15

Annual Report on Danube Navigation in Austria | viadonau

Key data on Danube navigation 2015[1]

Transport volumes

8.6 million tons (–15.0%)

- Import: 4.3 million tons (–13.2%)
- Export: 1.8 million tons (–13.2%)
- Transit: 1.8 million tons (–20.8%)
- Inland: 0.7 million tons (–14.8%)

Transport performance

8.3 billion tkm (–16.0%)
8,658 loaded journeys (–10.8%)

- Within Austria: 1.8 billion tkm (–17.1%)
- Outside Austria: 6.5 billion tkm (–15.7%)

Waterside transhipment at Austrian ports and transhipment sites

7.4 million tons (–13.5%)

- Ores and metal waste: 2.3 million tons (–11.0%)
- Petroleum products: 1.5 million tons (–30.0%)
- Crude and manufactured minerals, building materials: 1.1 million tons (–3.2%)
- Fertilisers: 0.7 million tons (–2.9%)
- Agricultural and forestry products: 0.7 million tons (–6.3%)
- Other goods: 1.2 million tons (–10.0%)

Vessel units locked through Austrian Danube locks

90,128 vessel units[2] (–10.9%)

- Freight transport: 50,781 units (–18.7%)
- Passenger transport: 39,347 units (+1.6%)

Passenger transport (including estimation)

1.2 million passengers (+2.2%)

- Liner services: 670,000 passengers (+2.3%)
- River cruises: 385,000 passengers (+2.7%)
- Non-scheduled services: 115,000 passengers (–0.6%)

Accidents

29 traffic accidents with damage

- Personal injuries: 0 death, 0 slightly injured
- Damage to property: 12 ship to ship, 3 grounding incidents, 14 incidents with damage to riverbank and facilities, 0 ship sunk

Availability of the waterway

365 days
15 year average: 357 days

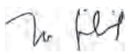
- Closures due to high water: 0 days
- Closures due to ice: 0 days

[1] Changes from 2014 are given as percentages in brackets.
[2] Convoys and individual vessels.

Source: Statistics Austria; Supreme Navigation Authority at the Federal Ministry for Transport, Innovation and Technology; Federal Office of Transport; miscellaneous passenger transport operating companies; viadonau

Contents

Rethinking transport systems
Promoting inland waterway transport



JÖRG LEICHTFRIED
Federal Minister for Transport,
Innovation and Technology

Every mode of transport has its strengths. The advantages of inland navigation lie in the fact that it is particularly suitable for the transportation of bulk goods and large volumes. For this reason, the Danube waterway is particularly suitable for certain bulk commodities such as iron ore, pig iron and steel, thereby making it an important transport artery for our heavy industrial companies. Inland navigation is both energy efficient and environmentally friendly. A key objective of transport policy is the further strengthening of this transport route with the emphasis on the optimal connectivity of the waterway with rail and road. Furthermore, we are committed to customer oriented waterway management and the continuous improvement of the Danube's fairway.

There are, however, inevitably major challenges, such as the long period of low water in the previous year, the consequences of which are reflected in the transport statistics. Continuous navigability of the Danube along its entire length is also not always guaranteed. Whereas construction and maintenance measures can help to alleviate the situation at a national level, close cooperation is needed at international level. We are therefore committed, together with all the other Danube riparian countries, to creating a harmonised waterway management system along the entire length of the Danube.

With the "Action Programme for the Danube", viadonau and the Austrian Ministry for Transport, Innovation and Technology are nurturing the integrative development of the Danube Region. By merging economic, ecological and safety related interests, we are safeguarding the Danube as a vital lifeline for people, nature and the economy in equal measure.

Utilising environmental potential
Strengthening reliability of the waterway

Nowadays, it is important to recognise the signs of the time and give the right answers to ensure the responsible future development of the Danube area. Inland waterway transportation can provide an environmentally friendly transport solution by relieving road freight transport, thereby making a significant contribution to the long-term reduction of greenhouse gases in the European transport network. Enhancing the robustness of inland waterway transport with regard to environmental conditions is of particular importance whilst simultaneously strengthening its image as an efficient transport alternative in an age of climate change.

2015 clearly highlighted the importance of consistent proactive waterway management. The extended low water period, as a result of the exceptionally hot and dry summer, presented cargo vessels with major challenges. Nevertheless, despite difficult operating conditions, navigation on the Danube was guaranteed throughout the whole of 2015. This was primarily thanks to professional waterway management and maintenance of the fairway. Targeted maintenance dredging – particularly on critical stretches of the river, such as the free flowing section east of Vienna – ensured that traffic flow was maintained. The success of these measures demonstrates once again that with the know-how, needs-based solutions and the wealth of experience of our experts, the Danube waterway is an efficient mode of transport that is well prepared for both the environmental and economic challenges of the future.

HANS-PETER HASENBICHLER
Managing Director
of viadonau

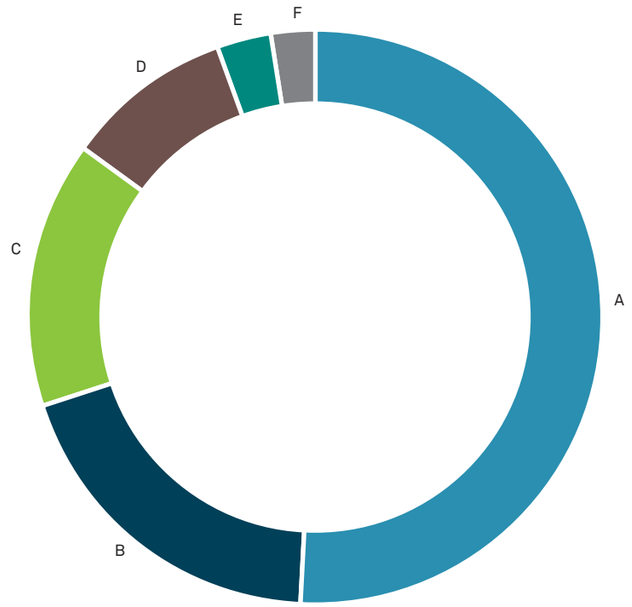
FIGURES_DATA_FACTS

Cost of core tasks viadonau 2015

F
Other
2.4%
869,052 Euros

E
Real estate
2.9%
1,006,934 Euros

D
Development and innovationn
9.6%
3,365,742 Euros



A
Infrastructure management
51.0%
17,859,356 Euros

B
Flood control
19.1%
6,679,938 Euros

C
Traffic management
15.0%
5,256,638 Euros

The Austrian waterway operator viadonau ...

- maintains 350 kilometres of waterways
- locks through more than 90,000 vessels per year
- maintains 500 kilometres of towpaths
- cares for 800 kilometres of riverbank
- manages around 15,000 hectares of real estate
- operates the navigation information system DoRIS (Donau River Information Services) on the Austrian Danube with 23 base stations and a central control point
- manages 300 kilometres of flood protection dams
- protects more than 600,000 inhabitants with flood protection facilities between Vienna and the Slovakian border

BALANCE SHEET VIADONAU

Mastering challenges proactively
Efficient measures against low water

2015 was an unusual year. The exceptionally warm and dry weather in the second half of the year saw water levels along the Danube fall on occasions to severely low levels. This meant that from July to December a depth of over 2.5 metres was only available in the deep channel of the free-flowing section of the river east of Vienna for around 35% of all days.

These extreme weather conditions clearly demonstrated that in order to ensure the availability of the waterway, even under difficult fairway conditions, efficient and farsighted waterway management is of the utmost importance. For this reason, 2015 saw viadonau carry out a number of targeted and proactive maintenance measures, with specific emphasis on the free-flowing stretch of the Danube east of Vienna. Between August and mid-September around 125,000 m³ gravel was excavated from shallow sections of the waterway and returned to the river at suitable locations. Although cargo vessels were forced to navigate the river downstream from Vienna with reduced loaded drafts, viadonau's competent management of the waterway meant that shipping on the Austrian section of the Danube could be guaranteed throughout the year.

The transport sector was especially affected by the negative impact of low water. While transport volumes fell to almost 8.6 million tons of goods, a drop of 15.0% compared to the previous year, passenger traffic recorded a slight increase on the Austrian Danube. With 1,170,000 passengers carried, an increase of 2.2% in passenger traffic was recorded compared to 2014. Moreover, the number of locked-through passenger ships increased by 1.6% to 39,347. The increase in sports and recreational boating was even more significant. With a total of 10,600 units, the number of small vessels passing through locks on the Austrian Danube rose by almost 30% compared to 2014. Out of a total of over 90,000 locked-through vessels, only around 11% experienced significant waiting times; these amounted to an average of 34 minutes.

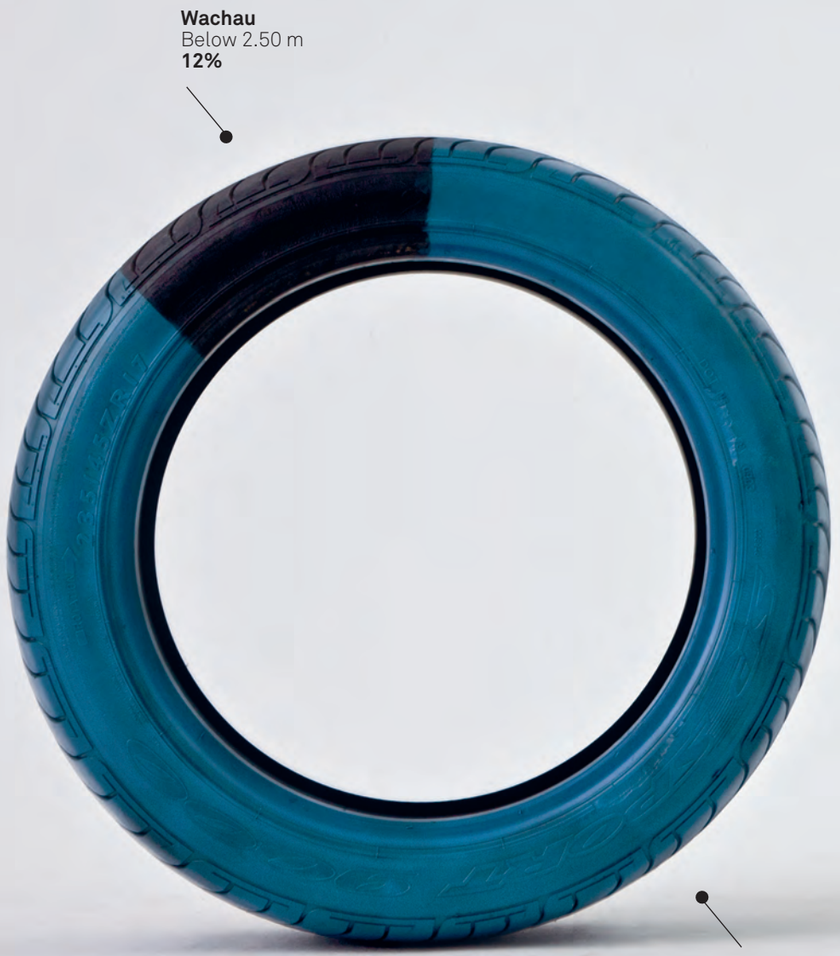
In order to strengthen the potential of the waterway as an alternative transport route, viadonau is committed to a comprehensive waterway management strategy that gives impetus to the sustainable modernisation of inland waterway vessels. As a participant in the EU project PROMINENT, viadonau supports the development of environmentally friendly ship concepts and is exploring the most effective strategies for a sustainable fleet modernisation programme. Involvement in the international project FAIRway Danube means that the company has joined forces with the Danube riparian countries to develop the first steps of a master plan for the joint maintenance of the waterway. By taking these actions, viadonau is strengthening not only the robustness of the waterway in times of difficult conditions of use, but also its efficiency as a high-performance transport alternative in times of climate change.

