistics systems are being set up as part of the Danube Solidarity Lanes EU-Ukraine initiative. They ensure primarily the export of Ukrainian grain on a large scale via Lower Danube ports, but also the import of needed goods for Ukraine.[8]

- Freight transport on the Danube-Black Sea Canal amounted to 10.2 million tonnes, a small decrease of -3.4% compared to the first half year 2023. However, this transport volume was still well above freight transport in earlier years (first half year of 2021: 8.4 million tonnes).

- As was the case for transport volumes, freight transport in Danube ports increased, particularly in the Upper and Middle Danube region: by +18.8% in German Danube ports, by +5.4% in Austrian Danube ports and by +23.9% in Hungarian Danube ports. In the Lower Danube region, a slight increase was registered in Romanian Danube ports (+0.4%) as well as in the Moldavian Danube port (+1.3%).[9]

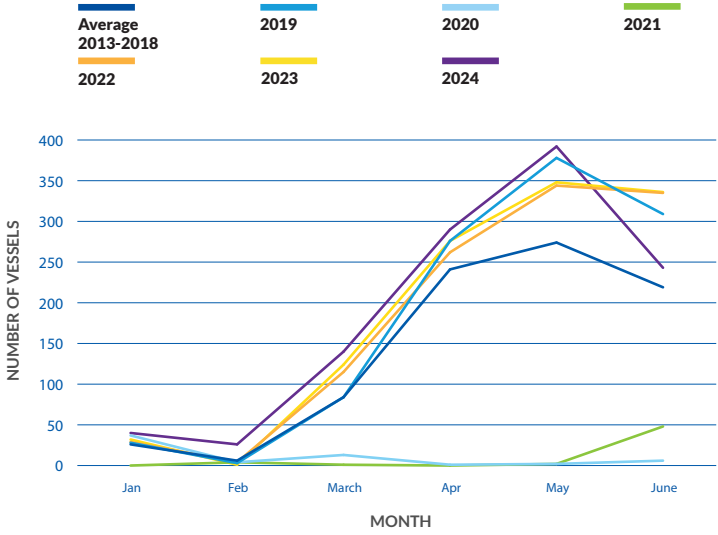
[7] *Source: Danube Commission (2024), Market Observation of Danube Navigation – First half year 2024*
[8] *Idem*
[9] *Idem*

PASSENGER TRANSPORT IN EUROPE

- Passenger transport was highly impacted by the Covid-19 crisis in 2020 and only began to recover in the second semester of 2021. This recovery process has continued ever since. In 2024, passenger transport seems to have fully recovered and is back on the positive trend it had enjoyed before the Covid-19 crisis.

- The Danube, as well as the Rhine and its Moselle, Main, Neckar and Saar affluents, are important operating areas for river cruises in Europe, alongside the Seine, Rhône and Douro. The Rhine and Danube are the most important rivers for cruising. A statistical measurement point for cruise vessels on the Rhine is the lock of Iffezheim on the Upper Rhine, which is representative for Rhine river cruises.

FIGURE 10: **NUMBER OF RIVER CRUISE VESSELS PASSING THE LOCK OF IFFEZHEIM ON THE UPPER RHINE IN THE FIRST HALF YEAR PER MONTH**

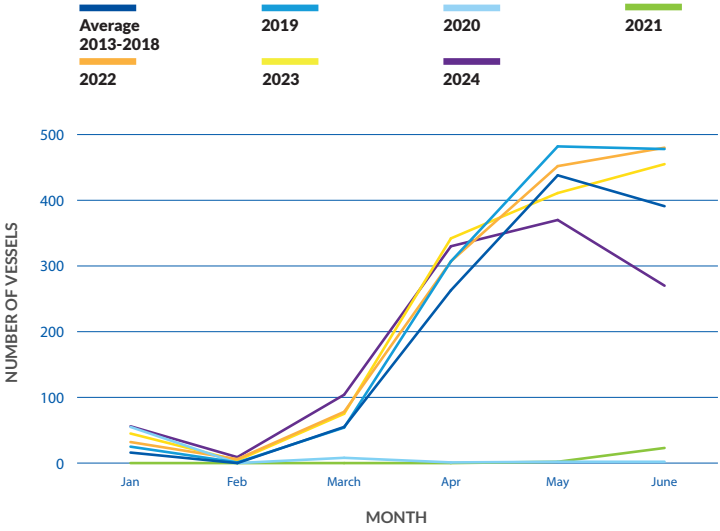


Source: German Waterways and Shipping Administration

- With 1,131 cruise vessels having passed through the lock of Iffezheim in the first half year 2024, an increase of +1.3% was observed compared to the first half year of 2023 (1,117 cruise vessels).
- The figure of the first half year 2024 was also higher than the figure for the same period in 2019 (by +4.9%). The year 2019 is representative of the pre-pandemic era.
- However, no data on the number of passengers are available for this lock, which makes it impossible to evaluate the degree of capacity utilisation of river cruise vessels that pass through it.

- For the Danube, data are available for the lock of Jochenstein near Passau. Alongside Vienna and Budapest, Passau is an important town where cruise vessels both start and finish their journey.

FIGURE 11: **NUMBER OF RIVER CRUISE VESSELS PASSING THROUGH THE LOCK OF JOCHENSTEIN NEAR PASSAU ON THE UPPER DANUBE IN THE FIRST HALF YEAR PER MONTH**



Source: German Waterways and Shipping Administration

- 1,139 river cruise vessels passed through the lock of Jochenstein between January and June 2024 (1,332 during the same period in 2023), which illustrates a decline in demand (-14.5%) for passenger transport on the Upper Danube, as illustrated in figure 11. The number of passengers amounted to 149,244, a decrease of -9.8%.

