

14



Key data on Danube navigation 2014*

Transport volumes

10.1 million tons (–5.5%)	<ul style="list-style-type: none">• Import: 5.0 million tons (–8.8%)• Export: 2.0 million tons (+2.2%)• Transit: 2.3 million tons (–9.8%)• Domestic: 0.8 million tons (+13.9%)
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Transport performance

9.9 billion tkm (–11.0%)	• Within Austria: 2.2 billion tkm (–7.5%)
9,706 loaded journeys (+2.5%)	• Outside Austria: 7.7 billion tkm (–11.9%)

Waterside transshipment at Austrian ports and transshipment sites

8.6 million tons (–2.7%)	<ul style="list-style-type: none">• Ores and metal waste: 2.6 million tons (–11.2%)• Petroleum products: 2.2 million tons (–12.5%)• Crude and manufactured minerals, building materials: 1.1 million tons (+51.6%)• Fertilisers: 0.7 million tons (+6.2%)• Agricultural and forestry products: 0.7 million tons (–5.7%)• Other goods: 1.3 million tons (+1.1%)
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Vessel units locked through Austrian Danube locks

101,165 vessel units** (+6.0%)	<ul style="list-style-type: none">• Freight transport: 62,449 units (–1.1%)• Passenger transport: 38,716 units (+19.8%)
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Passenger transport (including estimation)

1.1 million passengers (+10.1%)	<ul style="list-style-type: none">• Liner services: 655,000 passengers (+7.4%)• River cruises: 375,000 passengers (+17.2%)• Nonscheduled services: 115,000 passengers (+4.5%)
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Accidents

29 traffic accidents with damage	<ul style="list-style-type: none">• Personal injuries: 1 death, 2 slightly injured• Damage to property: 5 ship to ship, 3 grounding incidents, 21 incidents with damage to riverbank and facilities, 1 ship sunk
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Availability of the waterway

364 days	• Closures due to high water: 1 day
15 year average: 357 days	• Closures due to ice: 0 days

* Changes from 2013 are given as percentages in brackets.

** Convoys and individual vessels.

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

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Editorial note: Statistics Austria has adjusted its report for 2013 due to the submission of data by voestalpine received after the publication of the 'Annual Report on Danube Navigation in Austria 2013'. The analysis in this annual report is based on the revised figures. Small variations to Statistics Austria's figures may arise due to rounding differences.

Optimal use of Danube's infrastructure Promoting the waterway together



Alois Stöger
ALOIS STÖGER
Federal Minister for Transport,
Innovation and Technology

With a navigable length of over 2,400 kilometres, the Danube offers a high-performance and environmentally friendly alternative for European transit traffic and represents a seminal transport axis for the continent. The benefits of inland vessels speak for themselves: with low emissions, high energy-efficiency and no traffic congestion, navigation can make a significant and especially ecologically effective contribution to relieving road and rail. Albeit, the future of the Danube as an attractive transport system depends on the safety and reliability of a well-developed infrastructure.

Sustainable development needs a stable basis. Together with viadonau, my ministry is committed to the integrated development of the Danube. The underlying principle of our new Action Programme for the Danube is the cohesive combination of the environment, flood control and navigation, thereby coping with the wide utilisation interests along the Danube. Together with the other Danube riparian states we are setting new standards in transnational cooperation regarding harmonised waterway management along the entire transport axis by implementing a Master Plan for Fairway Rehabilitation and Maintenance on the Danube and its navigable tributaries which was adopted in 2014. In achieving this, we will strengthen and share the potential of the waterway, thus stimulating sustainable economic growth in Europe and at the same time enhancing the attractiveness of Austria as a business location.

Innovation for the future of the Danube Strengthening opportunities for business

Over the last ten years, the name viadonau has come to represent the integrative consolidation of the environment, economy and safety along the most international river in the world. We are continuously advancing waterway management along the Danube with the objectives of achieving sustainable, stable and safe parameters for reliable inland navigation together with a vibrant and flourishing natural and economic area.

Reliability and efficiency – even under difficult conditions – are crucial to the quality of inland waterway transport. Despite the extensive cleanup operations that needed to be carried out following the flood of the century in 2013 and extended low water periods, the volume of traffic on the Danube in 2014 showed a solid performance. Passenger navigation in particular benefited from the high availability of the waterway, which with 364 days was the highest in fifteen years. 1.1 million passengers, over 100,000 locked-through vessels and a solid 10.1 million tons of goods transported, demonstrate the performance potential of Danube navigation as a safe and reliable mode of transport.

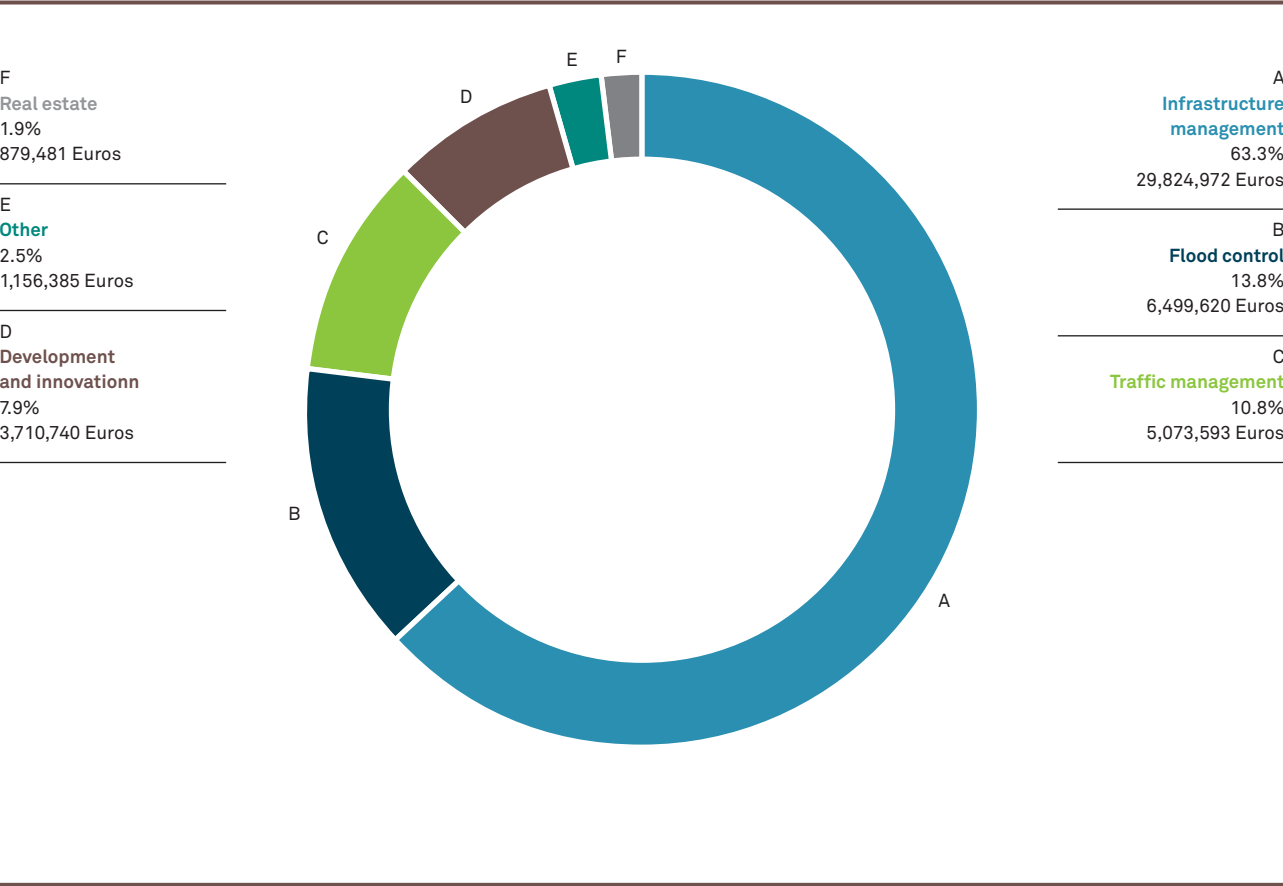
The development of inland navigation is part of the Danube's history and, at the same time, our own. On the occasion of our anniversary year 2015, we present, in this eighth edition of our annual report, facts and figures on the current development of the transport industry combined with historic visual impressions of navigation on the Danube.



Hans-Peter Hasenbichler
HANS-PETER HASENBICHLER
Managing Director
of viadonau

FIGURES_DATA_FACTS

Cost of core tasks
viadonau 2014



The Austrian waterway
operator viadonau ...

- maintains 350 kilometres of waterways
- locks through more than 100,000 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

Integrative for the Danube
Customers confirm our approach

For viadonau flood control, the environment and the economy are always closely linked with each other. Last year was therefore dedicated to the consistent continuation of an integrative and complementary planning approach. 2014 saw the successful completion of construction measures for the pilot project at Bad Deutsch Altenburg in the framework of the Integrated River Engineering Project. The solution-driven and interest-oriented involvement of the key players was crucial for the implementation of this project. The results and the valuable experiences of the stakeholder participation process have had a direct and positive effect on the further development of the Danube to the east of Vienna.

Cleanup efforts, following the floods in 2013 (such an event occurs on a statistical average of around every 300 years), continued to be a high priority in 2014. An analysis of discharge along the Lower Austrian Danube revealed that the Marchfeld protective bank and its back dams urgently need restoration. As a result of our know-how and many years of expertise in the field of flood control, viadonau was contracted with a project for dam refurbishment in the previous year. The company has been working since 2006, on behalf of the two water authorities of Angern-Bernhardsthal and Marchegg-Zwerndorf, to reconstruct the dams along the March and the Lower Thaya. This project was funded by the federal disaster fund and in 2014 the remaining work on the dams was completed.

2014 was also a rewarding year for the transnational development of the Danube waterway. As part of the European project NEWADA duo, viadonau reached an agreement with the waterway administrations of the other Danube riparian countries that ensures a minimum level of service in waterway infrastructure management. The collective needs assessment analysis undertaken to guarantee this minimum service level resulted in the creation of the “Fairway Rehabilitation and Maintenance Master Plan”, which was adopted by the transport ministers of the Danube riparian countries on 3rd December 2014 in Brussels.

viadonau is committed to the development and use of modern management systems. In autumn 2014, the waterway management system WAMS, which was developed in cooperation with the Technical University of Vienna, began pilot operations. The system provides current information on the availability of the waterway and enables the continuous monitoring of critical sections of the Danube. In addition, it allows for the targeted management of river engineering measures and provides impact assessments on their effectiveness, thereby guaranteeing the efficient use of funds. Positive customer response confirms the success of the integrated consolidation of user interests on the Danube. Modern management and cross-border development strategies are the key to securing the future of the Danube waterway.



“The introduction of results-based management enables a greater connectivity between performance, effectiveness and resources. Moreover, we are creating transparency as to which projects, activities and collaborations are required to achieve the desired effects for our customers.”

INES WILFLINGSEDER
Head of Auditing

FIGURES_DATA_FACTS

Locked-through vessel units 2011-2014

50,000
vessel units

50,000
vessel units

98,036
2011

93,016
2012

95,470
2013

101,165
2014

FIGURES DATA FACTS

Freight transport on the Austrian Danube 2007–2014



Navigational closures due to high water and ice 2014



Closures due to ice
0.0%
2014

Closures due to high water
0.3%
2014

Waterway availability
99.7%
2014

TRANSPORT VOLUMES

Difficult conditions
Fewer imports from the Ukraine

- Low water periods led to a reduction in volume of goods shipped and at the same time, an increase in journeys made
- Imports from the Ukraine via the Danube fell by 82%
- 2.2% increase in exports via the Danube

Inland navigation on the Danube had to cope with extended periods of low water in 2014. In addition, the significant reduction of imports from the Ukraine also had a pronounced effect on transport volumes. Around 10.1 million tons of goods were transported on the Austrian stretch of the Danube in 2014, corresponding to a decline of 5,5%, or 588,120 tons, in comparison to 2013. This decrease was primarily the result of a reduction in quantities of goods transported as import and transit traffic. A slight increase in domestic traffic and export was recorded in 2014.