"Our company stands for the efficient and sustainable utilisation of resources. viadonau's dedication, innovation and leadership in the Danube region, along with its involvement in EU projects such as PROMINENT and FAIRway, demonstrates just how important mutual, responsible solutions are to ensure a strong inland waterway transportation system in Europe."

CLAUDIA BIERBAUMER
Head of Finance and Controlling

Freight transport on the Austrian Danube 2000–2015

Minimum continuously available fairway depths on the free-flowing stretches of the Danube 2015



Waterside transhipment at Austrian Danube ports and transhipment sites 2015

Linz voestalpine[1]
41.1%
3,059,780 tons

Port of Vienna[3]
13.0%
969,581 tons

Linz AG[4]
9.8%
730,752 tons

Others[2]
19.3%
1,436,203 tons

Enns[5]
9.6%
717,240 tons

Krems
7.2%
536,110 tons

See page 16 for footnotes 1–5

TRANSPORT VOLUMES

Low water levels leave their mark
Decrease in transport volumes

- Low water levels led to a significant decline in transport volumes in all sectors
- Transport volumes throughout the year reflect the pattern of hydrological conditions
- Transit traffic volumes most affected

In 2015, approximately 8.6 million tons of goods were transported on the Austrian section of the Danube, representing a decrease of 15.0% or more than 1.5 million tons compared to 2014. The sharp decline of freight transport in all areas was mainly due to the extremely low level of rainfall and the resulting low water levels in the second half of the year. The effects of these circumstances are clearly reflected in the results recorded throughout the year. In comparison to the statistical analysis of many previous years – whereby the months of July to September have traditionally recorded the year's highest transport volumes – the third quarter of 2015 saw the greatest decrease in volumes of the year, with a decline of around 1.7 million tons (–33.3%) being recorded. Industry-specific trends also had a negative impact on freight volumes in 2015. However, these effects on the transported cargo volumes were completely overshadowed by the consequences of the low water situation in the second half of the year.

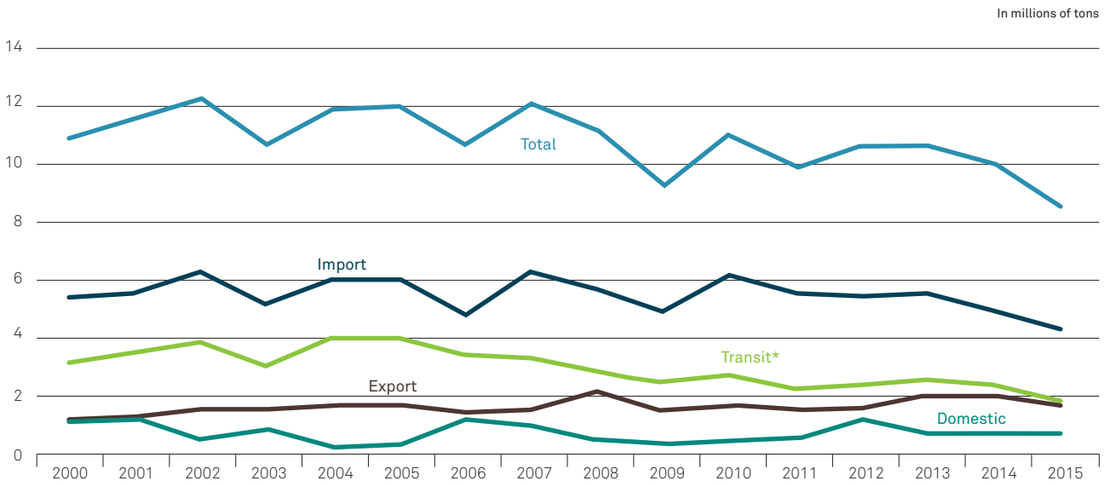
Transport performance (the product of transport volume and distance travelled) in the federal territories fell in 2015 by 17.1% to around 1.8 billion ton-kilometres. The entire transport capacity, both within and outside of Austria, declined by 16.0% to approximately 8.3 billion ton-kilometres. The number of trips made by loaded vessels on the Austrian section of the Danube fell by 10.8% from 9,706 to 8,658.

A drop in cross-border freight traffic (the sum of export, import and transit) of 15.1%, or more than 1.4 million tons, compared to 2014, was recorded. The greatest reduction of transport volume on the Austrian Danube in 2015 was in transit traffic. Goods transported in this sector decreased by 20.8%, or 479,189 tons to approximately 1.8 million tons. Transport volumes for imports also fell in comparison to 2014 by 13.2% or 657,110 tons to over 4.3 million tons.

With over 1.8 million tons of freight transported, exports registered a decrease of 13.2% or 267,612 tons. Domestic traffic on the Danube waterway also decreased by 14.8% or 118,462 tons to 680,335 tons.

FIGURES_DATA_FACTS

Freight traffic on the Austrian Danube 2000–2015



Transport volumes in tons	Import	Export	Transit*	Domestic	Total
2015	4,325,020	1,763,975	1,830,024	680,335	8,599,354
2014	4,982,130	2,031,587	2,309,212	798,797	10,121,726
2013	5,461,830	1,987,404	2,559,494	701,119	**10,709,847**
2012	5,438,844	1,623,701	2,411,351	1,240,111	**10,714,007**
2011	5,564,222	1,545,722	2,268,157	565,187	**9,943,288**

* Due to a lack of statutory resources, there are no complete records for transit data for the years 2004 and 2005. Since 2005 figures have been extrapolated by Statistics Austria.

Source: Statistics Austria, adapted by viadonau

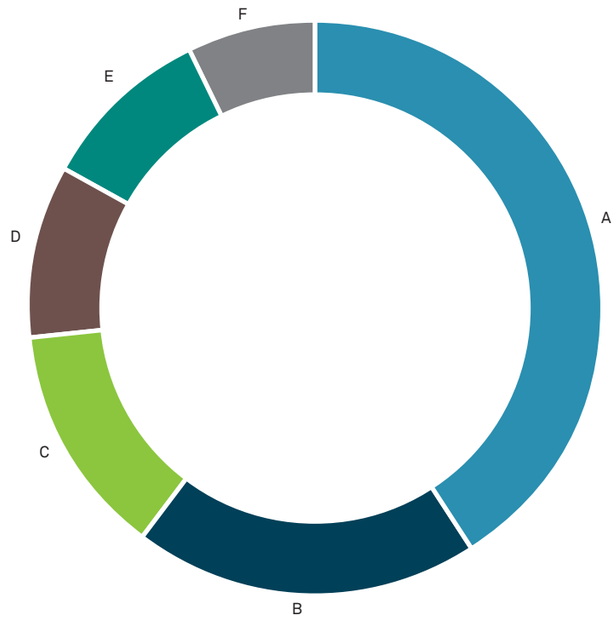
FIGURES_DATA_FACTS

Waterside transhipment at Austrian Danube ports and transhipment sites 2015

F
Krems
7.2%
536,110 tons
(–16.4%)

E
Enns[5]
9.6%
717,240 tons
(+1.3%)

D
Linz AG[4]
9.8%
730,752 tons
(–33.8%)



A
Linz voestalpine[1]
41.1%
3,059,780 tons
(–4.2%)

B
Others[2]
19.3%
1,436,203 tons
(–9.9%)

C
Port of Vienna[3]
13.0%
969,581 tons
(–29.3%)

[1] Including waterside transhipment at Industrie Logistik Linz GmbH.
[2] Other ports and transhipment sites include: Aschach, the heavy cargo port at Linz, Mauthausen, Ardagger, Ybbs, Pöchlarn, Pischeldorf, Korneuburg.
[3] The three ports of Freudenau, Albern and Lobau (oil port), and the two transhipment sites Lagerhaus and Zwischenbrücken have been grouped together to compile the total turnover figures for the Port of Vienna.
[4] Data from both the commercial port and the oil port in Linz have been grouped together to compile the total turnover figures for the Port of Linz.
[5] Data from the Ennshafen OÖ GmbH and the Ennshafen NÖ GmbH have been grouped together to compile the total turnover figures for the Port of Enns.

Source: Statistics Austria, adapted by viadonau

PORT TRANSHIPMENT

A decrease in total volumes
An increase in transhipment only at Enns

In 2015, a total of 7.4 million tons of goods were handled waterside at Austrian Danube ports and transhipment sites. Compared to 2014, this represents a decrease of 13.5% or just under 1.2 million tons.

With a total handling volume of around 3.1 million tons, the port of voestalpine in Linz was once again the most quantitatively significant port on the Danube in Austria in 2015. Despite a turnover decrease of 4.2%, or 133,714 tons compared to 2014, the port still handled 41.1% of the total waterside transhipment of all ports and transhipment sites on the Austrian Danube.
The other private ports and transhipment sites (Aschach, the heavy-cargo port at Linz, Mauthausen, Ardagger, Ybbs, Pöchlarn, Pischelsdorf and Korneuburg), were in second place with over 1.4 million tons and 19.3% of the total volume of goods handled at Austrian loading and unloading points. A detailed analysis of the other ports and transhipment sites is not possible due to data protection laws.

The Port of Vienna (Freudenau, Lobau and Albern along with the transhipment sites Lagerhaus and Zwischenbruecken) recorded a total of almost 1.0 million tons in water-land transhipment in 2015. This represents a sharp decrease (around 29.3% or over 400,000 tons). The Port of Vienna accounted for 13.0% of total waterside transhipment in the Austrian section of the Danube.

Compared with the previous year, an even greater decrease of 33.8%, or approximately 400,00 tons, in goods handled was registered at the commercial port and the oil port owned by Linz AG. With a total volume of around 730,752 tons, the two ports accounted for 9.8% of all goods loaded and unloaded at Austrian ports and transhipment sites. When the volumes handled at the port of voestalpine, the ports of Linz AG and the heavy-cargo port are added together, it can be seen that more than half of all goods transhipped in Austria were handled in Linz.

The only port to buck this downward trend was Enns, which – with a total of 717,240 tons, representing an increase of 1.3% compared to 2014 – recorded a share of 9.6% of the total volume of goods transhipped in Austria. A decrease of 16.4% or 105,531 tons, compared to the previous year, was recorded at the port of Krems. This port's contribution to the total transhipment of goods in Austria was 536,110 tons or 7.2%.

Next to the unusually unfavourable water levels experienced in 2015, the general decline in transhipment is also due to a decline in the volume of petroleum products transported.

- Decrease in waterside transhipment volumes of around 13.5% compared to 2014
- Only the Port of Enns bucked this trend
- The private port of voestalpine was the most important Danube port in Austria with 3.1 million tons

COMMODITY GROUPS

Decrease in all commodity groups
Ores and metal waste in first place

- Decrease in volumes transported across all commodity groups
- Ores and metal waste, with more than 2.3 million tons, the strongest commodity group

As in previous years, ores and metal waste accounted for the highest volume of transport in 2015 with an amount of over 2.3 million tons. The decrease of 11.0% is mainly due to a minus for imports of nearly 275,000 tons compared to 2014.

18.5% of the total volume transported by inland vessels, or approximately 1.6 million tons, were allocated to agricultural and forestry products, whereby the vast majority, namely 930,143 tons, can be attributed to transit traffic. This commodity group recorded a decline in 2015 of 13.2% or 240,979 tons.

Despite a sharp decline of 31.0% or 562,125 tons, around 1.3 million tons of petroleum products were transported, making this group the third largest transport volume with a share of 14.5% of total volumes shipped. 40.2% of the goods transported were imported to Austria.

After an increase in 2014, inland waterway transport of fertilisers decreased by 10.5% or 110,296 tons to a total volume of 940,237 tons. Cross-border transport is of particular importance for this commodity group due to the fact that 56.6% of transport volumes are exported. A decrease of 28.6% in transit traffic was the most striking decrease recorded for this group.

