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REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

Ninth monitoring report on the development of the rail market under Article 15(4) of Directive 2012/34/EU of the European Parliament and of the Council

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1. Rail and sustainability

Covered in part 1

2. The state of the union railway network

Covered in part 1

3. The evolution of rail services

Covered in part 1

4. The evolution of services supplied to railway undertakings

Covered in part 1

5. The evolution of framework conditions in the rail sector

5.1. Harmonisation

5.1.1. EU legislation

Overview of EU legislative elements

Following Directive 91/440/EEC, effective from 1 January 1993, the Commission has adopted four railway packages:

- In 2001, the First Railway Package ('rail infrastructure package') allowed rail operators to access the trans-European network on a non-discriminatory basis for the purpose of operating international freight services.
- In 2004, the Second Railway Package liberalised the rail freight market from 1 January 2007, introduced common procedures for investigating accidents, and established safety authorities in the Member States.
- In 2007, the Third Railway Package introduced open access rights for international rail passenger services and a European train driver licence and strengthened rail passengers' rights.
- In 2016, the Fourth Railway Package was adopted to complete the single market for rail services and to make it more competitive with other transportation modes[1].

The technical pillar of the Fourth Railway Package, adopted by the Council in April 2016, focused on interoperability, safety, and a renewed role for the European Rail Agency. It included:

- Regulation (EU) 2016/796 on the EU Agency for Railways and repealing Regulation (EC) 881/2004
- Directive (EU) 2016/797 on the interoperability of the rail system within the EU (Recast of Directive 2008/57/EC)
- Directive (EU) 2016/798 on railway safety (Recast of Directive 2004/49/EC)

The market pillar of the Fourth Railway Package, adopted in December 2016, intended to complete the process of market opening that began with the implementation of the First Railway Package. It introduced open access for domestic rail passenger services, laid down rules for improving impartiality in the governance of railway infrastructure, and introduced the principles of mandatory tendering for public service contracts in the railway sector to enhance competition in rail passenger service markets, thereby encouraging railway operators to improve the quality of their services, and their cost effectiveness. The market pillar comprises two Regulations and a Directive.

- Regulation (EU) 2016/2338 amending Regulation (EC) 1370/2007, dealing with the award of public service contracts for domestic passenger transport services by rail

[1] EU legislative measures are accompanied by several implementing and delegated acts which are available on the DG MOVE website

- Directive 2016/2370/EU amending Directive 2012/34/EU, dealing with the opening of the market of domestic passenger transport services by rail and the governance of the railway infrastructure
- Regulation (EU) 2016/2337 repealing Regulation (EEC) 1192/69 on the normalisation of the accounts of railway undertakings.

The two key features of the market pillar are:

- 'Competitive tendering' as the standard choice for awarding public service contracts: This principle will fully apply from 3 December 2019. The unconditional possibility of directly awarding public service contracts is allowed until 24 December 2023. After that date, the direct award procedure will only be allowed in limited and well-defined circumstances[2].
- 'Open access' from the 2021 timetable: Member States may limit rights of access only if the exercise of these rights would compromise the economic equilibrium of one or more PSCs.

5.2. Licensing of railway undertakings

5.2.1. Active licences

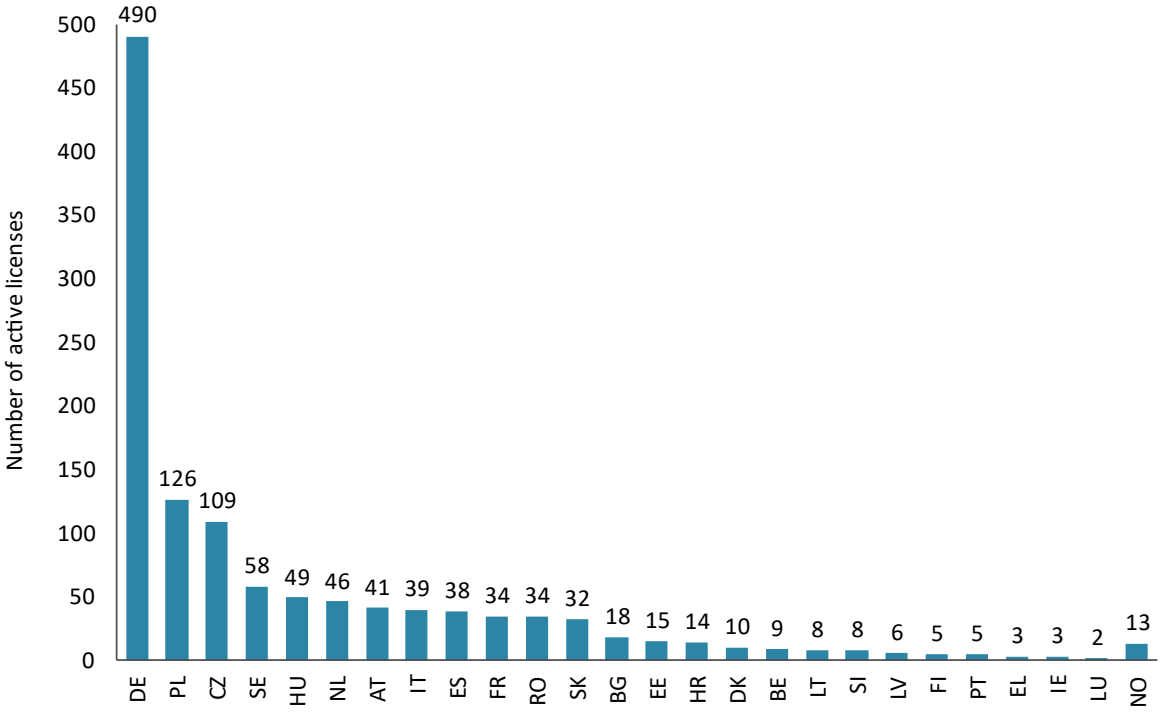
Licences of railway undertakings can be active or passive:

- **Active licence:** a licence granted to a railway undertaking that has ***started*** and ***not ceased*** operations within the periods fixed by the Member State in accordance with Article 24(4) of Directive 2012/34/EU.
- **Passive licence:** a licence granted to a railway undertaking that has ***not started*** or has ***ceased*** operations within the periods fixed by the Member State in accordance with Article 24(4) of Directive 2012/34/EU, and licences which have been suspended or revoked.

The number of active licences reported in the RMMS is showed in Figure 52.

[2] https://transport.ec.europa.eu/media-corner/events/tendering-public-service-contracts-rail-passengers-transport-meeting-challenge-2018-05-30_en

Figure 52: Number of active railway licences per country (2022)



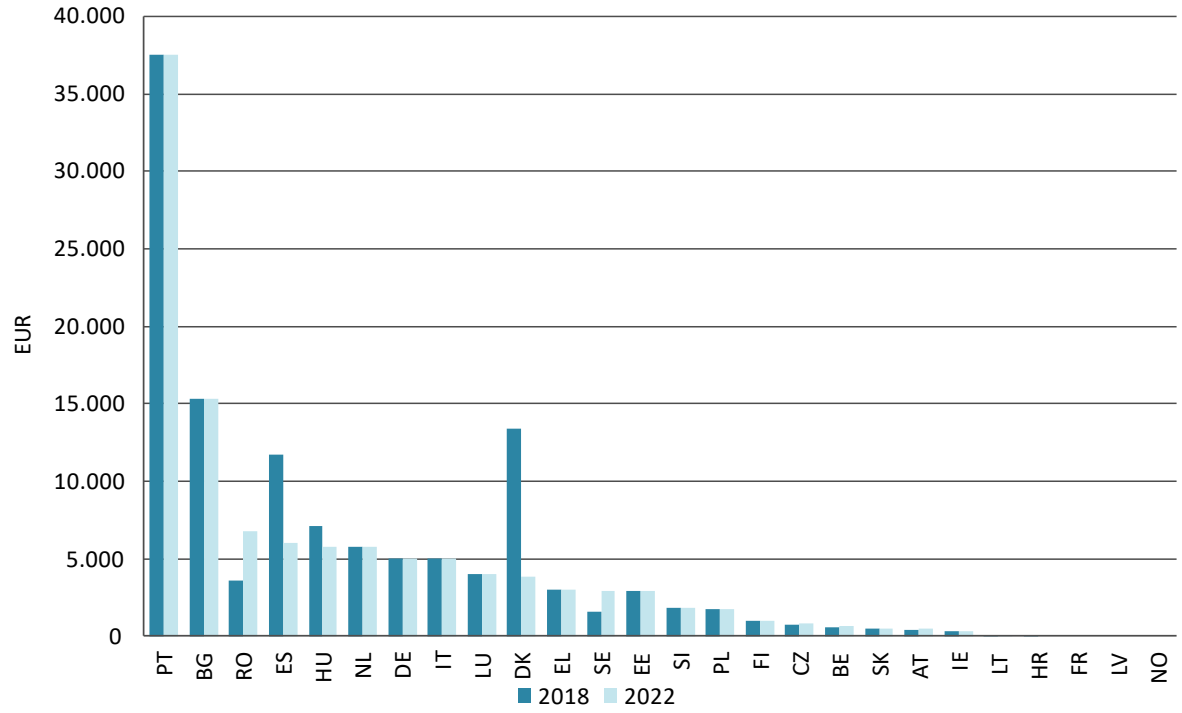
Source: RMMS, 2022

In total 1 202 active licences were reported in the EU27 in 2022. Germany reported the highest number of licensed railway undertakings (490), together with Poland (126) and Czechia (109). Luxembourg reported the lowest number of active licences (2).

5.2.2. Average fee to obtain a licence

Figure 53 shows the reported average fees to obtain a licence in 2018 and 2022 in each country.

Figure 53: Average fee to obtain a licence by country (EUR, 2018 and 2022)



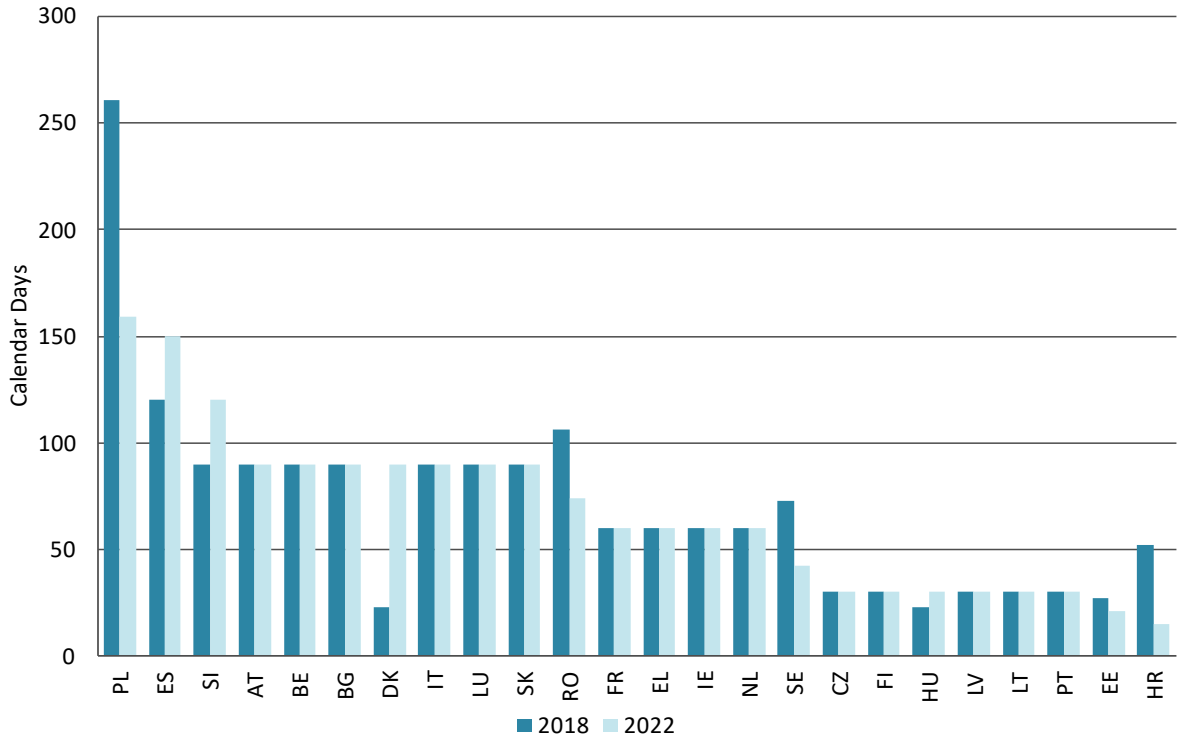
Source: RMMS, 2022. FR reported that licence costs are zero. In LV the charge is a state duty, not a licence fee.

Portugal reported the highest fee level for 2022 (EUR 37 500) followed by Bulgaria and Romania, whereas Lithuania reported the lowest fee (EUR 63) and in Croatia, France and Norway licences appear to be obtained for free. Fees significantly decreased between 2018 and 2022 in Denmark and Spain, whereas only Romania reported a significant increase in the same period. In Latvia, the payment is a state duty rather than a licence fee and was reduced to zero in 2020.

5.2.3. Average time to obtain a licence

Figure 54 shows the reported average number of calendar days to obtain a licence in 2018 and 2022 in different countries.

Figure 54: Average time to obtain a licence by country (calendar days, 2018 and 2022)



Source: RMMS, 2022

Most Member States reported an average time to obtain a licence of 90, 60 or 30 calendar days. Poland reported the longest average time for 2022 (159 days), followed by Spain (150) and Slovenia (120). In Germany, the reported average time to obtain a licence was only 3 calendar days. Denmark reported the highest increase with 67 days, whereas Poland shows the most remarkable change, with a reduction by 102 days from 2018 to 2022.

5.3. Charging principles for the infrastructure

Infrastructure managers recover the cost related to the provision of infrastructure for train operations with infrastructure charges. The basic principle is that the charges should cover at least the 'direct' costs of the train run, referring to the costs incurred by a train run over the network, i.e. the marginal costs of the use of the infrastructure.

To incentivise the optimal use of their infrastructure, infrastructure managers can additionally apply other charging components:

- to improve environmental performance, charges can reflect noise emissions or the usage of diesel/electric locomotives;
- an effective use of infrastructure capacity can be incentivised through mechanisms such as a scarcity charge, a reservation charge, or discounts to specific traffic flows;

- the costs of specific investment projects can be recovered by charges based on long-term costs;
- a performance scheme can enhance operational performance through penalties/rewards linked to the occurrence/avoidance of service disruptions, applicable to both railway undertakings and infrastructure managers; and
- mark-ups can be applied on top of the direct cost charges in market segments that are able to pay such higher charges. Nevertheless, market segments that can at least pay the direct costs and a rate of return must not be excluded from the use of the rail infrastructure.

The overall level of cost recovery through infrastructure charges is typically affected by the level of government contribution to the cost of the infrastructure.