- In the first half of 2024, 149,244 passengers transited through the lock of Jochenstein, compared to 165,407 in the first half year 2023. At Gabčíkovo (border point between Slovakia and Hungary), 208,700 passengers were registered compared to the first half year 2023, when the number had been 290,900 passengers. Both of these measurement points at the Upper Danube indicate river cruises between Passau, Vienna, Bratislava and Budapest or cruises between Vienna, Bratislava and Budapest. These cruises with a duration of five, seven or eight days show higher figures than the measurement point at the Middle Danube (Mohács) which is representative of Danube cruises in the direction of the Lower Danube (with a duration of 14, 15 or 16 days). For this long voyage, only 4,508 passengers were registered in the first half year 2024.

TABLE 2: **NUMBER OF PASSENGERS WITHIN RIVER CRUISES ON THE DANUBE PER HALF YEAR**

Measurement point	Number of passengers first half year 2023	Number of passengers first half year 2024	Rate of change
Jochenstein (Upper Danube)	165,407	149,244	-9.8%
Gabčíkovo (Upper Danube)	290,900	208,700	-28.3%
Mohács (Middle Danube)	17,030	4,508	-73.5%

Sources: Danube Commission, German Waterways and Shipping Administration

- It is important to note that the utilization rate of the river cruise vessels passing through the locks is also a key indicator when assessing the recovery of the river cruise sector. For the first half-year 2024, the data for the Danube at Jochenstein point to better utilisation rates of cruise vessels compared to the same period in 2023 (75.2% in 2024 compared to 52.1% in 2023). Furthermore, it is important to highlight that capacity utilization was in the range of the pre-pandemic levels for the first time since the pandemic (first half year 2019: 76.0%).

TABLE 3: CAPACITY UTILIZATION* OF RIVER CRUISE VESSELS ON THE UPPER DANUBE**

First half year	Capacity utilization
2019	76.0%
2020	28.0%
2021	33.8%
2022	61.0%
2023	52.1%
2024	75.2%

Sources: German Waterways and Shipping Administration and CCNR analysis

** Number of passengers divided by capacity (passenger places) of cruise vessels passing through the lock*
*** At the lock of Jochenstein (German-Austrian border)*

02

OPERATING CONDITIONS

- **Waterside goods handling in main Upper Rhine ports followed an upward trend in the first six months of 2024, after a low point in late 2023. This upward movement continued also in the third quarter of 2024, and points to a recovery of Rhine transport in the course of 2024.**
- **Freight rates for the transport of all types of cargo experienced a downward trend in the first half year of 2024. This was particularly visible in the case of dry bulk transport and to a lesser extent for liquid bulk and container transport.**
- **Average fuel prices in inland navigation decreased during the first half of 2024. For the rest of 2024 and for 2025, a further downward trend of fuel and oil prices is foreseen. The downward trend of oil prices is explained by an expected appreciation of the US dollar compared to the euro, which makes crude oil purchases more expensive for European consumers, thereby lowering the demand and the price for oil.**

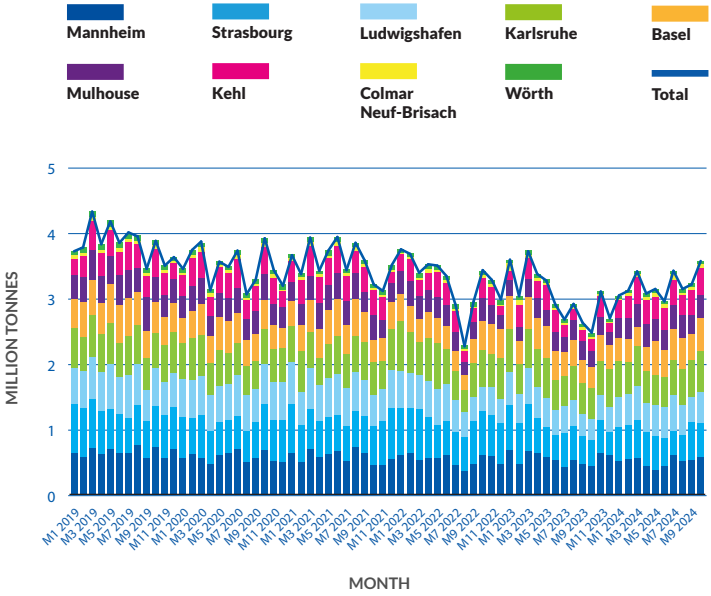
WATERSIDE GOODS HANDLING IN MAIN UPPER RHINE PORTS

- Monthly data for waterside goods handling in major Upper Rhine ports are representative of the transport on the Upper Rhine. They show that cargo handling in Upper Rhine ports and related transport demand on the Upper Rhine saw a steep downward trend between March 2023 and October 2023, followed by an upward trend from November 2023 onwards. In the first ten months of 2024, this upward trend continued.

- The reason for this upward trend is a general recovery of the economic situation and of global trade. This can also be seen in the development of the index for container handling in the North Range seaports.[10] This North Range Index gives an early indication of economic development in the northern eurozone and Germany. During the first ten months of 2024, this index rose sharply, indicating a recovery of economic activity and trade.