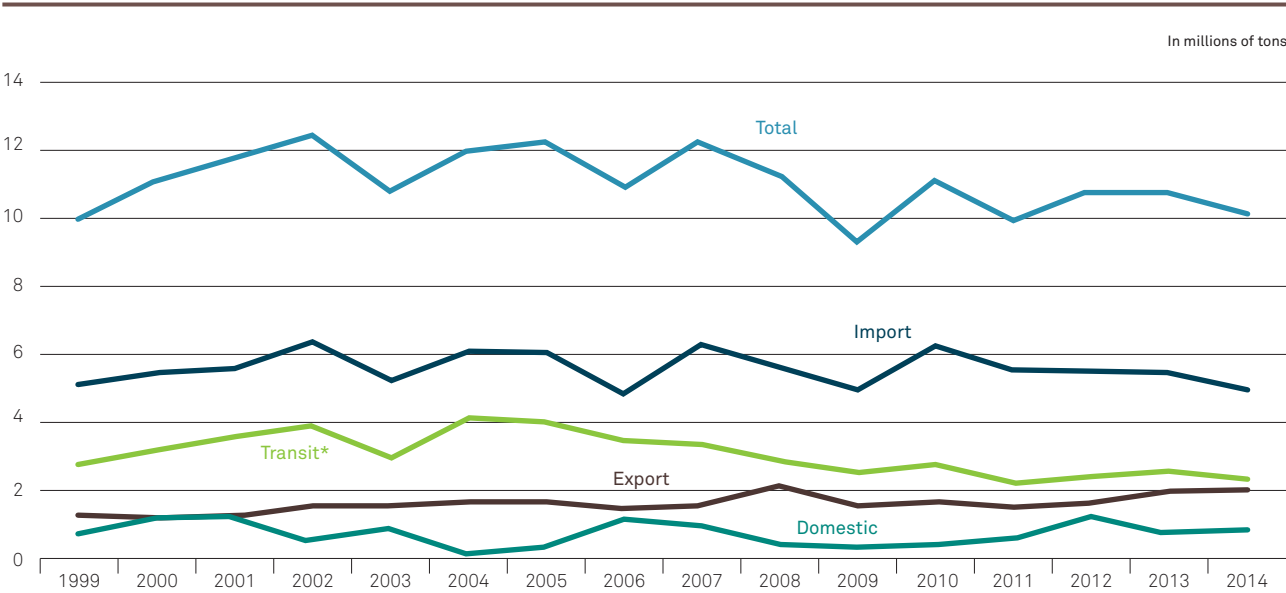
Transport performance (the product of transport volume and distance travelled) in the federal territories fell in 2013 by 7.5% to around 2.2 billion ton-kilometres. The entire transport capacity both within and outside of Austria declined by 11.0% to just over 9.9 billion ton-kilometres. The number of trips made by loaded vessels on the Austrian section of the Danube, however, rose by 2.5%, from 9,470 to 9,706. This increase in loaded vessel journeys compared to the decline in transport volume can be explained by the lower utilisation of vessels. The average transport distance per ton for transit traffic was 1,395 kilometres, 976 kilometres for import, 863 kilometres for export and 97 kilometres for domestic traffic.

A drop in cross-border freight traffic (the sum of export, import and transit) of 6.9%, or 685,798 tons, compared to 2013, was recorded. The greatest reduction of transport volume on the Austrian Danube in 2014 was in transit traffic. Goods transported in this sector decreased by 9.8% or 250,281 tons to 2.3 million tons. Transport volumes for imports also fell in comparison to 2013 by 8.8% or 479,700 tons to around 5.0 million tons. The decrease in imports from Ukraine of 82.0% or 404,328 tons, to a mere 102,874 tons is of particular significance.

With over 2.0 million tons of freight transported, exports registered an increase of 2.2% or 44,183 tons. Domestic traffic on the Danube waterway also rose by 13.9% or 97,678 tons to 798,797 tons.

FIGURES_DATA_FACTS

Freight traffic on the Austrian
Danube 1999–2014



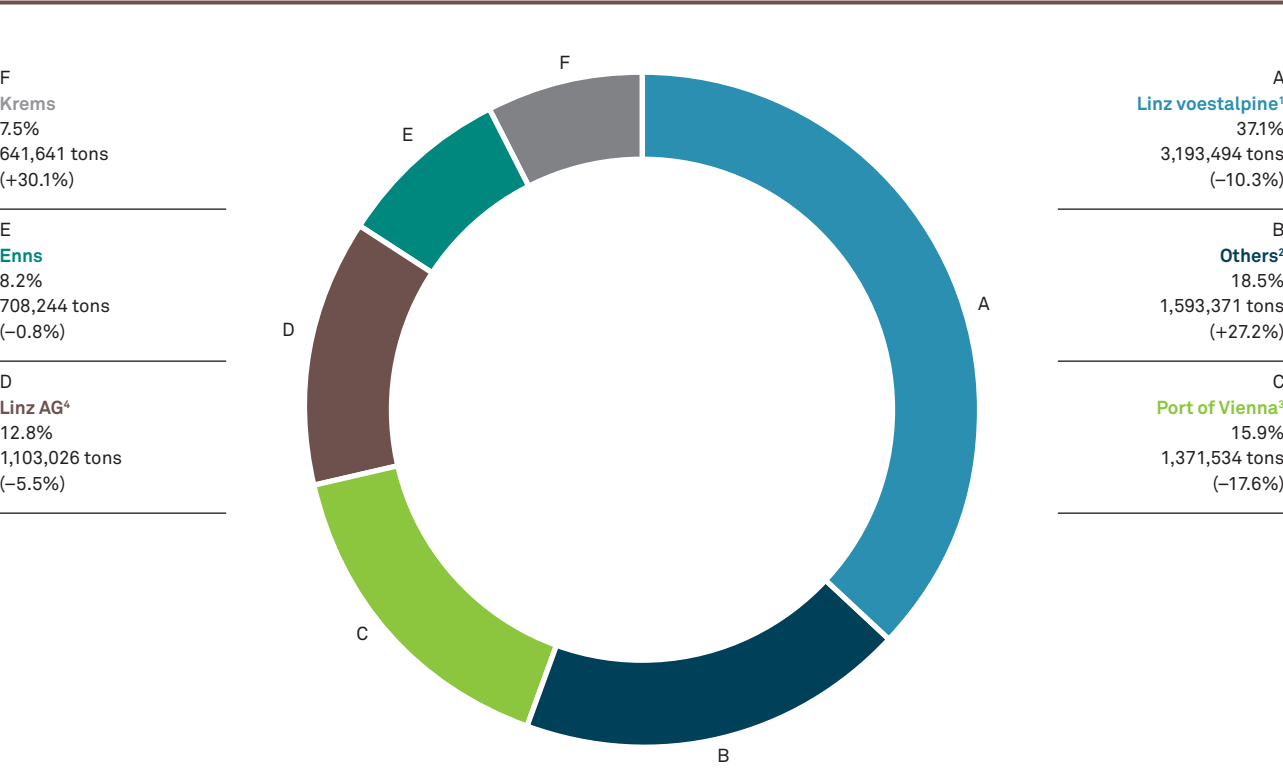
Transport volumes in tons	Import	Export	Transit*	Domestic	Total
2014	4,982,130	2,031,587	2,309,212	798,797	10,121,726
2013	5,461,830	1,987,404	2,559,494	701,119	10,709,847
2012	5,438,844	1,623,701	2,411,351	1,240,111	10,714,007
2011	5,564,222	1,545,722	2,268,157	565,187	9,943,288
2010	6,199,870	1,667,805	2,727,772	456,632	11,052,079

* 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 2014



¹ Including waterside transhipment at Industrie Logistik Linz GmbH.
² Other ports and transhipment sites include: Aschach, the heavy cargo port at Linz, Pöchlarn, Pischelsdorf, 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.

PORT TRANSHIPMENT

A slight decrease in total volumes Krems shows a significant increase

In 2014, a total of 8.6 million tons of goods were handled waterside at Austrian Danube ports and transhipment sites. Compared to 2013, this represents a decrease of 2.7% or 240,162 tons.

With a total handling volume of around 3.2 million tons, the port of voestalpine in Linz was once again the most quantitatively significant port on the Danube in Austria in 2014. Despite a turnover decrease of 10.3% or 366,921 tons compared to 2013, the port still handled 37.1% of the total waterside transhipment of all ports and transhipment sites on the Austrian Danube.

The other private ports and transhipment sites (including Aschach, the heavy-cargo port at Linz, Pöchlarn, Pischelsdorf and Korneuburg), were in second place with just under 1.6 million tons and 18.5% 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 1.4 million tons in water-land transhipment in 2014. This represents a decrease of 17.6% or 293,000 tons. The Port of Vienna accounted for 15.9% of total waterside transhipment in the Austrian section of the Danube.

The commercial port and the oil port owned by Linz AG saw a slight decrease of 5.5% or 63,759 tons of goods handled. With a total volume of around 1.1 million tons, the two ports accounted for 12.8% of all goods loaded and unloaded at Austrian ports and transhipment sites.

The Port of Enns remained relatively stable, handling 708,244 tons or 8.2% of Austria's total transhipment volume. This represents a slight decline of 0.8% in comparison to 2013.

The Port of Krems was the only public port on the Danube to increase its water-land transhipment in 2014. With a significant increase of 30.1% or 148,370 tons, the port accounted for 7.5% of the total goods handled at Austrian ports and transhipment sites. A total of 641,642 tons went through the port in 2014.

- voestalpine industrial port, with 3.2 million tons water-side transhipment, most important port on the Danube in Austria
- Significant plus of 30.1% at the Port of Krems
- Other ports and transhipment sites in second place for total transhipment in Austria with 18.5%

COMMODITY GROUPS

Ore and metal waste at the forefront
Increase in solid fuels



“We, the Team Transport Development, always have an open ear for users of the Danube waterway. We support the Danube logistics sector with customised services and initiatives, thereby opening up new markets and attracting new customers.”

SIMON HARTL
Head of Transport Development

As in previous years, ores and metal waste accounted for the highest volume of transport in 2014 with an amount of over 2.6 million tons, despite a drop of 11.3% compared to 2013. This group of goods was transported mainly as imports into Austria along the waterway and enjoyed a share of 25.8% of total volume shipped. The transportation of agricultural and forestry products achieved a volume of around 1.8 million tons and, despite a decline of 12.5% or 260,996 tons, was in second place. More than 60% of these products were shipped in transit through Austria, with imports registering approximately 30% or 546,877 tons. The transportation of petroleum products decreased by 13.0% or 271,609 tons compared to 2013 and, with a total volume of 1.8 million tons, accounted for 17.9% of the total volume shipped. These goods were primarily shipped in or out of Austria as cross-border traffic (74.0% or 1.3 million tons) with transit traffic playing only a minor role.

