



2022/23

Competition figures



Dear Reader,

Despite a more than challenging economic environment with record inflation, an energy crisis and fears of recession, the potential demand for rail is still far from exhausted. More trains ran on the DB network in 2022 than ever before. In 2023, public transport is getting a boost from the Deutschland-Ticket. In other words, green mobility is booming.

To cope with this growth both now and in the future, we need a rail infrastructure that is robust and efficient and that provides ample capacity. In partnership with the government, therefore, we have introduced

the largest infrastructure programme for the rail network and stations since the German Rail Reform 1994. A central aspect here is the general overhaul of a total of 40 line sections in the highly congested network by 2030.

And that is not the only break with tradition: Together with the government, we are developing a new architecture for the railway infrastructure in Germany. The German government is reforming the legal basis for financing under the Federal Rail Infrastructure Extension Act. Between now and 2027, the government and DB plan to invest up to another EUR 45 billion in the rail system and further accelerate the implementation of infrastructure projects. The two large infrastructure companies DB Netz AG and DB Station&Service AG will be merged into one common good-oriented company, DB InfraGO AG. The new company will launch on 1 January 2024 and create a sound new foundation for the whole rail industry.

Yours sincerely

Dr Richard Lutz
Chairman of the Management Board
and CEO of Deutsche Bahn AG



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Total market

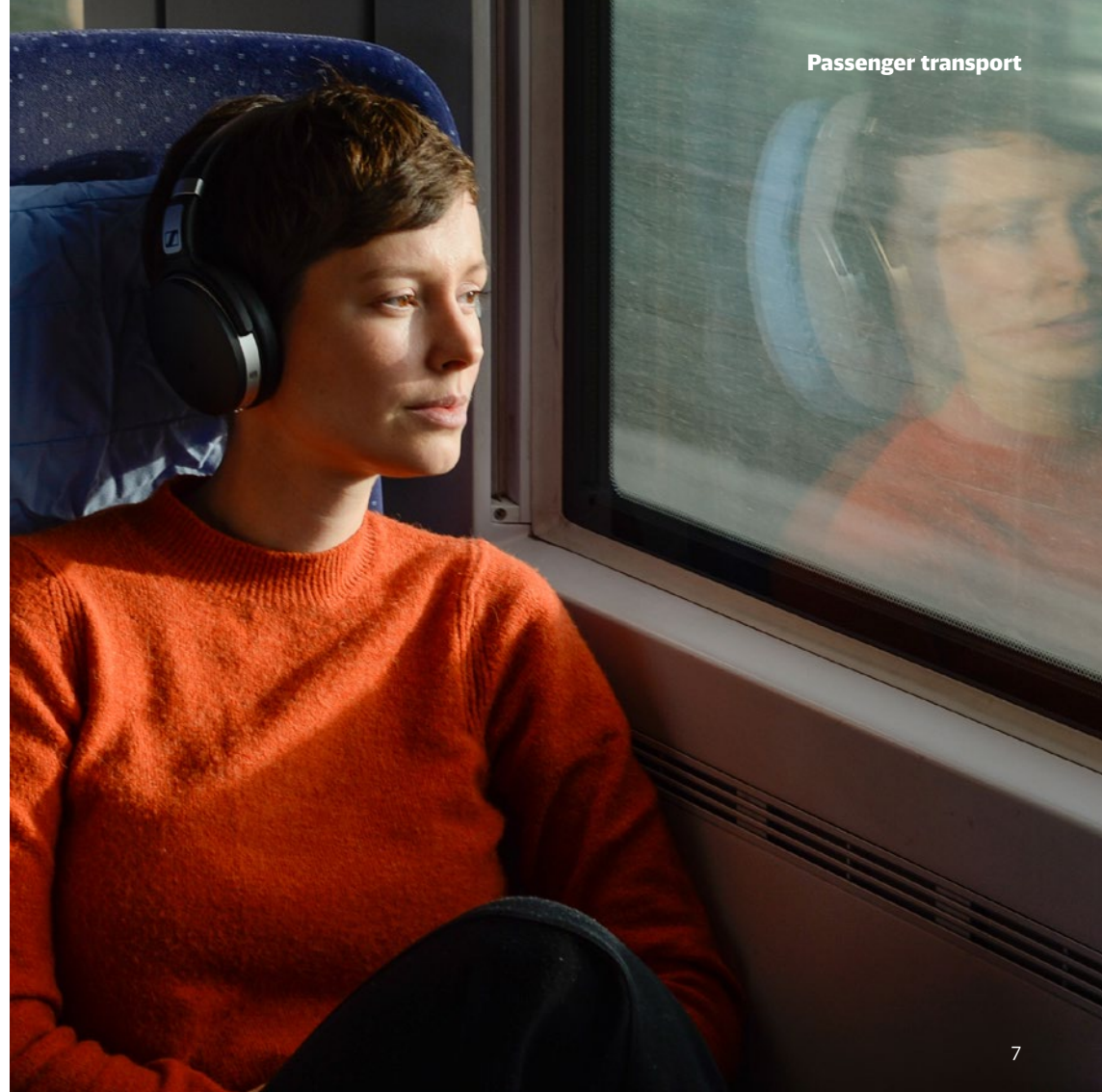
in Germany in 2022/2023

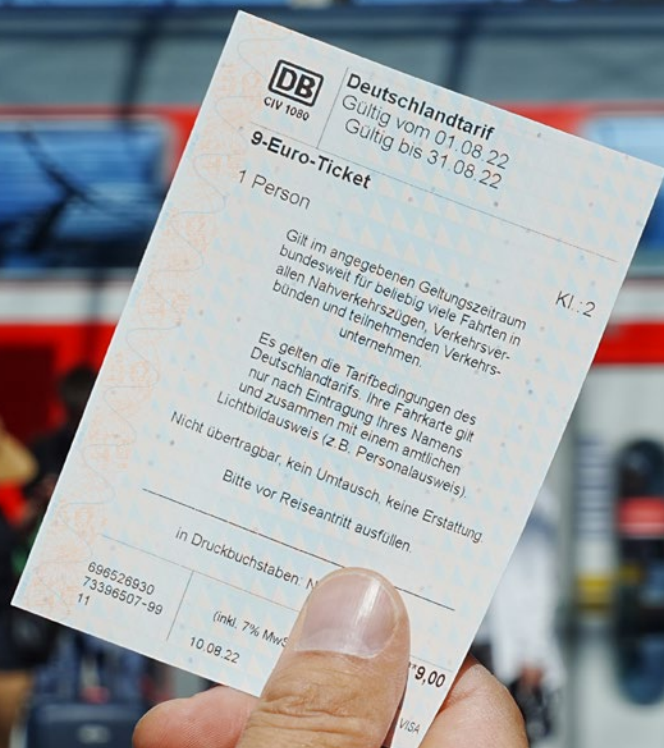
Transport volume in the German passenger transport market grew significantly in 2022. However, the extent and pace of the development differed between the individual market segments. Weaker overall growth is expected for 2023.

Strong demand in 2022: In 2022, passenger traffic in Germany was still affected by the impact of the coronavirus pandemic, especially in the first quarter. Transport demand increased noticeably over the course of the year. In total, the transport volume increased by an estimated 13.3% to around 1,028 billion passenger kilometres. However, it still remained below pre-Covid levels (around 1,100 billion passenger kilometres in 2019). Policies introduced by the German government to cushion the high energy prices stimulated demand. These included a nine-euro monthly ticket, valid on regional and local public transport nationwide,

which could be purchased from June to August, and a reduction in energy taxes on mineral oil during the same period (“fuel rebate”). As high inflation rates continue to weigh on consumer spending, lower growth in transport volume of around 2.8% is expected for 2023.

Private motorised transport (MIV) loses market share: During the coronavirus pandemic, private motorised transport was bolstered by people’s preference for private transport to reduce their risk of infection. In 2022, the transport volume increased by 8.7% to around 874 billion passenger kilometres. Nevertheless, the market share of private motorised transport fell by 3.6 percentage points to 85.1%. In 2023, high fuel prices are continuing to dampen growth in private motorised transport. Transport volume is expected to remain below pre-Covid levels.





Transport volume in Germany
(in billion passenger kilometres)

	2021 ¹	2022 ¹
Private motorised transport	804.3	874.3
Rail	56.2	93.3
Public road transport	44.4	56.2
Air travel (domestic in Germany)	2.1	4.1
Total	907.0	1.027.9

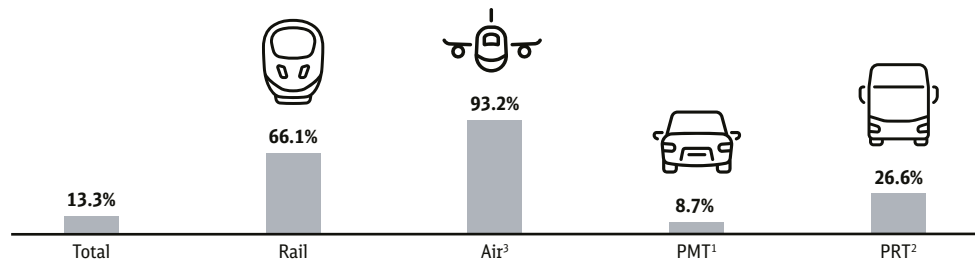
¹ Provisional, partly estimated, figures rounded
Sources: Destatis, DB

Higher market share of rail: Rail passenger transport recorded a 66.1% increase in transport performance in 2022, taking the figure to around 93 billion passenger kilometres. Demand was stimulated in regional and local rail passenger transport by the nine-euro ticket and in long-distance rail passenger transport by a major increase in services. At 9.1%, rail's market share in 2022 came in at just below pre-Covid levels (2019: 9.3%). In 2023, transport volume in passenger rail is set to grow further and is likely to reach the level seen in 2019.