[10] North Range ports = ports of Rotterdam, Antwerp, Le Havre, Zeebrugge, Bremen/ Bremerhaven and Hamburg. Source: ISL (2025), RWI/ISL Container Throughput Index, https://www.isl.org/en/services/rwiisl-container-throughput-input-index-1124 (last consulted on 14 January 2025)

FIGURE 1: **MONTHLY WATERSIDE GOODS HANDLING IN MAIN UPPER RHINE PORTS** (IN MILLION TONNES)

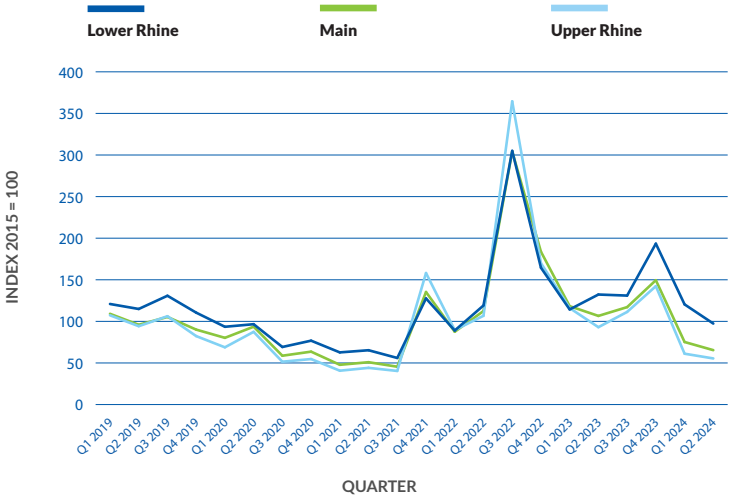


Sources: CCNR analysis based on data provided by the ports

FREIGHT RATES IN THE RHINE REGION[11]

- The first freight rate index under study is a spot market index for liquid cargo which is based on surveys of shipping companies involved in the transport of liquid goods between the ARA region and the Rhine region (hinterland in Germany, France and Switzerland). This freight rate index for liquid cargo experienced a high degree of volatility between mid-2022 and mid-2023. The main reason was the low water period in summer 2022. In the first half of 2024, freight rates normalised on an average level. It can be observed that they were higher than before the low water periods of 2021 and 2022.

FIGURE 2: **SPOT MARKET FREIGHT RATE EVOLUTION FOR GASOIL FROM THE ARA REGION TO RHINE DESTINATIONS** (INDEX 2015 = 100) *

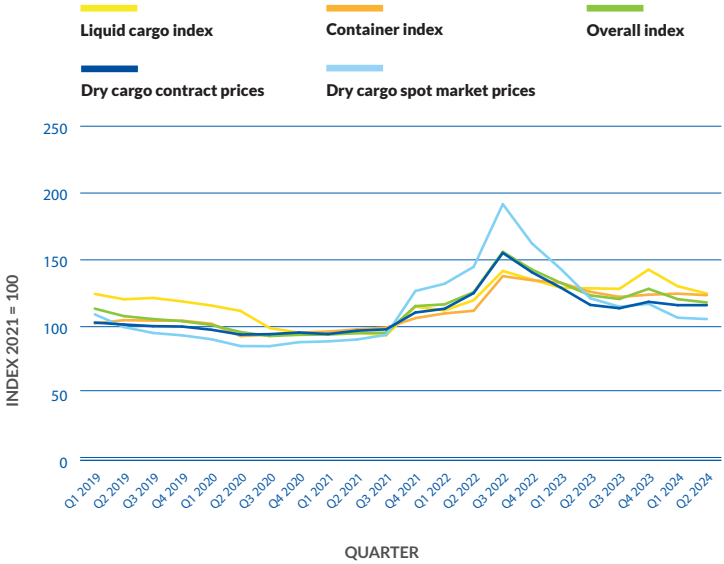


Sources: CCNR calculation based on Insights Global
** Insights Global collects spot market freight rates (in euro per tonne) for ARA-Rhine trade of liquid bulk. The CCNR transforms these values into an index with base year 2015. Lower Rhine: Duisburg, Cologne. Upper Rhine: Karlsruhe, Basel. Main: Frankfurt/Main*

[11] *For the Danube region, freight rate data were not available.*

- A second freight rate index is based on data collected by the statistical office of the Netherlands. Statistics Netherlands (CBS) collects freight rate data from a panel of Dutch IWT companies. These data are studied twice quarterly and include fuel and low water surcharges.

FIGURE 3: **DEVELOPMENT OF FREIGHT RATES FOR INLAND SHIPPING COMPANIES IN THE NETHERLANDS BY MARKET SEGMENT** (INDEX 2021 = 100, QUARTERLY DATA)



Source: Centraal Bureau voor de Statistiek (Binnenvaartdiensten; prijsindex), Table 85817 2021=100

- The dry bulk spot market index rose steeply in summer 2022 but then decreased continuously in the following quarters. The normalisation of water levels, the end of the boom in coal transport and the general economic recession can explain this development.