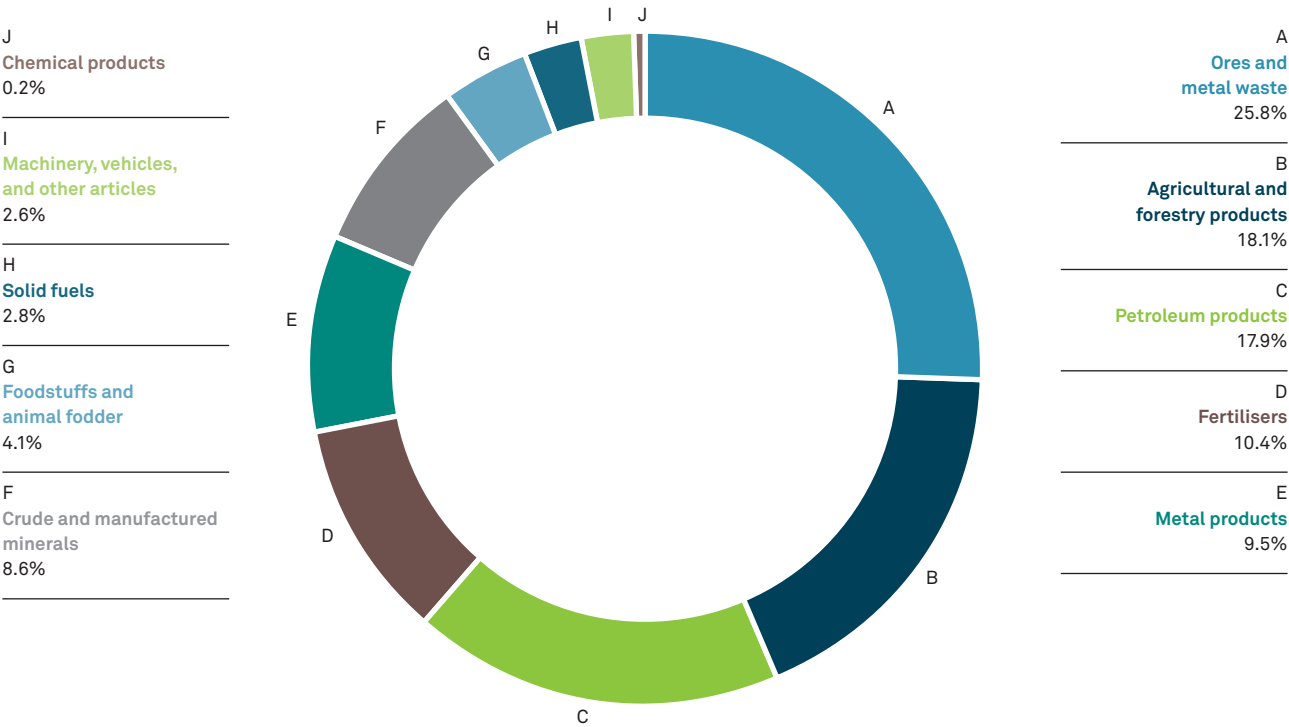
After a two-year decline in fertiliser shipments on the Austrian stretch of the Danube, transport volumes for this commodity group increased in 2014 by 6.8% amounting to just under 1.1 million tons, with more than half being exported. In contrast to 2013, when metal products posted a strong increase, the transportation of this group of goods decreased in 2014 by 8.0% and amounted to 964,630 tons. Metal products were transported on the Danube predominantly as export and transit goods. The transportation of crude and manufactured minerals registered an increase of 23.3% with a total volume of 870,654 tons. This corresponds to a share of 8.6% of total volumes. This increase can be explained by the fact that after the floods in 2013, extensive dredging had to be carried out on the Danube which continued into the first half of 2014. The figures for this commodity group therefore include the substantial quantities of material removed from the fairway. A slight increase of 5.4% or 21,298 was recorded for foodstuffs and animal fodder. In total, 418,634 tons of this commodity were shipped on the Danube, with more than half recorded as imports.

The largest percentage increase is attributable to the commodity group solid fuels. Goods volumes for this segment increased by 106.7%, or 144,681 tons and were almost entirely imports. With a total of 280,324 tons, solid fuels enjoyed a share of 2.8% of the total transport volume.

The commodity group machinery, vehicles and other articles accounted for 260,214 tons of goods shipped – a decrease of 14.7% compared with 2013. Nearly 70% of goods from this group were shipped as transit traffic through Austria. A relatively high increase of 51.1% was recorded for chemical products. However, with a mere 19,053 tons, the volume of goods transported was relatively low compared to the other categories.

FIGURES_DATA_FACTS

Transport volumes by commodity groups
on the Austrian Danube 2014



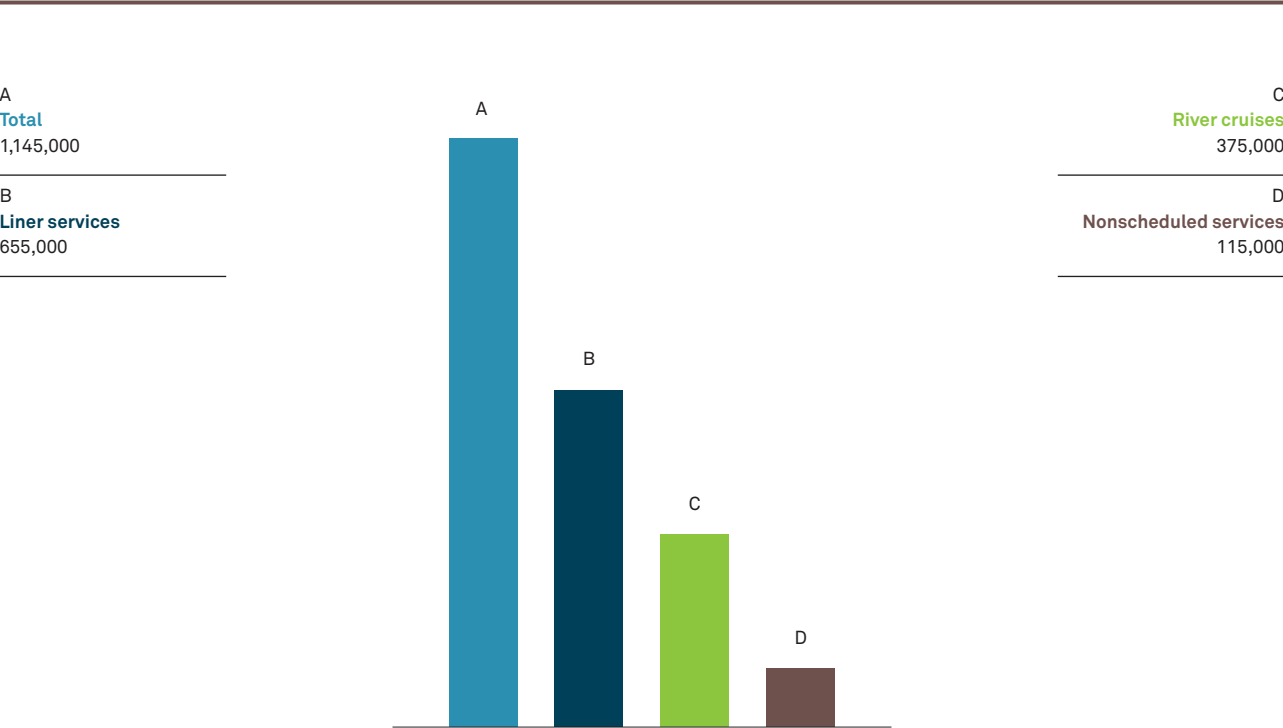
Goods classification according to NST/R*	Domestic	Import	Export	Transit	Total 2014	Change
Agricultural and forestry products	991	546,877	158,274	1,126,238	1,832,380	-12.5%
Foodstuffs and animal fodder	-	223,915	71,126	123,593	418,634	+5.4%
Solid fuels	-	234,765	5,443	40,116	280,324	+106.7%
Petroleum products	407,775	807,027	534,992	63,395	1,813,189	-13.0%
Ores and metal waste	-	2,586,284	25,829	-	2,612,113	-11.3%
Metal products	16,874	156,119	455,128	336,509	964,630	-8.0%
Crude and manufactured materials, building materials	370,637	227,068	158,470	114,479	870,654	+23.3%
Fertilisers	1,616	186,555	549,542	312,820	1,050,533	+6.8%
Chemical products	-	-	8,265	10,788	19,053	+51.1%
Machinery, vehicles, and other articles	905	13,519	64,517	181,273	260,214	-14.7%
Total	798,798	4,982,129	2,031,586	2,309,211	10,121,724	-5.5%

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

Source: Statistics Austria, adapted by viadonau

FIGURES_DATA_FACTS

Passengers on the Austrian Danube 2014*



Dockings and passengers at passenger ports in Vienna**	Dockings ships	% to previous year	Passengers processed	% to previous year
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
2010	3,641	−9.1	362,655	+2.8

* 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 nonscheduled 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.

** Landing stages at Handelskai, the Danube Canal and Nussdorf, including cabin vessels and the Twin City Liners.

Source: DDSG Blue Danube Schifffahrt GmbH, Donauschifffahrt Ardagger GmbH, Donauschifffahrt 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., Schifffahrtsunternehmen Wilhelm Stift GmbH, Slovak Shipping and Ports – Passenger Shipping JSC (SPaP-LOD, a. s.), viadonau, WGD Donau Österreich Tourismus GmbH, Wiener Donauraum Länden und Ufer Betriebs- und Entwicklungs GmbH

PASSENGER TRANSPORT

Substantial increase in passenger numbers
Plus of around 100,000 passengers

In 2014, passenger transport on the Austrian stretch of the Danube was able to record an increase in numbers for the first time since 2011. A total of approximately 1,145,000 passengers were transported, representing an increase of 10.1% in comparison to 2013. This increase was partially due to the high availability of the waterway during the course of the year, which stood at 99.7%.

The number of river cruises continued to increase in 2014 and, with 375,000 passengers transported (+17.2% compared to 2013), reached a new record. The considerable number of 23 new vessels was brought into service on the Austrian section of the river, thereby increasing the number of cabin vessels to 151 (+10.2%). In total, 4,141 trips (+19.1%) were completed. Due to the continuing growth of the existing fleet, the capacity for river cruises increased to 24,652 passengers (+10.4%), this corresponded to an average of 163 passenger places per ship.

In 2014, liner services carried approximately 655,000 people (+7.4% compared to 2013). The DDSG Blue Danube recorded a total of 205,000 passengers (+7.9%) transported in the Wachau and Vienna in 2014. 116,903 passengers (−2.4%) were transported between Vienna and Bratislava on the two Twin City Liners. 50,600 passengers (+3.4%) 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 44,460 passengers (+30.5%).

Nonscheduled services carried approximately 115,000 passengers in 2014 (+4.5% compared to 2013). The DDSG Blue Danube carried 58,000 passengers (+23.4%) on theme, special and charter cruises. 10,500 passengers (−4.5%) travelled on board of the MS Helene (owned by schiffART Linz). The MS Kaiserin Elisabeth (owned by the Donau-Schifffahrts-Gesellschaft mbH) recorded 8,120 (+5.0%) passengers, and the steamship Schoenbrunn carried 6,000 passengers (−9.1%).

Passenger traffic at companies which carried less than 5,000 passengers in 2014 is not reported separately here, and there are no figures available for other scheduled and nonscheduled services operated on the Austrian section of the Danube in 2014.

- 17.2% more passengers on river cruises
- An increase of 6.9% in day river trips
- 23 new cruise ships in operation on the Danube

AVAILABILITY OF WATERWAY

Danube available for 364 days Only a one-day closure due to high water



“For us, availability and safety are both one and the same. Only through regular monitoring of the waterways by our hydrographic team can we obtain current fairway data that enables us to ensure the safe use of the Danube.”