With a drop of 15.0% or 144,778 tons metal products were, with 819,852 tons, the fifth largest commodity group in 2015; immediately followed by crude and manufactured minerals with 818,837 tons. This group experienced a slight decrease (–6.0%). Nevertheless, a positive trend was observed in exports, which rose by 25,837 tons.

Foodstuffs and animal fodder accounted for 4.3% of the total volume of goods transported. 372,819 tons were transported on the waterway, 63.0% of which were imported. Compared to 2014, foodstuffs and animal fodder recorded an overall decrease of 10.9%. Imports, however, increased by 4.9% in 2015.

A decrease of 6.7% was recorded for the commodity group machinery, vehicles and other articles. In total, 242,663 tons were transported, 75.6% of which were in transit. Imports more than doubled in this group.

Solid fuels recorded a transport volume of 222,634 tons and a share of 2.6% of total volume. In total, 20.6% or 57,690 fewer tons were shipped on the Austrian section of the Danube in 2015. With 14,399 tons, chemical products recorded one of the lowest transport volumes in 2015, recording a sharp decline (–24.4%).

FIGURES_DATA_FACTS

Transport volumes by commodity groups on the Austrian Danube 2015

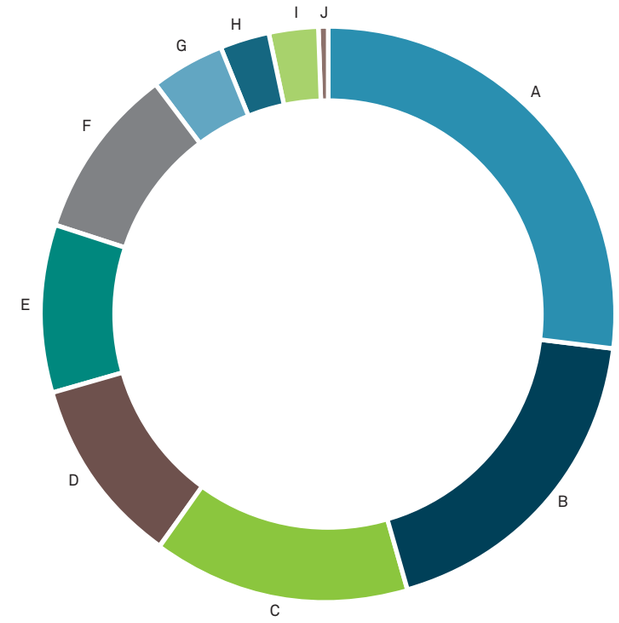
J
Chemical products
0.2%

I
Solid fuels
2.6%

H
Machinery, vehicles, and other articles
2.8%

G
Foodstuffs and animal fodder
4.3%

F
Crude and manufactured minerals
9.5%



A
Ores and metal waste
27.1%

B
Agricultural and forestry products
18.5%

C
Petroleum products
14.5%

D
Fertilisers
11.0%

E
Metal products
9.5%

Goods classification according to NST/R*	Domestic	Import	Export	Transit	Total 2015	Change
Agricultural and forestry products	1,301	493,518	166,439	930,143	1,591,401	–13.2%
Foodstuffs and animal fodder	577	234,830	59,220	78,192	372,819	–10.9%
Solid fuels	–	214,375	1,131	7,128	222,634	–20.6%
Petroleum products	321,177	503,152	365,881	60,854	1,251,064	–31.0%
Ores and metal waste	–	2,311,675	13,771	–	2,325,446	–11.0%
Metal products	13,537	133,728	404,856	267,731	819,852	–15.0%
Crude and manufactured materials, building materials	342,448	221,912	184,307	70,170	818,837	–6.0%
Fertilisers	1,232	183,354	532,218	223,433	940,237	–10.5%
Chemical products	–	–	5,558	8,841	14,399	–24.4%
Machinery, vehicles and other articles	63	28,476	30,593	183,531	242,663	–6.7%
Total	**680,335**	**4,325,020**	**1,763,974**	**1,830,023**	8,599,352	**–15.0%**

* NST/R = Standard Goods Classification for Transport Statistics/revised.

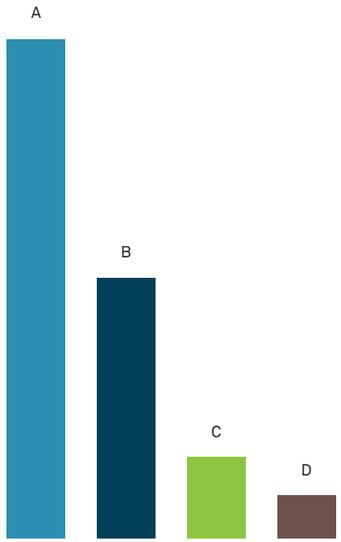
Source: Statistics Austria, adapted by viadonau

FIGURES_DATA_FACTS

Volume of recycling products in Austria 2014*

A
Pulp-based recycling products
1,782,400 tons
(56.5%)

B
Scrap and waste metal
929,600 tons
(29.4%)



C
Waste glass
291,100 tons
(9.2%)

D
Waste plastic
154,200 tons
(4.9%)

* No figures were available at the time of publishing for 2015

Source: Federal Ministry of Agriculture, Forestry, Environment and Water Management, adapted by viadonau

RECYCLING PRODUCTS

Importance of recycling sector increases
Inland vessel: a practical solution

In 2014 the total volume of waste in Austria amounted to nearly 56.7 million tons. This is an increase of around 5.9 million tons compared to 2009.

Recyclable waste includes scrap and waste metal, waste glass, waste plastic and pulp-based recycling products such as waste paper and waste wood. Recycling involves the extraction of raw materials from waste and their return to the economic cycle by processing them into new products (secondary raw materials).

Recyclable products in Austria amounted to at least 3.2 million tons in 2014. Of this, roughly 57% was pulp-based, followed by metal waste with a share of around 30%. Waste glass accounted for approximately 9% and waste plastics 5%.

2014 saw these commodity groups record an export volume of 1.9 million tons and an import volume of 3.2 million tons, thereby playing a particularly significant role in cross-border trade. Around 95% of these volumes were traded with partners in the EU zone.

Due to the increasing global shortage of resources and the simultaneously huge demand for secondary raw materials, the recycling sector is becoming increasingly important in economic terms. High cost sensitivity for recycling products in recent years has led to an increase in pressure for the most cost-effective planning and implementation of transportation. The inland vessel, with its great bulk capacity and subsequent low transport costs, provides a practical transport solution for the recycling sector. This fact combined with the rising volume of recycling products in the Danube riparian states presents an important argument for transportation by inland waterway.

Since 2010 viadonau has devoted itself, by means of working initiatives, to exploring the potential for new commodity groups for inland waterway transportation. The specific characteristics of goods, and their transportation, handling and storage requirements, along with the potential for transfer to inland waterways is discussed in workshops with experts from the relevant sectors. Information and knowledge regarding the Danube and its advantages is exchanged between participants at these events, thereby encouraging new initiatives for transport on the Danube.

Opportunities for an increase in the transfer of the transportation of recycling products to the waterway are currently being discussed within the scope of the third viadonau working initiative, “Recycling products on inland waterways” (2015 to 2016), with experts from industry and the logistics sector.

- Bulk capacity and low transport costs make inland waterway transport a suitable means of transport for recycling products
- viadonau working initiatives open new markets for Danube logistics

PASSENGER TRANSPORT

Overall increase in passenger numbers
Slight decrease in special cruises

- 2.7% more passengers on river cruises
- An increase of 2.3% for liner services
- 17 new cruise ships in operation on the Danube

In 2015, passenger transport on the Austrian stretch of the Danube was able to record an increase in numbers for the second year running. A total of approximately 1,170,000 passengers were transported, representing an increase of 2.2% in comparison to 2014.

The number of river cruises also continued to increase in 2015, exceeding last year's record with 385,000 passengers transported (+2.7% compared to 2014). A total of 17 newly constructed vessels were brought into service on the Austrian section of the Danube, thereby increasing the number of cabin vessels to 162 (+7.3%). In total, 4,345 trips (+4.9%) were completed. Due to the continuing growth of the existing fleet, the capacity for river cruises increased to 26,661 passengers (+8.1%), this corresponds to an average of 165 passenger places per ship.

In 2015, liner services carried approximately 670,000 people (+2.3% compared to 2014). The DDSG Blue Danube Schiffahrt GmbH recorded a total of 228,000 passengers (+11.2%) transported in the Wachau and Vienna. 128,000 passengers (+9.5%) were transported between Vienna and Bratislava on the two Twin City Liners. 43,600 passengers (–13,8%) took advantage of the services offered by Donau-Schifffahrts-Gesellschaft mbH (formerly known as Donau Touristik). The Slovakian and Hungarian hydrofoil ships, operating between Vienna and Bratislava and Vienna and Budapest, transported a total of 31,110 passengers (–30.0%).

Non-scheduled services carried approximately 115,000 passengers in 2015 (–0.6% compared to 2014). The DDSG Blue Danube Schiffahrt GmbH carried 52,300 passengers (–9.8%) on theme, special and charter cruises. The MS Kaiserin Elisabeth (owned by the Donau-Schiffahrts-Gesellschaft mbh) recorded 17,527 passengers (+115.8%) on non-scheduled trips, and the MS Lilofee (owned by Genuss-Schiffahrt GmbH) carried around 7,000 passengers (+337.5% compared to 2014).

Passenger traffic at companies, which carried less than 5,000 passengers in 2015 is not reported separately here, and there are no figures available for other scheduled and non-scheduled services operated on the Austrian section of the Danube in 2015.

FIGURES_DATA_FACTS

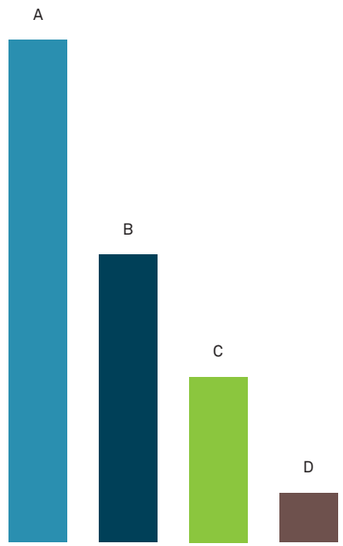
Passengers on the Austrian Danube 2015[1]