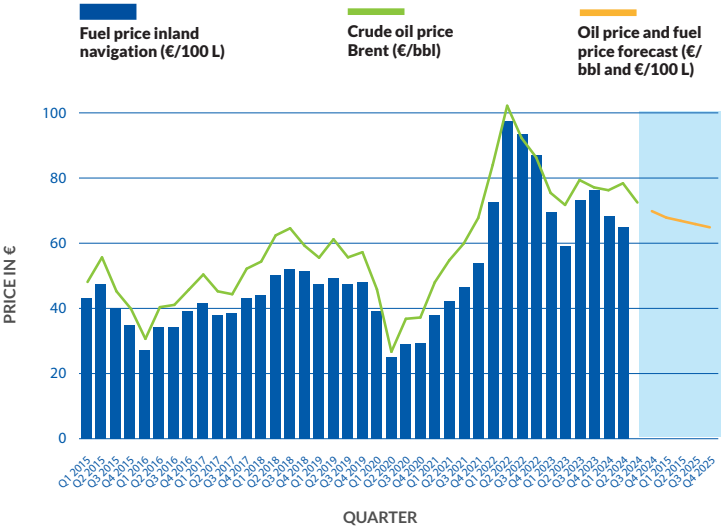
- In the first half year of 2024, all components of the CBS index followed a slight downward trend. This trend was most obvious for dry bulk spot market freight rates. But it was even visible for liquid bulk, despite the more positive development of transport demand for liquid bulk.

FUEL COST EVOLUTION

- In the first half of 2024, fuel prices followed a downward trend, while oil prices followed a horizontal trend. Apart from these diffferent trends, the comparison of fuel prices in inland waterway transport (gas oil prices) with oil prices shows a rather close correlation, which serves as the basis for a forecast of fuel prices, using oil price forecasts.

- The historical data for fuel prices in inland waterway transport of western Europe were taken from the market research company Insights Global in the Netherlands. In the following graph, the curves for the oil price and for the fuel or gasoil price are roughly at the same level, but it should be noted that the oil price is given in euro per barrel (= 159 litres), while the fuel prices are given in euro per 100 litres of gasoil.

FIGURE 4: **AVERAGE FUEL PRICES IN IWT AND BRENT CRUDE OIL PRICES INCLUDING FORECAST**



Sources: Insights Global (fuel price based on gasoil bunker prices observed on a daily basis in northwest Europe), US Energy Information Administration (oil price), Federal Reserve Economic Data (historical exchange rate US dollar/euro), CCNR analysis
1 barrel (bbl) = 159 litres

- The outlook for fuel prices in 2025 is based on the oil price outlook in conjunction with assumptions regarding the exchange rate between the euro and the US dollar. For the exchange rate, a value of 1.00 US dollar per euro is assumed in 2025. This assumption is based on an expected appreciation trend of the US dollar, due to higher economic growth in the US than in the euro area. For the oil price, a decrease is predicted for the year 2025. The reasoning behind this prediction is described below.

- An appreciation of the US dollar makes crude oil imports to Europe more expensive. This leads to a lower demand for crude oil and a related drop in the oil price.[12] It is from this viewpoint that a decreasing oil price in 2025 is expected.[13] Another reason for a decreasing oil price is the development of the supply side of the oil market. On the supply side, there has been a sharp increase in oil production from non-OPEC countries (primarily Canada, the USA and Guyana).

- Based on these assumptions and forecasts, fuel prices in inland shipping are currently expected to be around 67 € /100 litres gasoil in 2025. The conflicts in the Middle East pose a risk to the oil price trend. An escalation of these geopolitical conflicts would lead to an increase in oil prices and thus fuel prices.

[12] Source: https://heizoel-bellersheim.de/aktuelles/2024/November/12/oel-und-heizoelpreise-aktuell/ (last consulted on 17 February 2025)
[13] A decreasing oil price in 2025 (and in 2026) is also foreseen in the World Economic Outlook Update (January 2025) of the International Monetary Fund (IMF). See: https://www.imf.org/en/Publications/WEO/Issues/2025/01/17/world-economic-outlook-update-january-2025 (last consulted on 17 February 2025)

03

FOCUS ON BULGARIA

- **The focus of this chapter is on Bulgaria, the second largest Danube country behind Romania. Within its waterside cargo volumes, agricultural products enjoy the highest share. Together with iron ore, they represent almost half of all transport demand. In the first half year of 2024, transport demand saw an upward trend in Bulgaria.**

- **An important characteristic of inland waterway transport in Bulgaria is the high share of transit traffic (74% on average between 2014 and 2023) which is explained by the trading routes for agricultural products and iron ore on the Danube.**

- **The three largest inland ports in Bulgaria are Ruse, Silistra and Lom. The Bulgarian Ports Infrastructure Company (BPI Co.), in its capacity as the managing body of Bulgaria's public transport ports, has been actively investing in the modernisation and maintenance of port infrastructure over recent years.**

THE INLAND WATERWAY NETWORK IN BULGARIA

Sources: Yearbook statistics of the Danube Commission 2021-2022, Executive Agency "Maritime Administration" (EAMA)
** The ports on the map are the most important ports in Bulgaria, as mentioned in the Danube Commission yearbook of statistics.*
For Lom, Oriahovo and Svishchov, data refer to 2021 (source: Yearbook statistics). For Silistra, Vidin and Ruse, data refer to 2023 (source: EAMA).
The most important inland port in Bulgaria is the port of Ruse, with 1.6 million tonnes of transshiped goods in 2023.