PETRA MARKTL
GIS expert

Over a 15-year annual average from 2000 to 2014, 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 less than 20 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, 2014 was characterised by three minor high water events on the Danube. These occurred in the months of May, August and October (exceeding the highest navigable water level HNWL 2010), with the event in October resulting in the closure of the section of the Danube east of Vienna to the Slovakian border for just over a day. The section between Melk and Altenwörth (Wachau) was also not navigable for about half a day. However, there were no closures due to ice on the Austrian section of the Danube. Thus, the Danube waterway was available for 364 days or 99.7% of the year in 2014. For traffic travelling between the Danube and the Rhine, the availability of the waterways Main and Main-Danube Canal is of great importance. In 2014 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 Main-Danube Canal and the Danube were carried out between 26th March and 19th April, with a total duration of 23 days. The availability of this transport connection was therefore 93.7% in 2014.

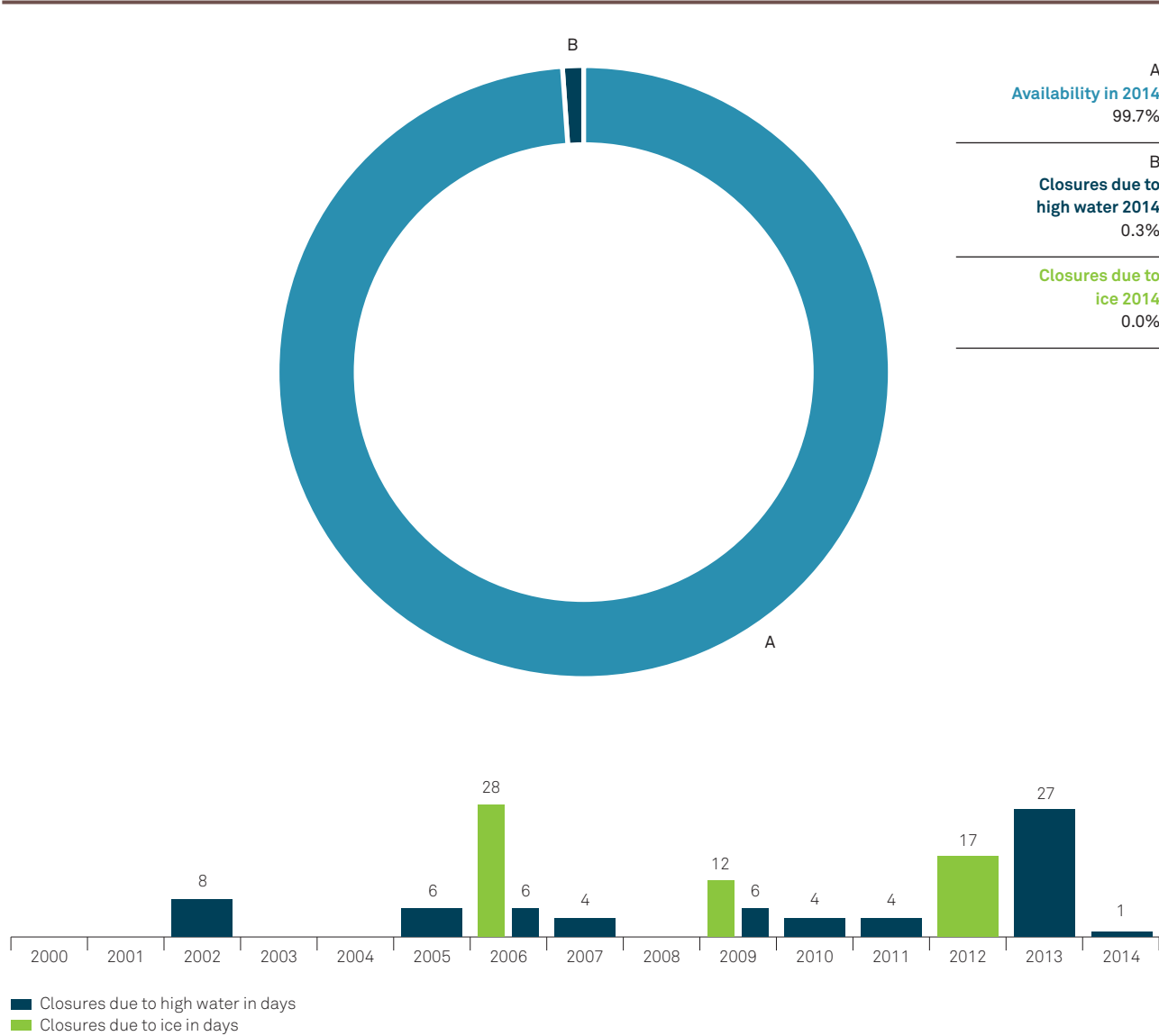
Weather-related closures, in extreme situations such as high water or ice, can be implemented by the relevant authorities on the Austrian section of the Danube waterway. While closures due to ice are normally confined to the winter months of January and February, high waters and flooding generally tend 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 six occasions in 2014, each with an average duration of around two hours.

Closures of individual lock chambers on the Danube – for example due to technical malfunction or accidents in the lock area – are dealt with separately in this report (Availability of lock chambers).

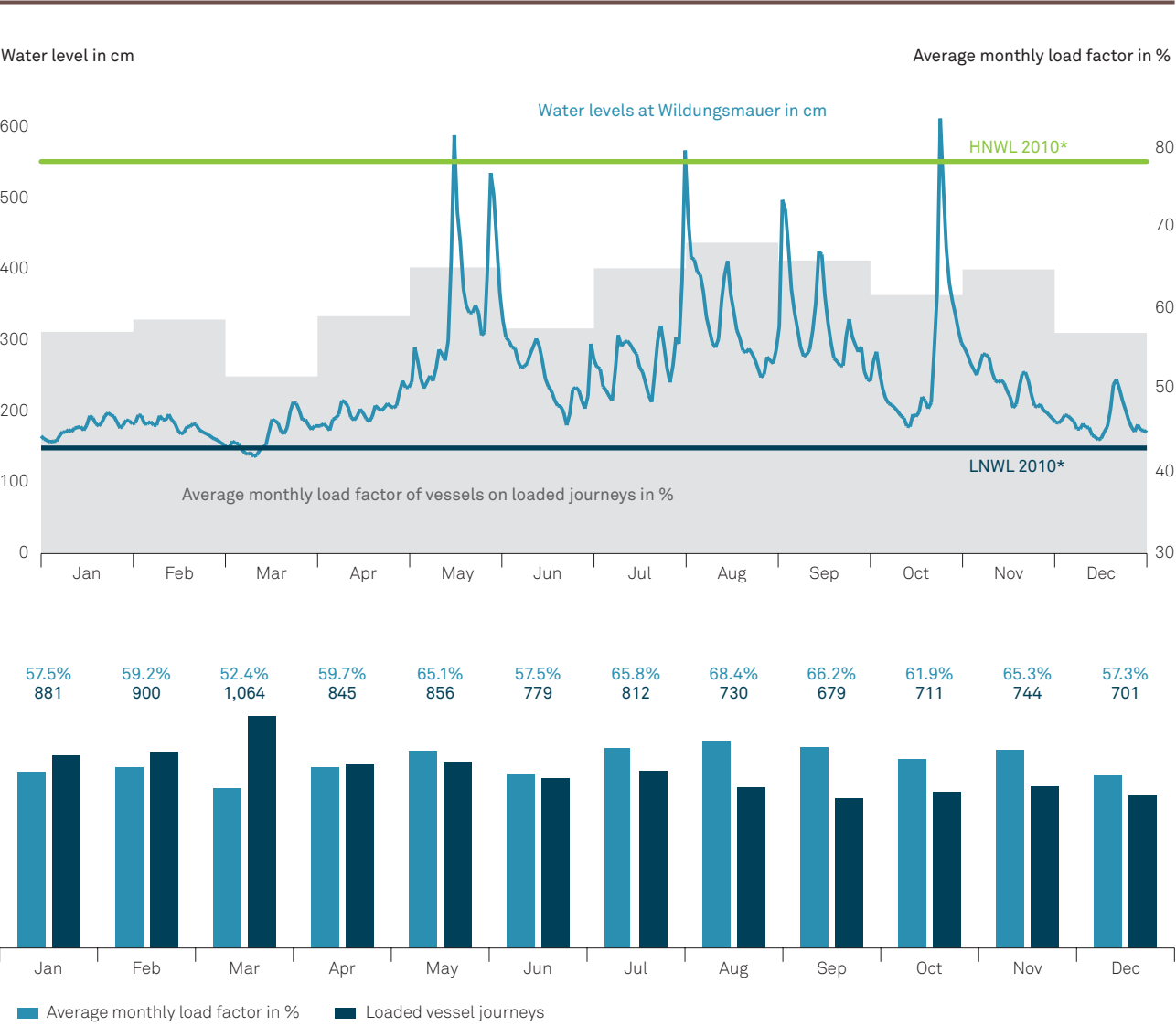
FIGURES_DATA_FACTS

Navigational closures due to high water and ice 2000–2014



FIGURES_DATA_FACTS

Fairway conditions and resulting load factors of cargo vessels in 2014 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.

FAIRWAY CONDITIONS

Long low-water period
Load factor at 61.4%

In 2014 fairway conditions on the free-flowing sections of the Austrian Danube (Wachau and east of Vienna) were at more modest levels than in previous years. The average daily water level at the gauging station Wildungsmauer (reference gauge for the river stretch east of Vienna) was 255 cm – the lowest figure since 2011. Although water levels only fell to the minimum water level (LNWL 2010) on ten days of the year in 2014, the shipping sector had to cope with difficult fairway conditions in very unusual periods throughout the year (e.g. March, April and June).

In statistical terms, the traditionally low-water winter months of January, February and December experienced average daily water levels at the Wildungsmauer gauge approximately 1 metre below those of 2013. In March, the water level (daily average) fell below the low navigable water level (LNWL 2010) on ten days. In contrast, the average daily water levels in the traditional low water autumn months of September to November were 12 centimetres higher than in 2013.

In the months of May, August and October, there was a total of three days when the highest navigable water level (HNWL 2010) was exceeded. Official closure of the Danube waterway is nevertheless only implemented in Austria when the water level exceeds the HNWL by 90 centimetres or more.

Throughout the whole of 2014, the average monthly load factor for cargo vessels was 61.4%. For six months of the year, this value fell below 60.0%, thereby reflecting the difficult logistical conditions that characterised 2014.

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 March 2014 was 52.4%, whereby 1,064 journeys were needed to transport approximately 940,000 tons of freight. In August, the month with the highest capacity utilisation rate (68.4%), 730 trips were required to transport around 880,000 tons.

- Moderate water levels
- 2.5% increase in number of journeys
- Load factors for cargo vessels of around 61%

FAIRWAY DEPTHS

Difficult fairway conditions
Clearing up after the floods of 2013

- The Wachau enjoyed an available fairway depth of 2.5 metres for 352 days, or 96% of the year
- To the east of Vienna the fairway depth was 2.5 metres for 222 days, or 61% of the year
- Adverse shipping conditions caused by low water levels in the months of January to April and also December

In 2014, vessels in both free-flowing sections of the Danube in Austria enjoyed constant fairway depths of more than 2.5 metres in the four months of May, July, August and November (with the exception of six days). A comparison of long-term discharge data for the Austrian Danube (1981 to 2014) shows that water flow during the months of January to April and December was significantly below average.