Big increase in demand for public road transport: Public road transport volume increased by 26.6% to around 56 billion passenger kilometres in 2022. This market segment also benefited from the temporary introduction of the nine-euro ticket. Further increases in demand can be expected in 2023. In terms of market share, public road transport improved its position by 0.6 percentage points year on year, accounting for 5.5% of the market in 2022. In 2019, it had a 6.5% share.

Passenger transport

Market performance in 2022⁴
compared with previous year
(measured in transport volume)



1 Private motorised transport
2 Public road transport

3 Air travel (domestic in Germany)
4 Figures rounded

Sources: Destatis, DB

Strong growth in long-distance bus transport:

After halving in 2021 compared with the year 2020, the transport volume for long-distance bus services almost trebled in 2022 to reach 2.44 billion passenger kilometres (up 183%). However, this was still short of the pre-Covid figure achieved in 2019. Demand was boosted by the expansion of services over the course of 2022 following their decimation at the height of the pandemic, which had seen some routes suspended altogether.

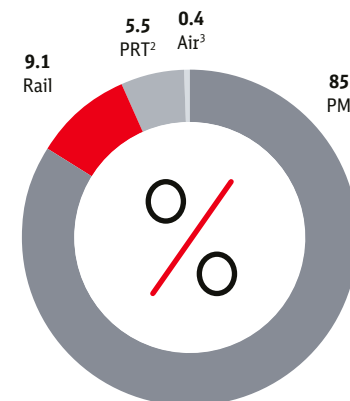
Only slow recovery in air traffic:

After a sharp decline in transport volume for domestic German air traffic in 2020 and 2021, the figure almost doubled in 2022 to 4.1 billion passenger-kilometres (up 93.2%). Market share increased to 0.4% (2021: 0.2%) but remained well below the pre-Covid level of 0.9%. Domestic air travel is expected to claw back further Covid-19-related losses in 2023. However, the market share is likely to remain at a low level. One reason for this is the reduced offering of low-cost airlines.



Passenger transport

2022 modal split⁴
(measured in transport volume)



1 Private motorised transport
2 Public road transport
3 Air travel (domestic in Germany)
4 Figures rounded

Sources: Destatis, DB

Long-distance rail

in Germany in 2022/2023

Growth in long-distance market: The volume of long distance rail passenger transport in Germany increased to 42.9 billion passenger kilometres in 2022. This was a rise of 70.1%. However, the figure was still short of the pre-Covid level in this market segment (2019: 44.7 billion passenger kilometres). The number of passengers grew by 62.7% to 138.5 million. In 2019, the figure was 151 million. Long-distance rail passenger transport is likely to continue growing in 2023.

Competitors increase services and market share: According to the Federal Network Agency, DB Long Distance's competitors achieved a share of around 4% of the German long-distance market

in 2021. The Federal Network Agency's figures show an increase to around 5% in the first half of 2022. This was mainly due to the expansion and increased use of train services run by FlixTrain and SNCF/Thalys (Eurostar). A new competitor in the form of the Austrian company WESTbahn entered the German market in April 2022. WESTbahn operates on the Vienna-Munich route. From December 2023, a pair of trains will run through from Vienna to Stuttgart via Munich. The number of train path requests for the 2023 working timetable shows that competition in long-distance rail passenger transport continues to increase. Applications by non-DB rail companies rose by 10% despite a 5% overall fall in requests.





131 million passengers use

DB Long Distance: In 2022, 61% more passengers travelled on DB's long-distance trains than in the previous year. The number of passengers rose to around 131 million (2021: 81.3 million). Transport volume increased by 68.3% to 41.5 billion passenger kilometres (2021: 24.7 billion passenger kilometres). After a first quarter of 2022

in which demand was still heavily affected by the pandemic, DB Long Distance set new passenger records in the summer and over the Christmas period. Leisure travel exceeded the 2019 level, while business travel remained below pre-pandemic figures. In the first half of 2023, DB Long Distance carried over 68 million passengers.

Further capacity expansion: With the opening of the new Wendlingen–Ulm line in December 2022, DB Long Distance has added around 20 more daily services between Stuttgart and Munich, taking the total to 90 trains a day. For the 2022/2023 timetable change, DB Long Distance increased the number of seats available to Frankfurt Airport by up to 60% – with extra journeys, line extensions and the deployment of the new XXL-ICE 4. The first four ICE 3neo trains also entered service at the end of 2022. Further units have followed in the course of 2023. More new ICE trains will join the DB Long Distance fleet in 2023 than in any year before. The ICE 3neo, the XXL-ICE 4 and further seven-coach ICE 4 trains will gradually create 19,000 additional seats.

The goal is a high-frequency long-distance service: DB Long Distance is gradually building a flexible, reliable and high-frequency long-distance service fitting with a Germany-wide integrated regular-interval timetable. The population of Germany's large urban centres is set to grow between now and 2050, making fast direct connections between major cities ever more important. At the same time, it is crucial that people in smaller cities are directly connected to the long-distance network. Strengthening the network between major cities and offering more services to link up smaller cities will give 80% of the German population direct access to long-distance rail transport under DB's plans. Passengers are already benefiting from extra services. DB Long Distance trains now run twice an hour between 11 major cities. In 2026, it will be 20 major cities.

Regional and local rail

in Germany in 2022/2023

Increasing demand in regional transport:

After the pandemic caused sharp declines in passenger numbers in German regional and local rail passenger transport in 2020 and 2021, there was a clear recovery in 2022. Although the effects of the coronavirus pandemic were still noticeable, especially in the first quarter of 2022, demand picked up significantly as the year progressed. According to preliminary results from the Federal Statistical Office, 45% more people travelled by regional train in 2022 than in 2021, giving a total of around 2.4 billion passengers. The Federal Statistical Office attributes the high increases particularly to the easing of Covid restrictions, the nine-euro monthly ticket for public transport, which was valid throughout Germany and could be purchased from June to August, and record immigration (estimated population increase of 1.1 million in 2022).

Nevertheless, passenger numbers in regional and local rail passenger transport still remained 16% down on the pre-pandemic year 2019. Continued passenger growth is being seen in 2023. DB Regio achieved an increase of 11.5% in the first half of 2023, with over 808 million passengers using its rail services.

Slight shift in market share: Competitive pressure in the German regional and local rail passenger transport market remains high. In 2022, DB Regio increased its market share of PSO train services to an estimated 61% (market share in 2021: 60%). The continued intensity of competition is shown by the train path requests for the 2023 timetable year, which were up by 10% overall in regional and local rail passenger transport. Requests from non-DB rail companies increased by 12%.



Passenger transport

Market shares in regional transport¹ (measured in train services ordered)



1 Figures rounded; 2 Estimated
Sources: Federal Network Agency, DB

Major challenges for the railways: After the rescue package for regional and local public transport cushioned the pandemic-related losses in revenue, the energy crisis and high inflation-related cost increases have been presenting companies with enormous challenges since February 2022. Low margins and rising costs are continuing to reduce the number of bidders in competitive contract award procedures. In 2021, according to the Federal Network Agency, an average of 1.8 bidders participated per award procedure. This compared with 1.9 in 2020 and 2.5 in 2018. Against this backdrop, there are increasing calls from the industry for the passenger transport authorities to assume the cost risks that

cannot be foreseen when costing transport contracts with long durations.

New Deutschland-Ticket: After the nine-euro ticket introduced for a limited period in 2022 brought a significant boost in demand for public transport, the German federal government, the federal states and the industry agreed on a permanent season ticket offer, which was introduced in May 2023 as the “Deutschland-Ticket”. It aims to make the use of climate-friendly public transport easier and more attractive and to promote the switch from cars to buses and trains. The ticket allows holders to use public transport anywhere in Germany – across all federal states, transport associations and



Passenger transport

tariff areas. The digital Deutschland-Ticket costs EUR 49 per month. It is sold via a subscription model and can be cancelled on a monthly basis. Experience with the digital ticket should help to make public transport services more attractive and flexible to people’s needs and drive the further digitalisation of the sector. Like the nine-euro ticket, the Deutschland-Ticket is also intended to help ease the burden on the public of the sharp rise in energy prices. One in five people who used the nine-euro ticket were new customers, and 10% of journeys with the ticket replaced a car journey. The federal and state governments want to build on this success and are each contributing EUR 1.5 billion a year to

funding the new Deutschland-Ticket. Additional costs incurred by the transport companies due to possible revenue shortfalls in 2023, the year of introduction, will also be borne equally by the federal government and the federal states.