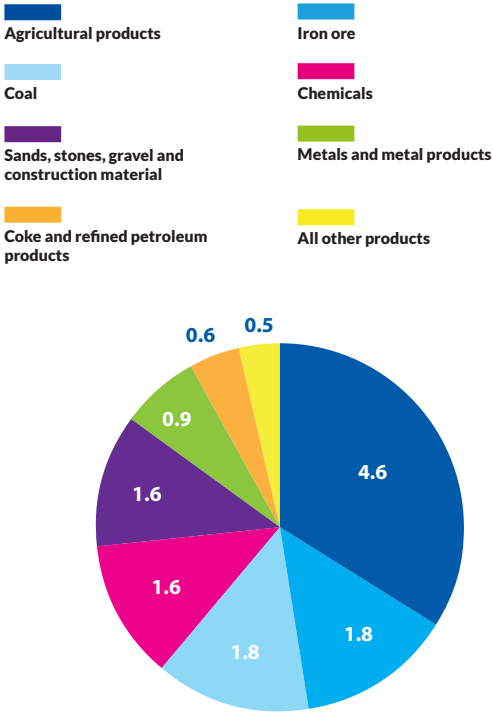
- The Bulgarian Ports Infrastructure Company (BPI Co.), in its capacity as the managing body of Bulgaria's public transport ports, has been actively investing in the modernisation and maintenance of port infrastructure over recent years. These efforts focus on improving operational efficiency, enhancing safety and ensuring sustainable growth for the Bulgarian ports along the Danube River.

- Looking ahead to the next 2-3 years, BPI Co. has outlined several major projects aimed at further developing port infrastructure and supporting economic growth. A significant planned investment is the building of a multimodal transport platform in the Port of Ruse. This project will significantly enhance cargo handling efficiency by improving connections between road, rail and river transport networks. It is expected to increase regional trade, reduce transit times and stimulate sustainable economic development.

- BPI Co. is also prioritising environmental sustainability with the building of shore power supply systems for ships in the ports of Ruse, Vidin and Lom. This initiative will allow docked vessels to connect to onshore electricity instead of using the engines, thereby reducing fuel consumption and carbon emissions.

INLAND WATERWAY TRANSPORT ACCORDING TO GOODS SEGMENTS IN BULGARIA

FIGURE 1: **YEARLY TRANSPORT DEMAND ON INLAND WATERWAYS IN BULGARIA ACCORDING TO GOODS SEGMENTS** (IN MILLION TONNES) *



Source: Eurostat [iww_go_atygo]
** Figures for the year 2023*

- In the year 2023, transport on inland waterways in Bulgaria amounted to 13.4 million tonnes. The main navigable river in Bulgaria is the Danube, which represents also the border with Romania. In Bulgarian inland waterway transport, agricultural products are the most important type of goods, with an average share of 40.0% in the time period from 2014 until 2023. Iron ores are the second most important goods with an average share of 13.1%. Coal, chemicals as well as sand, stones, gravel and construction material are ranked next. The high importance of agricultural products mirrors the importance of inland waterway grain transport in Romania, a neighbouring country of Bulgaria. Around three quarters of inland waterway transport in Bulgaria is represented by transit traffic. This can explain why the total cargo transshiped in Bulgarian ports (excluding ferry transport), which amounted to 3.4 million tonnes in 2023, is lower than total transport on Bulgarian waterways. Hence, the goods are transported between the Upper and Middle Danube on the one hand, and the Lower Danube on the other hand, hereby transiting through Bulgaria.

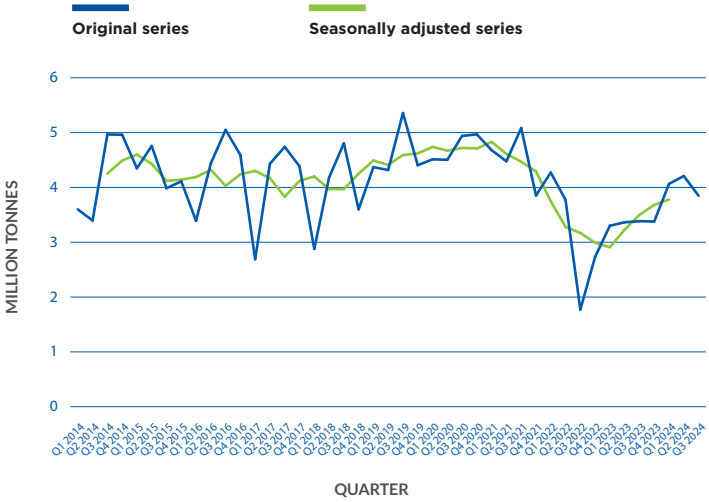
QUARTERLY DEVELOPMENT OF GOODS TRANSPORT IN BULGARIA

- Quarterly figures of transport demand in Bulgarian inland waterway transport show a recovery after a serious drop in Q3 2022. This decrease in Q3 2022 can largely be explained by bad harvest results in the Danube region in 2022. Indeed, in Danube countries - without Ukraine - the harvest result of the year 2022 was the lowest in the time period between 2014 and 2023: the harvest volume of cereals in 2022 amounted to 58.5 million tonnes, compared to an average volume of 72.1 million tonnes in the time period 2014-2023 (difference of 18.9%).[14] Another reason for the bad results in Q3 2022 is the low water period in summer 2022. Even if water levels are less critical in the Lower Danube region, the cargo transport on the Lower Danube is impacted by low water levels on the Upper and Middle Danube due to the large volume of cargo transported downstream from the Middle to the Lower Danube.

[14] Source: Eurostat [apro_cpsh1], Crop production in EU standard humidity - Harvested production in EU standard humidity for cereals for the production of grain (including seeds)

- As the curve for the quarterly transport demand shows, a rather high degree of seasonality is present in the quarterly data for Bulgaria. This seasonality is due to the high share of agricultural products in Bulgarian IWT. The original series shows a peak in almost every third quarter of a year. The third quarter is the time period when grain is harvested and transported. The seasonally adjusted series smoothes out the peaks, thereby showing the trend and business cycle components of the transport demand series.