A
Total
1,170,000

B
Liner services
670,000

C
River cruises
385,000

D
Non-scheduled services
115,000



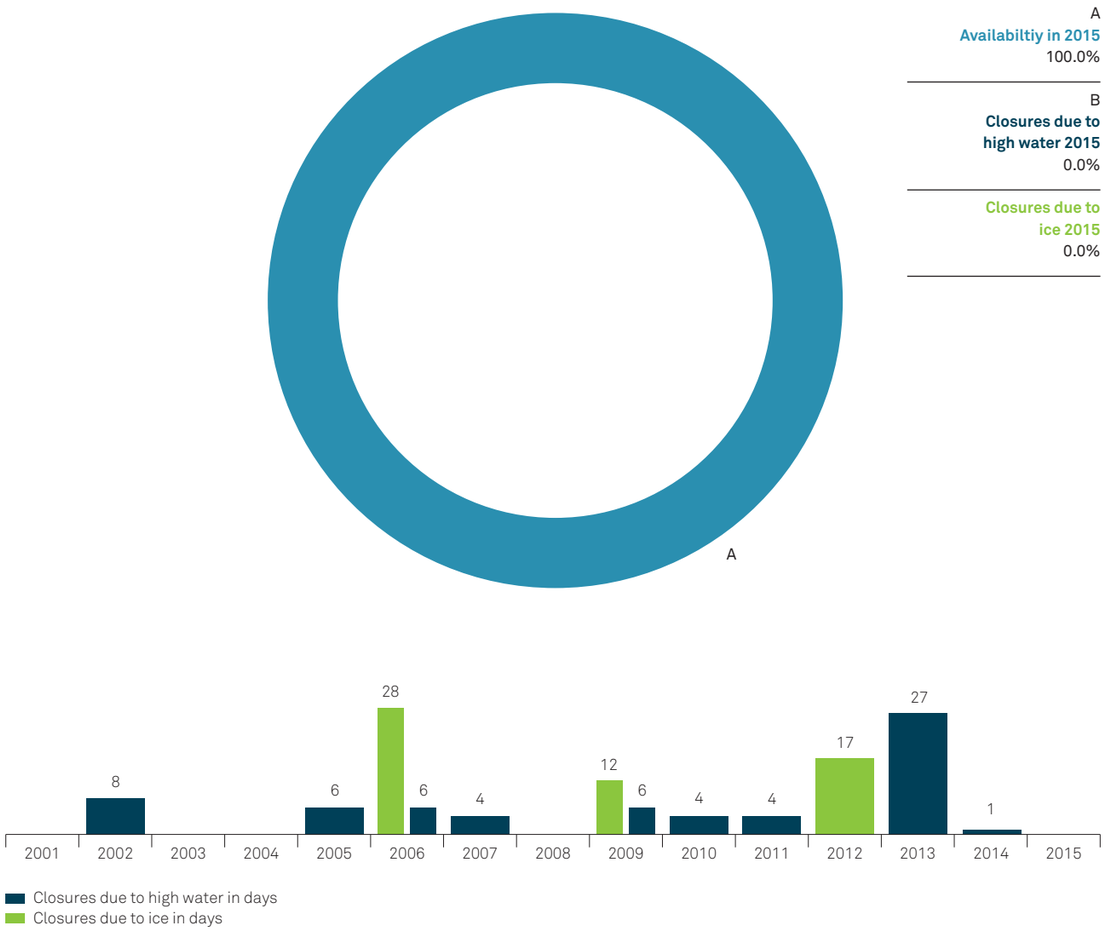
Dockings and passengers at passenger ports in Vienna[2]	Dockings ships	% to previous year	Passengers processed	% to previous year
2015	3,982	–1.3	481,251	+4.6
2014	4,036	+12.7	460,265	+22.9
2013	3,581	+3.0	374,637	+3.4
2012	3,477	–3.0	362,316	+0.2
2011	3,585	–1.5	361,565	–0.3

1 Due to the fact that passenger traffic on the Danube ceased to be statistically compiled in Austria in 2003 (due to a change in legislative basis), the above figures include additional estimates in passenger numbers on liner services and non-scheduled traffic, based on an assumed average capacity utilisation of 40% on passenger ships. The calculation of the total number of passengers on cabin vessels is based on the number of trips these ships made through the locks at Aschach and Freudenau, with an assumed average capacity utilisation of 75%, whereby a deduction of 30% for double counting has been estimated.
2 Landing stages at Handelskai, the Danube Canal and Nussdorf, including cabin vessels and the Twin City Liners.

Sources: DDSG Blue Danube Schiffahrt GmbH, Donauschiffahrt Ardagger GmbH, Donauschiffahrt Wurm + Köck GmbH & Co. OHG, DSGL – Donau-Schifffahrts-Gesellschaft mbH, Event Schifffahrt Haider, MAHART PassNave Shipping Ltd., Nostalgie Tours, Video & Consulting Ges. m. b. H., Schiffahrtsunternehmen Wilhelm Stift GmbH, Slovak Shipping and Ports – Passenger Shipping JSC (SPaP-LOD, a. s.), viadonau, WGD Donau Oberösterreich Tourismus GmbH, Wiener Donauraum Länden und Ufer Betriebs- und Entwicklungs GmbH

FIGURES_DATA_FACTS

Navigational closures due to high water and ice 2001 to 2015



Source: Supreme Navigation Authority at the Federal Ministry for Transport, Innovation and Technology; Federal Waterways and Navigation Administration; viadonau

AVAILABILITY OF WATERWAY

Danube navigable throughout whole year
No closures due to ice or high water

- Long-term annual availability of the Danube at 97.8%
- 2015 no closures due to ice or high water

Over a 15 year annual average from 2001 to 2015, the availability of the Austrian section of the Danube waterway was 97.8%, or 357 days per year. During this period three closures due to ice were recorded with an average duration of 19 days, while the waterway had to be closed in nine of these years due to floods with an average duration of around seven days.

Hydrologically speaking, in 2015 the Danube experienced below average water discharge, with the second half of the year being characterised by a prolonged period of low water levels – a result of the constantly warm, dry and sunny weather. As a result, there were no closures due to ice or high water on the Austrian section of the Danube. Thus the Danube waterway was available for 365 days, or 100%, of the year in 2015.

Weather-related closures, in extreme situations such as high water or ice, can be implemented by the relevant authorities on the Austrian section of the Danube waterway. While closures due to ice are normally confined to the winter months of January and February, high waters and flooding generally tend to occur in the spring or summer months.

Apart from closures due to high water and ice, closures of the waterway can also be officially arranged for events. Such closures took place on four days in 2015, each with an average duration of around two and a half hours.

Total closure of lock facilities (the parallel closure of both lock chambers) in 2015 amounted to approximately two days. Taking this closure time into consideration, the Austrian section of the Danube was available for navigation for 99.4% of the year in 2015.

For traffic travelling between the Danube and the Rhine, the availability of the waterways Main and Main-Danube Canal is of great importance. In 2015 this route recorded neither closures due to high water nor ice. Scheduled lock closures due to maintenance work at lock facilities on the German federal waterways of the Main, the Rhine-Main-Danube Canal and the Danube were carried out between 13th April and 5th May, with a total duration of 22 days. The availability of this transport connection was therefore 94.0% in 2015. However, the German section of the Danube was forced to close for a total duration of 15 days in the second half of the year due to six accidents that occurred as a result of extremely low water levels.

LOAD FACTOR

Once again difficult operating conditions
Load factor 57.2%

- Favourable fairway conditions in the first half of the year, extremely unfavourable conditions in the second half of the year
- A reduction of 10.8% in the number of trips
- Load factor for cargo vessels at 57.2%

In addition to economic and logistical decisions, prevailing hydrological conditions play a major role in determining the load factor of freight vessels on the Danube. The beginning of 2015 initially saw rising water levels that are typical for the spring months. However, during the summer the situation changed dramatically with abnormally low water levels being recorded. The autumn months also saw uncharacteristically low water conditions.

Throughout the whole of 2015, the average monthly load factor for cargo vessels was 57.2%. In the months from August to November, ships could only be loaded to an average of slightly less than 50% of their capacity due to the extremely unfavourable water conditions, thereby clearly demonstrating the logistical difficulties that such a low-water period can cause. The number of loaded vessel journeys declined in 2015 in comparison to the previous year by 10.8% (2015: 8,658, 2014: 9,702).

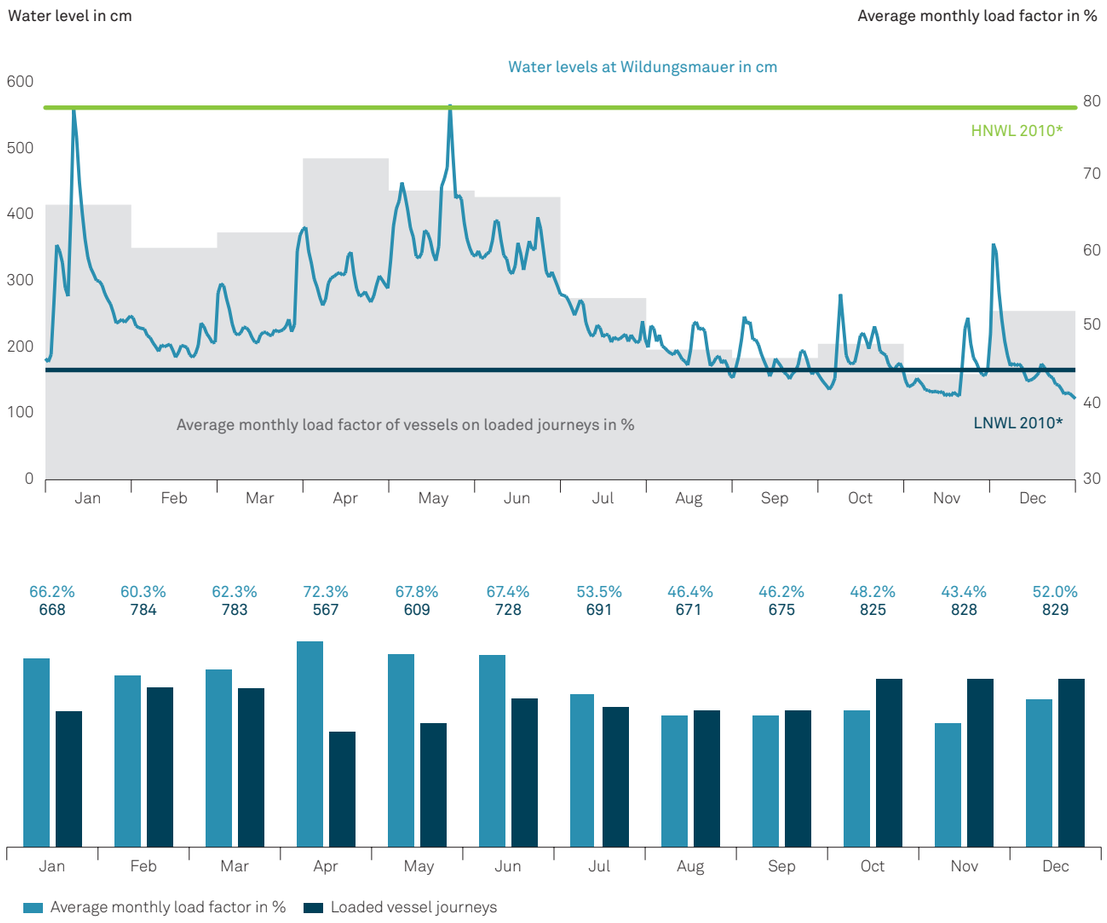
November was the worst month in 2015 with an average daily level of 151 cm at the gauge Wildungsmauer, a fall in the average daily value of 98 cm compared to November 2014.* November also experienced the most adverse conditions of 2015 in terms of the number of days that water levels fell below the LNWL (22 days). These difficult conditions are reflected in the lowest recorded load factor figures of the year (43.4%).

When a cargo vessel is forced to operate with relatively low draughts loaded, the average load factor of the ship is correspondingly reduced and more trips are required to transport the same volume of goods. This correlation can be seen in the second chart: the average load factor in November 2015 was only 43.4%, with 828 trips needed to transport approximately 659,000 tons of freight. In April, the month with the highest capacity utilisation rate (72.3%), only 567 trips were required to transport around 681,000 tons.

* This data refers to water levels. A detailed evaluation of the fairway depths can be found within the chapter "Fairway depths" on page 28/29.