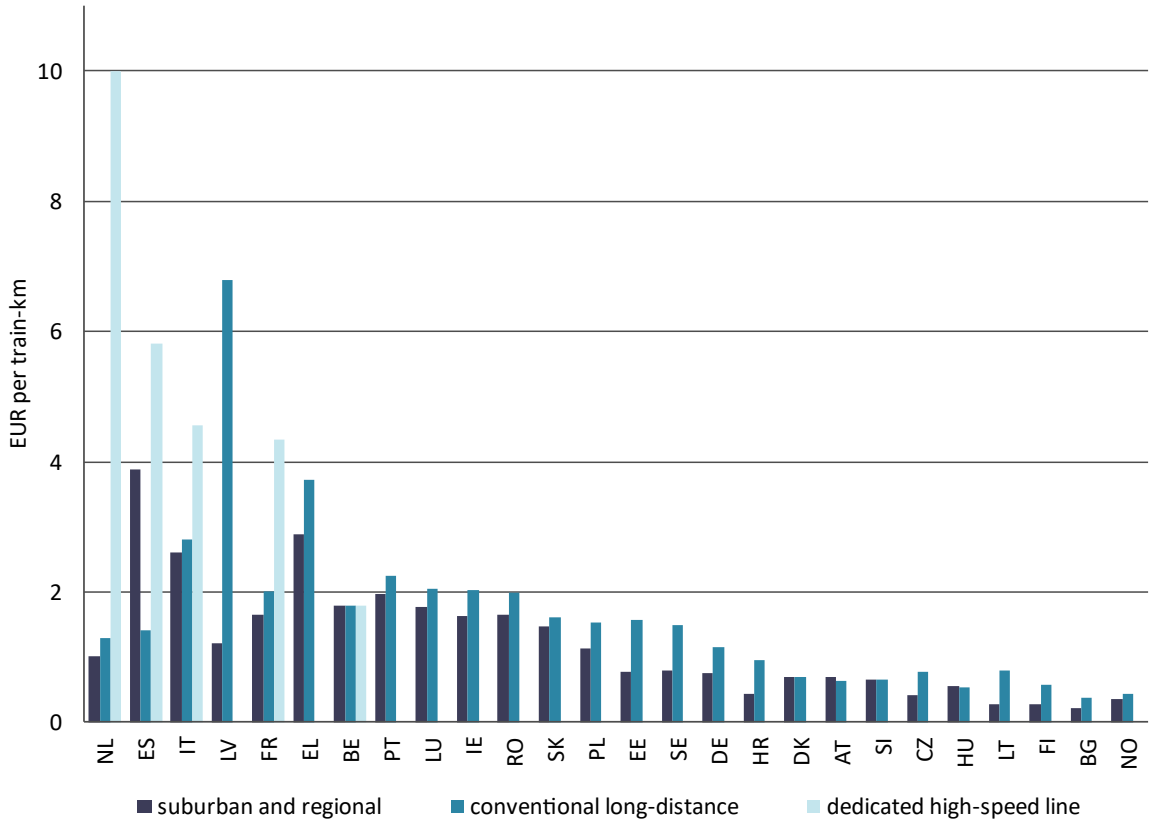
Currently the RMMS does not allow the possibility to distinguish between the various charging elements used by each Member State. Therefore, while comparing the level of charges reported by Member States, the results need to be interpreted with caution.

5.4. Access charges for different categories of passenger trains

As explained in paragraph 5.3, the RMMS does not allow the possibility to distinguish between the various elements of charging applied across infrastructure managers and Member States. Therefore, while comparing the level of charges as reported in the following pages, the results need to be interpreted with caution.

Figure 55 compares estimates of typical access charges (excluding mark-ups) per country in 2022, measured in EUR per train kilometre, for three different types of passenger trains.

Figure 55: Access charges (excluding markups) for different categories of passenger trains, by country (EUR per train-km, 2022)

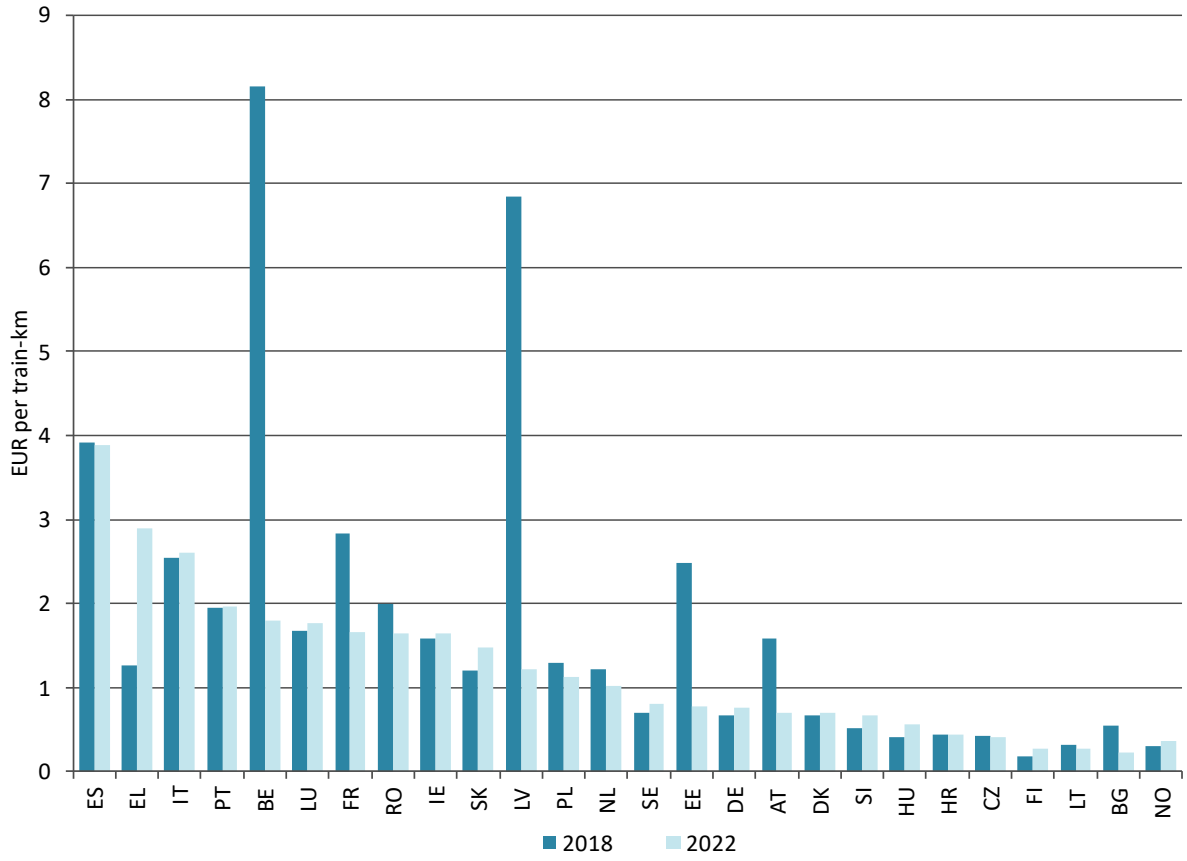


Source: RMMS, 2022

Overall, the Netherlands reported the highest level of track access charges in 2022, while Lithuania and Bulgaria reported the lowest. Spain and the Netherlands applied very high track access charges for dedicated high-speed lines, whereas Latvia applied comparably high track access charges for conventional long-distance lines.

Figure 56 shows access charges (excluding mark-ups) for suburban and regional passenger trains per country for 2018 and 2022, measured in EUR per train kilometre.

Figure 56: Access charges (excluding mark-ups) for suburban and regional passenger trains by country, (EUR per train-km, 2018 and 2022)

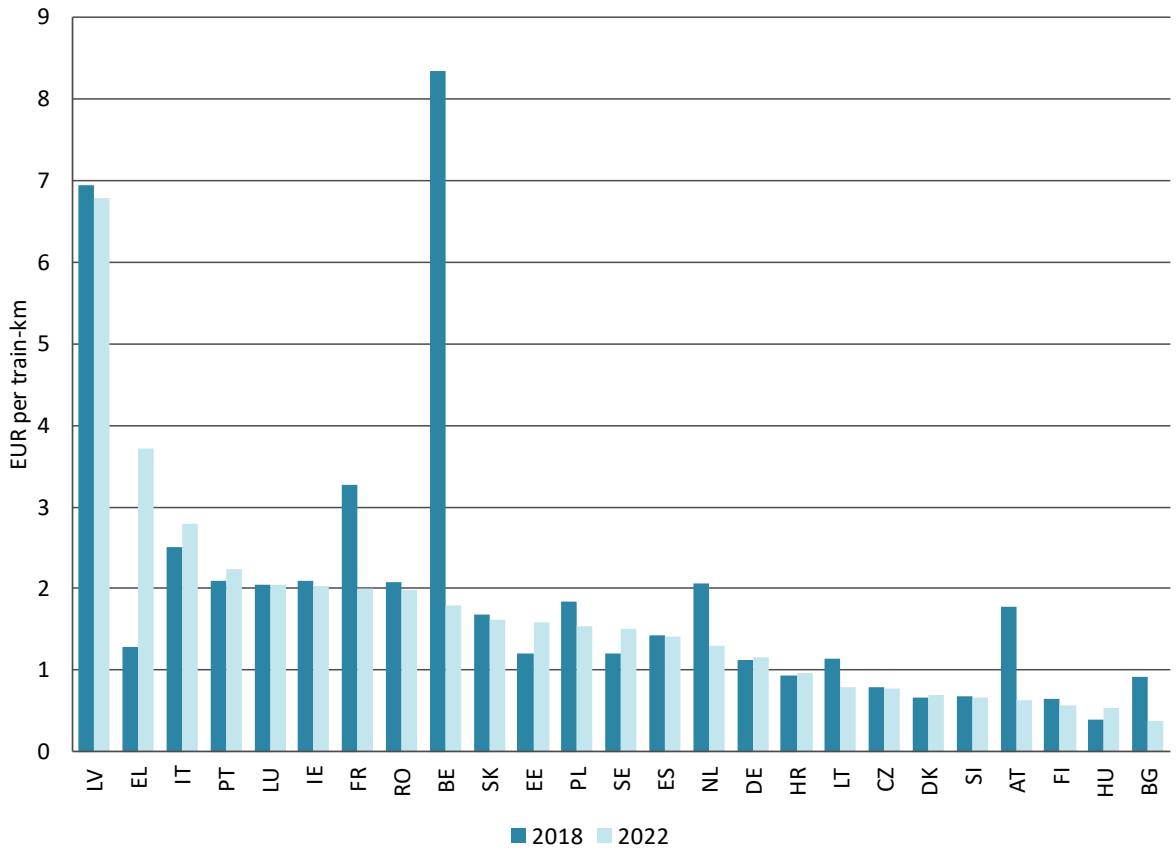


Source: RMMS, 2022

In general, Spain reported the highest access charges for suburban and regional passenger trains. Belgium and Latvia showed the most notable decrease, while Greece registered the highest increase from 2018 to 2022.

Figure 57 shows access charges (excluding mark-ups) for conventional long-distance passenger trains per country for 2018 and 2022, measured in EUR per train kilometre.

Figure 57: Access charges (excluding mark-ups) for conventional long-distance passenger trains by country, (EUR per train-km, 2018 and 2022)



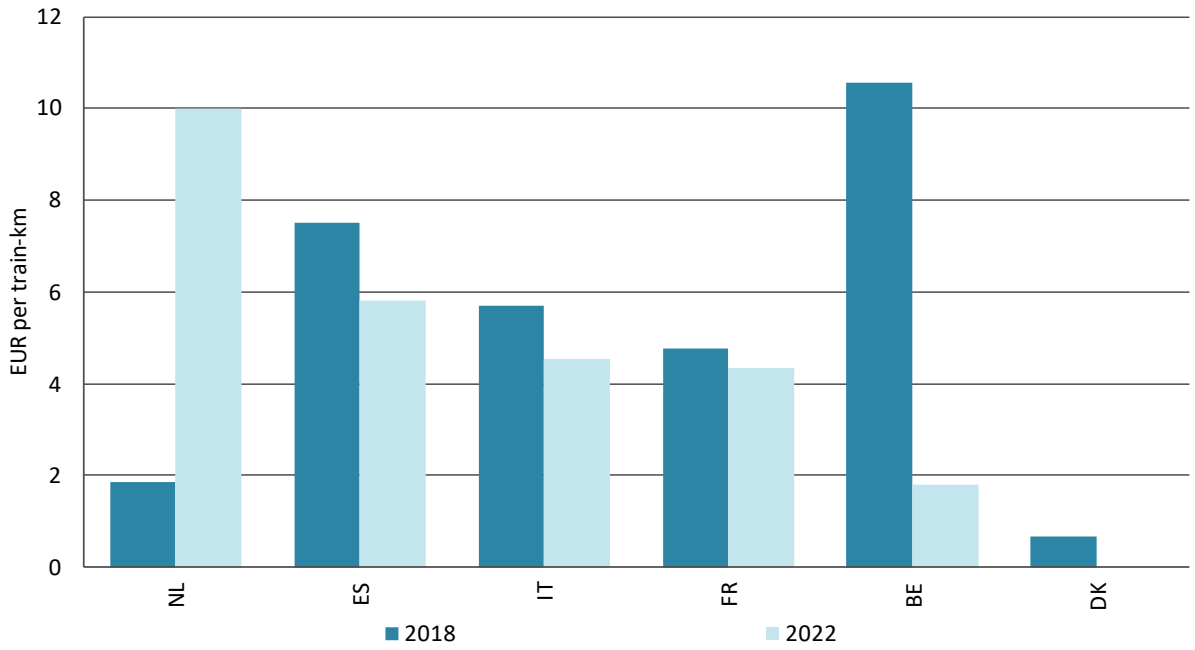
Source: RMMS, 2022

The figure shows how charges have changed in several Member States, most notably Greece (increasing) and Belgium, Austria, and the Netherlands (decreasing).

Figure 58 shows access charges (excluding mark-ups) for high-speed passenger trains per country for 2018 and 2022, measured in EUR per train kilometre[3].

[3] The RMMS asks more precisely for track access charge, excluding mark-ups, for 'passenger trains providing high-speed services on dedicated high-speed lines'.