FIGURE 2: **QUARTERLY TRANSPORT DEMAND ON INLAND WATERWAYS IN BULGARIA** (IN MILLION TONNES)**, Q1 2014 TO Q2 2024**



Sources: Eurostat [iww_go_qnave], CCNR analysis

GOODS TRANSPORT ACCORDING TO TYPES OF TRANSPORT IN BULGARIA AND IMPORTANT CHARACTERISTICS OF DANUBE SHIPPING

- With an average share of 74% in the time period between 2014 and 2023, and the same share in 2023, transit traffic represents by far the most important type of transport in Bulgaria. Other types of transport, namely international (exports and imports) and national transport, are relatively low. Regarding the difference between transport in Bulgaria and in Romania, the Danube serves as a transit route for Bulgaria, while it serves as an import and export route for Romania.

- Within transit transport, the transport of agricultural products had a share of 41.0% in 2023. For the time period 2014-2023, the average share of agricultural products within transit traffic was 42.7%. Iron ore follows behind agricultural products with a share of 18.0%. The average share in the period between 2014 and 2023 was 17.1%, followed by chemicals (14.5% in 2023 and 11.8% in 2014-2023), and coal (9.0% in 2023; 6.8% in 2014-2023).[15]

- Another way to analyse the data is to calculate the share of transit traffic within agricultural products and iron ore transport. In 2023, the share of transit traffic within all agricultural products transported was 89.4% (80.9% in the time period 2014-2023). For iron ore transport, the share of transit transport is nearly 100% (99.9% in 2023 and 98.8% in the time period 2014 to 2023).

[15] *Sources: CCNR analysis based on data from Eurostat [iww_go_atygo]*

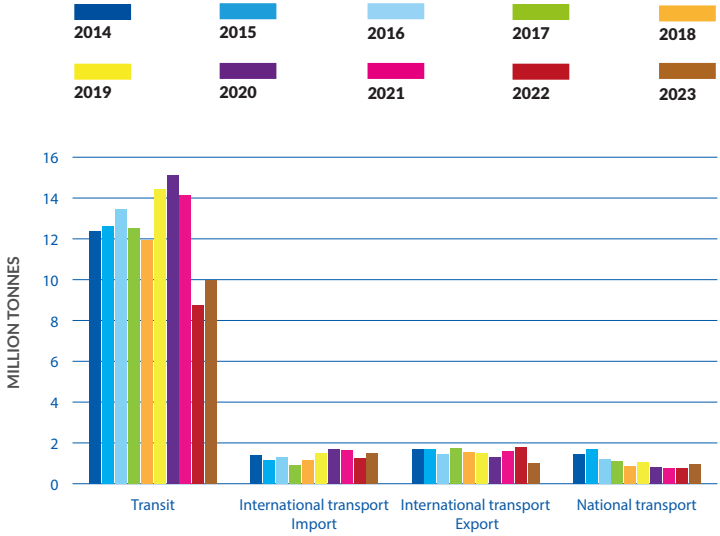
- Together with qualitative information on Danube shipping, the results of this data analysis show two important characteristics of Bulgarian inland waterway transport and of goods transport on the Danube in general:

  1. The downstream transit transport of agricultural products from Middle Danube countries (Croatia, Hungary, Serbia) towards the seaports in Romania (in particular to Constanța), via the Bulgarian stretch of the Danube, plays an important role for Bulgarian IWT and for Danube shipping in general.[16]

  2. The upstream transit transport of iron ore on the Danube to Middle and Upper Danube countries (Serbia, Hungary and Austria), via the Bulgarian stretch of the Danube plays an important role for Bulgarian IWT and for Danube shipping in general.[17]

[16] This transport is transit transport from the viewpoint of Bulgaria. For Romania, as the end destination, it can be regarded as import. For the countries where the agricultural products are loaded (Croatia, Hungary, Serbia), the transport is export.
[17] See also previous footnote. For Bulgaria, this transport is transit traffic, while it is import from the viewpoint of the countries receiving the iron ore (mainly Hungary, Serbia and Austria). For countries where the iron ore is loaded (mainly Romania), the transport is export.

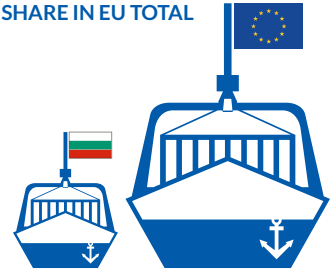
FIGURE 3: **INLAND WATERWAY TRANSPORT IN BULGARIA ACCORDING TO TYPES OF TRANSPORT** (IN MILLION TONNES)



Source: Eurostat [iww_go_atygo]

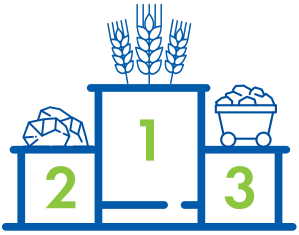
FACT SHEET IWT IN BULGARIA – ANNUAL FIGURES

ABSOLUTE VALUE FOR BULGARIA VS SHARE IN EU TOTAL



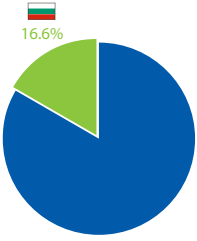
TRANSPORT PERFORMANCE TOTAL
4,253 million TKM
SHARE IN EU TOTAL **3.7%**