Early results show high demand: The federal and state governments have commissioned the Association of German Transport Companies (VDV) to evaluate the effects of the Deutschland-Ticket. In August 2023, industry-wide figures showed that there were more than 10 million Deutschland-Tickets plus Deutschland-Tickets for school-children under 14 years of age. In the months from May to August 2023, 46% of



these belonged to subscribers who had switched from other public transport season tickets – i.e. passengers who were already regular customers and moved over to the cheaper Deutschland-Ticket subscription. 44% belonged to new subscribers who had used public transport either occasionally or frequently in the past. The proportion of new customers who previously hardly ever took the bus or train was around 8%. According to the VDV survey, the nationwide validity, the price and the simplicity of the ticket were the main reasons for purchase. The industry sees the potential demand as far from exhausted. Prior to the introduction of the ticket, it identified the potential to sell a total of 17 million Deutschland-Tickets.

Expanding services remains priority:

According to the VDV, the high demand for the Deutschland-Ticket also shows the need to further modernise and expand regional and local public transport services. To enable a long-term switch to public transport, additional capacity is needed in the major urban centres along with better services in

many rural areas. The federal government plans to improve the provision, funding and competitiveness of local public transport with an “expansion and modernisation pact” in order to help achieve the desired modal shift and climate targets. In a working group set up in 2022, the federal government and federal states are discussing how progress can be made on quality, accessibility, digitisation, integration, fares and capacity.

Good reasons for more regional and local public transport:

Climate protection, rising energy costs and the desire to reduce land use are all issues bolstering demand for buses and trains. The introduction of the Deutschland-Ticket and progress on funding demonstrate the political will to improve public transport. For 2022, the federal government increased the funding it provides to federal states for regional and local transport services by EUR 1 billion. It also lifted the annual rate of growth from 1.8% to 3% starting in 2023. This means that around EUR 17.3 billion in additional regional and local transport funding will be available in the years from 2022 to 2031.

European railways

Rail passenger transport in 2022/2023

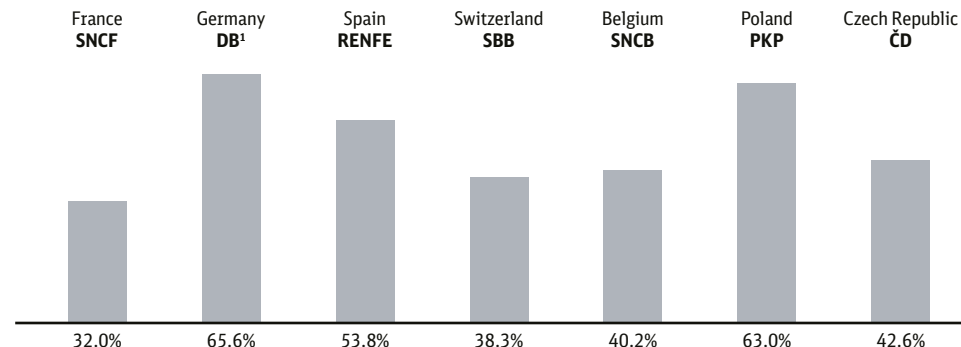
More stable demand: In 2021, the development of transport volume on Europe's railways was very uneven. Demand was heavily influenced by the extent and duration of restrictions to contain the pandemic. Some railways recorded double-digit growth rates, while others faced a further decline in passengers. In 2022, the latter group of companies were also able to report a positive trend. For example, transport volume increased by 65.6% (2021: -2.7%) at DB and 40.2% (2021: -5.2%) at Belgium's SNCB. Czech company ČD and Switzerland's SBB, which had comparatively low growth rates of 5.5% and 7.0% respectively in 2021, also increased the number of passenger kilometres by 42.6% and 38.3% respectively in 2022. Large increases were again achieved by Poland's PKP (2022: 63.0%; 2021: 38.3%) and the French SNCF (2022: 32.0%, 2021: 33.9%), taking the figures for French SNCF above the pre-Covid levels of 2019.

More activity in open markets: As ever more countries open up their long-distance markets to competition, the transport offering there is growing. For example, Trenitalia expanded from two pairs of trains daily between Paris and Lyon, which the company already provided as part of its Paris-Milan route, to five train pairs a day in 2022. ILSA, a rail company part-owned by Trenitalia, has been running high-speed services on the Madrid-Barcelona route since November 2022. SNCF Ouigo has operated on this line since May 2021. The Spanish company Renfe plans to run trains on the Madrid-Marseille and Barcelona-Lyon high-speed lines starting in summer 2023.

Expansion of night train services: More and more rail companies are creating or expanding night train routes as a climate-friendly alternative to short-haul flights in Europe. In mid-2022, the Dutch night train provider GreenCityTrip launched new



Performance in passenger rail service in Europe (2022)
(measured by transport volume; change year on year)



1 DB excluding Arriva

Sources: UIC, DB



services to 14 European cities. The Dutch night train company European Sleeper started operating a Brussels–Berlin route via Amsterdam and Rotterdam in May 2023. It also plans a service from Amsterdam to Barcelona via Brussels. The shared night-train initiative by ÖBB, DB, SNCF and SBB in cooperation with the Dutch and Belgian railways is also gradually adding new routes. Starting from the timetable change in December 2023, a new night train will connect Berlin and Paris three times a

week, combined with trains between Vienna and Brussels. SBB and ÖBB are planning to jointly expand night train services from seven to ten routes by 2024.

Pilot projects for better cross-border passenger transport: The European Commission aims to strengthen international long-distance rail passenger transport and presented an action plan for this in December 2021 as part of the legislative package for efficient and green mobility. Ten pilot

projects, which the Commission presented in January 2023, will examine how existing hurdles in cross-border passenger transport can be overcome. The ambition is particularly to connect major cities in the EU and to get the projects off the ground quickly. DB is involved in three pilot projects to connect Germany with Denmark, Sweden and potentially Norway (via Berlin and Hamburg), the Czech Republic with Denmark (from Prague to Copenhagen via Berlin and Hamburg), and Rome and Milan with Munich and potentially Berlin.

Tripling of high-speed traffic possible: DB, together with other European railways, has prepared a study on expanding high-speed rail in Europe. The starting point for the study comprises the growth targets set by the European Commission in its Sustainable and Smart Mobility Strategy. The targets involve doubling European high-speed rail by 2030 and tripling it by 2050. The study proposes building a “Metropolitan Network” that would connect two-thirds of

Europeans to the high-speed network by 2050. All Europe’s large cities and 230 metropolitan regions (urban agglomerations of more than 250,000 inhabitants) would have at least an hourly high-speed service. New infrastructure is key to the proposal: in total, 21,000 kilometres of rail network would have to be built or upgraded throughout Europe. This would almost triple the length of routes designed for high-speed rail, from around 11,300 kilometres today (Eurostat 2019) to 32,000 kilometres by 2050. The network would enable speeds of 300 kilometres per hour. To achieve this, the EU and the member states would have to put considerable additional capital expenditure into network expansion across Europe. The infrastructure projects currently being planned or under construction are not sufficient to achieve the Commission’s growth targets. The same applies to the provisions currently being discussed as part of the revision of the Trans-European Transport Network (TEN-T) Regulation.

Total market

in Germany in 2022/2023

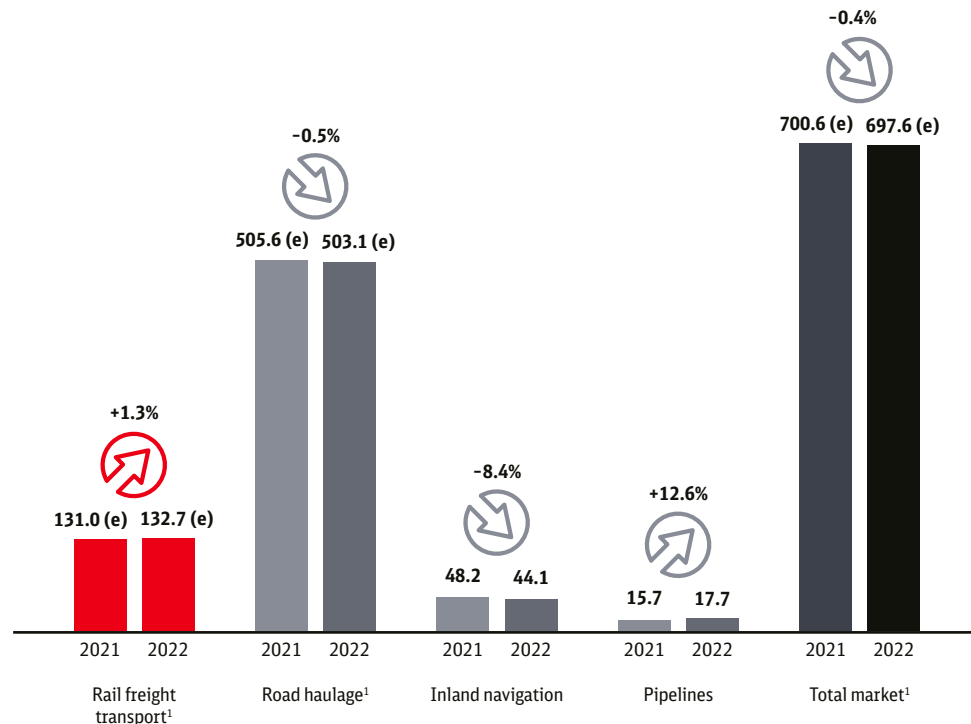
Freight transport volume in Germany declined in 2022. Inflation-related cost increases and disrupted supply chains weighed on the markets. A stagnating German economy is putting the brakes on transport demand in 2023.