Figure 58: Access charges (excluding mark-ups) for high-speed passenger trains by country (EUR per train-km, 2018 and 2022)



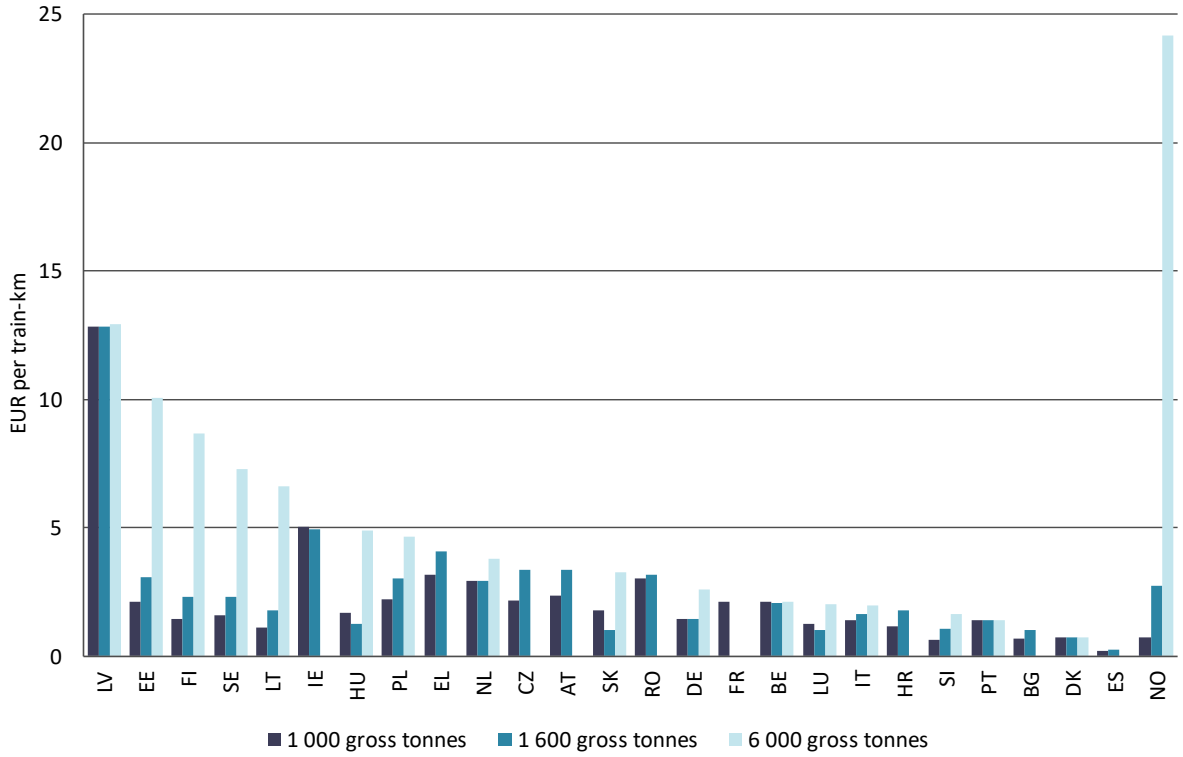
Source: RMMS, 2022

All countries with track access charges for high-speed rail (excluding mark-ups), reported higher values than for other passenger charges, except Belgium which has the same access charges for all passenger trains. However, in all Member States with high-speed rail, the access charges were lower in 2022 than in 2018, except in the Netherlands.

5.5. Access charges for different categories of freight trains

Figure 59 compares estimates of typical access charges (excluding mark-ups) per country in 2022, measured in EUR per train kilometre, for freight trains of three different maximum gross tonnages.

Figure 59: Access charges (excluding mark-ups) for different categories of freight trains, by country (EUR per train-km, 2022)



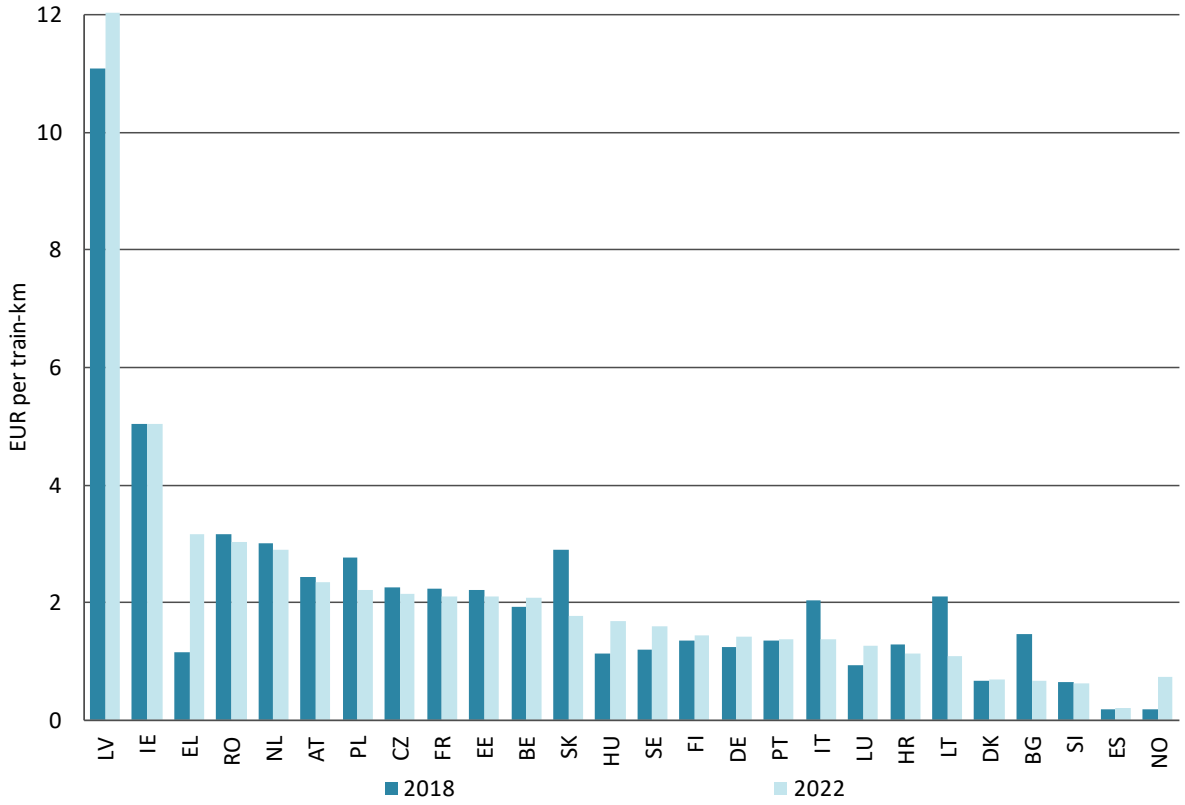
Source: RMMS, 2022

Overall, highest track access charges are reported in the Baltic States. Unusually high track access charges are achieved for 6 000 gross tonne freight trains in Norway[4].

Figure 60 shows access charges (excluding mark-ups) for 1 000 gross tonne freight trains per country for 2018 and 2022, measured in EUR per train kilometre.

[4] Average track access charges for the 6 000 gross tonne freight category can be influenced from the tonnage of trains running the network, which can be significantly higher than 6 000 gross tonnes (ex. in Norway for example where full load trains up to 8 500 gross tonne can run through the network).

Figure 60: Access charges (excluding mark-ups) for 1 000 tonne freight trains by country (EUR per train-km, 2018 and 2022)

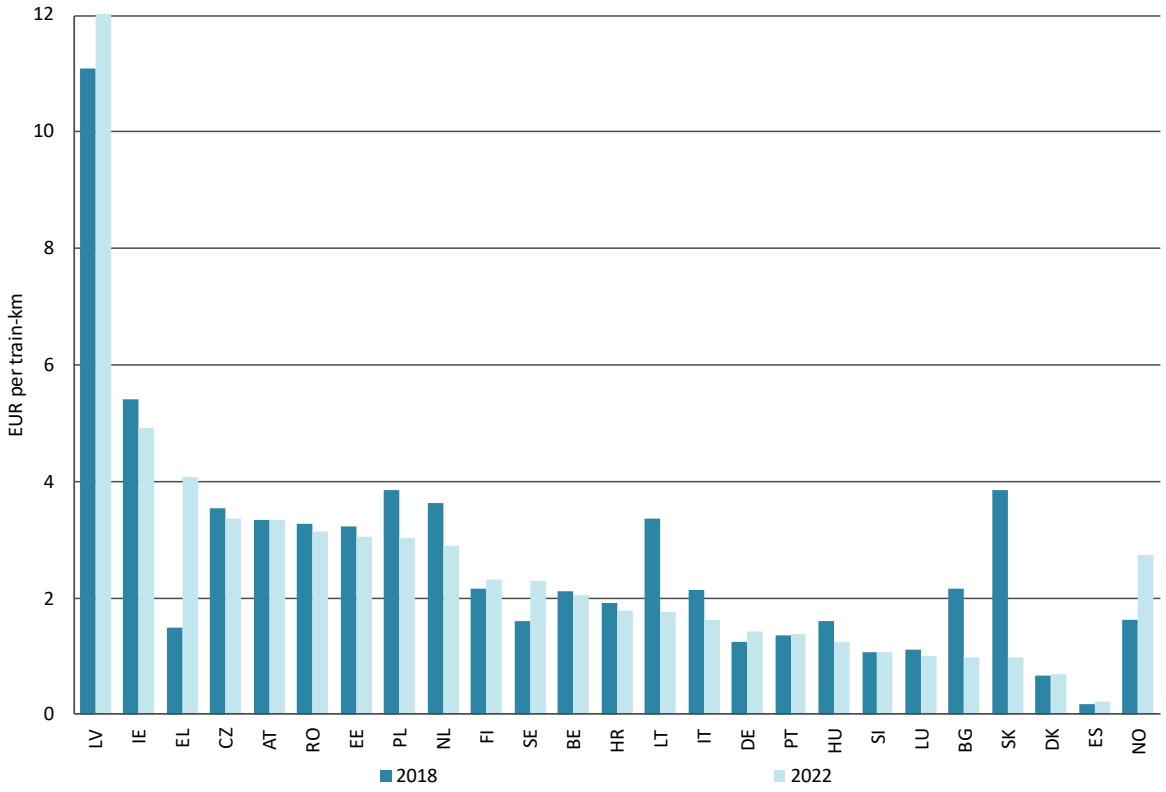


Source: RMMS, 2022

The figure shows how charges have changed in several Member States, most notably Latvia and Greece (increasing) and Slovakia, Italy, and Lithuania (decreasing).

Figure 61 shows access charges (excluding mark-ups) for 1 600 gross tonne freight trains per country for 2018 and 2022, measured in EUR per train kilometre.

Figure 61: Access charges (excluding mark-ups) for 1 600 tonne freight trains by country (EUR per train-km, 2018 and 2022)

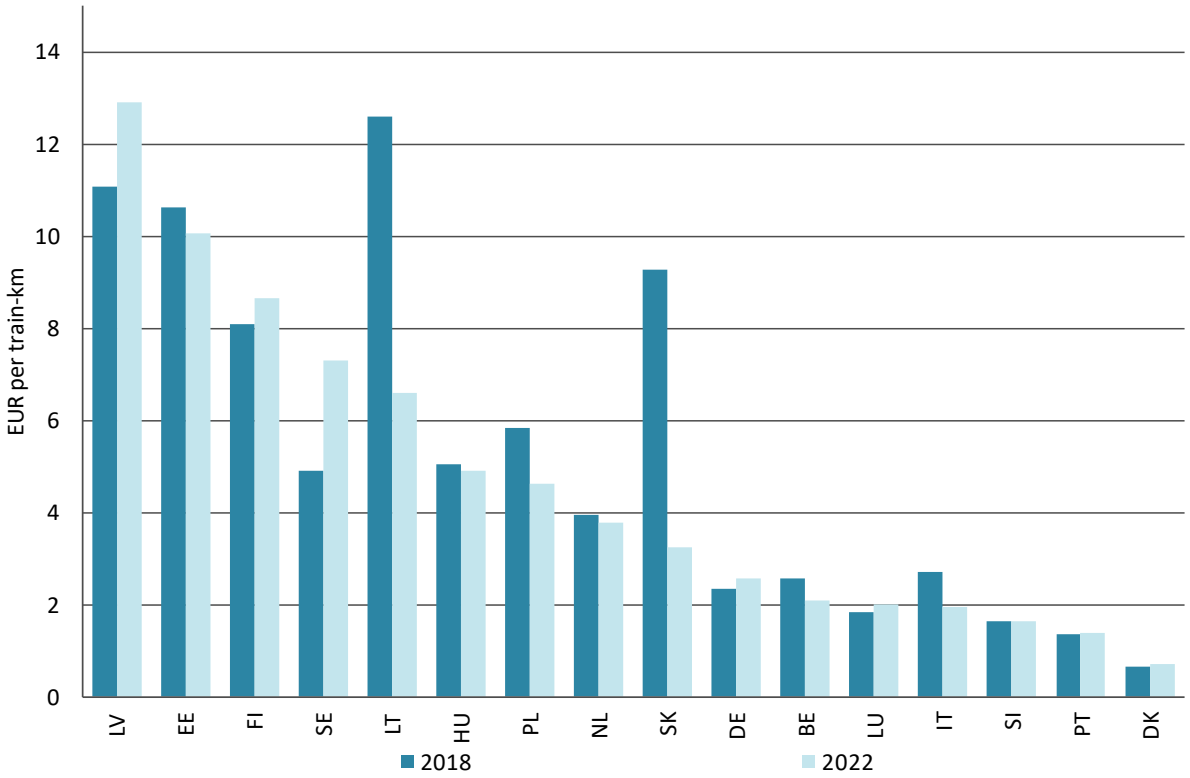


Source: RMMS, 2022

The figure shows how access charges for 1 600 tonne freight trains have changed in several Member States, most notably Greece, Sweden, and Latvia (increasing) as well as Poland, Latvia, and Bulgaria (decreasing).

Figure 62 shows access charges (excluding mark-ups) for 6 000 gross tonne freight trains per country for 2018 and 2022, measured in EUR per train kilometre.

Figure 62: Access charges (excluding mark-ups) for 6 000 tonne freight trains by country (EUR per train-km, 2018 and 2022)



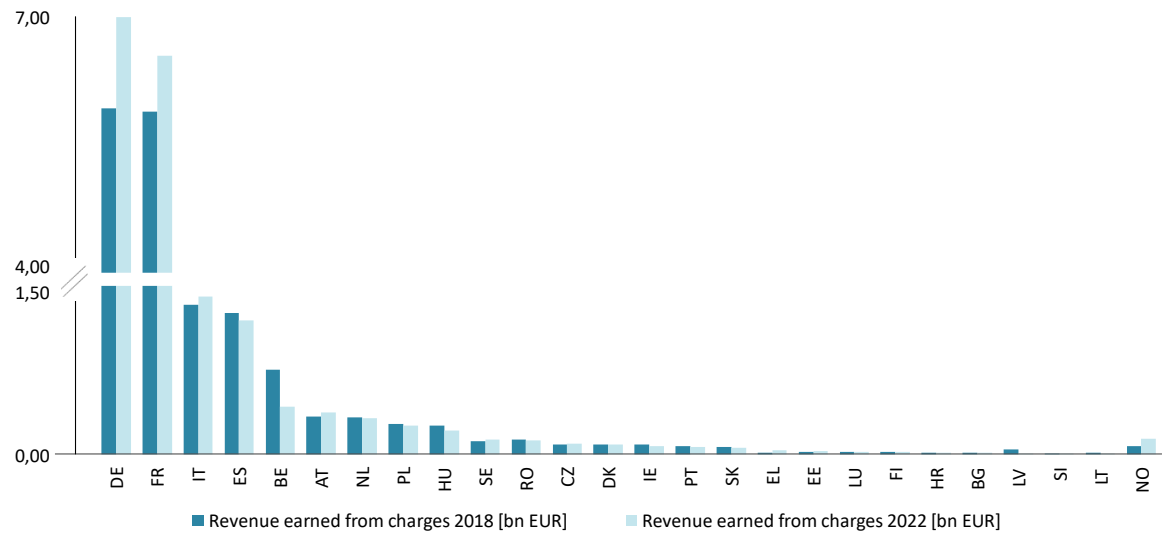
Source: RMMS, 2022

The figure shows how access charges for 6 000 gross tonne freight trains have changed in several countries, most notably Sweden (increasing) and Lithuania (decreasing).