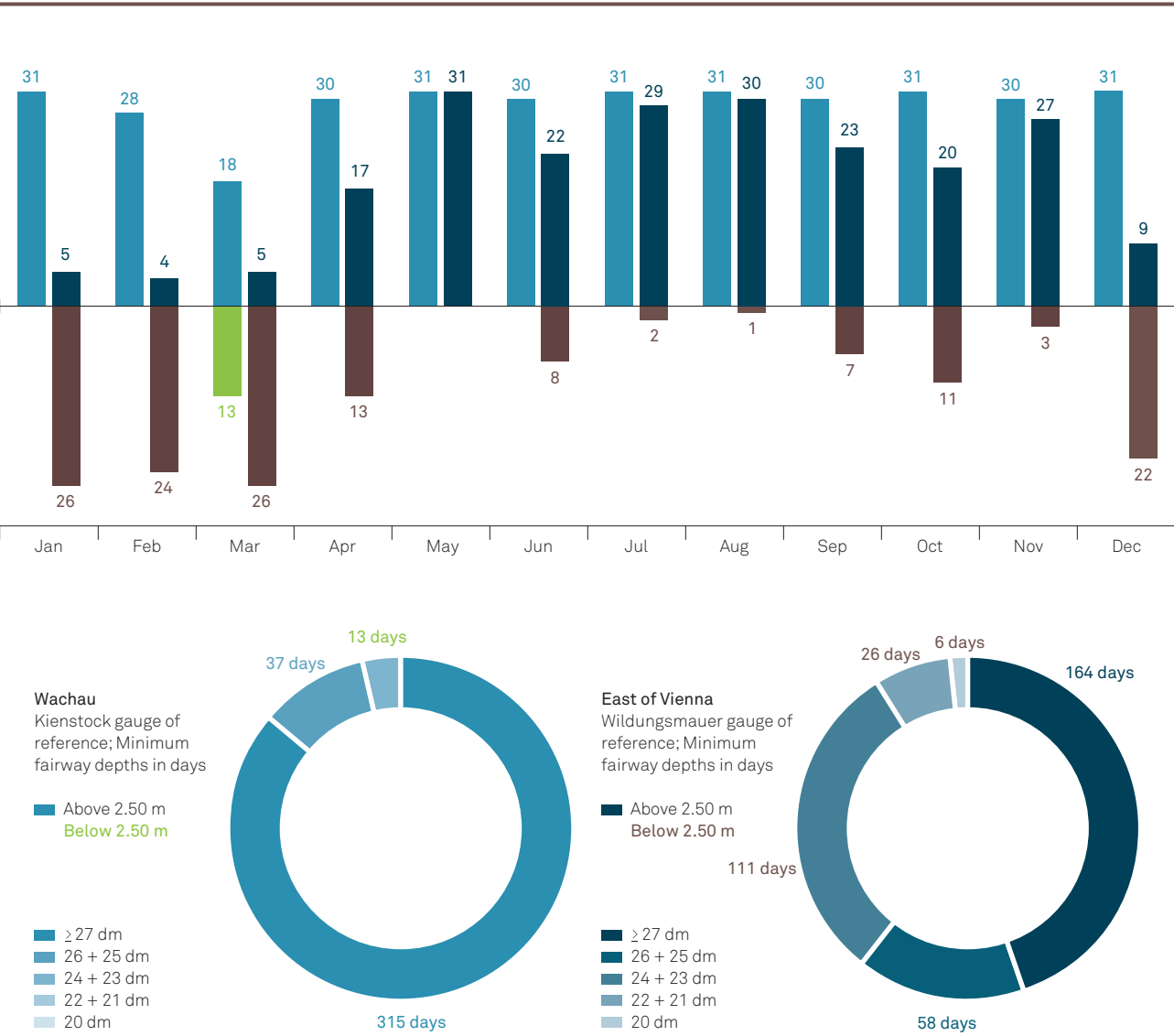
A minimum fairway depth of 2.5 metres in the deep channel was available in the Wachau for 352 days, or about 96% of the year. Only on 13 days (in March) did the water depth in the deep channel in this section of the Danube fall below 2.5 metres. A water depth of at least 27 decimetres was available for navigation for 315 days on this stretch of the river.

The low water levels in the months of January to April and December had a drastic effect on the free-flowing section east of Vienna. To make matters worse, dredging work to remove sedimentation in the fairway caused by the floods in June 2013 continued into the first half of 2014. Four significantly shallow sections of the river still had a total of about 100,000 m³ of sediments to be removed. The section east of Vienna therefore only had a minimum fairway depth of 2.5 metres for 222 days, or about 61% of the year. However, a water depth of 23 and 24 decimetres meant that shipping could still use this section for a further 111 days. In 2014, the navigable depth of the fairway was only less than 23 decimetres on 32 days.

For the two free-flowing sections of the Danube in Austria (Wachau and east of Vienna), the lowest available fairway depths were calculated based on all hydrographical surveys of the riverbed in 2014. 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.

FIGURES_DATA_FACTS

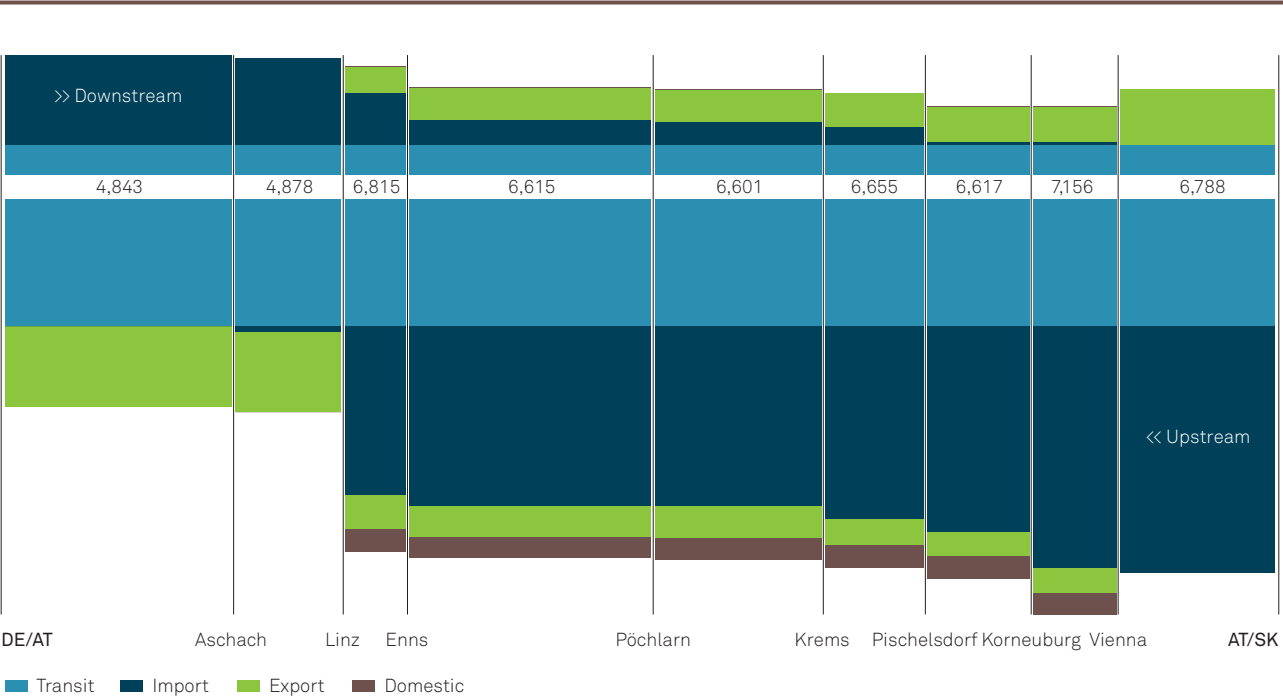
Minimum continuously* available fairway depths on
the free-flowing stretches of the Danube 2014 in days



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

FIGURES_DATA_FACTS

Density of freight traffic on the Austrian Danube 2014



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	1,335	1,199	0	0	0	1,878	431	3,077	1,766	4,843
Aschach – Linz	31.30	82	1,291	1,196	0	0	0	1,878	431	3,156	1,722	4,878
Linz – Enns	16.87	2,496	772	516	378	327	17	1,878	431	5,217	1,598	6,815
Enns – Pöchlarn	67.63	2,654	371	463	473	326	19	1,878	431	5,321	1,294	6,615
Pöchlarn – Krems	46.20	2,667	342	463	473	328	19	1,878	431	5,336	1,265	6,601
Krems – Pischelsdorf	26.30	2,848	268	396	499	329	6	1,878	431	5,451	1,204	6,655
Pischelsdorf – Korneuburg	29.60	3,043	44	367	519	329	6	1,878	431	5,617	1,000	6,617
Korneuburg – Vienna	23.64	3,582	44	363	523	329	6	1,878	431	6,152	1,004	7,156
Vienna – Border AT/SK	45.76	3,647	0	0	832	0	0	1,878	431	5,525	1,263	6,788

Source: Statistics Austria, adapted by viadonau

TRANSPORT DENSITY

350 kilometres of waterway 10 million tons of goods

A total of 10.1 million tons of goods were transported along the 350.51 kilometre long Austrian section of the international Danube waterway in 2014. Total transport volumes by segment ranged from more than 4.8 million tons (Upper Austrian segment from the German-Austrian border to Aschach) to around 7.2 million tons (between Korneuburg and Vienna).

In 2014, almost 2.1 million tons of ore were imported from Eastern Europe to the industrial port of the steel company voestalpine. This was mostly from Romania (Port of Constanta), Slovakia (Port of Bratislava) and the Ukraine (Port of Izmail). The transshipment location Korneuburg was in second place with an import volume from the East of more than 0.5 million tons. The Port of Linz (voestalpine) also had the highest import volume of goods from Western Europe, with around 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 almost 0.6 million tons of goods, closely followed by the oil port Lobau and the oil port of Linz AG, each with around 0.5 million tons.

Due to the fact that it is the largest waterside transshipment location on the Austrian Danube, the industrial port of the voestalpine steelworks in Linz stands out amongst all other ports and transshipment sites with regard to the quantity of goods transported. In 2014, 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.

A comparison of traffic flow by direction shows again a ratio of 4 to 1 (upstream/ downstream) for transit volumes in 2014. With around 2.3 million tons transported, transit traffic accounted for the second largest volume of goods shipped and was second only to the import traffic.

The daily volume of goods transported on the Austrian Danube was an average of 26,506 tons (excluding dredged gravel and cargoes transported within the ports). This is equivalent to 1,060 fully loaded lorries (25 net tons per vehicle) or 663 railway wagons (40 net tons per wagon) per day.

Over the total length of the Austrian section of the Danube, an average of 17,718 tons of goods per kilometre was transported in 2014. On the section between Korneuburg and Vienna, the busiest section of the Danube in Austria, an average of 19,605 tons of goods per day was transported.

- Around 27,000 tons of goods per day transported on the Danube
- Greatest volume of import and export goods handled at the voestalpine port in Linz

LOCKED-THROUGH VESSEL UNITS

101,000 units locked through
Substantial plus for passenger shipping

- Increase of 19.8% in locked through passenger vessels in comparison to 2013
- Decrease of 1.1% in freight traffic

A total of 101,165 passenger and cargo vessel units, travelling both upstream and downstream, were locked through the nine Austrian lock facilities in 2014 (excluding the Jochenstein power station on the Austrian-German border). Included in this number were 43,543 motor cargo vessels and motor tankers (+0.2% compared to 2013), 18,906 pushers (−4.1%) and 38,716 passenger vessels (+19.8%). 47,989 cargo and tank lighters or barges (+5.3%) 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 plus of 6.0% over 2013.