FIGURES_DATA_FACTS

Water levels and resulting load factors of cargo vessels in 2015 using the Wildungsmauer gauge of reference

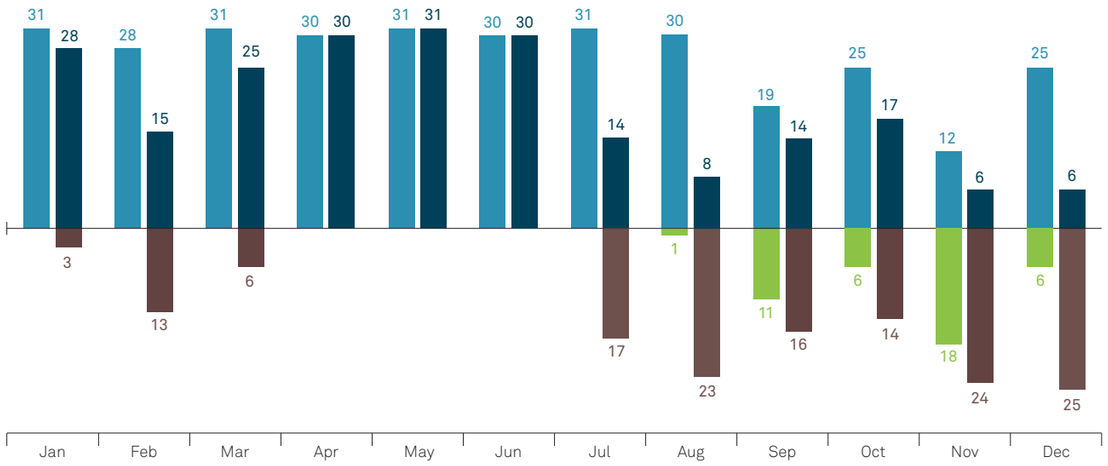


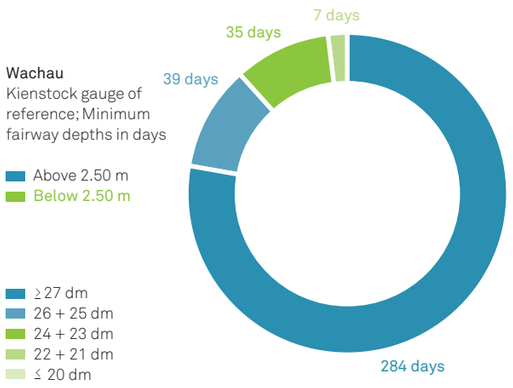
* LNWL 2010 (low navigable water level): This value represents the water level exceeded on 94.0% of days in a year during ice-free periods with reference to a 30-year observation period (1981–2010). The current LNWL value for the water gauge Wildungsmauer is 162 cm.
HNWL 2010 (highest navigable water level): This value represents the water level corresponding to the discharge exceeded on 1.0% of days in a year with reference to a 30-year observation period (1981–2010). At Wildungsmauer, the highest navigable water level is currently 564 cm.

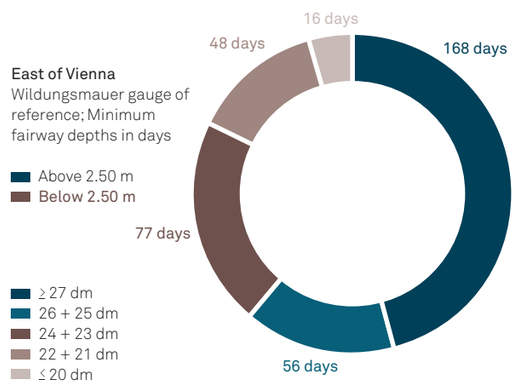
Source: Statistics Austria, adapted by viadonau

FIGURES_DATA_FACTS

Minimum continuously* available fairway depths on the free-flowing stretches of the Danube 2015 in days







* Based on the fairway width required for a four-unit pushed convoy travelling downstream without encountering other vessels. Fairway width depends on the river bend radii involved.

Source: viadonau

FAIRWAY DEPTHS

Extreme low water levels in 2nd half-year
Poor fairway conditions

From a hydrological perspective, 2015 was characterised by a long, continuous period of low water in the second half of the year (from the middle of July onwards). Water gauge levels on 54 days, or approximately 15% of the year, were below the defined low navigable water level (LNWL); in November, the reference gauge at Wildungsmauer reached a historically low level of 117 centimeter (45 centimeter under the LNWL). Only once in the last sixty years, in 2003, was such a long period of low water recorded.

Consequently, a consistent depth of more than 2.50 metres in the deep channel of both free-flowing sections of the Austrian Danube was only available in the three months of April, May and June. In the first three months of the year, the stretch of the river east of Vienna recorded a total of 22 days when the water level was below 2.50 metres. In contrast, the free-flowing stretch of the river in the Wachau recorded availability of water levels above 2.50 metres in the deep channel for the complete first half of the year. The effects of unusually low rainfall in the second half of the year were drastic: from July to December, the stretch of the river east of Vienna recorded the availability of a depth of more than 25 decimetres in the deep channel on only approximately 35% of days. The Wachau, however, recorded availability of 77% of days during the same period.

On an annual basis, the Wachau recorded the availability of a minimum depth in the deep channel of 2.50 metres on 323 days, or more than 88% of the year in 2015. In contrast, due to the low water discharge in the free-flowing stretch to the east of Vienna meant that a minimum navigable depth of 2.50 metres was only available on 224 days, or around 61% of the year. Crucial dredging to remove sediment from the shallow sections of the river was carried out by a total of 15 maintenance measures in 2015, resulting in the removal of approximately 280,000 cubic metres of sediment.

The lowest available navigable water depths for both free-flowing stretches of the Austrian Danube (Wachau and east of Vienna) were calculated based on all hydrographical surveys of the riverbed carried out in 2015. Figures for the periods between measurement dates were interpolated and evaluated in combination with the respective gauge hydrographs (mean daily water levels at the Kienstock and Wildungsmauer gauges of reference). The reference for these calculations was a deep channel located inside the fairway and representing the required fairway width for a four-unit pushed convoy travelling downstream without encountering other vessels, whereby the width of the fairway depends on the river bend radii involved.

“Sound handling of the waterway is a particular challenge in difficult conditions. The free and uninterrupted use of the fairway, despite low water levels, due to rapid and targeted maintenance dredging – particular on the free-flowing section east of Vienna – was a major success for us and a real asset for shipping.”

MARKUS SIMONER
Head of Waterway Management

TRANSPORT DENSITY

350 kilometres of waterway 22,000 tons of goods per day

- Greatest volume of imported and exported goods handled at the voestalpine port in Linz
- Imports accounted for the greatest volume of goods shipped, followed by transit
- Greatest volume of traffic between Vienna and Korneuburg

A total of 8.6 million tons of goods were transported along the 350.51 kilometre long Austrian section of the international Danube waterway in 2015. Total transport volumes by segment ranged from approximately 3.8 million tons (between the German–Austrian border and Aschach) to just under 6.0 million tons (between Korneuburg and Vienna).

In 2015, around 2.0 million tons of ore, metal waste and solid fuels were imported from Eastern Europe to the industrial port of the steel company voestalpine. This was mostly from Slovakia (Port of Bratislava), the Ukraine (Port of Izmail) and Romania (Port of Constanta). The transhipment location of Korneuburg was in second place with an import volume from the East of approximately 0.4 million tons. The Port of Linz (voestalpine) also had the highest import volume of goods from Western Europe, with over 0.5 million tons, followed by the port of Enns with just over 0.4 million tons.

The industrial port of voestalpine was also the leader in exports with over 0.5 million tons of goods, followed by the oil port of Linz AG and the oil port Lobau in Vienna, each with around 0.4 million tons.

Due to the fact that it is the largest waterside transhipment location on the Austrian Danube, the industrial port of the voestalpine steelworks in Linz stands out amongst all other ports and transhipment sites with regard to the quantity of goods transported. In 2015, the freight density being shipped upstream to the German–Austrian border was again significantly lower compared to goods shipped downstream as far as the Austrian–Slovakian border.

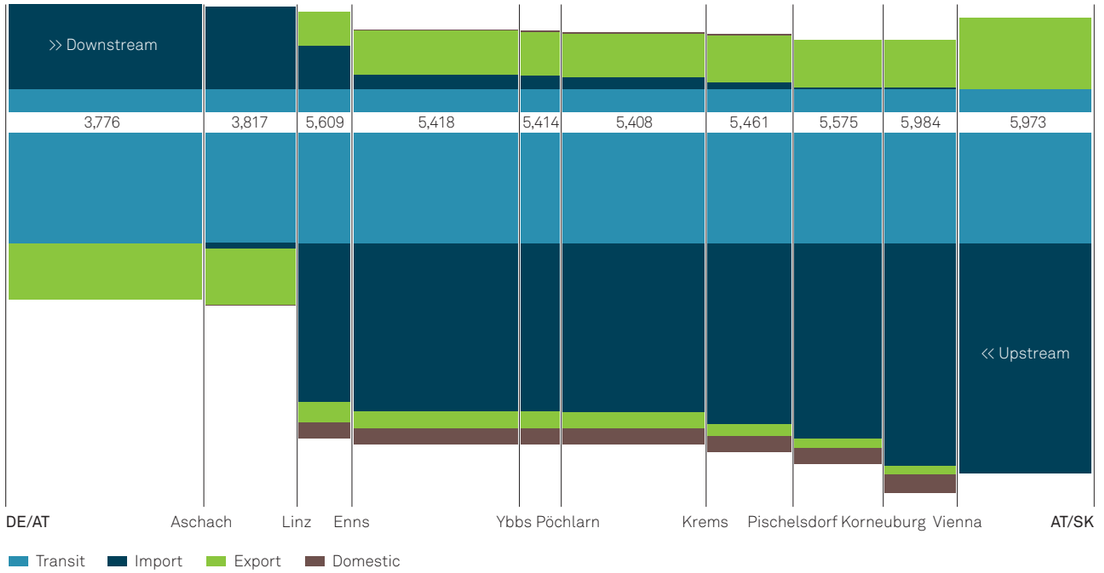
The transit of goods upstream in 2015 was five times higher than the transit of goods downstream. With around 1.8 million tons transported, transit traffic accounted for the second largest volume of goods shipped after import traffic.

The daily volume of goods transported on the Austrian Danube was an average of 22,446 tons. This is equivalent to 898 fully loaded lorries (25 net tons per vehicle) or 561 railway wagons (40 net tons per wagon) per day.

An average of 14,590 tons of goods per kilometre was transported over the total length of the Austrian section of the Danube in 2015. On the section between Korneuburg and Vienna, the busiest section of the Danube in Austria, an average of 16,393 tons of goods per day was transported.

FIGURES_DATA_FACTS

Density of freight traffic on the Austrian Danube 2015

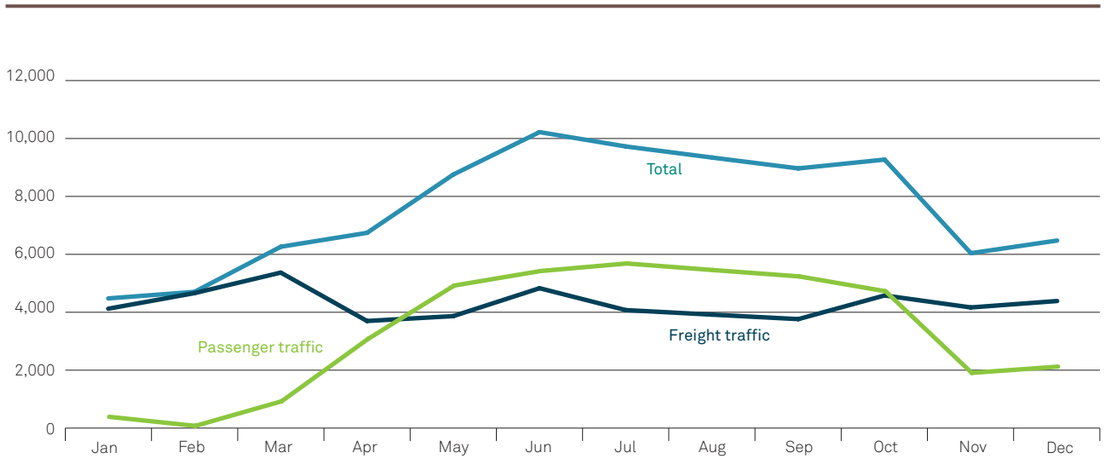


Section	Length	Import	Import	Export	Export	Domestic	Domestic	Transit	Transit	Total	Total	In sum
in 1,000 tons	in km	upstr.	d'str.	upstr.	d'str.	upstr.	d'str.	upstr.	d'str.	upstr.	d'str.	
Border DE/AT–Aschach	63.21	0	1,170	776	0	0	0	1,521	309	2,297	1,479	**3,776**
Aschach–Linz	31.30	78	1,133	775	0	1	0	1,521	309	2,375	1,442	**3,817**
Linz–Enns	16.87	2,172	597	300	481	215	14	1,521	309	4,208	1,401	**5,609**
Enns–Ybbs	54.16	2,308	200	244	608	215	14	1,521	309	4,288	1,130	**5,418**
Ybbs–Pöchlarn	13.47	2,308	195	244	608	215	14	1,521	309	4,288	1,126	**5,414**
Pöchlarn–Krems	46.20	2,324	173	244	608	216	14	1,521	309	4,305	1,103	**5,408**
Krems–Pischelsdorf	26.30	2,481	103	185	645	217	0	1,521	309	4,405	1,056	**5,461**
Pischelsdorf–Korneuburg	29.60	2,690	35	141	662	217	0	1,521	309	4,569	1,006	**5,575**
Korneuburg–Vienna	23.64	3,061	35	132	666	260	0	1,521	309	4,974	1,010	**5,984**
Vienna–Border AT/SK	45.76	3,155	0	0	988	0	0	1,521	309	4,676	1,297	**5,973**