5.6. Infrastructure managers' revenue calculated for passenger and freight trains

Figure 63 shows the infrastructure managers' reported revenues from passenger trains through track access charges, station charges and other charges per country for 2018 and 2022. In the RMMS, only charges collected by the infrastructure managers need to be reported. These therefore include charges for station facilities only if owned or managed by infrastructure managers.

Figure 63: Infrastructure managers' revenue earned from charges (TACs, station charges and other charges) paid by passenger trains, per country (EUR billion, 2018 and 2022)



Source: RMMS, 2022

Overall, the highest revenues from passenger services' charges in 2022 were achieved in Germany and France. The lowest revenues (almost zero) were reported in Lithuania and Slovenia.

Additional Information

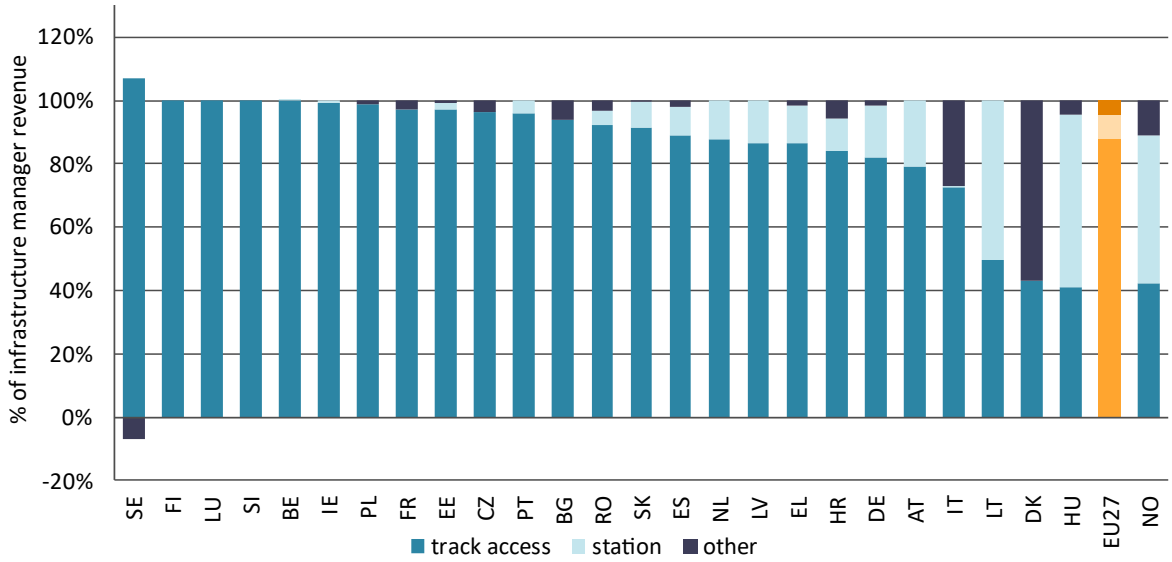
Despite a slight decrease in passenger volumes in Germany from 2018 to 2022, track access revenues rose by over 10%. This increase was driven by tariff adjustments and a shift in service composition. Per-kilometre charges were raised to better cover operational costs, while a higher proportion of long-distance and high-speed trains – subject to higher fees – helped counterbalance the slight decrease in passenger kilometres.

France's extensive high-speed rail network (TGV) saw a strong post-Covid recovery, especially for domestic travel. The combination of robust passenger numbers and relatively high track access charges for high-speed lines lead to increased overall revenues for the infrastructure manager.

Support to rail operators, helping to stabilize or even increase infrastructure revenues despite declining passenger numbers was offered, among others, in Italy. In 2022, the Italian government approved a €130 million state aid package to partially offset track access costs for both freight and passenger rail operators.

Figure 64 shows the infrastructure managers' share of track access, station, and other charges in total revenues from passenger trains per country in 2022.

Figure 64: Proportion of infrastructure managers' revenue earned from TACs, station charges and other charges on total charges paid by passenger trains, per country (% in 2022)

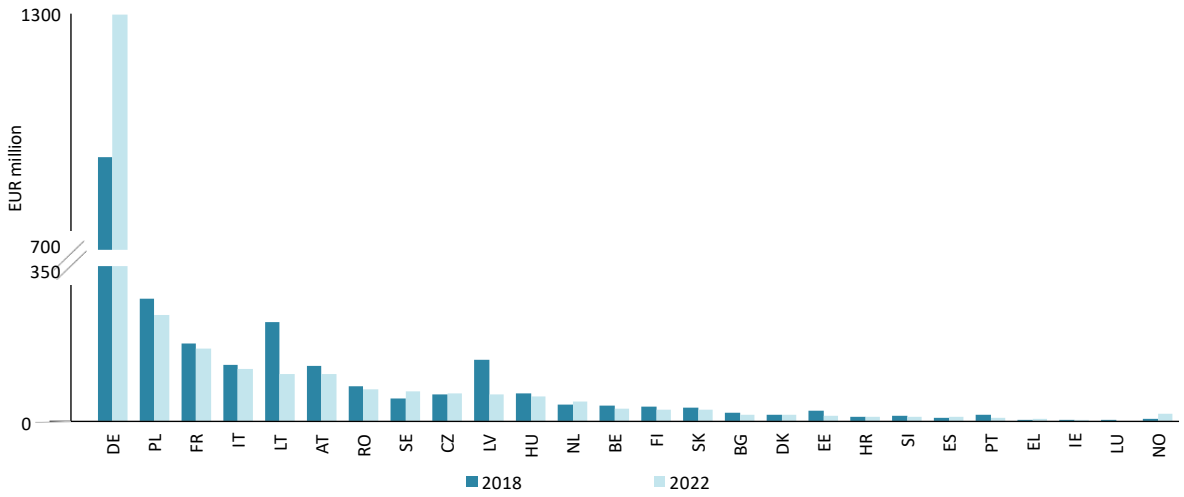


Source: RMMS, 2022. SE reported consolidated figures for TACs and station charges, so it is not possible to represent their respective weight on the total charges.

In 2022, track access charges represented on average 88% of the infrastructure managers' revenues from passenger trains in the EU27. Hungary reported the lowest share of track access charges on total infrastructure managers' revenues from passenger services (41%). Station charges can make up to 55% of the total, as reported by Hungary. Sweden reported negative revenues from other charges due to quality fees paid by the infrastructure manager.

Figure 65 shows infrastructure managers' reported revenues from freight trains through track access charges, freight terminals charges and other charges per country for 2018 and 2022. In the RMMS, only charges collected by the infrastructure managers need to be reported. These therefore include charges for freight terminals only if owned or managed by infrastructure managers.

Figure 65: Infrastructure managers' revenue earned from charges (TACs, freight terminals charges and other charges) paid by freight trains, per country (EUR million, 2018 and 2022)

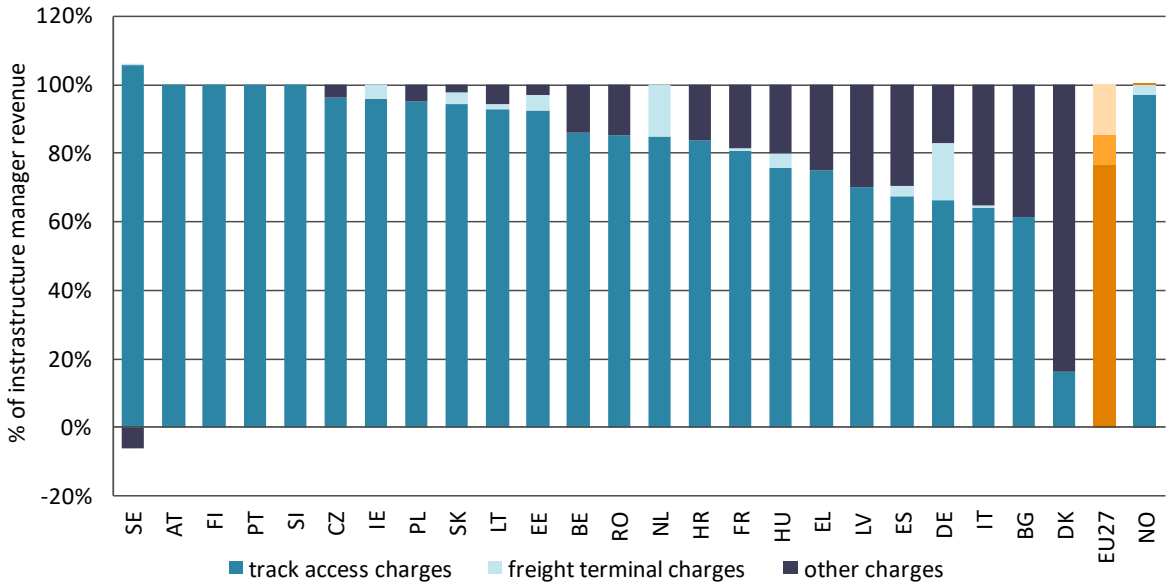


Source: RMMS, 2022

Germany reported the highest revenues of infrastructure managers from freight services in 2022, while Luxemburg reported the lowest revenues.

Figure 66 shows infrastructure managers' share of track access, freight terminals and other charges in total revenues from freight trains per country in 2022.

Figure 66: Proportion of infrastructure managers' revenue earned from TACs, freight terminals charges and other charges on total charges paid by freight trains, per country (%, 2022)

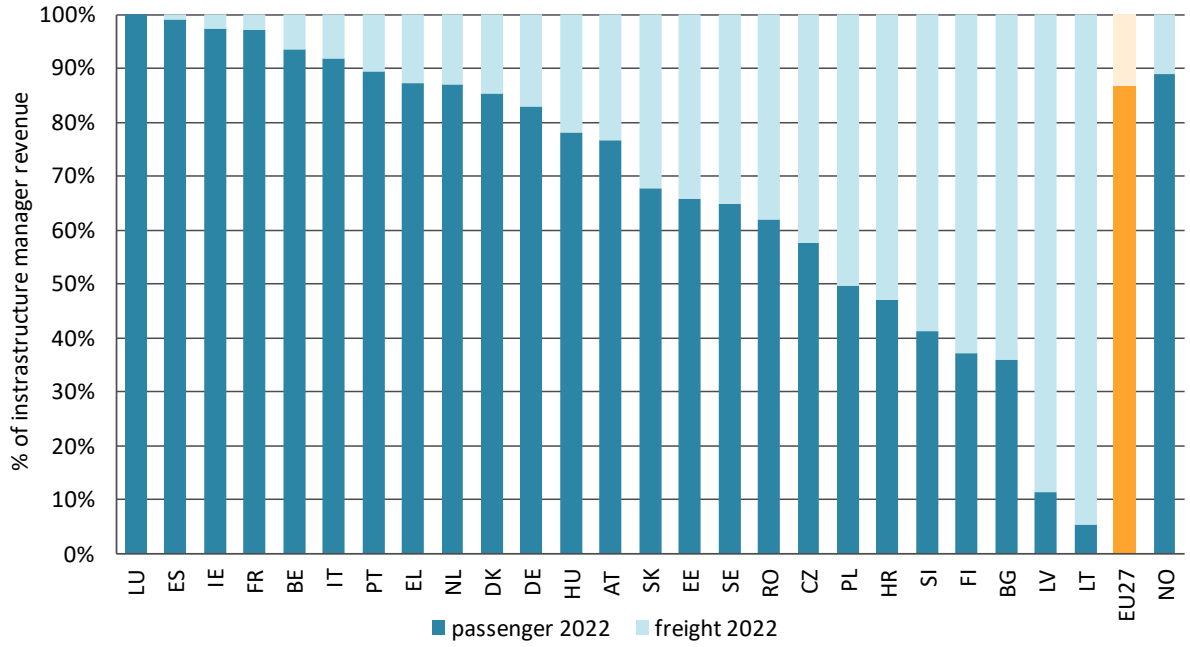


Source: RMMS, 2022

In 2022, track access charges represented on average 76% of the infrastructure managers' revenues from freight trains in the EU27. Denmark reported the lowest share of track access charges on total revenues of infrastructure managers from freight services (16%). Freight terminal charges can make up to 17% of the total as reported by Germany. Sweden reported negative revenue from other charges due to quality fees paid by the infrastructure manager.

Figure 67 shows the share of passenger and freight charges in total revenues of infrastructure managers' revenues from trains per country in 2022.

Figure 67: Share of passenger and freight charges on infrastructure managers' total revenues earned from trains, per country (%, 2022)



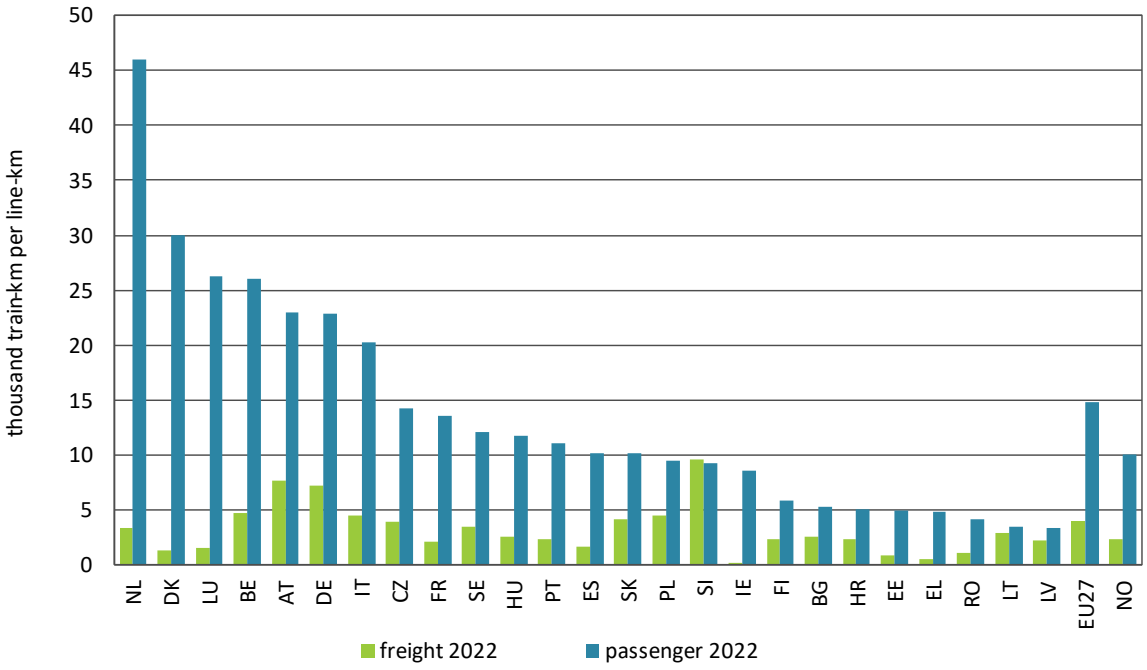
Source: RMMS, 2022

In 2022, passenger services represented on average 87% of the total revenues of infrastructure managers from trains in the EU27. Luxembourg reported the highest share (100%), Lithuania the lowest (5%). Eastern European countries rely more on freight revenue from track access charges than other regions, highlighting the distinct characteristics of their railway markets.