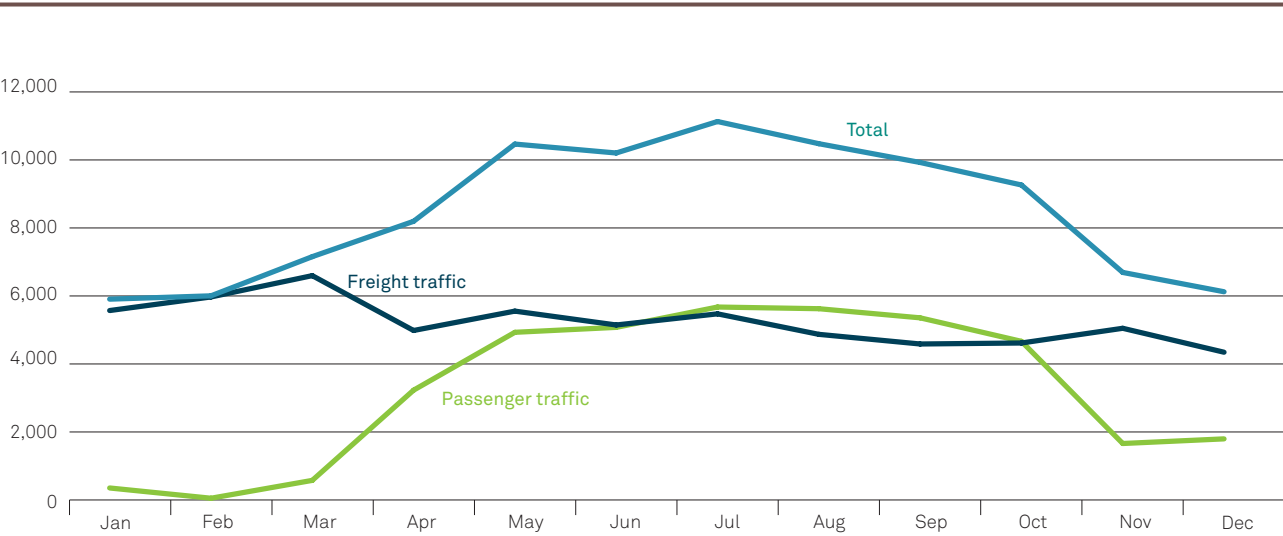
Freight transport on the Austrian Danube saw a slight decrease in locked-through vessel units (−1.1% or 692 fewer units locked through than in 2013). By contrast, passenger vessels saw a sharp increase in locked-through traffic (+19.8% or 6,387 more locked-through vessel units than in 2013). In 2014 freight transport had a share of 61.7% of total shipping volumes (−4.4% compared to 2013) with passenger traffic accounting for the remaining 38.3% (+4.4%).

Over the whole of 2014, the average volume of vessels passing through an individual Austrian Danube lock facility amounted to 11,241 convoys and individual vessels (a plus of 633 vessel units compared to 2013). This is equivalent to 937 (+53) vessel movements per month and an average of 31 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 14,195 vessels and convoys passing through the lock (+5.4% over 2013), followed by the Greifenstein lock with 11,506 units. Although, the Aschach lock recorded the smallest amount of locked-through vessels (9,822 units) it saw a significant increase in traffic volume compared to 2013 (+9.3%).

In addition to commercial freight and passenger vessel units, 8,177 small sports and leisure boats also passed through lock facilities on the Austrian Danube in 2014, together with a further 1,794 vessels which included public authority and rescue crafts. These figures are not included in the current statistics for locked-through freight and passenger vessel units.

FIGURES_DATA_FACTS

Vessel units* in freight and passenger transport locked through Austrian Danube locks in 2014



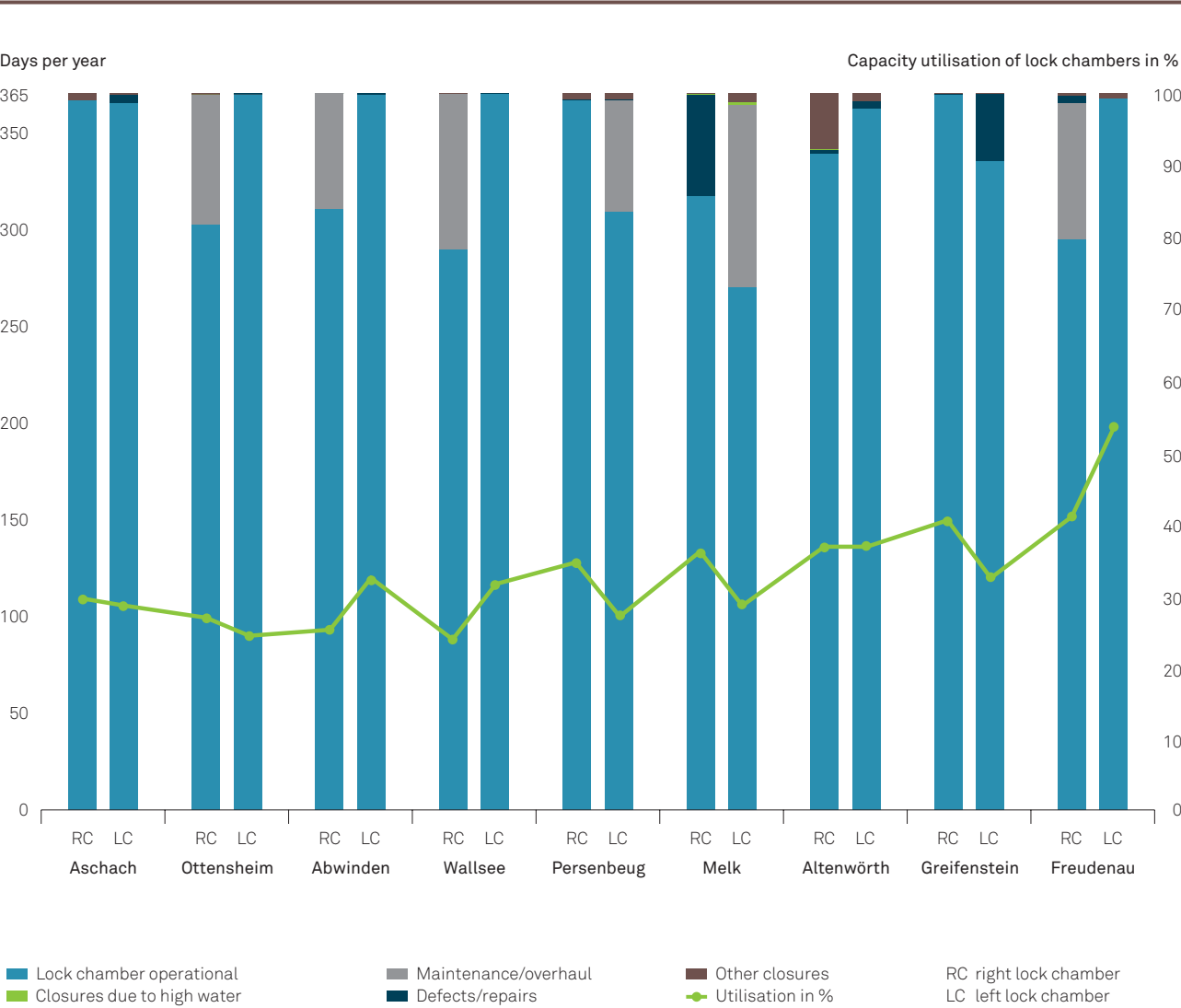
	Freight traffic	% to previous year	Passenger traffic	% to previous year	Total	% to previous year
2014	62,449	−1.1	38,716	+19.8	101,165	+6.0
2013	63,141	+6.2	32,329	−3.7	95,470	+2.6
2012	59,443	−6.8	33,573	−2.0	93,016	−5.1
2011	63,792	−4.9	34,244	+6.5	98,036	−1.2
2010	67,114	+4.5	32,153	+1.3	99,267	+3.5

* 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

FIGURES_DATA_FACTS

Availability of Austrian Danube locks 2014



Source: viadonau

AVAILABILITY OF LOCK CHAMBERS

99.7% continuous availability Average chamber utilisation about 33%

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 84% of all closure days of the 18 lock chambers in 2014. The average duration of the three overhauls carried out in the winter half year 2013/14 was 135 days per chamber.

Other reasons for lock closures include year-round short-term repairs of technical defects or damage to facilities caused by vessels. These accounted for a total of 6% of all closure days in 2014 and can be attributed almost entirely to a technical fault at the Greifenstein lock facility in the autumn of 2014. In addition, nearly 10% of all closures were attributed to modification or maintenance work, dredging in and around lock facilities (primarily at the Altenwörth lock following the floods in 2013) and surveying. High water resulted in a mere half per-cent of the total closure time, with the lock at Altenwörth having to close for a short period of time in October 2014.

The continuous availability of the 18 lock chambers of the Austrian Danube amounted to 99.7% in 2014.

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 4.2 hours.

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

The average utilisation of the lock chambers in 2014 was 33%. The Freudenau lock facility once more achieved the highest average utilisation rate with 47%, while the lowest rate of 26% 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.

- 99.7% continuous availability at Austrian lock facilities in 2014
- Lock maintenance is carried out during the low traffic months from November to March, in order to reduce long waiting times at locks

WAITING TIMES AT LOCKS

Only 9.5% of vessels experienced delays
Average waiting time 33 minutes



“Ensuring the smooth flow of shipping traffic at nine locks is a challenge. The increase in traffic volumes in 2014, along with the rise in the number of ships locked-through without any delay, clearly demonstrates how efficiently our traffic management system works.”

JOSEF HOLZINGER
Lock manager

On average, only 9.5% of all shipping units (commercial freight and passenger ships) experienced waiting times at locks on the Austrian section of the Danube in 2014. The average waiting time amounted to 33 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 14% of all waiting vessel units were delayed for more than an hour.

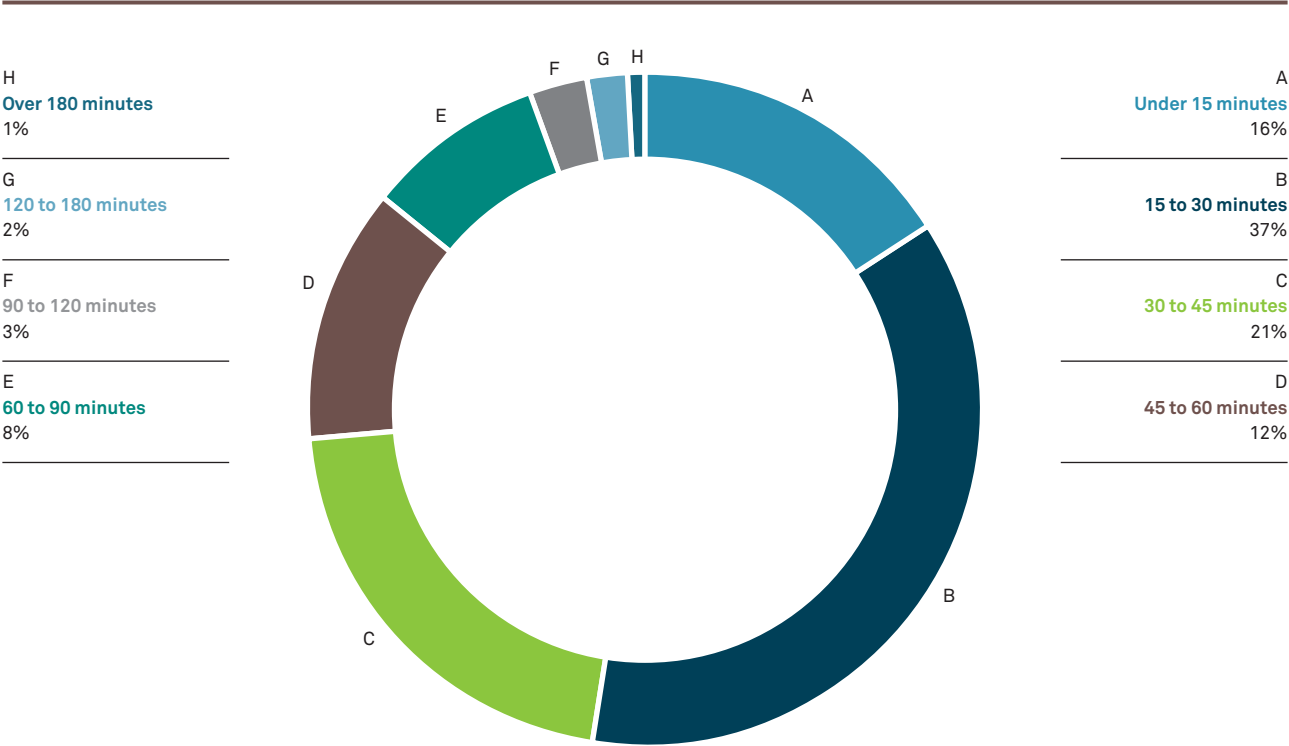
In periods when all lock facilities were fully available (both lock chambers fully operational, excluding short-term closures), about 95% of all ships did not have to wait at the locks. The remaining 5% had to interrupt their journey for an average of 30 minutes.