Low economic growth: At 1.9%, economic growth in Germany in 2022 was lower than in 2021 (2.6%). Global industrial production and trade in goods weakened significantly as a result of Russia's invasion of Ukraine. In addition, disrupted supply chains impaired economic growth, though supply chain problems eased significantly in the second half of the year. In Germany, industrial production declined by 0.5% in 2022. At 2.4%, growth in goods trade was much slower than in 2021 (9.1%). Economic output in Germany stagnated in the first half of 2023. High inflation rates and further interest rate hikes dampened investment and consumer

spending. Zero growth is expected for the year as a whole.

Declining freight transport volume in 2022: Transport volume in the German freight transport market fell by an estimated 0.4% to around 698 billion tonne kilometres in 2022 (2021: approximately 701 billion tonne kilometres). Large increases in energy and fuel costs subdued demand for transport, especially in the case of bulk goods that tend to be transported by rail. Production declined particularly in energy-intensive sectors such as the steel and chemical industries, resulting in a corresponding decline

Performance on the German freight transport market (billion tonne kilometres, percentage change year on year)



¹ Preliminary; estimated (e)

Sources: Destatis, DB



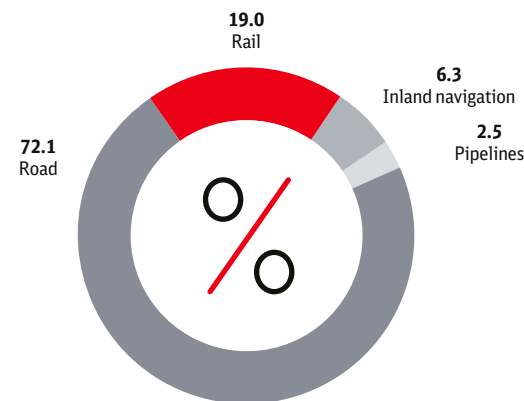
in the volumes transported. Supply chain problems and the resulting shortages of materials affected the automotive and construction sectors in particular, reducing demand for transport here, too. There was a small increase in the transport of fossil fuels, which saw greater use in power generation.

Continued weakness in demand in 2023:

The weaker economic growth performance in the first half of 2023 resulted in a further and sustained slowdown in the demand for transport. High increases in factor costs led to significant rises in transport prices. Lower demand created spare capacity and

increased competition across different transport modes, which especially hit combined transport (CT). By May 2023, demand in CT was down 14%. A shift back to road transport is currently being seen. In addition, due to high energy prices, the German government has postponed an increase in the CO₂ price for fuel, which had been planned for 2023 and would have raised the price per tonne of CO₂ from EUR 30 to EUR 40. In addition to price, transport quality is becoming increasingly important. DB estimates that transport volume in the German freight market will decline by around 3.4% in 2023.

2022 modal split¹
(measured in transport volume)



¹ Estimate
Sources: Destatis, DB

Difficult year for rail freight companies:

In 2022, rail freight operators increased their market share to 19% (2021: 18.7%). Rail freight transport performance also increased by 1.3% to around an estimated 133 billion tonne kilometres (2021: approximately 131 billion tonne kilometres). The 2021 figure already exceeded pre-Covid levels (2019: approximately 129 billion tonne kilometres). However, the positive start to 2022 was abruptly interrupted by the Russian invasion of Ukraine. Transport demand fell noticeably across Europe. This was particularly the case in energy-intensive manufacturing sectors such as the chemical, paper and steel industries. A shortage of semiconductors reduced production in the automotive industry. Rail recorded stronger demand for the transport of coal as well as petroleum and mineral oil. There was moderate growth in the transport of construction materials and in combined transport. This difficult market environment in 2023 is limiting the potential of rail freight operating companies. According to publications by the Federal Statistical Office, the transport volume from January to June 2023 was around 5% below the previous year's figure. For the full year 2023, rail freight transport

volume is expected to fall short of the level seen in 2022. Demand for green transport remains high, meaning that growth can be expected to return in the coming years as the economy picks up.

Loss of market share for road haulage:

The transport volume in road haulage in 2022 was estimated at around 503 billion tonne kilometres, which was just below the 2021 figure (approximately 506 billion tonne kilometres). The main reason for this decline was the weaker demand for transport in sectors dominated by road haulage, such as the construction industry. The market share of road haulage dropped by 0.1 percentage points to 72.1%. Road haulage transport volume is set to fall further in 2023. The continuing weakness of the construction industry and the subdued consumer sentiment point to declining transport volumes and more available capacity on the market. As rail transport's competitors, road hauliers are benefiting from the lower diesel prices compared with 2022. This is intensifying competition between modes of transport, especially in CT, and significantly reducing the scope for price increases.



Share of waterway transport at historic low:

After significant growth in transport volumes for coal, ore and minerals in the first quarter of 2022, there were sharp falls in the summer. Due to low water levels in the Rhine, which lasted until September, ships had to reduce their capacity or cancel their sailings altogether. The renewed increase in demand for transport in the fourth quarter was unable to compensate for this. The overall volume of inland waterway transport fell by 8.4% to around 44 billion tonne kilometres in 2022 (2021:

approximately 48 billion tonne kilometres). The market share of inland waterways hit a historic low of 6.3% (2021: 6.9%). In the first half of 2023, the volume of inland waterway transport was almost 8% down on the equivalent prior-year figure. Unlike rail, inland navigation was unable to benefit from the temporarily strong demand for coal. It recorded declining volumes in almost all its key sectors. A significant decline in transport volume is expected for the year as a whole. Weather dependency remains a risk.

Rail

in Germany in 2022/2023

Weaker economy slows growth: As a result of the Russian invasion of Ukraine, growth in industrial production and trade flattened significantly over the course of 2022. This also affected the demand for rail transport, especially in the energy-intensive manufacturing industry. Increases were recorded in the construction, coal, petroleum and mineral oil sectors as well as in combined transport. Overall, the volume of rail freight transport grew by 1.3% to an estimated 133 billion tonne kilometres in 2022. This compared with 9.4% growth in 2021.

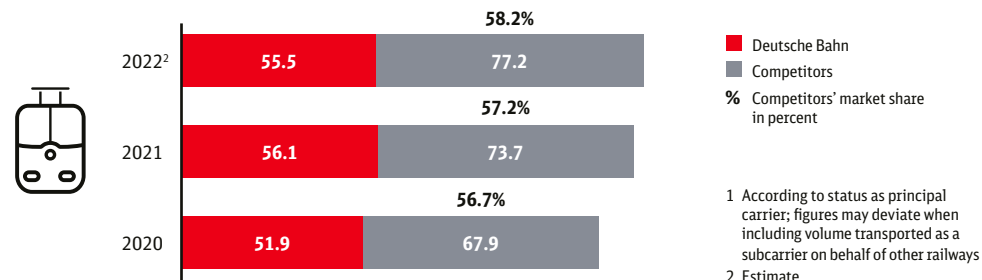
Market environment remains difficult: The decline in transport volume in rail freight from January to June 2023, estimated by the Federal Statistical Office at around 5%, was chiefly due to lower transport demand from the chemicals, steel and paper industries, which have been severely

affected by the energy crisis. Combined transport also lost significant ground. Coal and mineral oil transport along with automotive transport saw an upward trend. The overall volume of rail freight transport in 2023 is expected to remain below the prior-year figure.

