



DANUBE COMMISSION

Expert Group for Personnel issues in navigation on the Danube

IWT Labour Statistics of Europe with a special focus on the Danube (extended and corrected post workshop version)

Domokos Xavér Iványi

Expert on Economics and Statistics of the Danube Commission

Budapest, 29th of January, 2026

An overview on the European IWT labour market until 2024



- Inland Waterway Transport (IWT) employed **around 42,000 people in Europe (2020)**, while **around 45,500 people in 2024**
- **2024: 47%** of them works in **passenger transport**, **53% in freight transport** (in 2020 the same distribution was 44%-56%) → though data availability and aggregation/comparability remain limited due to fragmented national statistics collected sometimes under partly different definitions/methodologies
- Employment is concentrated in a few countries:
 - **Passenger** transport: DE, FR, NL + CH (not in rank order)
 - **Freight** transport: DE, FR, NL + RO (not in rank order)
- **Passenger transport employment grew until 2018** (2011: 17,000 p. → 2018: 24,000 p.), then dropped sharply in 2020 due to COVID to reach but not overcome again its 2018 value in 2024
- **Freight transport employment remained relatively stable**, even during the pandemic with a mild decreasing trend (2010: 24,000 p. → 2024: 21,000 p.)
- Structural challenges across Europe:
 - General **labour shortages** and shortage of qualified boatmasters
 - **Ageing workforce**
 - Problems with **implementing 2017 EU directives** for education/licenses

The Danube labour market

- The Danube is Europe's **second most important** IW, it connects **Western, Central and South-Eastern Europe**
- The Danube labour market is shaped by:
 - **Lower wage levels compared to Western Europe: westward migration** for better salary → intensification of staff shortages
 - More intense **geopolitical** and **climate**-related shocks
 - Mostly previously **state owned companies** → higher share of larger companies + majority is employee and only a small number is self-employed
- Employment along the Danube is a bit even **more freight-oriented** than **passenger-oriented** (compared to Western Europe IWT)
- **Demanding working conditions:** long working hours, extended periods away from home
- Long term **risk for labour supply** and company continuity
 - **Ageing workforce:** younger generations prefer land-based jobs and value predictable working hours and work-life balance
 - **Competition** with the maritime sector (higher wages)
 - The sector requires increasingly **specialized skills:** digitalization, alternative fuels, stricter safety standards though **training capacity is often limited** in the Danube region



Source: Thematic Report of the CCNR (2024), Secretariat of the Danube Commission

Summary Statistics for 2024

	Personnel* data on inland waterway transport industry of different Danube countries (in 2024, provisional data)			
Country/ Indicator	Number of enterprises (passenger transport)	Number of persons employed (passenger transport)	Number of enterprises (freight transport)	Number of persons employed (freight transport)
Germany**	374	5142	479	5275
Austria	89	648	12	48
Slovakia	51	99	11	287
Hungary	128	764	25	90
Croatia**	35	58	3	28
Serbia**	16***	64***	71	932
Bulgaria	3***	NA	34	679
Romania	252	653	98	1,821
Total (EU27)	5,000	24,300	5,340	21,278

Source: Enterprise statistics by size class and NACE Rev. 2 activity [sbs_sc_oww]

*Number of persons employed includes the self-employed, unpaid family workers, partners, and also includes persons supplied by other enterprises (e.g., agency workers working for the unit but employed by the agency).

**The figure cannot distinguish between Danube and non-Danube navigation.

***Only 2022 data is available.

Summary Statistics for 2024 – some analytical thoughts



- **Germany dominates inland waterway employment (mostly thanks to Rhine navigation)** among the listed Danube countries, with over **5,000 persons employed in both passenger and freight transport**, and the highest number of enterprises in both segments
- **Passenger transport employment is concentrated in a few countries**, notably Germany, Austria, Hungary, and Romania, while other countries show very small passenger-sector workforce
- **Freight transport employment is even more unevenly distributed**, with Romania and Serbia employing relatively large numbers of workers
- **Data availability:** passenger transport data are missing from 2022 (NA) for Serbia and Bulgaria, and all data are missing for Ukraine and Moldova, highlighting limitations of comprehensibility
- **Though at the EU27 level, employment in passenger transport slightly exceeds freight transport, the number of freight enterprises is higher**, suggesting smaller average firm size in freight navigation on aggregated level than in passenger navigation

Source: Secretariat of the Danube Commission

Main Sources for IWT Labour Statistics in the Danube Region

- **Definition (terminology):** what do I measure? vs. **methodology:** how do I measure it?
- **Eurostat – Structural Business Statistics (SBS)**
 - NACE 50.3/.4 → passenger and freight transport: only the 4 variables are available that were presented on slide 4 (number of personnel/companies in passenger/freight industry)
 - Strengths: harmonized EU definitions for the 4 variables
 - Limits: though the harmonized definitions, data collection methodologies still sometimes differ between countries + some workers of the industry are excluded from the definition + missing data for several countries/years
- **National Statistical Offices**
 - Can be used when Eurostat data are missing or incomplete but its not guaranteed either that the country itself would publish detailed information on the issue
 - Definitions (for any other than the 4 variables mentioned above e.g. company size, gender, salary etc.) and methodology (for all variables) sometimes differ between countries → limited comparability
- **Administrative and sectoral sources**
 - In many cases these are the sources of the National Statistical Offices
 - These institutions are waterway administrations, ministries of transport and labour, social security institutions, training and certification bodies
 - Discrepancies in definitions and methodologies sometimes can also be found not only between different countries but also within one country → between its different institutions

→ these 3 sources were collected and presented by CCNR in their referred thematic report on a high level (published in 2024, with 2022 data being the most recent portrayed in it)



Labour Statistics of Danube Countries - pt. 1.