5.7. Capacity allocation and congestion

Figure 69 presents the reported average network utilization for passenger and freight trains in 2022, measured in train kilometres per line kilometre per country, along with the changes since 2018. While these broad national averages do not reflect the least-used parts of the network, they offer insights into which railway networks are, on average, busier than others.

Figure 68: Network utilisation per country (thousand train-km per line-km, 2022)



Source: RMMS, 2022; Statistical pocketbook, 2024

In 2022, the EU27 network had an intensity of use of 18.7 thousand train kilometres per line kilometre. This is slightly higher than in the years preceding the COVID-19 pandemic (18.1 in 2018). The most intensively used networks in 2022 were still those of western Europe, in particular the Netherlands, with an intensity of use of 49.3 thousand train kilometres per line kilometre. Romania appears to have the lowest intensity of use with only 5.3 thousand train kilometres per line kilometre. In terms of segments, 79% of the intensity of use was due to passenger trains (14.8 thousand train kilometres per line kilometre). Freight network utilisation is higher in central European countries, underscoring the significance of their geopolitical position within the European freight rail network.

5.7.1. Allocating capacity

Successful and rejected path allocations for scheduled and ad hoc train paths

Timetables structure and organise the use of railway infrastructure in the form of 'train paths': train paths determine the train (by number), the time of use and the individual trajectory of the train. The basis for building timetables is path requests by railway undertakings and other applicants[5]. With this, infrastructure managers create a usage plan, i.e. the timetable, which reconciles all path requests in the best possible way, given the available infrastructure capacity. Path requests can be either submitted under the yearly working timetable (designed for planned traffic and on a more long-term basis) or as ad hoc requests for spot traffic at shorter notice.

[5] In addition to railway undertakings, the term 'applicants' includes other persons or legal entities with an interest in procuring infrastructure capacity, such as shippers, freight forwarders or combined transport operators.

Path allocation requests may be accepted or rejected by an infrastructure manager to resolve conflicting applications for infrastructure capacity.

Member States are required to follow the path coordination processes set out in Article 46(1) of Directive 2012/34/EU. Annex VII to the same Directive[6] specifies a mandatory timeline for establishing the yearly timetable and introduces coordination and consultation processes between infrastructure managers and applicants.

Despite EU path coordination rules having been in place for a long time, the timetabling procedures have evolved nationally and lack Europe-wide harmonisation, which creates barriers for a smooth cross-border traffic.

Further to this, the current timetabling process does not really fit the business model of rail freight. A significant part of the demand is volatile and cannot be planned long in advance, so ad hoc requests for train paths are in principle the most appropriate method to accommodate capacity needs. However, rail freight path requests are also made within the annual timetable process (**scheduled paths**), to avoid the risk of not receiving **ad hoc train paths** of suitable quality (or even none) at a later stage.

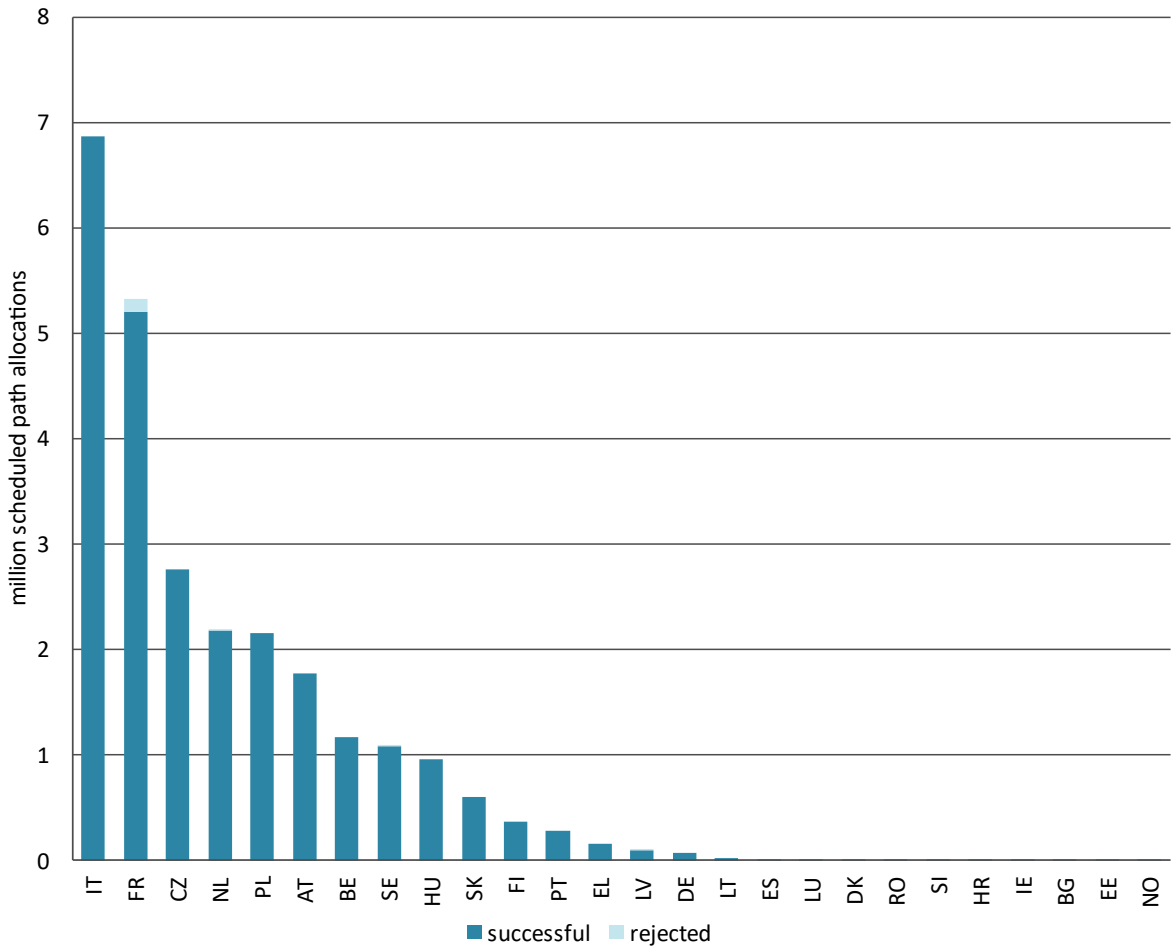
This often leads to suboptimal ordering behaviour and thus to a suboptimal management of infrastructure capacity, resulting in a waste of resources. In fact, train paths often need to be modified or even cancelled at a later stage, when the actual capacity needs materialise.

To address the sub-optimal use of rail infrastructure capacity, on 11 July 2023 the European Commission proposed a regulation aimed at enhancing the efficiency of rail infrastructure capacity management across the EU. This initiative seeks to revise the process for defining the timetable, allowing longer term planning as well as greater short-term flexibility in path allocation. The proposal also seeks harmonisation of capacity allocation and traffic management procedures and better coordination between infrastructure managers for allocation of cross-border rail paths. The anticipated outcomes include a 4% increase in overall network capacity, which would benefit both passenger and freight operations.

Figure 69 shows the reported number of successful and rejected scheduled path allocations in 2022 per country.

[6] As replaced by Commission Delegated Decision (EU) 2017/2075 of 4 September 2017 replacing Annex VII to Directive 2012/34/EU of the European Parliament and of the Council establishing a single European railway area (https://eur-lex.europa.eu/eli/dec_del/2017/2075/oj).

Figure 69: Successful and rejected path allocations for scheduled path allocations per country (million path allocations, 2022)

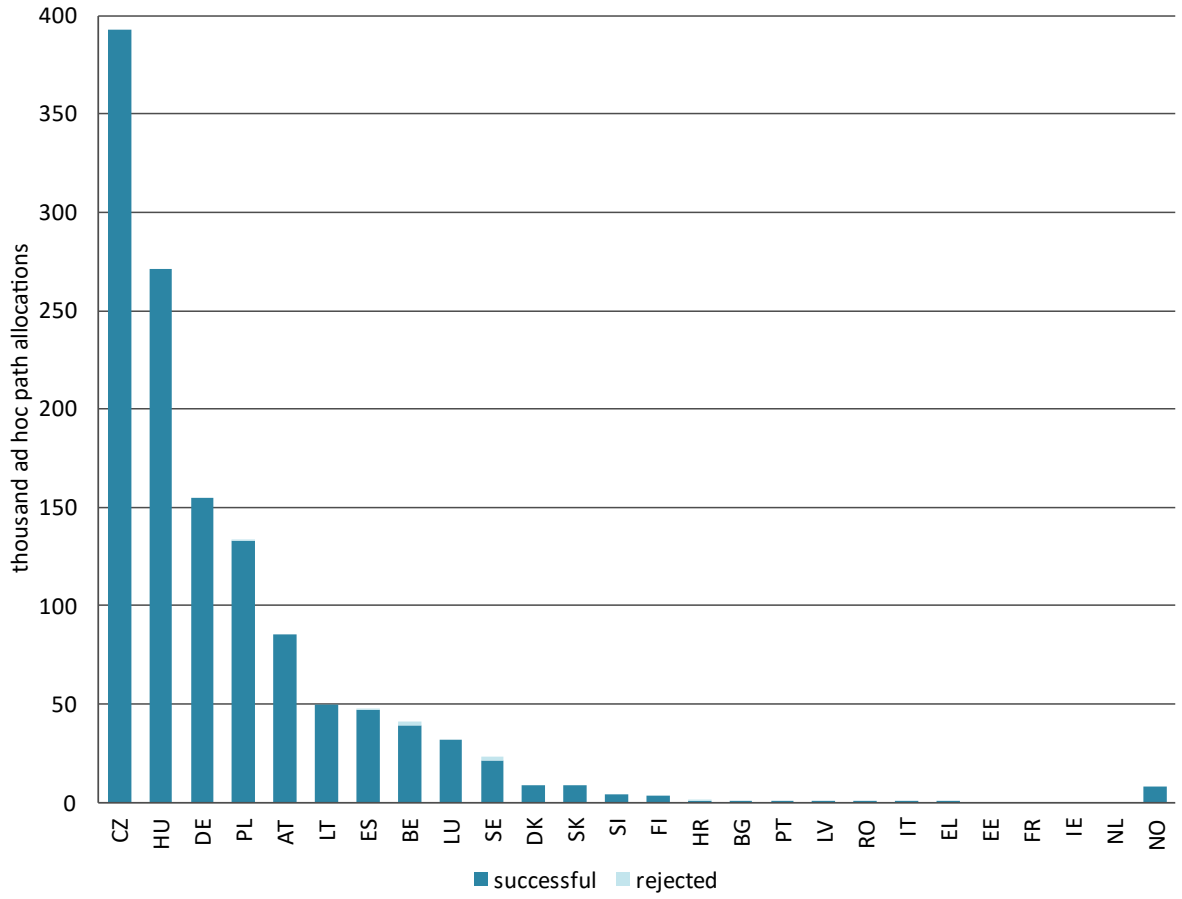


Source: RMMS, 2022

According to RMMS data, 25.78 million path allocations were successfully scheduled in 2022 in the EU27 and just 0.13 million rejected.

Likewise for ad hoc path allocation (shown in Figure 70), in 2022 about 1.3 million ad hoc paths were successfully allocated in the EU27, with just 3 721 rejected.

Figure 70: Successful and rejected path allocations for ad hoc path allocations per country (million path allocations, 2022)



Source: RMMS, 2022

Framework agreements between infrastructure managers and railway undertakings

Article 42 of Directive 2012/34/EU allows the conclusions of framework agreements for the use of the infrastructure for longer than one working timetable period. To provide railway undertakings and new entrants with fair access to the railway infrastructure and to optimise the use of infrastructure, the Commission adopted in 2016 Implementing Regulation 2016/545[7] on procedures and criteria relating to framework agreements for the allocation of railway infrastructure.

In June 2022, framework agreements were applied by the infrastructure managers of Spain (3), France (5), Italy (many) and Norway (1). In Germany framework agreements will likely be reintroduced for the working timetable 2024.

[7] Commission Implementing Regulation (EU) 2016/545 of 7 April 2016 on procedures and criteria concerning framework agreements for the allocation of rail infrastructure capacity (Text with EEA relevance)
C/2016/1954, OJ L 94, 8.4.2016, p. 1–11.

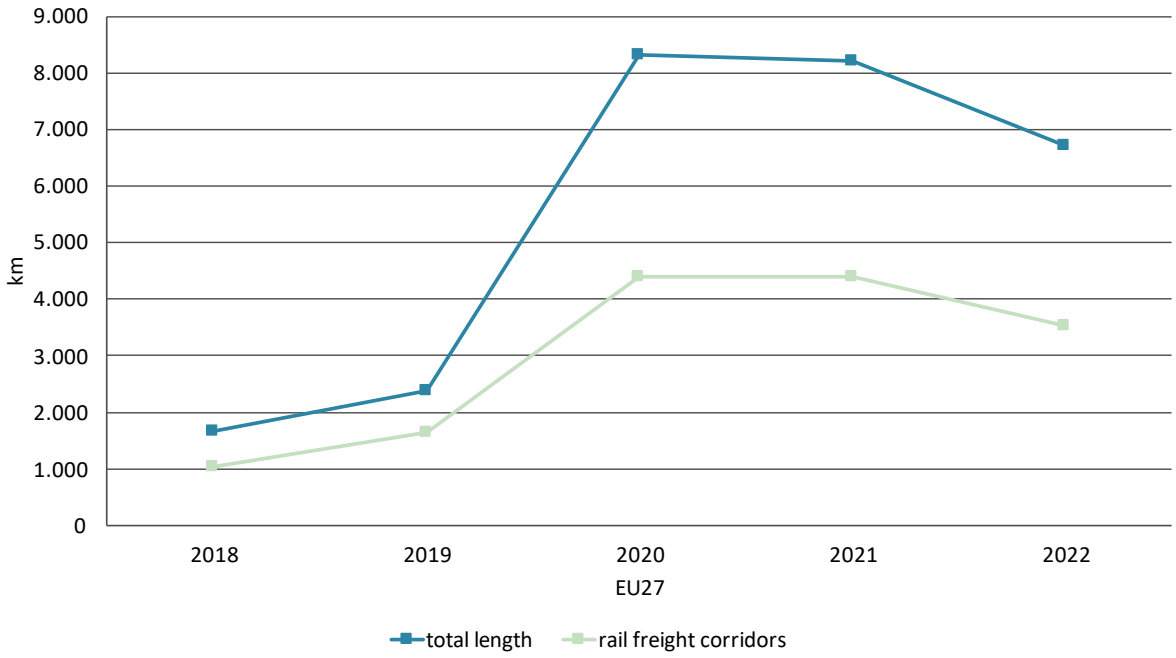
5.7.2. Managing capacity shortages

According to EU legislative provisions, infrastructure managers must survey the usage of infrastructure capacity and to meet all capacity requests in a fair and non-discriminatory manner. In case of capacity constraints, they must identify the reasons behind it and the measures to be taken in the medium to long term to satisfy additional requests. If, after coordination and consultation, train path demand cannot be matched, the relevant section of infrastructure must be declared congested.