Source: Statistics Austria, adapted by viadonau

FIGURES_DATA_FACTS

Vessel units* in freight and passenger transport locked through Austrian Danube locks in 2015



	Freight traffic	% to previous year	Passenger traffic	% to previous year	Total	% to previous year
2015	50,781	–18.7	39,347	+1.6	90,128	–10.9
2014	62,449	–1.1	38,716	+19.8	**101,165**	+6.0
2013	63,141	+6.2	32,329	–3.7	**95,470**	+2.6
2012	59,443	–6.8	33,573	–2.0	**93,016**	–5.1
2011	63,792	–4.9	34,244	+6.5	**98,036**	–1.2

* Vessel units in freight transport include convoys (pushers, motor cargo vessels or motor tankers with cargo and tank lighters or barges) and individual vessels (motor cargo vessels and motor tankers or individual pushers and tugs). Passenger vessels include day-trip vessels and cabin vessels.

Source: viadonau

LOCKED–THROUGH VESSEL UNITS

90,000 units locked through
A decline in freight traffic

- Decrease of 18,7% in locked-through cargo vessels in comparison to 2014
- Increase of 1,6% in passenger traffic

A total of 90,128 passenger and cargo vessel units, travelling both upstream and downstream, were locked through the nine Austrian lock facilities in 2015 (excluding the Jochenstein power station on the Austrian-German border). Included in this number were 33,130 motor cargo vessels and motor tankers (–23.9% compared to 2014), 17,651 pushers (–6.6%) and 39,347 passenger vessels (+1.6%). 42,570 cargo and tank lighters or barges (–11.3%) were also locked through as part of coupled and pushed convoys. When taking all types of vessels and convoys into consideration, the total number of locked-through vessel units in freight and passenger transport showed a minus of 10.9% over 2014.

Freight transport on the Austrian Danube saw a sharp decrease in locked-through vessel units (–18.7% or 11,668 fewer units locked through than in 2014). By contrast, passenger vessels saw a slight increase in locked-through traffic (+1.6% or 631 more locked-through vessel units than in 2014). In 2015 freight transport had a share of 56.3% of total shipping volumes (–5.4% compared to 2014) with passenger traffic accounting for the remaining 43.7% (+5.4%).

Over the whole of 2015, the average volume of vessels passing through an individual Austrian Danube lock facility amounted to 10,014 convoys and individual vessels (a minus of 1,227 vessel units compared to 2014). This is equivalent to 835 (–102) vessel movements per month and an average of 28 locked-through vessels per lock per day. As in previous years, the highest vessel volume was once more recorded at the Freudenau lock in Vienna with 12,629 vessels and convoys passing through the lock (–11.0% over 2014), followed by the Greifenstein lock with 10,386 units. Aschach lock recorded the smallest amount of locked-through vessels (8,584 units).

In addition to commercial freight and passenger vessel units, 10,600 (+29.6% compared to 2014) small sports and leisure boats also passed through lock facilities on the Austrian Danube in 2015, together with a further 1,450 vessels which included public authority and rescue crafts. These figures are not included in the current statistics for locked-through freight and passenger traffic.

AVAILABILITY OF LOCK CHAMBERS

99,6% continuous availability
Average chamber utilisation about 30%

“2015 demonstrated that fairway conditions on the Danube can change very quickly. Danube River Information Services (DoRIS) is therefore an important tool for vessel captains, providing them with the most up to date fairway information.”

STEFAN SIMON
Head of DoRIS Operations

As the nine Austrian Danube locks are large-scale technical installations, they need to be serviced and maintained at regular intervals to ensure operational functionality and safety and thus also the capacity of waterway traffic flow. These so-called lock overhauls, along with necessary large-scale repairs, accounted for approximately 94% of all closure days of the 18 lock chambers in 2015. The average duration of the four overhauls carried out in the winter half year 2014/15 was an average of 154 days per chamber.

Other reasons for lock closures include year-round repairs of technical defects or damage to facilities caused by vessels. These accounted for a total of 5% of all closure days in 2015 and can be attributed predominantly to a damage at the Aschach lock facility at the end of the year. In addition, 1% of closures were attributed to modification or maintenance work, dredging in and around lock facilities and surveying. No closures due to the adverse weather conditions high water or ice were recorded in 2015.

The continuous availability of the 18 lock chambers of the Austrian Danube amounted to 99.6% of all days in 2015.

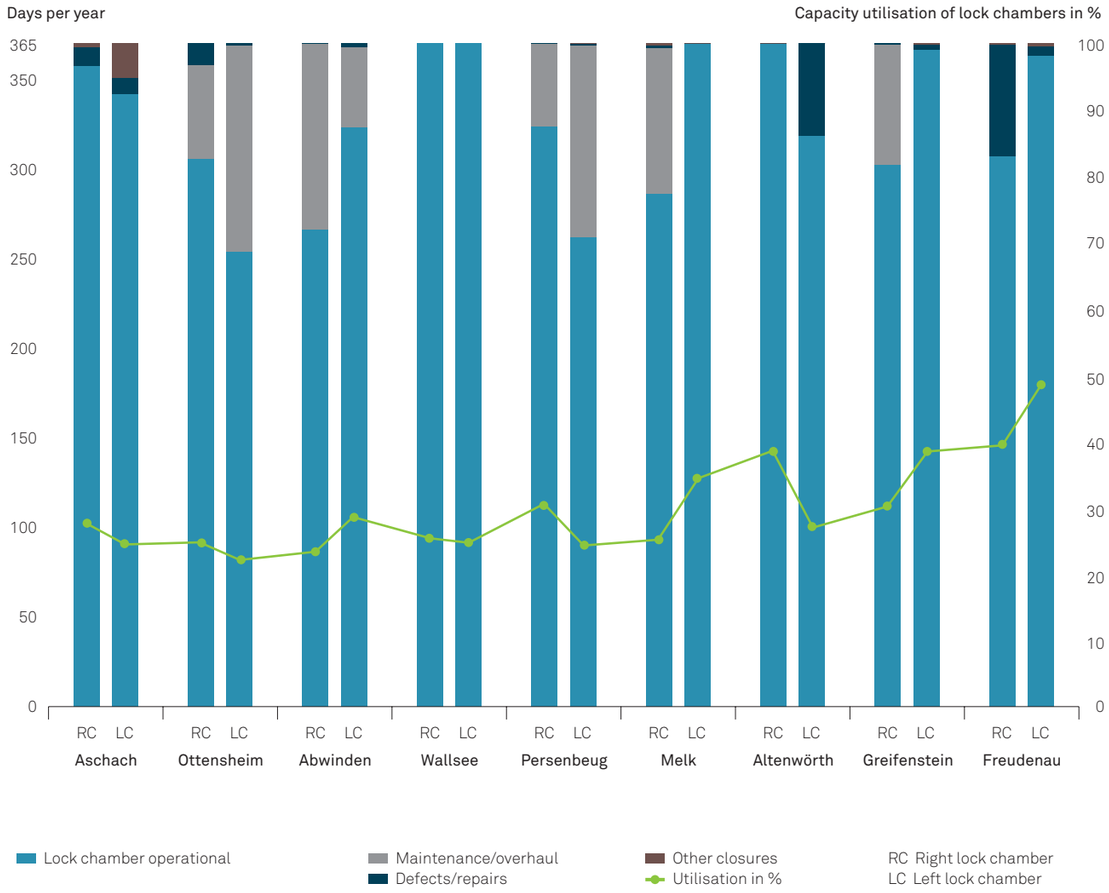
In the busiest months for passenger, sports and leisure navigation between April and October, only short-term closures of individual chambers were necessary. These were mainly due to technical malfunctions, maintenance and accidents. The average closure time on such occasions was 5.8 hours.

During the low-traffic months from November to March four lock chambers were simultaneously out of service. This was mainly due to overhauls and major repairs. Overhauls were carried out on five separate lock chambers.

The average utilisation of individual lock chambers in 2015 was about 30%. The Freudenau lock facility once more achieved the highest average utilisation rate with 44%, while the lowest rate of 24% was recorded at the Ottensheim lock. In this context, the capacity utilisation rate of a lock chamber refers to the period of time that the chamber is occupied, i.e. the entire period between the first vessel collectively being locked through and the last collectively locked-through vessel exiting the chamber, always assuming 24/7 availability of the lock chamber.

FIGURES_DATA_FACTS

Availability of Austrian Danube locks 2015



Source: viadonau

FIGURES_DATA_FACTS

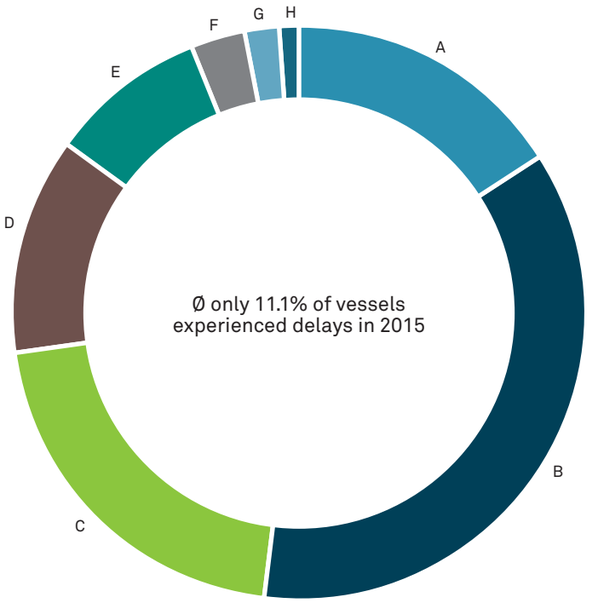
Analysis of waiting times for vessels waiting at Austrian Danube locks 2015

H
Over 180 minutes
1%

G
120 to 180 minutes
2%

F
90 to 120 minutes
3%

E
60 to 90 minutes
9%



A
Under 15 minutes
16%

B
15 to 30 minutes
36%

C
30 to 45 minutes
21%

D
45 to 60 minutes
12%

Source: viadonau

WAITING TIMES AT LOCKS

Only 11.1% of vessels experienced delays
Average waiting time 34 minutes

On average, only 11.1% of all shipping units (commercial freight and passenger ships) experienced waiting times at locks on the Austrian section of the Danube in 2015. The average waiting time amounted to 34 minutes. For more than half of these vessels the waiting time was less than 30 minutes. Nearly three quarters had to wait less than 45 minutes and only approximately 15% of all waiting vessel units were delayed for more than one hour.

In periods when all lock facilities were fully available (both lock chambers fully operational, excluding short-term closures), 94.6% of all ships did not have to wait at the locks. The remaining 5.4% had to interrupt their journey for an average of 29 minutes.