Broken down into individual locks and months – with an average duration of 32 minutes – only around 7% of all vessel units experienced waiting times during the heavy-traffic months of April to October in 2014. In the low-traffic winter months of November to March, about 13% of all locked-through vessel units experienced an average waiting time of 35 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.

In order to improve services at viadonau’s lock facilities, a customer satisfaction survey was conducted in autumn 2014. Participants were asked to evaluate lock facilities and locking procedures on a scale of one to four. Approximately 84% of those taking part gave a rating of “excellent” or “good”, with an average grade of 1.82. The survey results for “support given by lock employees” was circa 90% giving an average score of 1.74. Suggestions for improvements included new priority regulations at locks, a reduction in maintenance closure times, better lighting at locks and better information for leisure boats. The results are an acknowledgment of viadonau’s service orientation and its focus on the interests of customers. But above all, it is an incentive to continue to improve services in cooperation with the power plant operators on the Danube.

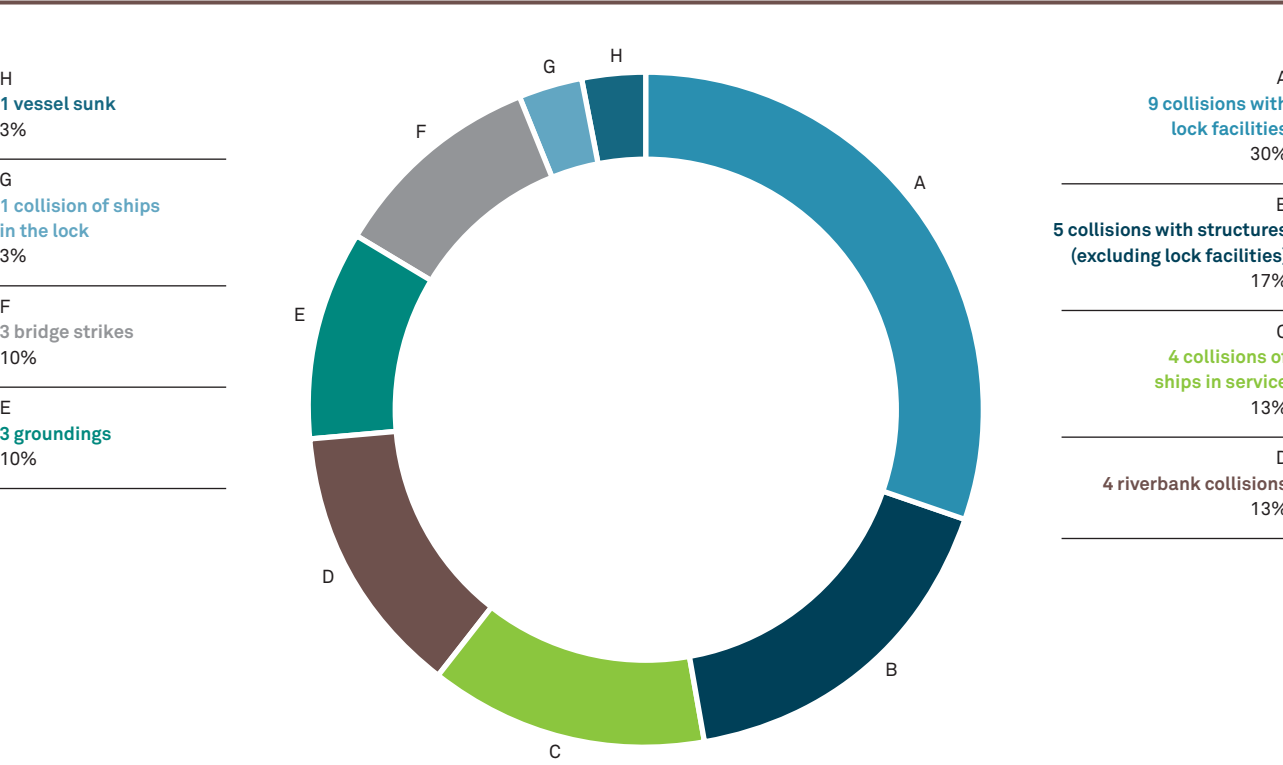
FIGURES_DATA_FACTS

Analysis of waiting times for vessels waiting at Austrian Danube locks 2014



FIGURES_DATA_FACTS

Traffic accidents according to type of damage on the Austrian Danube 2014



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

ACCIDENTS

Traffic accidents consistently low Lock facilities are accident hotspots

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 2014 on the Austrian section of the Danube. Nineteen accidents involving cargo vessels were recorded, while nine incidents of damage to passenger ships were reported.

When split into accident types, five incidents were vessel collisions, four of which involved vessels colliding with each other whilst in service and one case of an accident 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. A small boat was sunk as a result of an accident. Nine incidents involved damage to riverbanks or facilities, and a further nine collisions occurred within the confines of lock facilities. Finally, three vessels or convoys were involved in collisions with bridges.

Three accidents resulted in personal injury: two collisions resulted in one person in each incident sustaining slight injuries. One person died through drowning following a collision between a rowing boat and a cargo vessel. The small boat failed to adhere to its statutory obligation to give way to commercial shipping.

The majority of accidents in 2014 occurred on impounded sections of the Danube. A total of fifteen accidents were registered in such sections, including three ship collisions, three bridge strikes, four collisions with riverbanks and five cases of damage resulting from accidents involving other structures. Ten accidents in the vicinity of lock facilities were reported (whilst being locked-through or in either the headwater or tailwater area of the lock). Finally, four accidents were recorded on the two free-flowing sections of the Danube (mainly incidents of running aground): two to the east of Vienna, and two between Melk and Krems (Wachau).

No incidents involving sports and recreational boating were recorded on the Austrian stretch of the Danube in 2014. Such incidents are not included in the above figures (except when involved in collisions with commercial freight and passenger vessels).

- Collisions with locks and other facilities were the most frequent types of accidents in 2014
- Personal injuries: two minor injuries, one death
- 19 accidents involving cargo vessels, nine accidents involving passenger ships

MODAL SPLIT

Dominance of road transport unbroken
Danube’s share around 12%

- Road transport increased its share of the market by 4.2%
- Growth for rail
- The Danube achieves a modal split share of around 30% for imports from Eastern Europe and around 17% for upstream transit

Transport volumes along the Austrian Danube corridor have increased rapidly since the mid-1990s. In 2014 they summed up to nearly 79.3 million tons, an amount which corresponds to a growth of nearly 124% over the last 20 years (1995–2014). (Data on road transport for 2014 is based on estimates by the Austrian Institute for Spatial Planning, as official data is still pending.) Compared to 2013, transport volumes in the corridor increased by 3.4% or 2.6 million tons.

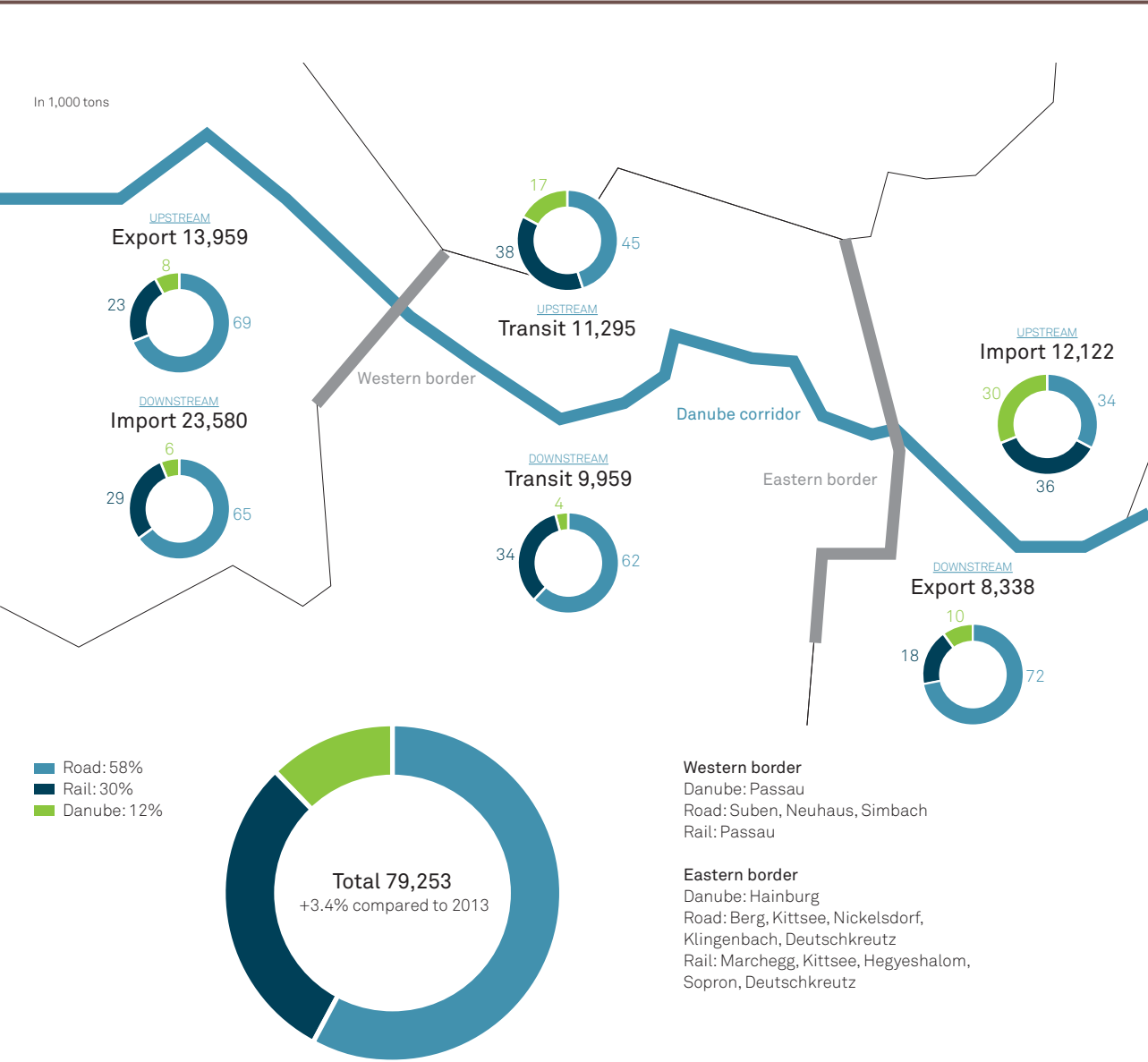
The chart shows the cross-border transport volume (net tons) for the three transport modes of rail, road and waterway in the Austrian Danube corridor according to transport type. A look at the figures for all transport modes reveals that the quantity of goods transported to and from the west is significantly higher than the volume of goods crossing the eastern border of Austria: In 2014, approximately 58.8 million tons of goods, including transit transport, passed through the western border of the Austrian Danube corridor (+5.1% compared to 2013), while approximately 41.7 million tons (+2.7%) crossed the eastern border. With about 58.0 million tons transported, the level of originating and terminating traffic (western and eastern borders taken together) was significantly higher in 2014 than transit transport with 21.3 million tons. However, transit transport in particular has increased significantly over the last 20 years; today, its volume is 2.6 times higher than in 1995, with transit road transport having increased by a factor of 5.7.