Sections and nodes declared congested

Figure 71 shows the trends in the total length of track declared congested over the period 2018 to 2022 in the EU27. The congested tracks belonging to rail freight corridors, which are already included in the total congested tracks, are also reported separately in the chart for more clarity.

Figure 71: Total length of track declared congested (total and freight corridors) (km, 2018-2022)



Source: RMMS, 2022.

The total length of track declared congested in the EU27 has risen sharply from 2018 to 2020 and then decreased slightly in 2022, reaching 6 711 kilometres, including 3 523 kilometres of rail freight corridors. The impressive increase in the of congested tracks (more than quadruple the 2018 level) is however largely due to a change in the criteria used to declare a section congested in Italy (see below).

Table 4 shows the distribution by country of total length of track declared congested over the period 2018-2022.

Table 4: Track declared to be congested (total including freight corridors) per country, (km, 2018-2022)

	2018	2019	2020	2021	2022
AT	12	12	12	12	10
DE	7	798	821	956	1014
DK	42	42	42	42	0
IE	4	4	4	4	4
IT	240	221	5294	5192	4087
LT	0	591	758	417	264
LU	0	0	275	0	0
NO	171	171	171	171	171
PL	0	0	0	0	0
RO	329	321	431	431	406
SE	267	345	650	930	291
SI	45	45	45	45	45
Total	1841	2550	8503	8390	6882
Total without IT	1601	2329	3209	3198	2795

Source: RMMS, 2022

The network with the greatest length of declared congested track is that of Italy. However, the sudden increase in congested sections in Italy is due to a change in reporting reflecting the new criteria imposed by the Italian rail regulator ART to declare a section of the network saturated. Until 2019 Italy reported in the RMMS the routes declared saturated ex-post, i.e. after the coordination of the path requests introduced by railway undertakings. This meant very few pieces of the network ended up in being declared saturated.

After the intervention of the regulator – i.e. from data 2020 – Italian authorities reported in the RMMS the routes declared saturated ex-ante, i.e. before the coordination process of capacity allocation. They explained that according to ART a section should now be considered saturated even if it exceeds the hourly saturation threshold (85% of capacity) just for one hour per day.

Besides Italy, Germany, Romania, and Sweden were the countries reporting the highest number of kilometres of freight corridors congested (1014, 406 and 291 respectively in 2022).

Only Italy declared 261 and 15 kilometres of a high-speed line as congested in 2021 and 2022 respectively, although this break in the series is also due to the new regulator's decision.

Table 5 shows the number of nodes declared congested according to Article 47.

Table 5: Nodes declared to be congested per country, (km, 2018-2022)

	2018	2019	2020	2021	2022
DK	1	1	1	1	0
EE	1	1	0	0	0
DE	2	2	2	2	2
IE	2	2	2	2	2
LT	0	4	6	3	2
NL	0	3	2	1	0
RO	1	4	6	7	7
ES	0	3	3	3	3
SE	6	5	19	15	12
NO	2	2	2	2	1

Source: RMMS, 2022

Sweden reported the highest number of nodes (12) congested for 2022.

Principles for dealing with congestion

After a section of infrastructure has been declared congested, a new capacity enhancement plan needs to be developed or an existing one needs to be applied. For a new plan, the infrastructure manager must carry out a capacity analysis within 6 months, which results in the respective capacity enhancement plan within a further six months. Such plans must display the reasons for the congestion, the likely future development of traffic, any constraints on infrastructure development as well as the options and costs for capacity enhancement, including likely changes to access charges. This forms the basis to take a decision to remediate the congestion. The users of the relevant congested infrastructure are to be consulted on the plan and its measures.

According to Article 31 of Directive 2012/34/EU, infrastructure managers may levy a charge which reflects the scarcity of capacity of the identifiable section of the infrastructure during periods of congestion. The declaration of congestion for the identified section of infrastructure is therefore a prerequisite for levying such a charge.

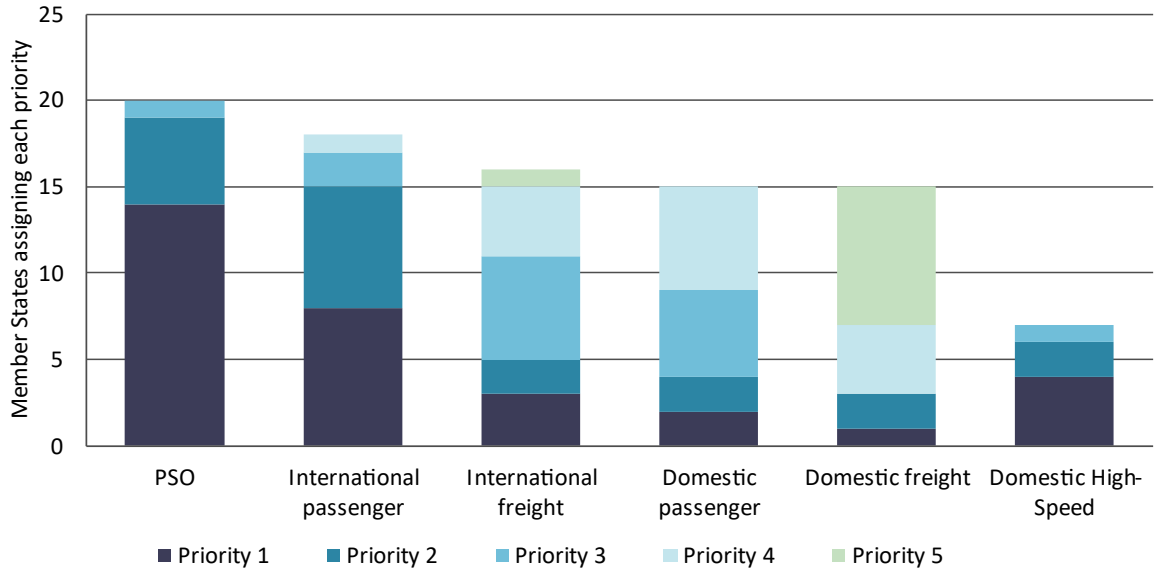
The infrastructure manager must cease levying any charges for the use of the relevant infrastructure if no capacity enhancement plan is produced or if no progress with the measures agreed in the plan is made. Otherwise, if the plan cannot be realised, or if the measures in the plan prove not to be viable, the infrastructure manager may continue to levy the charge in agreement with the regulatory body.

The infrastructure manager may also employ priority criteria to allocate infrastructure capacity, if scarcity charges are not levied, or have not achieved a change in traffic demand behaviour. The criteria need to reflect the importance of a service to society relative to any other service, which will consequently be excluded. The importance of transport services under public service requirements and of national or international rail freight must be taken into consideration. Compensations to infrastructure managers for losses of revenues due to the capacity allocation to certain services may be granted, even including effects related to the exclusion of a service in another Member State. Procedures and criteria must be described in the network statement.

Priority rules and priority services

Article 45 of Directive 2012/34/EU permits the infrastructure manager to give priority to specific services within the scheduling and coordination process, but only as set out in Articles 47 and 49 (congested and specialised infrastructure). Many infrastructure managers make use of priority rules, and the principal types of service given priority – as they have been reported in the RMMS – are summarised in Figure 72.

Figure 72: Principal types of services prioritised by infrastructure managers (number of MS assigning each priority, 2022)



Source: RMMS, 2022

Passenger services under PSO appear to be given the highest priority in a significant number of countries (14) whereas international passenger services are given the highest priority in 8 countries. Interestingly, only 4 countries reported giving the highest priority to freight (3 to international and 1 to domestic freight services)[8].

Capacity restrictions due to infrastructure works

Infrastructure works are necessary to develop and maintain railway infrastructure, but at the same time they restrict available infrastructure capacity. The impact of capacity restrictions on international rail freight traffic appears to be particularly severe. This is because infrastructure managers usually prioritise the much faster and more punctual passenger trains, which leaves limited access to rail infrastructure for freight trains.

EU legislation[9] lays down rules to ensure there is a predictable schedule for and at least some level of coordination of infrastructure works across Member States. The purpose is to limit the impact of works on international rail traffic. Infrastructure works are subject to coordination rules, in particular along the rail freight corridors. However, coordination can only be effective if works are planned and executed in a timely manner.

The coordination of capacity restrictions across networks is challenging due to significant differences in the way infrastructure works are planned, financed and executed in different

[8] In total, 14 Countries reported giving priority to PSO traffic in the event of congestion. In practice, however, deviations may occur at certain times or depending on local circumstances.

[9] In particular Article 12 of Regulation (EU) No 913/2010 of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight, OJ L 276, 20.10.2010, p. 22–32, and Annex VII point 8 of Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area, OJ L 343, 14.12.2012, p. 32–77.

networks. Sound planning and execution of infrastructure works by infrastructure managers require a reliable financial framework and appropriate incentives to improve performance. As most infrastructure managers are dependent on public funding for at least part of maintenance and renewal expenditure, Member States have an important role to play.

EU legislation requires Member States to have contractual agreements[10] between their competent authorities and infrastructure managers, among other things to ensure sound financing of infrastructure works.

5.8. Rail transport services covered by public service contracts

Where a competent authority wishes to put at the disposal of its citizens, in the general interest, rail services that an operator would not assume to the same extent or under the same conditions without a reward, it can impose public service obligations.

The notion of public service obligations and the conditions under which competent authorities may provide compensation for the discharge of such obligation are laid down in Regulation (EC) 1370/2007.

Where a competent authority decides to grant the operator of its choice an exclusive right and/or compensation in return for the discharge of public service obligations, it must do so within the framework of a public service contract, i.e. a legally binding act confirming the agreement between the authority and the operator.

Regulation (EC) 1370/2007 lays down the principle that, for land transport, public service contracts must be awarded based on a competitive award procedure. Since the adoption of the Fourth Railway Package, this principle applies also to rail, with some limited exceptions. In several Member States rail public service contracts are already competitively tendered. However, during a transitional period that ended on 24 December 2023, Member States could still award rail public service contract directly.

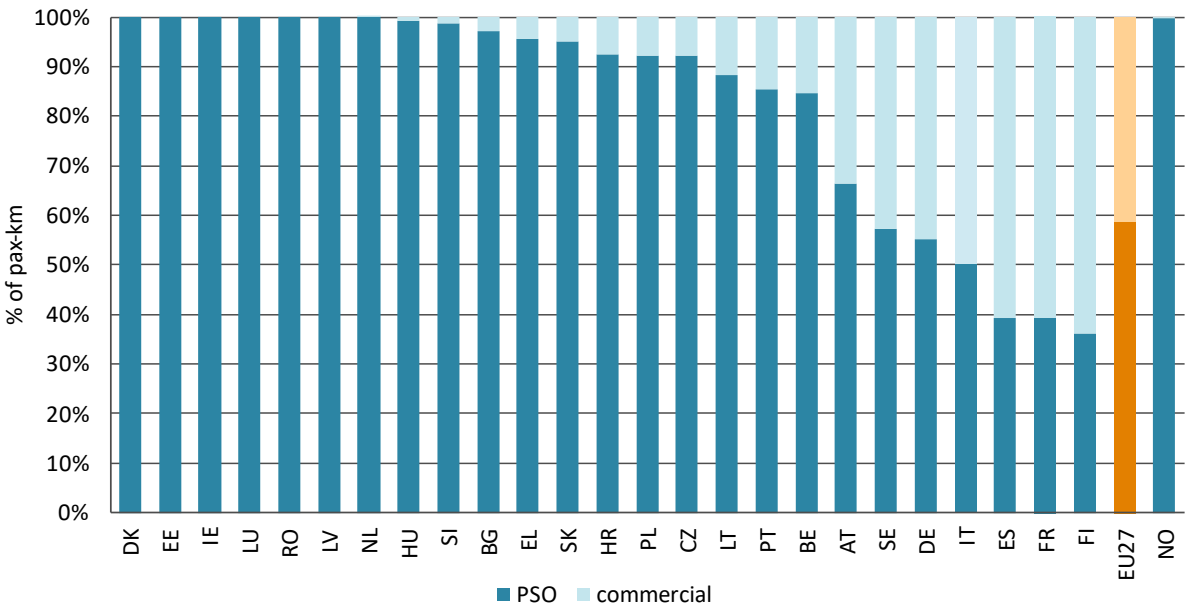
Each competent authority is required to publish once a year an aggregated report on: (i) the public service obligations for which it is responsible; (ii) the selected public service operators; and (iii) the compensation payments and exclusive rights granted.

[10] Article 30(2) of Directive 2012/34/EU.

5.8.1. PSO scope

Figure 73 shows the share of passenger kilometres offered respectively under a PSO and a commercial rail services per country in 2022.

Figure 73: Share of passenger traffic offered respectively under a PSO and commercial rail services per country (% of pax-km, 2022)

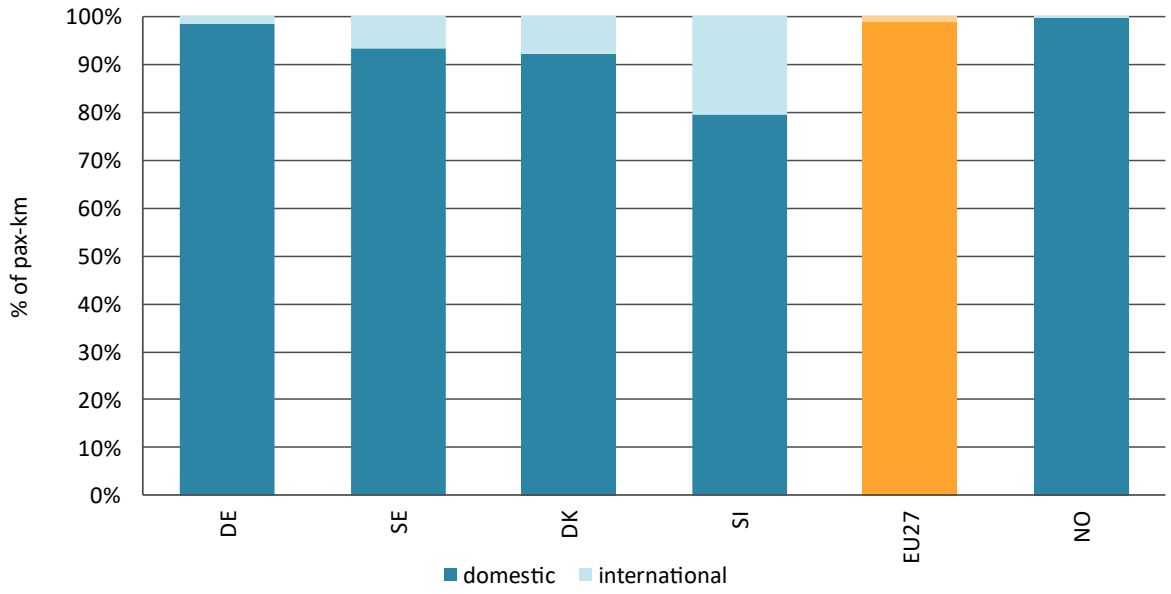


Source: RMMS, 2022

In 2022, PSO passenger services represented on average 58.7% of the total passenger kilometres in the EU27. According to RMMS data, all passenger traffic was covered by a PSO in Denmark, Estonia, Ireland, Latvia, Luxembourg, and Romania. Over 30% of passenger kilometres are on commercially operated services in Austria, Italy, Sweden, Germany, Spain and France and Finland.