Broken down into individual locks and months – with an average duration of 33 minutes – only 9.2% of all vessel units experienced waiting times during the heavy-traffic months of April to October in 2015. In the low-traffic winter months of November to March, about 13.9% of all locked-through vessel units experienced an average waiting time of 34 minutes at the nine Austrian Danube locks. The primary reason for these delays was major overhaul and maintenance work being carried out in the low-traffic season.

- No waiting times for 88.9% of all vessel units in 2015
- An average waiting time of 34 minutes for 11.1% of all locked-through vessel units

ACCIDENTS

Number of traffic accidents consistent Plus for collisions, no vessel sunk

- Ship collisions and collisions with lock facilities and riverbanks were the most frequent types of accidents in 2015
- No personal injuries
- 17 accidents involving freight vessels and 11 accidents involving passenger ships

Danube navigation has an unbeatable safety and accident record when compared to the land transportation modes of rail and road. Only 29 accidents involving commercial passenger ships, freight vessels or convoys resulting in damage to property and/or personal injury occurred during the course of 2015 on the Austrian section of the Danube. Seventeen accidents involving cargo vessels were recorded, while eleven incidents of damage to passenger ships were reported.

When split into accident types, twelve incidents were vessel collisions, nine of which involved vessels colliding with each other whilst in service and three cases of accidents involving vessels colliding with each other within the confines of a lock facility. Three cases of vessels running aground due to overloading, too low water levels or navigating outside of the fairway were also recorded. Eight incidents involved damage to riverbanks or facilities, and a further five collisions occurred within the confines of lock facilities. Finally, one vessel was involved in a collision with a bridge.

There were no incidents of personal injury, water pollution or load spillages caused by freight or passenger shipping on the Austrian section of the Danube in 2015.

The majority of accidents in 2015 occurred on impounded sections of the Danube. A total of 13 accidents were registered in such sections, including five ship collisions, one bridge strike and four collisions with riverbanks. Four accidents were reported on the free-flowing section of the Danube east of Vienna, six accidents within the vicinity of lock facilities (whilst being locked-through or in either the headwater or tailwater area of the lock). Four accidents were recorded on the free-flowing section of the river between Melk and Krems (Wachau) in 2015. Two accidents occurred on the Danube Canal: a collision with the riverbank and a ship collision.

Sports and recreational boating, which is not included in the accidents described above (except in collisions with commercial freight and passenger vessels), recorded two accidents involving damage on the Austrian section of the Danube in 2015. The first was a collision with the riverbank and the second a collision within the vicinity of a lock facility. These accidents resulted in one death and one serious injury. Two other people suffered minor injuries.

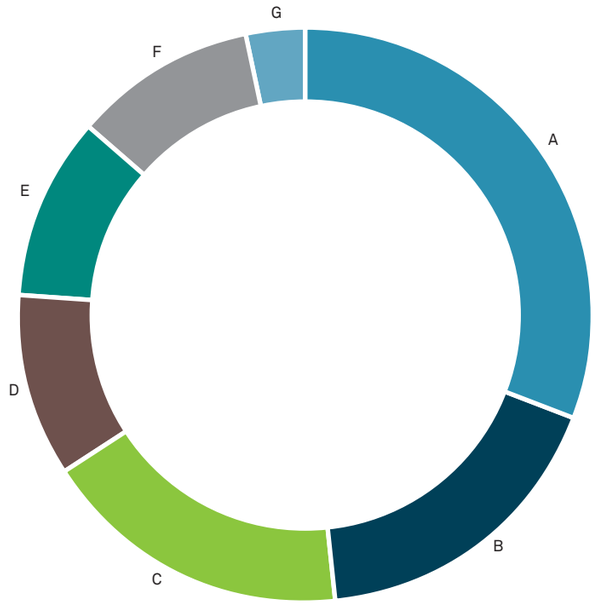
FIGURES_DATA_FACTS

Traffic accidents according to type of damage on the Austrian Danube 2015

G
1 bridge strike
3%

F
3 collisions of ships in the lock
10%

E
3 collisions with structures (excluding lock facilities)
10%



A
9 collisions of ships in service
31%

B
5 collisions with lock facilities
18%

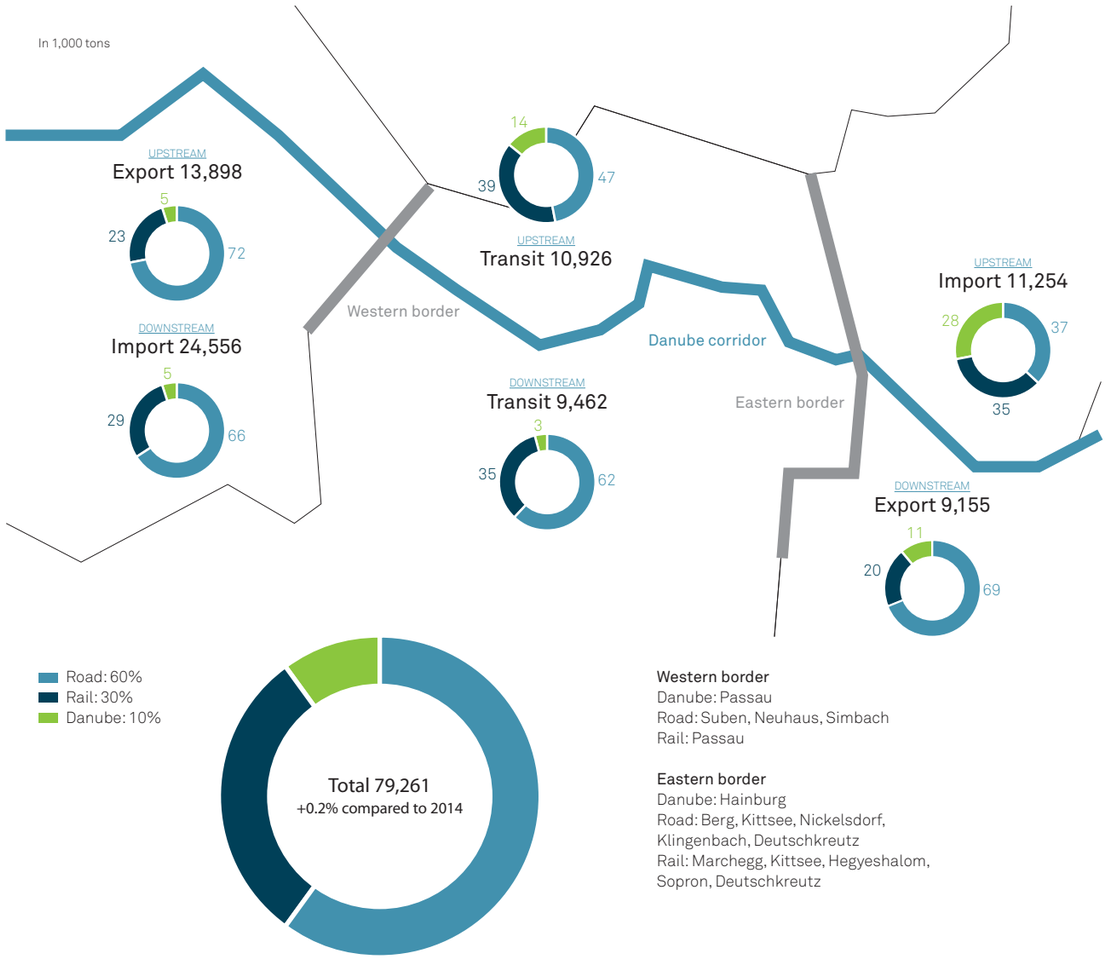
C
5 riverbank collisions
18%

D
3 groundings
10%

Source: Supreme Navigation Authority at the Federal Ministry for Transport, Innovation and Technology; Federal Office of Transport; adapted by viadonau

FIGURES_DATA_FACTS

Cross-border freight traffic in the Austrian Danube corridor 2015



Source: Austrian Institute for Spatial Planning (ÖIR), adapted by viadonau

MODAL SPLIT

Once again increase in road traffic Danube's share around 10%

- Road increased its share of transport volume by 3.6%
- Less goods transported by waterway and rail
- The Danube achieves a modal split of around 28% for imports crossing the Eastern border and around 14% for upstream transit

The transport volume along the Austrian Danube corridor in 2015 was approximately 79.3 million tons. This means that it has more than doubled in the last 20 years (1996 to 2015). (Data on road transport for 2015 is based on estimates by the Austrian Institute for Spatial Planning, as official data is still pending.) Compared to 2014, transport volumes in the corridor remained stable in 2015 with an increase of 0.2% or 122,000 tons.

The chart shows the cross-border transport volume (net tons) for the three transport modes of rail, road and waterway in the Austrian Danube corridor according to transport type. A look at the figures for all transport modes reveals that the quantity of goods transported to and from the west is significantly higher than the volume of goods crossing the eastern border of Austria: In 2015, just under 58.9 million tons of goods, including transit transport, passed through the western border of the Austrian Danube corridor (+0.5% compared to 2014), while approximately 40.8 million tons (–1.2%) crossed the eastern border.

With about 58.9 million tons transported, the level of originating and terminating traffic (western and eastern borders taken together) once again accounted for the predominant share of total traffic volume in 2015. Transit traffic volumes for the year amounted to almost 20.4 million tons. However, this segment has experienced strong growth over the last 20 years; today, its volume is 2.4 times higher than in 1996, with transit road transport having increased by a factor of 3.8.

Whereas cross-border freight traffic on the Danube over the last five years has recorded an average of about 10 million tons, only slightly more than 7.9 million tons were transported in 2015 (–15.1% compared to 2014). Only eastbound traffic was able to record an increase in freight volumes (+18.7%). Rail also experienced a decrease of 0.5% in 2015. Although road traffic continued its upward trend (+3.6%), growth in this sector was not as strong as last year (+4.2%).

In 2015, the modal split along the Austrian Danube was as follows: 60% road, 30% rail and 10% Danube. The largest percentage of traffic volume on the Danube in 2015 was around 28% in imports on the eastern border and approximately 14% in upstream transit traffic.

FREIGHT TRANSPORT ON THE ENTIRE DANUBE

40 million tons
Plus 6.3% compared to 2013

- The first noticeable increase in total traffic volume on the Danube for three years (+6.3% compared to 2013)
- Romania once again the most important exporter and importer on the waterway in 2014
- About 5.3 million tons of maritime traffic on the Danube (+16.8% compared to 2013)

The most current available figures regarding the volume of freight transport on inland waterways in the Danube region are from the year 2014. In total, nearly 40.1 million tons of goods were carried on the Danube waterway and its tributaries that year – a plus of 6.3% or around 2.4 million tons more than in 2013.The figures for inland waterway transport on the Danube (including tributaries) are laid out in the following paragraphs and the chart opposite. River-sea transport will be dealt with further below.

In 2014, the largest transport volume was again achieved by Romania, amounting to 17.9 million tons, followed by Serbia with more than 12.4 million tons and Austria with over 10.3 million tons. While countries in the upper and middle regions of the Danube recorded a decrease in the amount of goods shipped on the waterway compared to 2013 (Germany: –1.8%, Austria: –7.9%, Slovakia: –12.3%, Hungary: –4.6%, Croatia: –8.4%, Serbia: +0.3%), transport volumes in the lower Danube regions saw an increase for the first time in several years (Romania: +5.9%, Bulgaria: +8.0%, Moldavia +3.2%, Ukraine: –0.6%).