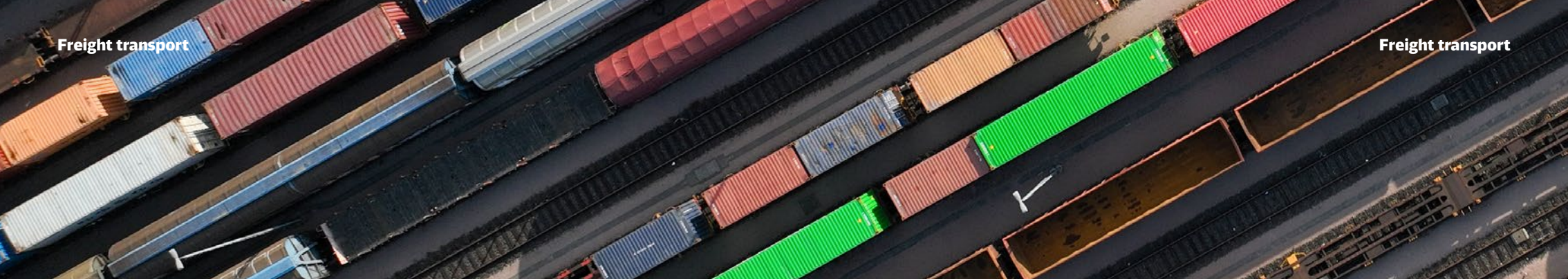
Higher market share of competitors: DB Cargo's competitors increased their transport volume by 3.1% to an estimated 77.2 billion tonne kilometres in 2022. Their market share reached 58.2% (2021: 57.2%). DB Cargo experienced a slight decline in transport volume (-1.1%) in the difficult economic environment of 2022. This was partly due to the difficult operational situation in the network caused by construction work, which limited the scale of transport services that DB Cargo could provide. In 2021, the company reported growth in volume sold of 8.1%.



Change over time in performance of freight operating companies¹
(transport volume in billions of tonne kilometres)



Sources: Destatis, DB



Creating a framework for growth:

Germany has set a target for rail freight transport to reach a 25% market share by 2030. In order to achieve this ambitious goal, the federal government has launched accompanying policies to strengthen rail freight. However, these are not yet sufficient to achieve the targeted market share. There is a need for action above all to improve availability of infrastructure capacity, design funding instruments effectively and relieve the burden of energy costs.

Capacity is key to modal shift: For rail freight transport to grow faster, sufficient infrastructure capacity is needed. The Association of German Transport Companies (VDV) is pushing first and foremost for the rapid implementation of small and medium-

sized projects to boost capacity. Together with industry and business associations, the sector is calling for the rapid removal of bottlenecks on key freight corridors, the further expansion of the 740-metre network for longer freight trains by 2030 and the electrification of more routes. It wants a rail connection to become standard for new industrial estates.

Continue successful grant scheme for track access charges:

The reduction in track access charges for rail freight operators introduced in Germany in 2018 has proven to be an effective lever for improving the competitiveness of rail freight transport and boosting the innovative capacity of the railways. An evaluation report by the Federal Ministry of Digital Affairs and Transport

therefore recommended continuing the funding, which was initially limited until June 2023. The European Commission has approved the extension of the funding policy for the period from July 2023 to November 2024. The total budget for this period is around EUR 368 million. The VDV is calling for a further extension. Given the transport and climate policy goals, a withdrawal from subsidies would be counterproductive.

Making single wagonload transport fit for the future: Single wagonload transport is the backbone of the German economy, ensuring climate-neutral supply chains from sender to recipient, whether serving rural businesses or transporting bulk cargo for heavy industry. Entire industries such

as chemicals and steel are dependent on such transports. This particularly environmentally friendly way of transporting goods is a genuine alternative to high-carbon truck transport. However, it involves a high level of manual work, as freight wagons are combined to form new trains several times along their transport route. No other European country has a single wagonload system on the scale of Germany's, which is able to quickly accommodate additional volumes. In the current conditions, it is not feasible to operate single wagonload transport without subsidy in any European country. Despite this, single wagon freight makes economic sense and is essential for the desired shift from road to rail. In almost all neighbouring European countries, the state therefore provides support with



operating costs. A study by the European Commission on the effectiveness of state support schemes has concluded that they can be a useful measure for single wagonload transport in order to attract traffic onto the railways. This is because single wagon freight faces strong competition from road transport and highly price-elastic demand.

Subsidies expanded: To support single wagonload transport, Germany has subsidised the cost of using train formation

facilities since 2020. EUR 80 million was available for this in 2021 and EUR 40 million in 2022. Around EUR 85 million is being provided in 2023. In addition to continuing this grant scheme and making it permanent, further instruments are being called for by the industry to allow it to operate single wagon transport while covering its costs. The German government therefore plans to temporarily subsidise the operating costs of single wagonload transport. EUR 80 million in 2023 and EUR 300 million in 2024 is

to be made available for the single wagon sector as a whole. The temporary support is intended to improve the financial viability of single wagonload transport until rationalisation effects from digitalisation and automation materialise.

Exploiting the potential of combined

transport: The industry sees considerable long-term growth potential in combined transport (CT). The CT funding policy was revised and expanded in 2022 to include new funding opportunities. This means that funding can now be provided for replacement investments, facilities for transshipment such as stabling sidings and train formation areas, and projects to digitalise and automate terminal operations. The aim of the funding is to improve efficiency and quality in CT, to support the modal shift and to contribute to achieving climate targets. Intermodality has a central role to play in decarbonising transport. The VDV is calling for the policy, which runs until the end of 2026, to be made permanent and for an increase in the subsidies. It believes that further market potential could be tapped

with targeted incentives. For example, lorries could be exempted from road tolls when providing first and last mile services, transshipment costs could be subsidised, or the switch to CT could be facilitated with financial incentives to make the modal shift. Another lever is the standardisation of craneable semi-trailers. Of the approximately 100,000 semi-trailers produced in Europe each year, only 13,000 are craneable. Given the high proportion of cross-border transports, it would make sense to prescribe craneability by law Europe-wide.

Relieve the burden of energy costs:

The development of energy prices is making the reduction of taxes and duties on energy, which the railways have been demanding for years, ever more urgent. The industry is therefore calling for relief from the electricity price increase caused by European emissions trading. Such “electricity price compensation” already exists for energy-intensive industry. Reducing the high tax on rail traction current in Germany and promoting the use of alternative fuels would also support the modal shift.

European railways

Rail freight transport in 2022/2023

Lower growth: Economic output (GDP) in the EU increased by 3.6% in 2022, falling short of the growth rate seen in 2021 (5.4%). Industrial production grew by 3.0% (2021: 8.9%) and trade in goods by 5.2% (2021: 10.7%). In 2023, significantly lower growth rates are expected (industrial production: up 0.9%, trade in goods: up 0.4%). Growth of 0.8% is predicted for the economy as a whole.

Slight decline in transport volume: The lower growth in industrial production and goods trade impacted the development of volume sold in European rail freight transport. According to DB's calculations, the number of tonne kilometres fell by 0.5% in 2022 (EU 27, Switzerland, Norway, United Kingdom). Transport demand declined especially in industries predisposed to rail transport, such as steel and chemi-

cals. In addition, the invasion of Ukraine led to changes in transport flows, with reduced transport to and from Russia. Coal transports, on the other hand, increased.

Further development: Inflation and persistently high energy prices will continue to weigh on economic growth and therefore on the demand for transport in 2023. Relatively low growth in volume sold is therefore to be expected in European rail freight transport. Transport volume in Q1 2023 was down 6% on the strong prior-year quarter. There were declines particularly in energy-intensive sectors such as steel and chemicals as well as in combined transport. The loss in volume for the whole year is estimated at 3.5%. An improved economic performance is expected for 2024, returning rail freight operators to growth.



Negative trend for European rail companies:

In 2022, it was particularly the larger freight operating companies that suffered reduced volumes. France’s Rail Logistics Europe (-10.2%), Switzerland’s SBB Cargo (-3.9%), Spain’s Renfe (-2.6%), the Austrian Rail Cargo Group (-2.5%) and Germany’s DB Cargo (-0.5%) all saw a downturn in transport volume. Polish operator PKP Cargo (5.5%) and the Czech operator ČD Cargo (5.4%) made gains.

Capacity crucial to growth prospects:

Insufficient infrastructure capacity is hindering the further development of European rail freight transport. The Community of European Railway and Infrastructure Companies (CER) views the existing rail network in Europe as overloaded and unsuitable for the operation of more and longer trains. The regulation on the Trans-European Transport Network (TEN-T) is currently being revised. The changes are aimed at completing the TEN-T more quickly in the interests of the Green Deal. The multimodal TEN-T core network is due to be in place by 2030 and the comprehensive TEN-T network by 2050. To strengthen rail freight transport, the European Commission is proposing uniform minimum standards

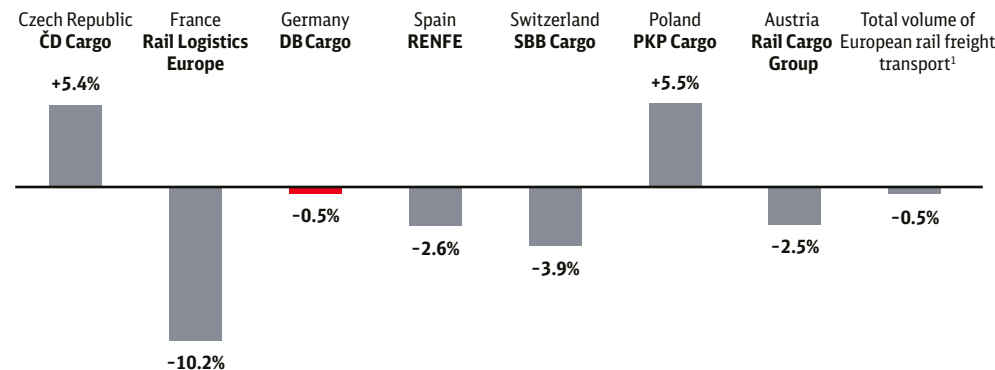
for European main lines. All lines are to be electrified and equipped with the European digital train protection system ERTMS along their full length. They should allow a minimum speed of 160 kilometres per hour for passenger trains and 100 kilometres per hour for freight trains. The lines are also to be equipped for 740-metre-long freight trains. These targets are to be achieved by 2030 on European core corridors, by 2040 on other European main lines and by 2050 across the entire TEN-T network. More capacity and more efficient infrastructure are essential to decisively improving rail freight’s competitiveness.