Services on a commercial basis without a PSO are typically provided in domestic long-distance and interurban markets. International services appear to be rarely provided under a PSO. Figure 74 shows the share of passenger traffic offered respectively under domestic and international PSO services per country in 2022, as reported in the RMMS by countries declaring to have international PSOs.

Figure 74: Share of passenger traffic offered respectively under domestic and international PSO services per country declaring to have international PSOs (% of pax-km, 2022)



Source: RMMS, 2022

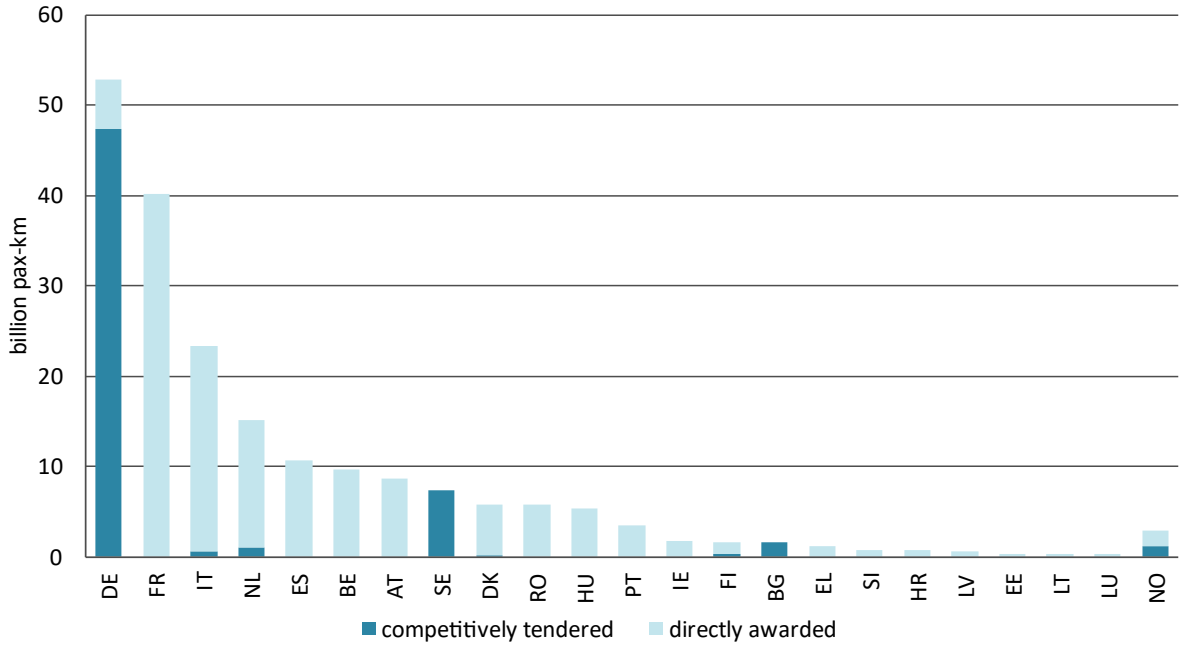
On average, in 2022, domestic passenger services represented 99.1% of the total PSO passenger kilometres in the EU27. Among countries that reported having international PSO services, Slovenia (21%) had the highest share of international PSO services on total PSO services, whereas Germany (1.5%) had the smallest.

5.8.2. PSO award

Direct award versus tendering

Figure 75 shows the proportion of PSO services, measured in passenger kilometres, which were competitively tendered or directly awarded in 2022 per country.

Figure 75: PSOs competitively tendered and directly awarded per country (billion pax-km, 2022)



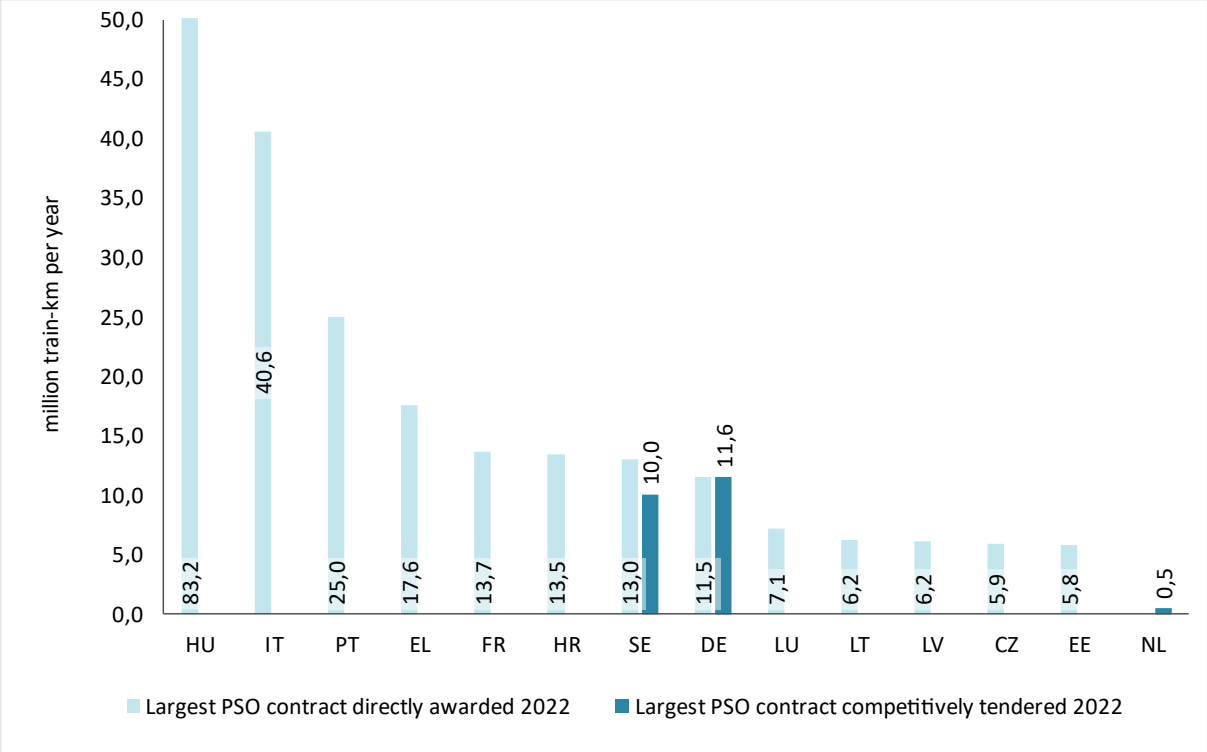
Source: RMMS, 2022

In 2022, 29% of the 231 billion PSO passenger-kilometres in the EU27 were on services awarded through competitive tendering. Bulgaria and Sweden led with 100% of their PSO services competitively tendered. Notably, 92% of the passenger volume on competitively tendered services was concentrated in two early-liberalizing countries: Germany (81%) and Sweden (13%). According to RMMS data, competitive tendering was also gradually introduced in Italy, the Netherlands (to very limited extent at regional level), Bulgaria, Finland, Denmark, and Norway.

Overview of largest PSO contracts awarded during the reported period

The RMMS collects information related to the size of PSO contracts (if any) awarded during any reference year. Figure 76 shows the largest directly awarded and competitively tendered contracts measured in train kilometres in 2022 per country:

Figure 76: Largest PSOs competitively tendered and directly awarded per country (million train-km, 2022)



Source: RMMS, 2022

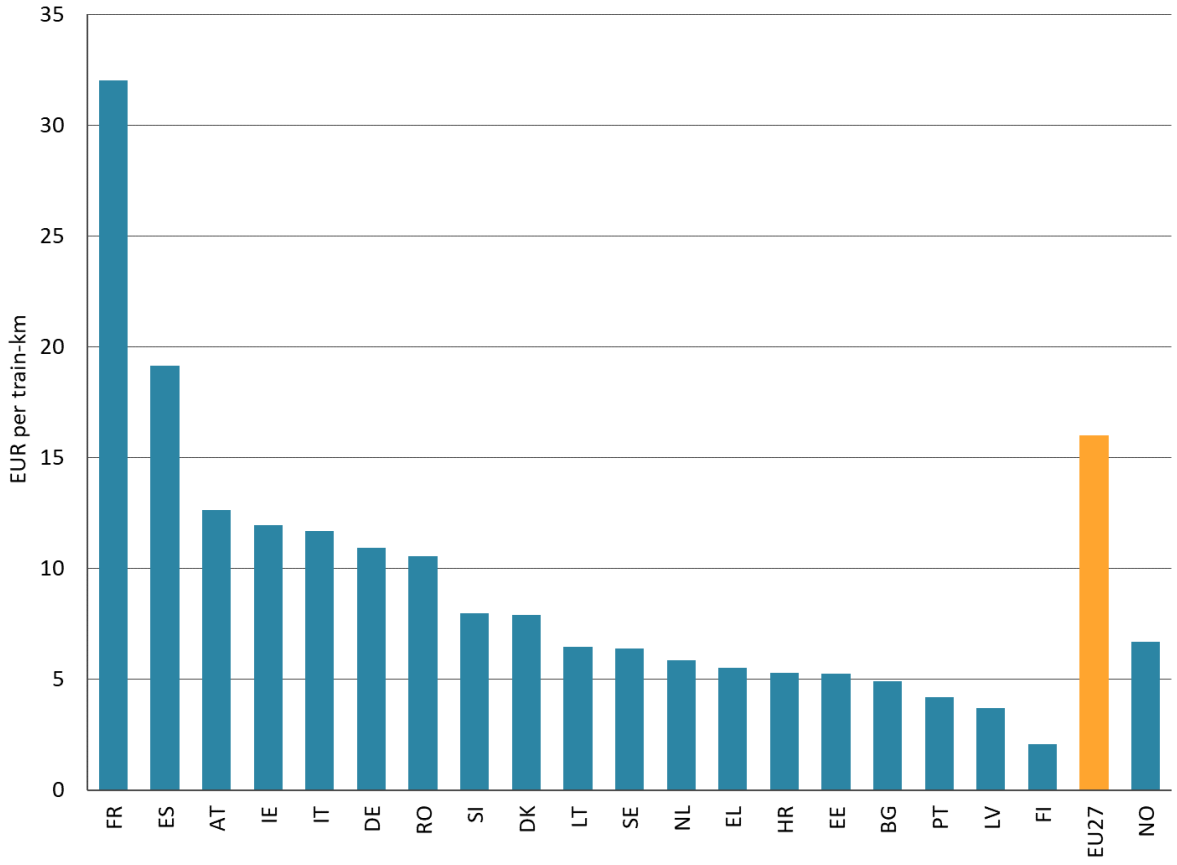
Germany reported the largest PSO contract competitively tendered in 2022 with 11.6 million train kilometres. The second largest competitively tendered PSO contract was reported by Sweden, covering 10 million train kilometres. The largest directly awarded PSO contract was reported by Hungary, covering 83.2 million train kilometres.

5.8.3. PSO compensation

Apparent levels of PSO compensation

Figure 77 shows the apparent[11] average levels of PSO compensation measured in EUR per train kilometre in 2022 per country.

Figure 77: Apparent average PSO compensation per country (EUR per train-km, 2022)



Source: RMMS, 2022

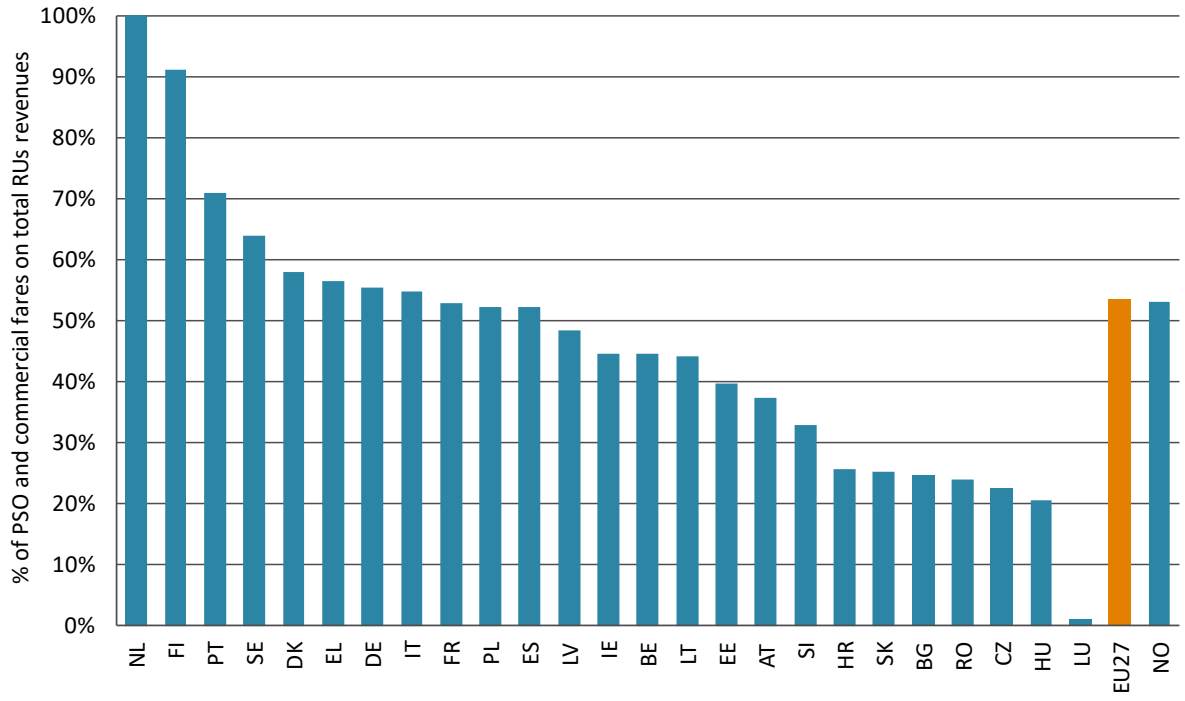
Total revenues from passenger services are composed by fare revenues from commercial services, fare revenues from PSO services and PSO compensation. In 2022, the apparent average PSO compensation in the EU27 was EUR 15.82 per train kilometre. France and Spain have the highest apparent average PSO compensation (EUR 32 and EUR 19.14 per train kilometre respectively); in contrast, Finland reported the lowest compensation (EUR 2.06).