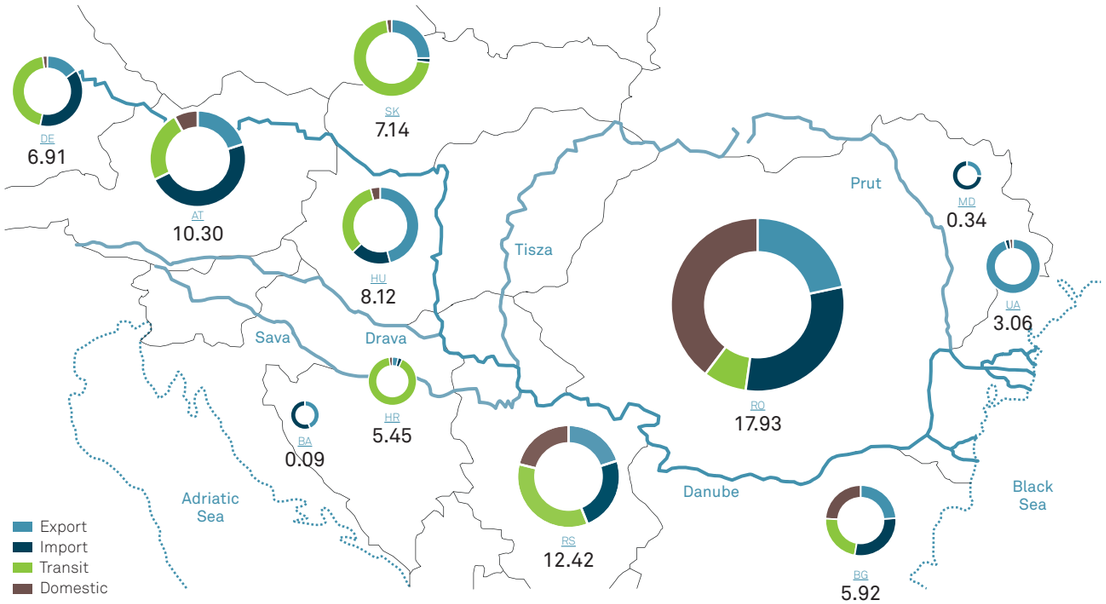
The largest exporter on the Danube in 2014 was once again Romania with almost 3.9 million tons (+11.6% compared to 2013), followed by Hungary with over 3.7 million tons (+9.4%) and the Ukraine with just under 3.0 million tons of goods (+0.7%). Romania, with more than 5.5 million tons (–0.4% compared to 2013), was also the largest importer. The second strongest importing country on the Danube in 2014 was once again Austria with nearly 5.0 million tons (–8.8%). Serbia imported a little over 3.0 million tons (+34.2%).

A total of 14.3 million tons were transported on the Romanian Danube-Black Sea Canal in 2014 (including its side channel). This figure includes river-sea shipping amounting to just under 0.3 million tons. This represents a significant increase over the amount of goods transported in 2013 (+3.3%).

In 2014, maritime transport on the Danube, i.e. transport by river-sea vessels or by sea-going vessels, accounted for a total of nearly 5.3 million tons – an increase of 16.8%, or around 0.8 million tons compared to 2013. The majority of this traffic, amounting to nearly 3.7 million tons of goods, was shipped via the Romanian Sulina canal (+15.8% compared to 2013).

FIGURES_DATA_FACTS

Freight transport on the entire Danube 2014

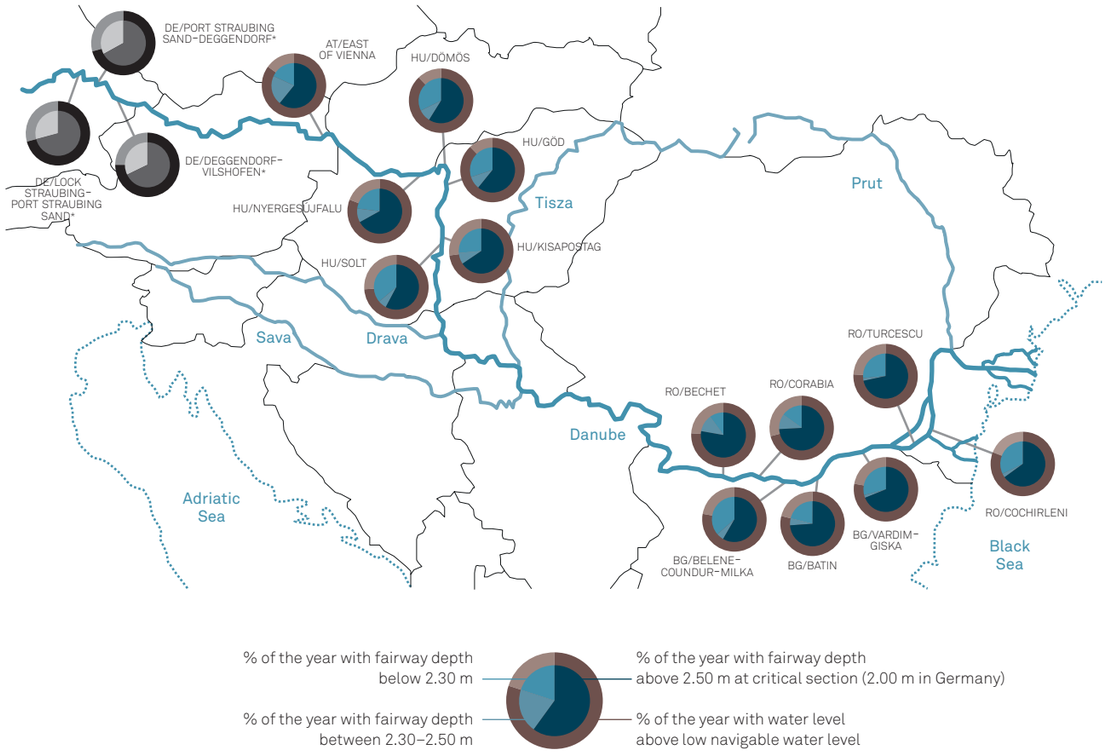


In millions of tons	DE	AT	SK	HU	HR	BA	RS	RO	BG	MD	UA
Export	1.05	2.03	1.76	3.71	0.21	0.04	2.49	3.86	1.43	0.09	2.98
Import	2.65	4.98	0.10	1.37	0.14	0.05	3.02	5.50	1.70	0.25	0.06
Transit	3.06	2.49	5.22	2.71	5.05	0.00	4.30	1.36	1.36	0.00	0.00
Domestic	0.15	0.80	0.06	0.33	0.05	0.00	2.61	7.21	1.43	0.00	0.02
Total	**6.91**	**10.30**	**7.14**	**8.12**	**5.45**	**0.09**	**12.42**	**17.93**	**5.92**	**0.34**	**3.06**

Source: Eurostat, national transport statistics, viadonau, adapted by viadonau

FIGURES_DATA_FACTS

Fairway conditions at critical locations along the Danube 2015



* In the free flowing section between Straubing and Vilshofen a fairway depth of 2.50 m ist neither developable nor maintanable. In this section the objective is to maintain the fairway depth of 2.00 m related to Low Navigable Water Level. Depicted values in Germany therefore refer to 2.00 m fairway depth.

For a detailed interpretation of the chart, reference is made to the "Fairway Rehabilitation and Maintenance Master Plan for the Danube and its navigable tributaries". This is because the individual framework conditions of the critical sections need to be taken into account. Reasons, detailed location and severity of the critical locations differ and also change over time.

Source: "Fairway Rehabilitation and Maintenance Master Plan for the Danube and its navigable tributaries", which has been prepared within the scope of the Danube Region Strategy (www.danube-navigation.eu) and the FAIRway Danube project, adapted by viadonau

FAIRWAY CONDITIONS ALONG THE ENTIRE DANUBE

Difficult fairway conditions
Second half of the year critical

Fairway conditions were extremely difficult along the whole Danube in 2015. Water discharge was significantly below the multi-annual average on the upper as well as the middle and lower Danube. In combination with a lack of financial resources for maintenance work in many Danube countries, this led to extremely unfavourable fairway conditions – long waiting times, fairway closures and vessels running aground in some areas.

The chart provides a status overview of the main critical locations on the Danube in 2015. It illustrates the situation regarding fairway availability (inner circle) in relation to reference water levels (outer circle). The maintenance objective is to provide fairway depths exceeding 2.50 m (2.00 m on the German stretch of the Danube) on a number of days per year that is equal or above the number of days when an actual water level that is equal or above the statistical Low Navigable Water Level is recorded. In 2015, this was only achieved at a small number of the main critical locations. The summer months saw very difficult fairway conditions, mainly on the lower Danube, whereas the last quarter also saw extremely unfavourable conditions on the middle and upper Danube.

On some sections, fairway depths just slightly below the 2.50 m threshold (between 2.30 and 2.50 m, marked in the inner circle of the graphic) were available for a significant amount of time. This was the case on 77 days on the section east of Vienna (Austria), on 36 days at the critical location Nyergesújfalu (Hungary/Slovakia) and on 20 days in the area of Belene/Milka/Coundur (Bulgaria).

In addition to the critical hydrological situation, maintenance measures were not implemented as required in many riparian countries. In Hungary and Bulgaria especially, no dredging measures were undertaken in 2015. The reasons being primarily a lack of budget and suitable equipment for maintenance. It is expected that ongoing project initiatives will begin to improve this situation in 2016. The "Fairway Rehabilitation and Maintenance Master Plan for the Danube and its navigable tributaries" and the FAIRway Danube project, both coordinated by viadonau, are crucial elements of these remedial actions.

"The Danube is the most international waterway in the world. If we want to maintain it efficiently in the long term, we need to work together on a transnational basis. With the FAIRway Danube project, we are working together with other Danube riparian states to achieve optimal fairway conditions along the entire length of the Danube."

KATJA ROSNER
Project Manager Strategy & Action Programmes

Imprint

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Ybbs

Erlauf

Traisen

Donau

Danube Canal

2,250

2,225

2,200

2,175

2,150

2,125

2,100

2,075

2,050

2,025

2,000

1,975

1,950

1,925

1,900

1,875

Jochenstein
River km 2,203
2 chambers
of 227 × 24 m

Kachlet
River km 2,231
2 chambers
of 226.5 × 24 m

Passau

Engelhartszell

Aschach
River km 2,163
2 chambers
of 230 × 24 m

Service Centre
Upper Danube Valley

Aschach

**Handelshafen
Tankhafen
voestalpine
Felbermayr**

Linz

Ottensheim
River km 2,147
2 chambers
of 230 × 24 m

Abwinden
River km 2,120
2 chambers
of 230 × 24 m

Enns

Wallsee
River km 2,096
2 chambers
of 230 × 24 m

Grein

Ybbs-Persenbeug
River km 2,060
2 chambers
of 230 × 24 m

Ybbs

Pöchlarn

Melk
River km 2 038
2 chambers
of 230 × 24 m

Kienstock
River km 2,015
LNWL 2010: 164 cm
HNWL 2010: 618 cm

Dürnstein
River km 2,009
LNWL 2010: 258 cm
HNWL 2010: 638 cm

Krems

Service Centre
Wachau

Altenwörth
River km 1,980
2 chambers
of 230 × 24 m

Pischelsdorf

Greifenstein
River km 1,949
2 chambers
of 230 × 24 m

Korneuburg

Nussdorf (Danube Canal)
1 chamber
of 70 × 13 m

Head office

Freudenau
River km 1,921
2 chambers
of 275 × 24 m

**Freudenau
Albern
Lobau**

Service Centre
March-Thaya

Thebnerstraßl
River km 1,879
LNWL 2010: 132 cm
HNWL 2010: 598 cm

Hainburg

Bratislava

Service Centre
Carnuntum

Wildungsmauer
River km 1,895
LNWL 2010: 162 cm
HNWL 2010: 564 cm

The Austrian section of the Danube

- Waterway
- Free-flowing stretch
- Lock
- Important water gauge
- Port/transhipment site
- Navigation surveillance
- viadonau Service Centre
- LNWL Low navigable water level
- HNWL Highest navigable water level

viadonau