Setting course for the modal shift:

Successful rail freight is the decisive lever for decarbonising transport. In 2023, important decisions are being taken at European level that will influence the railways’ market opportunities. Industry representatives – including the CER and the European Rail Freight Association (ERFA) – have called in this context for more ambitious policy to promote rail freight. They point out that current transport policy is not yet sufficiently aligned with the targeted emissions reduction strategy. Moreover, rail freight transport emits nine times less CO₂

Performance by selected freight operating companies in Europe in 2022

(measured in transport volume, percentage change year on year)



1 DB estimate

Sources: Eurostat, UIC, companies

than road haulage. These environmental advantages need to be exploited and the market share of rail freight expanded to 30% by 2030, they argue.

European legislation for sustainable transport:

With the Green Deal, the EU has set itself the goal of reducing its emissions by 55% from 1990 levels by the year 2030 and becoming the first climate-neutral economic area by 2050. For the transport

sector, the target is to reduce the EU’s transport-related greenhouse gas emissions by 90% compared with 1990 levels by the year 2050. In 2021, the European Commission presented a comprehensive legislative package titled “Fit for 55”, which contains provisions intended to achieve the reduction envisaged by 2030. In 2023, there have been legislative initiatives with direct relevance for rail.

Freight transport

Reform of the EU Emissions Trading

System: Emissions trading is the central tool of European climate policy. In December 2022, the European Commission, Council and Parliament agreed on a tightening of the system and raised the emissions reduction target. Compared with the reference year 2005, emissions are now to be reduced by 62% by 2030 instead of 43%. The existing cost-free emissions certificates for air transport are to be gradually abolished and maritime transport included in emissions trading. Starting from 2027, road traffic and buildings will be covered by a separate system. The innovations are important steps towards uniform carbon pricing for the transport sector's emissions and consistently internalising external costs.

Package for greener freight transport:

With freight transport responsible for more than 30% of CO₂ emissions in the transport sector, the European Commission presented the Greening Freight Package in July 2023. This focuses on a proposed regulation on the use of rail capacity (Capacity Management Regulation, see page 50), the revision of the directive on maximum authorised weights and dimensions in road haulage, and a proposed directive to standardise the

calculation of transport-related greenhouse gas emissions. A "CountEmissions EU" initiative is intended to create transparency and prevent greenwashing.

Avoiding a shift back to road: With the revision of the Weights and Dimensions Directive for road haulage, the Commission wants to make road freight more environmentally friendly and efficient. This is focused on the possibility of unlimited cross-border use of longer and heavy vehicle combinations based on the European Modular System (EMS), provided such vehicle combinations are already permitted in the member states concerned. To promote zero-emission vehicles, derogations in weights and dimensions are to be permitted, allowing an extra two tonnes in the case of combined transport. The Commission's goal is to gradually phase out the use of heavy commercial vehicles running on fossil fuels by 2035. To strengthen intermodal transport, an increase in the permissible total weight will apply to lorries, trailers and semi-trailers. The relevant definitions will be adjusted accordingly based on the Combined Transport Directive. The Commission also wants to facilitate high cube container transports (0.3 metres of additional height).



Allowing EMS in cross-border transport is a paradigm shift. It remains to be seen whether the extension of privileges will strengthen intermodal transport and rail freight in line with the Green Deal. For rail freight operating companies, it is crucial that new regulations do not result in a shift back to the roads. The benefits of rail include reducing pressure on road networks, with one freight train replacing up to 52 trucks.

Revision of the Combined Transport

Directive: In revising the directive, the European Commission plans to base

funding eligibility on the avoidance of external costs. It will also explore extending the definition of combined transport to multimodal transport chains. Until now, the term "combined transport" has referred to the transshipment of containers. From DB's perspective, a clear definition and its uniform interpretation throughout Europe are essential. Existing privileges for CT must be maintained, and it must be ensured that the main leg still takes place by rail. Financial support for smaller terminals would help to open up further market potential for the railways.



Digital levers for more competitive climate-friendly rail logistics: In order to increase the market share of European rail transport, digitalisation and automation are important levers in addition to expanding infrastructure capacity. Since more than 60% of all European freight train journeys cross at least one national border, uniform standards are imperative – whether for the

European Rail Traffic Management System (ERTMS) or the digital automatic coupler (DAC). This and the high level of investment required make political support essential. The European Commission sees the DAC, together with the ERTMS, as the main drivers for climate-friendly European freight transport by rail.

Rapid Europe-wide rollout of the digital coupler is needed: The DAC will make the rail freight system faster and simpler – both in train formation and shunting and also throughout the train's journey. With the DAC, braking and train control processes are digitalised. As freight trains with DAC technology have power and data lines running the full length of the train, all shunting

and operational processes can be automated and accelerated. Trains can become longer, heavier and faster. Europe-wide rollout of the DAC, combined with the implementation of ETCS, makes capacity gains of 10 to 15% feasible. Across Europe, some 500,000 wagons and around 20,000 locomotives would have to be equipped with over a million new couplings. The capital



expenditure is estimated by the European Commission at around EUR 11 billion. This would be offset by an economic benefit of EUR 18 billion. The level of investment required exceeds the sector's financial means. Initial funding by the EU and the member states is needed so that a Europe-wide introduction can succeed by 2030. In July 2023, nine European associations, including the Community of European Railway and Infrastructure Companies CER, issued a sector statement calling on the Commission and the member states to jointly create a political, financial and legal framework for the pan-European introduction of the DAC.

DAC test successfully completed: In May 2023, a practical test phase of a freight train equipped with various DAC prototypes came to an end. The trial running had started in

January 2022. Europe-wide introduction of the DAC requires international consensus on a uniform coupling type. The train demonstrated its operational practicality on freight routes and at marshalling yards in seven European countries in various weather conditions (-25 to +40 degrees Celsius) and at different altitudes (lowlands, Alps). The test train received EUR 13 million of funding from the German Federal Ministry for Digital and Transport (BMDV) as part of the DAC4EU research project. The DAC4EU project is being implemented by a consortium consisting of the freight operating companies DB Cargo, SBB Cargo and Rail Cargo Austria and the wagon keepers Ermewa, GATX Rail Europe and VTG. Further Europe-wide test running is planned in order to ready the new standard in European freight trains for series production. The BMDV is providing an additional EUR 7 million for this purpose.

Use of the rail network

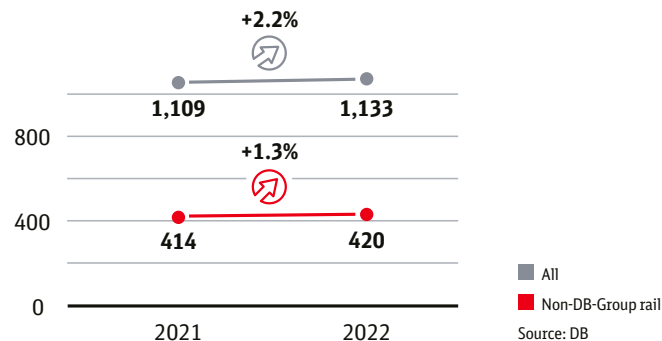
in Germany in 2022/2023

In 2022, more trains ran on the DB network than ever before. To meet the increasing demand, the German government and DB are preparing the rail network of the future.

Renewed growth in demand for train paths: In 2022, operating performance on DB's rail network increased by 2.2% to around 1,133 million train-path kilometres (2021: 1,109 million train path-kilometres). In H1 2023, operating performance recorded a slight drop of 0.9% compared with the same period of the previous year. The decline in demand for rail freight transport, caused by weaker economic growth, made itself felt here. For the second half of the year, DB expects a positive development in demand for train paths, allowing an operating performance on a level with the previous year to be achieved for 2023.

Stronger growth from non-DB rail companies in recent months: In contrast to the trend of the last few years, the demand for train paths from DB Group rail companies grew more strongly than that from non-DB companies in 2022. The operating performance of DB Group rail companies rose by 2.7% to 713 million train-path kilometres, compared with a 1.3% increase to 420 million train-path kilometres for non-DB-Group rail companies. The share of non-DB rail companies in the overall operating performance on DB's network fell slightly to 37.1% (2021: 37.4%). The DB rail companies increased their share due,

Operating performance on the DB network
(million train-path kilometres)



among other things, to the takeover of Abellio services by DB Regio and the expansion in services by DB Long Distance. In H1 2023, however, the operating performance of the non-DB rail companies grew more strongly again (up 5.9% versus H1 2022). This increased their share of total operating performance to 39.0%.