Following a significant growth in 2013 (+5.6%), 2014 saw cross-border freight traffic fall by 6.9% to 9.3 million tons. Only westbound traffic saw an increase in volumes shipped (+11.9% compared to 2013). All other transport types suffered a slowdown in 2014. After a slight decrease in 2013 (–3.7%), the volume of goods transported by rail increased by 6.2%. Road traffic once again increased its market share by 4.2%.

In 2014, the modal split along the Austrian Danube was as follows: 58% road, 30% rail and 12% Danube. The largest percentage of traffic volume on the Danube in 2014 was 30% imports on the eastern border and 17% in upstream transit traffic.

FIGURES_DATA_FACTS

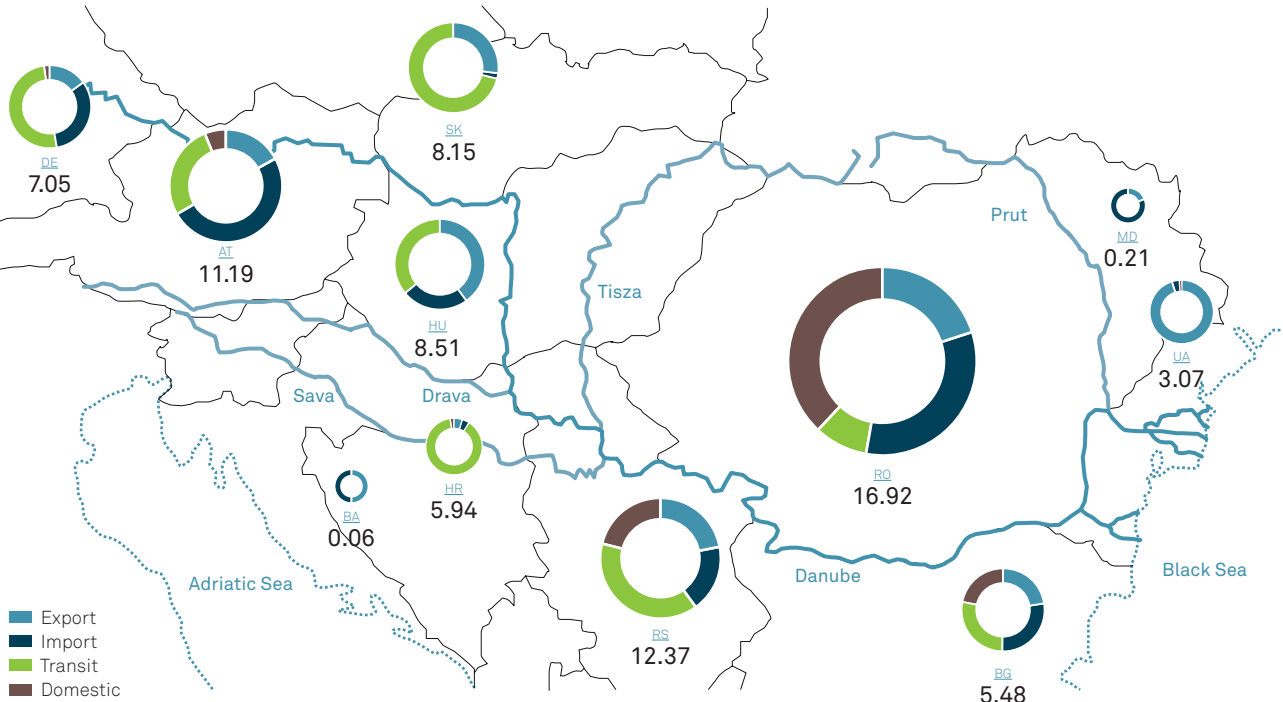
Cross-border freight traffic in the
Austrian Danube corridor 2014



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

FIGURES_DATA_FACTS

Freight transport on the entire Danube 2013



In millions of tons	DE	AT	SK	HU	HR	BA	RS	BG	RO	MD	UA
Export	1.05	1.99	2.18	3.39	0.27	0.03	2.74	1.26	3.46	0.04	2.96
Import	2.29	5.46	0.19	2.05	0.24	0.03	2.25	1.51	5.52	0.17	0.09
Transit	3.62	3.04	5.76	3.04	5.39	0.00	4.83	1.52	1.52	0.00	0.00
Domestic	0.09	0.70	0.02	0.03	0.04	0.00	2.55	1.19	6.42	0.00	0.02
Total	7.05	11.19	8.15	8.51	5.94	0.06	12.37	5.48	16.92	0.21	3.07

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

FREIGHT TRANSPORT ON THE ENTIRE DANUBE

Nearly 38 million tons
Moderate plus of 1.7%

The most current available figures regarding the volume of freight transport on inland waterways in the Danube region are from the year 2013. In total, 37.7 million tons of goods were carried on the Danube waterway and its tributaries that year. This represents a plus of 1.7% or around 0.6 million tons more than in 2012. 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 2013, the largest transport volume was again achieved by Romania, amounting to over 16.9 million tons, followed by Serbia with nearly 12.4 million tons and Austria with around 11.2 million tons. While countries in the upper and middle regions of the Danube recorded a slight increase in the amount of goods shipped on the waterway compared to 2012 (Germany: +7.0%, Austria: +0.7%, Slovakia: +1.6%, Hungary: +3.6%, Croatia: +2.5%, Serbia: +2.1%), transport volumes in the lower Danube regions suffered a dramatic average decrease in traffic volumes of 10% (Romania: -4.0%, Bulgaria: -15.5%, Ukraine: -16.1%).

The largest exporter on the Danube in 2013 was Romania with almost 3.5 million tons (+22.7% compared to 2012), followed by Hungary with around 3.4 million tons (-15.0%) and the Ukraine with just under 3.0 million tons of goods (-14.9%). Romania, with more than 5.5 million tons (-3.8% compared to 2012), was also the largest importer. The second strongest importing country on the Danube in 2013 was once again Austria with nearly 5.5 million tons (-1.1%), Germany imported a little less than 2.3 million tons (+11.2%).

A total of nearly 13.9 million tons were transported on the Romanian Danube-Black Sea Canal (including its side channel). This figure includes river-sea shipping amounting to approximately 0.3 million tons. This represents a slight increase of 0.1% over 2012.

In 2013, maritime transport on the Danube, i.e. transport by river-sea vessels or by sea-going vessels, accounted for a total of around 4.5 million tons – a significant increase of 29.5% or 1.0 million tons compared to 2012. This represents a remarkable turnaround from the previous year and more than compensates for the 24.5% downturn suffered in 2012. The majority of this traffic, amounting to nearly 3.2 million tons of goods, was shipped via the Romanian Sulina Canal (+33.5% compared to 2012), while about 1.0 million tons were transported via the Ukrainian Bystroe or Kilia arm (+52.6%).

- Total transport volume on the Danube in 2013 at about the previous year's level
- Romania is the most significant exporter (+22.7% on 2012) and importer (-3.9%) on the waterway
- 4.5 million tons of maritime traffic on the Danube (+29.5% on 2012)

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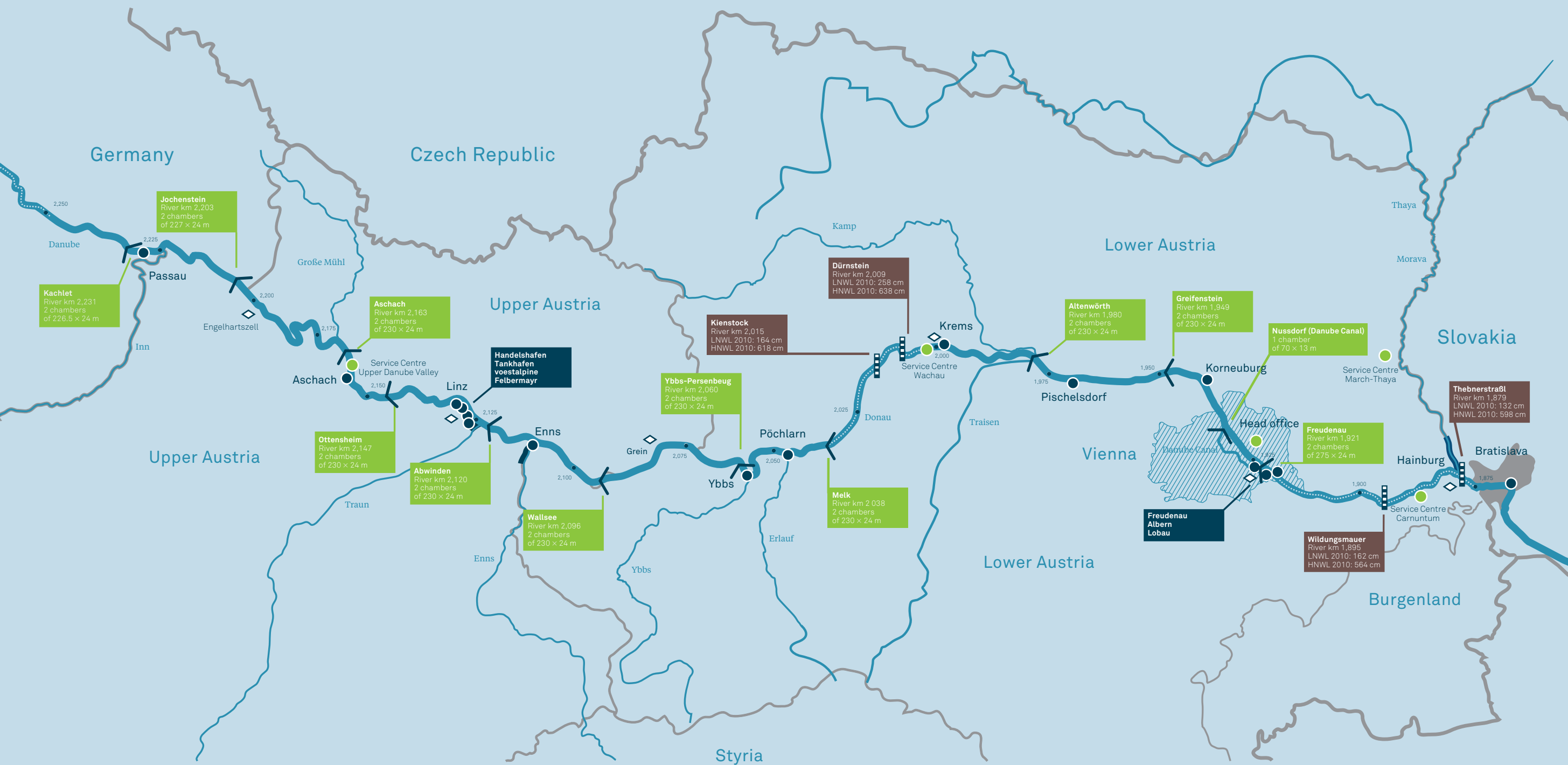
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The Austrian section of the Danube

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