- No data on Moldova and Ukraine
- Germany
 - Around five times larger number of persons employed than in Romania but the majority are Rhine and not Danube workers → Statistics are not separated by waterway systems though the Bavarian office may have some additional information explicitly on the Danube region
 - *Sources: Statistisches Bundesamt+Bayerisches Landesamt für Statistik+Bundesagentur für Arbeit*
- Austria
 - Vast majority (650 out of 700 p.) works in passenger transport (biggest passenger-freight employment gap among Danube countries)
 - Upward trend of passenger transport (2008: 250; 2024: 650), decreasing trend in freight transport (2008: 160; 2016: 50, then constant since 2016)
 - Gender, age and nationality are also available variables
 - *Sources: Austrian Public Employment Service, Bundesanstalt Statistik Österreich*



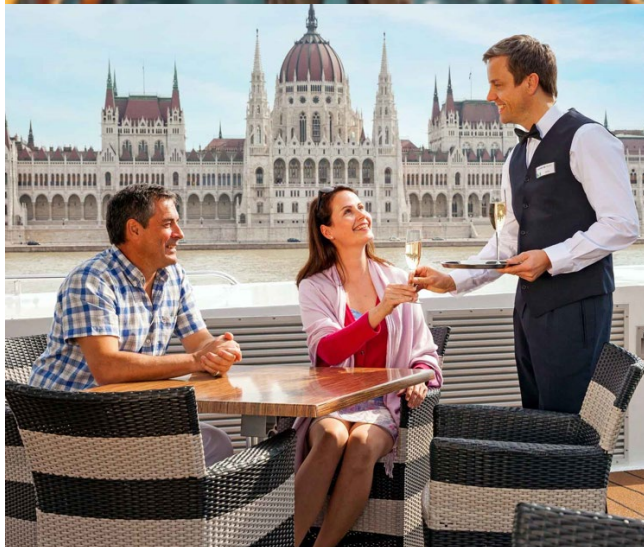
Labour Statistics of Danube Countries - pt. 2.

- **Slovakia**

- Decrease from 2010 to 2016, then a slight increase from 2016 to 2024 (480 p.- 300 p. - 390 p.) (if passenger and freight sectors are not separated)
- Wage level + nationality of employed person are also available variables
- *Source: Statistical Office of the Slovak Republic*

- **Hungary**

- Budapest is a major cruise destination
- Surveys: only employees working at least 60 hours per month with companies at least with five employees are included + onboard catering and bar services are excluded
- Majority (750 out of 850 p.) works in passenger transport
- 'Infrastructure and maintenance' sector is differentiated from passenger and cargo sectors+distinction of physical/non-physical workers+number of newly issued certificates of qualification are also available variables
- Slightly more people working in passenger transport than before Covid (the before Covid value was the result of an increasing trend from 2017), while freight sector is constant since its huge drop in period 2011-2014
- *Sources: Hungarian Central Statistical Office (HCSO)+Department for Shipping Authority at the Hungarian Ministry for Innovation and Technology*



Labour Statistics of Danube Countries - pt. 3.



- **Croatia**

- Inland waterway navigation only plays a minor role in Croatian (waterway) transport, maritime navigation is much stronger
- Significant decrease in freight (2010: 140 p.; 2024: 30 p.), slight increase in passenger (2010: 10 p.; 2024: 60 p.) transport employment (the exact year to year trends are more complex than this highlighted information)
- passenger sector outnumbers freight sector recently → definitions/methodology may be affected by 2013 EU joining
- Gender, type and number of employed persons are also variables available
- EU joining → impact on workforce migration as well (CCNR)
- *Source: Croatian Bureau of Statistics, Thematic Report of the CCNR (2024)*

- **Serbia**

- Since 2013 number of employed persons remained relatively stable around 1,000 people (if freight and passenger sectors are not separated) → recent moderate increase plausibly because of Chinese investments (CCNR)
- Average monthly gross earning is also an available variable
- *Source: Statistical Office of the Republic of Serbia (SORS), Thematic Report of the CCNR (2024)*

Labour Statistics of Danube Countries - pt. 4.



- **Bulgaria**

- Most data of nowadays is confidential → survey from 2022: 20% boatmaster, 50% nautical crew, 30% other → gender is also an available variable
- In 2022 total number of persons employed is 475 while in 2024 just the freight sector itself has 679 workers → possible different way of calculation?
- 35% of Bulgarian of IWT workforce are employed in other countries → CH,NL as main destinations
- *Sources: Bulgarian Maritime Administration + National Statistical Institute (NSI)*

- **Romania**

- Largest number of persons employed in Danube IWT
- Steady and substantial increase in number of people working in passenger sector of IWT (2015: 280; 2024: 650) → partly due to an increase in the number of small companies
- 2015-2018: relatively stable number of persons working in freight sector around 1,700), then a small drop to 1,500, then an increase to 1,800 people by 2024
- Company size is also an available variable
- *Source: National Institute of Statistics (NIS)*

Labour Statistics of Danube Countries - Conclusions

- IWT Labour Market is a **small and heterogeneous** sector for different Danube Countries → even one smaller external shock (new investment, one firm steps in/out the market etc.) may **reverse the** earlier experienced positive/negative **trend** of number of personnel in time
- **Differences between and within countries** in definitions of terminology and or methodologies for data collections and **missing/confidential data makes it hard to see the full picture** on an aggregated level **or to compare different results** in space and or time





**Thank you for
your attention!**

Domokos IVÁNYI
*Expert on Economics and
Statistics*

*Secretariat of the
Danube Commission*

domokos.ivanyi@danubecommission.org

H-1068 Budapest
Benczúr utca 25

www.danubecommission.org