Infrastructure is key to the modal shift: In 2022, more trains ran on the DB network than ever before. At the same time, it is clear that the rail infrastructure has reached the limits of its capacity in many areas. Bottlenecks and modernisation backlogs

limit any further increase in operating performance, especially on the highly congested corridors, and necessary engineering works are reducing capacity. Service facilities, such as stabling sidings and marshalling yards, are also increasingly becoming critical factors. The infrastructure is not designed for the growing traffic on the railways. In order to meet the increasing demand, the existing network needs to be modernised and digitalised. New infrastructure and infrastructure upgrades must be demand-oriented. This includes the stations in major cities. In smaller cities, stations must be made attractive access points again.

Infrastructure

Making better use of existing capacity:

Another lever for increasing volumes lies in a more efficient use of the rail infrastructure by the different transport segments. With this objective in mind, the European Commission presented a proposal for a regulation on the use of rail capacity (“Capacity Management Regulation”) in July 2023. The aim is for improved, more market-oriented capacity allocation and operational management in European rail transport, including crisis and performance management. This is intended to increase capacity, especially for cross-border services, and improve their punctuality and reliability. With its proposal, the Commission aims to send a signal in favour of greater internationalisation of rail transport and a greater involvement of rail companies in this process. The proposals involve replacing the Rail Freight Corridor Regulation, fundamentally reconfiguring the institutional structure and establishing a European network of infrastructure managers. Capacity and traffic management are, in principle, to remain the responsibility of the infrastructure managers. However, numerous changes, some of them fundamental, are envisaged. A European framework for capacity management is to be established that sets out common procedures and principles for managing infrastructure capacity

and coordinating the sector. Digital tools (digital capacity management) are to support the new processes. The Commission has announced delegated acts on a number of important topics, such as strategic capacity planning, partly in order to settle outstanding issues. Rail companies should be appropriately involved in this process. It is vital that the innovations result in infrastructure capacity being used more efficiently and that capacity shortages are not exacerbated. From the German perspective, it is essential that the Germany-wide integrated regular-interval timetable remain feasible in any new arrangements under European law. Since the planned EU regulation leaves the member states room for manoeuvre in capacity management, this appears possible.

Recommendations for demand-oriented infrastructure:

In December 2022, the Rail Acceleration Commission (BKS) set up by the German Federal Ministry for Digital and Transport presented its action recommendations to accelerate planning, approval and construction processes in rail transport and to further development of infrastructure financing. Among the measures with particularly high potential to increase infrastructure capacity, the BKS identified the



rapid realisation of high-performance corridors and the accelerated implementation of smaller and medium-sized capacity-boosting infrastructure projects. The BKS criticised the complex financing architecture, which, it believes, delays the implementation of infrastructure works and sets the wrong incentives. It proposes combining the numerous sources of funding into two funds. One of these would finance the modernisation of the existing network, while the other would support the construction of new and upgraded rail infrastructure. The BKS also recommends using some of the surplus revenue from the truck toll.

More funding for the rail network of the future:

The German government and DB are working together to reduce the invest-

ment backlog in the German rail network and create the infrastructure for growing rail traffic. DB puts the current investment backlog at over EUR 90 billion. The German government has announced its intention to invest around an additional EUR 40 billion in the railways by 2027. Priority will be given to the modernisation and digitalisation of the existing network. The extra funding will also come from a share of the revenue generated by the CO₂ surcharge on the truck toll. EUR 16.1 billion is expected to go into renewing and maintaining tracks, stations and electrical power systems in 2023.

Infrastructure geared towards the common good:

From 2024, DB Netz AG and DB Station&Service AG are to be merged to form DB InfraGO AG, where they



will be managed under one umbrella and consistently aligned with railway policy objectives. The creation of infrastructure geared towards the common good comprises five pillars. The first pillar is the concept of and overall programme for the new management of infrastructure with the following elements: creation of a high-performance network, maintenance and modernization of the extended network, rapid capacity expansion, consistent digitalization, stations of the future, efficient service facilities, and expansion/new construction and electrification. For tracks and stations, the new management regime will reverse the trend of aging infrastructure and declining quality. It will noticeably increase robustness and capacity by 2030. The second pillar is the creation of the necessary legal basis, particularly the

transition to more flexible funding arrangements through reform of the Federal Rail Infrastructure Extension Act (Bundesschienenwegeausbaugesetz). The third pillar redefines the funding framework. Based on the recommendations of the Rail Acceleration Commission, the financing architecture is to be adapted by simplifying the funding pots. In addition to this, the budgetary legislator will need to provide the necessary financial resources to implement the overall programme and refine the content of the Performance and Financing Agreement. In the fourth pillar, the German government plans to work with DB to further improve infrastructure management. The fifth pillar creates the organisational framework based on the new approach. In concrete terms, DB Station&Service AG will be merged with DB Netz AG. Extensive input from the

industry will also form part of the overall programme. Dialogue and transparency on the development of infrastructure are to be permanently strengthened.

High availability, accessibility for all and targeted expansion by 2030: The German government and DB have defined clear goals for the renewal and modernisation of Germany's infrastructure in the overall programme (Pillar 1). This covers all areas – from stations and shunting facilities to the high-performance and extended networks. Smaller and medium-sized projects are to quickly improve infrastructure availability and performance. Additional measures will improve the condition of the extended network. Equipping of the rail network with the European Train Control System (ETCS) will be accelerated. In order to make rail access more attractive, DB is turning stations along the high-performance corridors and at numerous other locations across the country into modern mobility hubs, or “stations of the future”. The upgrading of service facilities throughout the network is set to bolster rail's capacity and competitiveness in both freight and passenger transport. Targeted expansion: Pushing ahead with new lines, upgrades and electrification.

First general overhaul on the way to a high-performance network to begin in 2024: The general overhaul of the first rail corridor will begin in 2024 with the Riedbahn (the line from Mannheim to Frankfurt am Main). Over a five-month period, DB will renew all technical installations, equip the line for the digital rail operations of the future and modernise 20 stations along the route. The Hamburg–Berlin and Emmerich–Oberhausen lines will follow in 2025. The choice of further lines to modernize starting in 2026 and implementation on the ground will be in close coordination with stakeholders from the rail sector and the wider economy. Preparations for the general overhaul of the Riedbahn are already underway. They include, for example, the planning of rail replacement services and diversions as well as the upgrading of diversionary routes. Large-scale improvements will be noticeable when the overhauled Riedbahn comes into operation at the end of 2024. Each additional corridor undergoing an overhaul will further amplify the positive impact.

Rail's contribution

to protecting the environment

The transport sector is one of the largest emitters of greenhouse gases in Germany and Europe. To achieve climate targets, rail transport must grow significantly. Noise protection increases acceptance.

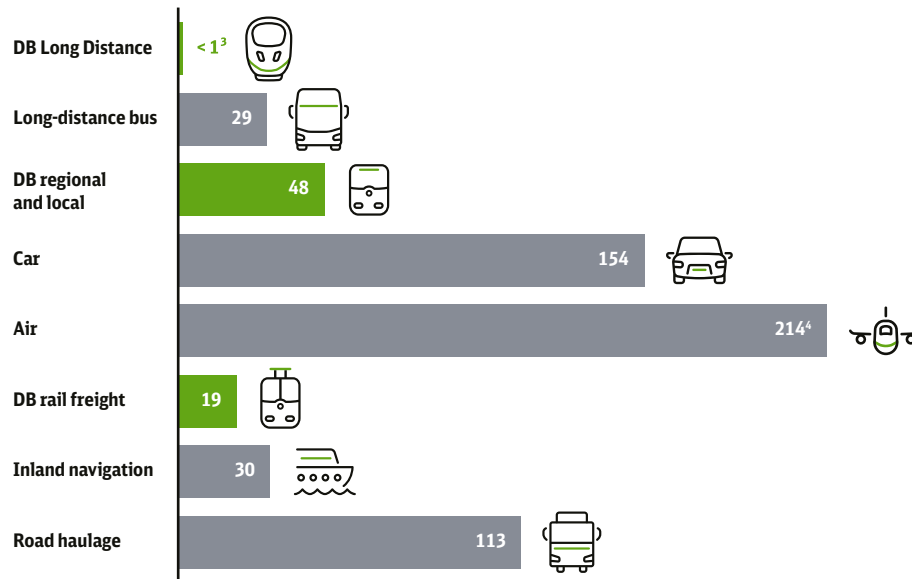
Shifting traffic to rail for more climate protection: Today, no form of motorized transport is as climate-friendly or as energy- and space-efficient as rail. More than 90% of rail transport is electrified, and the electricity used is getting greener every year. No means of mass transport can achieve a 100% share of renewable energy as quickly as rail. Even as other parts of the transport sector electrify, too, the low levels of friction generated by wheel-rail contact mean that rail travel will continue to be the most efficient form of energy use. Shifting more traffic to rail will therefore help to achieve the German and European climate targets. Without a modal shift on a massive scale, we cannot achieve the necessary reduction

of emissions in the transport sector. Under the German Federal Climate Change Act, greenhouse gas emissions from transport must be cut to 85 million tonnes of CO₂ equivalents by 2030. This means almost halving them compared with 2019 levels.