VOLUME OF TOTAL GOODS TRANSPORT#
13.43 million tonnes



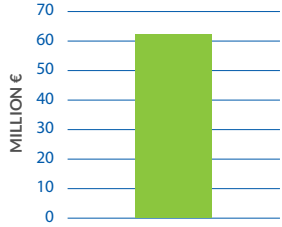
MAIN GOODS SEGMENTS IN IWT

1. Agricultural products
   1,301 million TKM SHARE IN EU TOTAL **8.7%**
2. Metal ores and other mining and quarrying products
   974 million TKM SHARE IN EU TOTAL **3.5%**
3. Coal and lignite, crude petroleum and natural gas
   734 million TKM SHARE IN EU TOTAL **8.7%**



MODAL SPLIT SHARE OF IWT WITHIN TOTAL LAND-BASED TRANSPORT PERFORMANCE

IWT



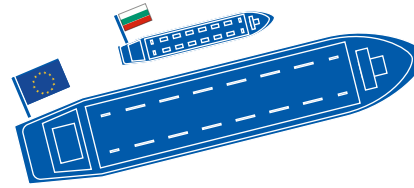
LEVEL OF IWT TURNOVER

SHARE IN EU TOTAL **> 0.6%** > 62.2 million €
SHARE IN EU TOTAL **0.8%** **Freight transport:** 62.2 million €
SHARE IN EU TOTAL **N.D.** **Passenger transport:** n.d.

PERSONS EMPLOYED IN IWT	SHARE IN EU TOTAL		NUMBER OF IWT COMPANIES
> 629	**> 1.4%**	**0.4%**	38
Freight transport: 629	**2.9%**	**0.7%**	Freight transport: 35
Passenger transport: n.d.	**N.D.**	**0.1%**	Passenger transport: 3

FLEET

Self-propelled barges and dumb barges
142 SHARE IN EU TOTAL **1.1%**
Push and tugs
25 SHARE IN EU TOTAL **1.2%**



Notes on the factsheet

#) in contrast with transport performance, a country-specific share cannot be calculated for transport volume. n.d. = no data.

The modal split share is defined as the percentage of inland waterway freight transport performance (in TKM) within total land-based transport performance. Land-based freight transport modes include road, rail and inland waterways. The road freight activity is reported according to the territoriality principle, where international road freight transport data are redistributed according to the national territories of where the transport actually takes place. These principles are implemented in the Eurostat series [tran_hv_frmod].

Sources: CCNR analysis based on Eurostat data [iww_go_atygo], [tran_hv_frmod], [sbs_sc_ovw], [iww_eq_loadcap], [iww_eq_age]
Data for transport demand, persons employed in IWT, fleet data, number of IWT freight transport companies and IWT turnover in freight transport are for 2023; modal split data, number of IWT passenger transport companies are for 2022.

GLOSSARY

Q1 20XX: first quarter

Q2 20XX: second quarter

Q3 20XX: third quarter

ARA REGION: Amsterdam-Rotterdam-Antwerp

BARREL: 1 barrel (bbl) = 159 litres. This unit is used for the oil price which is given in euro per barrel.

BPI CO.: Bulgarian Ports Infrastructure Company

CAPACITY UTILIZATION IN PASSENGER TRANSPORT: the ratio of the number of passengers divided by passenger capacity of vessels. The analysis of the capacity utilization of a fleet enables a thorough overview of how the supply/demand relationship evolves throughout the years. It is measured on the basis of the utilization rate of river cruise vessels passing through the locks, which is a key indicator in assessing the recovery of the river cruise sector.

DANUBE COUNTRIES: Austria, Bulgaria, Croatia, Hungary, Moldova, Romania, Serbia, Slovakia, Ukraine

ENTIRE RHINE: Rhine from Rheinfelden (Switzerland) to the North Sea

EU: European Union

EUROPE: European inland navigation in this report includes four countries that do not belong to the European Union - Moldova, Serbia, Switzerland and Ukraine.

EUROZONE: a currency union of 20 Member States of the European Union (EU) that have adopted the euro (€) as their primary currency and sole legal tender and have thus fully implemented the economic and monetary union policies.

FREIGHT RATE: price at which a cargo is delivered from one point to another.

IWT: inland waterways transport

IWW: inland waterways

LOWER DANUBE: stretch of the Danube from the Iron Gates on the border between Serbia and Romania to Sulina on the Black Sea in Romania

LOWER RHINE: section of the Rhine which flows from Bonn, Germany, to the North Sea at Hoek van Holland, the Netherlands.

MIDDLE DANUBE: stretch of the Danube from Devín Gate on the border between Austria and Slovakia to the Iron Gates

MODAL SPLIT SHARE: the percentage of inland waterway freight transport performance (in TKM) within total land-based transport performance. Land-based freight transport modes include road, rail and inland waterways, if not specified otherwise.

MONETARY POLICY: concerns the decisions taken by central banks to influence the cost and availability of money in an economy. In the euro area, the European Central Bank's (ECB) most important decision in this respect normally relates to the key interest rates. In the case of the ECB, the objective of monetary policy is to keep prices stable, i.e. to keep inflation at 2% over the medium term.

NORTH RANGE: it designates the concentration of the main European ports (Rotterdam, Antwerp, Le Havre, Zeebrugge, Bremen/Bremerhaven and Hamburg) lined up along the southern coast of the North Sea/ English Channel, serving as the maritime frontage of a vast territory centered on consumers in western Europe.

OPEC: Organisation of the Petroleum Exporting Countries

SOLIDARITY LANES: in the context of the Russian war of aggression against Ukraine, the European Commission set out an action plan to establish 'Solidarity Lanes' to ensure Ukraine can export grain, but also import the goods it needs, from humanitarian aid to animal feed and fertilisers.

TKM: Tonne-Kilometre (unit for transport performance which represents the volume of goods transported multiplied by transport distance)

TRADITIONAL RHINE: section of the Rhine from Basel to the border between Germany and the Netherlands

TURNOVER: sales volume net of sales taxes

UPPER DANUBE: section of the navigable Danube from Kelheim, Germany, to Devín Gate, on the border between Austria and Slovakia

UPPER RHINE: section of the navigable Rhine in the Upper Rhine Plain between Basel, Switzerland, and Bingen, Germany

NATIONAL STATISTICAL OFFICES

Acronym	Original Name	English Name	Country
CBS	Centraal Bureau voor de Statistiek	Central Statistical Office	The Netherlands
Destatis	Statistisches Bundesamt	Federal Statistical Office of Germany	Germany
INS	Institut național de statistică	Romanian Institute of Statistics	Romania

OTHER SOURCES

Original Name	English Name	Country
Държавно предприятие Пристанищна инфраструктура	Bulgarian Ports Infrastructure Company (BPICo)	Bulgaria
Изпълнителна агенция "морска администрация"	Executive Agency "Maritime Administration" (EAMA)	Bulgaria
CCNR/ZKR/CCR	Central Commission for the Navigation of the Rhine (CCNR)	Europe
Danube Commission	Danube Commission	Europe
De Vlaamse Waterweg	Waterways in Flanders	Belgium
Eurostat	Eurostat	EU
Federal Reserve Economic Data	Federal Reserve Economic Data	USA
Insights Global	Insights Global	The Netherlands
Organisation for Economic Co-operation and Development (OECD)	Organisation for Economic Co-operation and Development (OECD)	World
Ports mentioned in the report	Ports mentioned in the report	Europe
Rijkswaterstaat	Ministry of Infrastructure and Water Management	The Netherlands
SPW Service Public de Wallonie	Public Service of Wallonia	Belgium
US Energy Information Administration	US Energy Information Administration	USA
Voies navigables de France (VNF)	Navigable Waterways of France (VNF)	France
Wasserstraßen-und Schifffahrts-verwaltung des Bundes (WSV)	German Waterways and Shipping Administration	Germany

BOOKS, JOURNAL ARTICLES AND STUDIES

Original Name	Country
Bellersheim Energie: https://heizoel-bellersheim.de/aktuelles/2024/November/12/oel-und-heizoelpreise-aktuell/ (last consulted on 17 February 2025)	Germany
Danube Commission (2024), Market Observation of Danube Navigation – First half year 2024 and Yearbook statistics 2021-2022	Europe
Die Presse (2024), Trump-Sieg: US-Dollar reagiert mit größtem Kurssprung seit 2023, 6 November 2024	Austria
International Monetary Fund, World economic outlook, Global growth: divergent and uncertain (January 2025), available at: https://www.imf.org/en/Publications/WEO/Issues/2025/01/17/world-economic-outlook-update-january-2025	World
RWI/ISL Container Throughput Index. Available at: https://www.isl.org/en/services/rwiisl-container-throughput-input-index-1124	Germany

METHODOLOGY FOR THE ENTIRE RHINE (including link to Antwerp via the Rhine-Scheldt link)

In earlier reports, traffic on the Rhine was analysed on the basis of data for the "traditional Rhine", meaning the traffic between Basel and the German-Dutch border, provided by the German statistical institute Destatis. This concept did not take into account the transport of goods on the Dutch Rhine and in the Dutch Rhine Delta. As the Dutch Rhine forms a delta, the expressions "Dutch Rhine" and "Dutch Rhine Delta" are used synonymously.

As a result of cooperation with Rijkswaterstaat, it has now become possible to include freight transport in the Dutch Rhine Delta, and therefore to report on transport volumes on the entire Rhine from Basel to the North Sea. To this end, it was first necessary to define the geographical scope of the data collection and the waterways in the Netherlands that form part of the Rhine. The waterways considered were the following: Waal, Hollands Diep, Boven-Merwede, Oude Maas, Dordtsche Kil, Beneden-Merwede, Lek, Nieuwe Maas, Noord, Nieuwe Merwede, Nieuwe Waterweg, Amsterdam-Rijnkanaal, Rhine-Scheldt link, Hartelkanaal, IJssel.

The link between the Rhine delta and the port of Antwerp was also taken into account (Rhine-Scheldt link), which contributes in particular to the high volumes of petroleum products and chemicals observed on the Dutch Rhine.

To be able to represent transport activity on the Rhine as a whole, it was also necessary to develop the appropriate methodology, especially in order to avoid any risk of double counting of volumes transported on the different Rhine stretches. This risk arose above all from the fact that the volumes transported on the traditional Rhine came largely from Dutch and Belgian seaports. It was therefore necessary to avoid double counting of volumes recorded in the Dutch Rhine Delta (Rijkswaterstaat data) which are already accounted for within the traditional Rhine (Destatis data). Thus, volumes already counted as part of traditional Rhine traffic were excluded from the Dutch Rhine data (Rijkswaterstaat data). This was done by excluding all the volumes to and from Germany and Switzerland.

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This notice does not constitute a formal commitment on the part of those organisations referred to in the report.

The Market Insight of European inland navigation is a common project of the CCNR and the European Commission

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