Transport sector misses climate target again: As in 2021, the transport sector in Germany exceeded its permitted greenhouse gas emissions in 2022. According to the Federal Environment Agency (UBA), greenhouse gas emissions from transport increased to 148 million tonnes of CO₂ equivalents in 2022. This put them around 9 million tonnes above the permissible annual emissions set by the Federal Climate

Climate-friendly rail

(Greenhouse gas emissions (CO₂e¹) in grams per person/tonne and kilometre in Germany²)



1 CO₂e: Total greenhouse gases (carbon dioxide, methane and nitrous oxide); emissions from the supply and conversion of energy sources are included.

2 Figures rounded

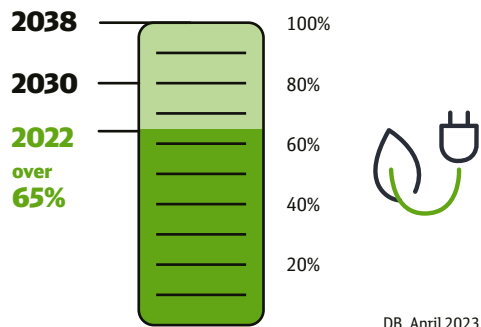
3 Includes unelectrified journeys (<math>< 2\%</math>)

4 Includes all effects on the climate from air traffic

Sources: German Federal Environment Agency, 2019 (TREM0D 6.16 V2 [6/2021]; year of reference: 2019); rail: DB AG (year of reference: 2019)

Increasing share of renewable power in DB's traction power mix

DB Long Distance services in Germany have been running on 100% renewable power since 2018. By 2038, traction power will be 100% renewable for regional and freight transport too.



DB, April 2023

Change Act for 2022. The UBA's figures show that emissions from road traffic rose again. This was despite the temporary introduction of the nine-euro ticket for regional and local public transport and the particularly high fuel prices in 2022, which were, however, temporarily reduced by the fuel rebate.

Government amends Federal Climate Change Act:

The federal cabinet approved a revision of the Federal Climate Change Act in June 2023. Germany's climate targets remain unchanged. These targets are to reduce greenhouse gas emissions by 65% compared with 1990 levels by the year 2030 and by 88% by the year 2040. Climate

neutrality is to be achieved by 2045. In future, all sectors will be included in a comprehensive, multi-year, forward-looking account. Together with the monitoring of emissions data from the previous year, the projected development of emissions is to become the basis for action by 2030 as well as for 2035, 2040 and 2045. If the projection data shows a missed target in total annual emissions for two consecutive years, the federal government must work out measures to achieve the target. In future, the federal government will have to present a comprehensive climate protection programme within twelve months of beginning a legislative term.

Climate neutral by 2040: The DB Group aims to be climate neutral by 2040. To achieve this goal, DB is relying on multiple levers: transitioning to alternative forms of heating, electrifying more lines, increasing our use of green electricity and phasing out diesel. Depots, office buildings and stations in Germany will be supplied entirely with renewable power from 2025 onwards. Heating systems are being made greener and fossil fuels such as heating oil and natural gas gradually replaced. Higher energy efficiency should ensure lower consumption in the coming years. Around 61% of Germany's rail network is currently electrified. In the coalition agreement, the German government has set itself the goal of increasing this to 75% by 2030. To achieve climate neutrality even on non-electrified routes, the industry is pursuing alternative technologies. DB is investing some EUR 1.5 billion in alternative drive systems and fuels between now and 2027.

Increasing the use of renewable power:

The share of renewables in DB's traction current mix already stands at 65.2%. This is significantly higher than the figure of around 46% currently achieved in the public grid. DB wants to increase the share of

renewables to 80% by 2030 and 100% by 2038. In 2023, DB fed renewable power directly into the German traction power network for the first time as part of a pilot project. To achieve this, DB worked with the large-scale photovoltaic project developer ENERPARC to open a solar park in Wasbek, Schleswig-Holstein. Its annual output is equivalent to the daily consumption of Germany's entire traction power network. Compared with electricity from fossil energy sources, this can save up to 18,000 tonnes of CO₂ per year.

Innovations in drive systems and infrastructure:

As it turns itself into a climate-neutral company, DB wants to end its use of fossil energy and is open to technologies that use alternative drive systems and fuels. Together with partners, DB is testing solutions on new trains for operating and supplying them with green hydrogen. In addition, DB is turning to climate-friendly battery technology. DB Regio and Alstom tested their first battery train in passenger service in 2022. In Schleswig-Holstein, DB has started on the construction of an innovative infrastructure project. Using battery-powered trains means that only short sections of



line or individual stations need to be electrified. These innovative “electrification islands” will be used for the first time from the end of 2023.

Rollout of alternative fuels: DB’s primary alternative fuel is hydrotreated vegetable oil (HVO). Depending on its composition, this biofuel generates up to 90% less CO₂ emissions than diesel. HVO can be used like diesel without the need for the costly conversion of rolling stock. DB only uses biofuel made from biological residues and waste and without palm oil. This means that the production of HVO does not com-

pete with food and feed production, and nor does it promote harmful farming practices. Since 2022, HVO has been used by several DB Regio subnetworks and on the Sylt Shuttle run by DB Long Distance. By 2025, DB Long Distance plans to use biofuel to convert the just under 2% of its routes that remain diesel-powered. Following extensive in-service trials, HVO has been approved for the diesel fleet of DB Cargo Deutschland since mid-2022. Branded DBeco fuel, it has been added to the Eco Solutions product range for climate-neutral transport.

Progress in noise control: In 2022, a total of around 71 kilometres of noise barriers were erected along existing lines as well as on new and upgraded routes. Soundproofing measures were implemented in around 2,200 homes. Since the start of the German government’s rail noise abatement programme in 1999, DB has been reducing noise pollution for residents. In 2022, noise control measures were taken on 92 kilometres of existing line, reducing noise levels for 41,500 people living nearby. Since 1999, around 664,500 residents in total have benefited from noise abatement.

Targets for noise remediation in 2030 and 2050: By the end of May 2023, DB had implemented trackside measures along a total of 2,210 kilometres. With the government’s noise abatement programme continuing, DB will implement noise control along 3,250 kilometres of existing line, reducing rail noise for some 800,000 residents.

By 2050, this figure will grow to 6,500 kilometres. All 1.6 million people living beside existing railway lines will then benefit from noise reduction.

Whisper brakes: In addition to trackside noise control measures, DB is also reducing noise directly at the source. Since the end of 2020, DB Cargo’s entire active freight wagon fleet in Germany has been equipped with whisper brakes, significantly cutting the noise it generates. The locomotive fleet is also being modernised. By 2025, all electric mainline locomotives will be retrofitted with quiet braking systems. Diesel locomotives are gradually being replaced by climate-friendly locos with alternative drive systems. Over the next few years, DB Long Distance will replace all its diesel-powered shunting locomotives with quiet, climate-friendly hybrid models. This means that noise control will help protect the climate at the same time.



Passenger transport

Transport volume in Germany in billion passenger kilometres	2018	2019	2020	2021 ¹	2022 ¹
Rail	98.2	102.0	58.8	56.2	93.3
Public road transport	72.1	71.3	44.5	44.4	56.2
Private motorised transport	913.3	917.0	798.7	804.3	874.3
Air travel (domestic in Germany)	10.3	10.1	2.6	2.1	4.1
Total market	1,093.8	1,100.4	904.6	907.0	1,027.9

Sources: Destatis, DB

Freight transport

Transport volume in Germany in billion tonne kilometres	2018	2019	2020	2021 ²	2022 ³
Rail	130.0	129.2	119.8	131.0	132.7 (e)
Road	497.2	498.7	487.5	505.6	503.1 (e)
Inland navigation	46.9	50.9	46.3	48.2	44.1
Pipelines	17.2	17.6	16.7	15.7	17.7
Total market	691.3	696.4	670.3	700.6	697.6 (e)

Sources: Destatis, DB

Infrastructure

Operating performance in Germany in million train-path kilometres	2018	2019	2020	2021	2022
On the network	1,085	1,090	1,066	1,109	1,133
Of which non-DB-Group customers	349	368	385	414	420

Source: DB

¹ 2021 and 2022 data provisional

² Road and total market data for 2021 provisional, partly estimated (e)

³ Road, rail and total market data for 2022 provisional, partly estimated (e)



Publishing details

Deutsche Bahn AG
Economic, Political and
Regulatory Affairs
Potsdamer Strasse 8
10785 Berlin, Germany

No liability for
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September 2023

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