[11] Including public subsidies only, excluding ticket revenues – hence representing only a portion of the total cost coverage of the service

Share of PSO and commercial fares on total revenues of railway undertakings

Figure 78 shows the share of PSO and commercial fares in the total revenues of railway undertakings in 2022 per country. Total revenues include PSO fares, commercial fares and PSO compensation, but exclude PSO operators' revenue from other sources, such as catering, car parking and concessions on stations.

Figure 78: Share of PSO and commercial fares on total revenues of railway undertakings (% in 2022)



Source: RMMS, 2022

In 2022, the share of PSO and commercial fares in the total revenues of railway undertakings in the EU27 was on average 53.6%.

5.9. Degree of market opening and utilisation of access rights

EU legislation has provided for an incremental opening of the rail market gradually over the years.

- From 1 January 1993, limited access was established by Directive 91/440/EEC.
- From 1 January 2007, the Second Railway Package liberalised international and domestic rail freight services.
- From 1 January 2010, the Third Railway Package liberalised international passenger services and some cabotage.
- From14 December 2020, the Fourth Railway Package, through Directive 2016/2370/EU and Regulation (EU) 2016/2338, liberalised the remaining passenger services, subject to measures to protect PSOs.

Some Member States, however, opened their rail markets in advance of the creation of a formal right of entry through EU liberalisation. On the other hand, in other cases, legal market opening has not resulted in any significant market entry by competitors.

In a study published in 2024[12] the European Commission explored the effects of competition on EU customers, encompassing both freight and passenger rail services (both in Open Access and under PSOs awarded by competitive tendering).

The study found that competition has led to a notable reduction in prices for end consumers in open access passenger rail competition, as well as in the freight rail sector. The assessment of the effects of competition on PSO services must be interpreted taking into account the specific nature of these services, involving a relationship between the operator and a competent authority, where the latter defines the service characteristics, typically including ticket prices. However, evidence from the case-studies showed that competitive tendering leads to reduced costs for competent authorities. It is for the latter, however, to decide whether and how to pass on these benefits to passengers (for example in the form of increased frequencies or higher quality of service).

In terms of service quality, the report identifies a marked improvement across all passenger services. This enhancement results from increased competition and is reflected in various aspects such as punctuality, frequency, comfort, and customer service. The freight sector, while not experiencing a similar increase in quality, has witnessed gains in cost efficiency.

Although market opening in passenger transport is relatively recent, with full effects still pending, continued implementation of the Fourth Railway Package and associated measures will be key to realising its full potential.

Key challenges for the market include infrastructure, ticketing, and equal access. In terms of infrastructure, enhancing interoperability, digitalisation, and developing flexible, coordinated timetables alongside efficient network traffic management at the EU level are essential. For ticketing, ensuring fair access to ticket platforms for all operators, as well as availability of ticket offers to independent ticket vendors, would promote transparency and competition. Additionally, equal access to infrastructure, rolling stock availability and financing, and service facilities must be ensured to allow all operators to compete on a level playing field.

5.9.1. Opening of the freight market

The following paragraphs provide an overview of the competitive environment at the end of 2022, 15 years after the liberalisation of rail freight services in the EU in 2007.

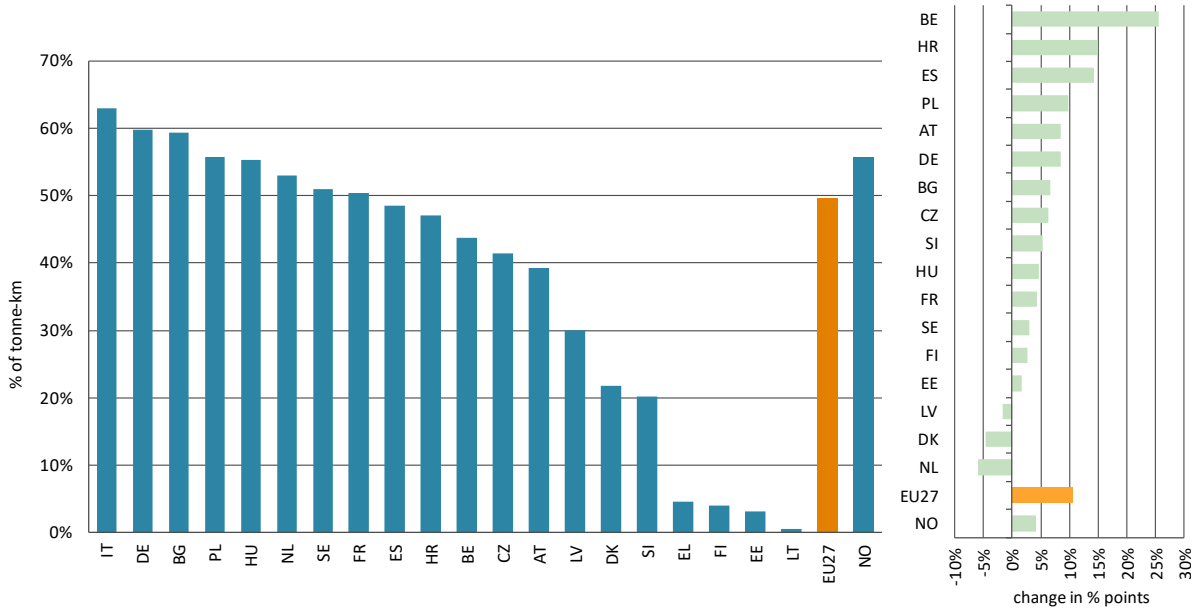
Evolution of competitors' market share in the freight market

The competitors' average market share in the EU27 rail freight market increased from 39% to 49% between 2018 and 2022.

[12] Study on passenger and freight rail transport services' prices for final customers (2024) available at https://op.europa.eu/en/publication-detail/-/publication/1250db83-7953-11ef-bbbe-01aa75ed71a1/language-en

Figure 79 shows the shares of the domestic freight markets, as measured in tonne kilometres, which are not served by the historic incumbent operator. The chart on the right shows the change in percentage points of the competitors' market share between 2018 and 2022.

Figure 79: Competitors' market share in the rail freight market per country (% in 2022) and change in percentage points (2018-2022)



Source: RMMS, 2022

Competitors have the largest market share in Italy (63%), and the smallest in Estonia and Lithuania (3.1% and 0.6% respectively). The highest growth between 2018 and 2022 was reported for Belgium (26 percentage points), whereas a slight decline was reported in the Netherlands and Denmark (6 and 5 percentage points respectively).

5.9.2. Opening of the passenger market

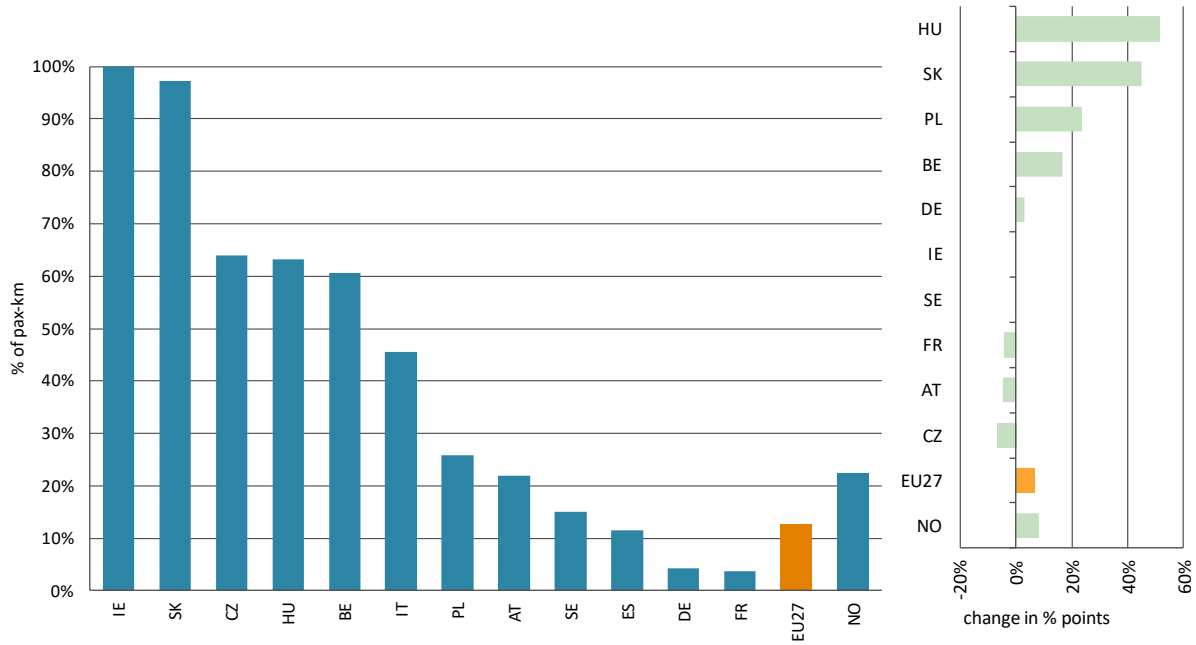
The following paragraphs provide an overview of the competitive landscape in both commercial and Public Service Obligation (PSO) rail passenger services as of the end of 2022. Since the domestic market opening mandated by the Fourth Railway Package (effective from December 2019) had not yet fully taken effect, the data does not fully capture its impact. Instead, the presence of alternative operators reflects the extent to which each country chose to open its passenger market before the EU legislation's required implementation date.

Evolution of competitors' market share in the commercial passenger market

On average, competitors had a 12.6% market share in national commercial passenger markets in the EU27 in 2022, an increase of 6.6 percentage points compared to 2018.

Figure 80 shows the shares of the commercial (non-PSO) passenger market, as measured in passenger kilometres, which are not served by the historic incumbent operator. The chart on the right shows the change in percentage points of the competitors' market share between 2018 and 2022.

Figure 80: Competitors' market share in the commercial passenger market per country (% in 2022) and change in percentage points (2018-2022)



Source: RMMS, 2022

Competitors dominate the commercial passenger market in Ireland and Slovakia. Germany and France reported the lowest competitors' market shares in the segment (4.3% and 3.7% respectively)[13], with Hungary having also reported the largest increase since 2018 (52 percentage points).

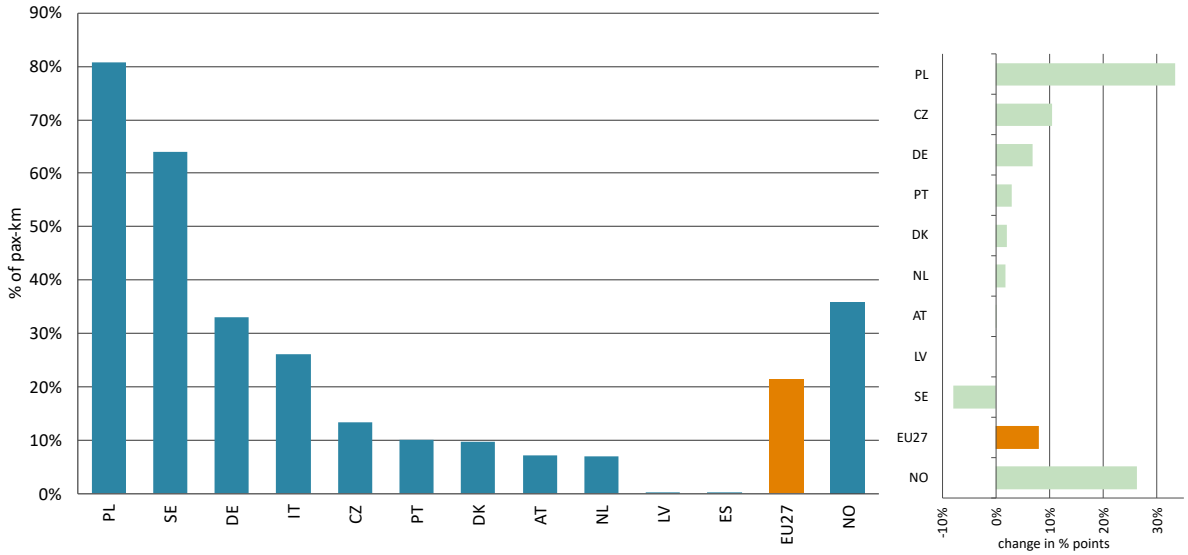
Evolution of competitors' market share in the PSO passenger market

On average, competitors had a 21% market share on national PSO passenger markets in the EU27 in 2022. This level increased significantly compared to 2018 (+8 percentage points).

Figure 81 shows the shares of the PSO passenger market, as measured in passenger kilometres, which are not served by the historic incumbent operator. The chart on the right shows the change in percentage points of the competitors' market share between 2018 and 2022.

[13] In general. volumes of commercial services in these markets are relatively low.

Figure 81: Competitors' market share in the PSO passenger market per country (% in 2022) and change in percentage points (2018-2022)



Source: RMMS, 2022

In 2022, competitors had the highest market shares of the PSO passenger market in Poland (81%) and Sweden (64%). In Latvia and Spain, by contrast, only 0.1% were in the hands of competitors. The highest growth of competitors' market shares was reported by Poland (+33 percentage points between 2018 and 2022), whereas a major decline was reported for Sweden (-8 percentage points).

Scope for regulatory bodies to limit open access in the passenger market

The Fourth Railway Package opened domestic passenger markets to competition in all Member States[14]. Railway undertakings must be granted the right of access to railway infrastructure in all Member States for the purpose of operating rail passenger services under equitable, non-discriminatory, and transparent conditions.

The EU legislator, however, put in place mechanisms to balance the objective of effectively opening the market for domestic 'open access' rail passenger services with the need to protect the economic equilibrium of services provided under an existing public service contract. Member States can therefore restrict open access to their rail infrastructure where the national rail regulatory body decides, based on an objective economic analysis, that the new service would cause substantial damage to the economic equilibrium of the existing public service contract in terms of profitability of the services or higher net cost to the competent authority.

[14] See in particular Directive 2016/2370 amending Directive 2012/34/EU.

In November 2018, the Commission adopted Implementing Regulation (EU) 2018/1795 laying down the procedure and criteria for the application of the economic equilibrium test (EET) adapted to a rail market fully open to competition[15]. The regulation covers:

- rules for notification of a planned new rail passenger service to infrastructure managers and regulatory bodies
- the deadline for requesting the economic equilibrium test
- information requirements and procedure for the economic equilibrium test
- contents of the economic equilibrium test and assessment criteria and
- cooperation between regulatory bodies competent for a proposed new international passenger service.

A number of regulators published on their websites further details on the methodology they follow when implementing the economic equilibrium test.

Several economic equilibrium tests have been required and performed in Member States, now also under the new Regulation.

5.9.3. Challenges of market opening

Interoperability

Technical aspects can have a major impact on the capacity of operators to provide their rail transport services across borders and in different countries.

Differences in track gauges and electric current available for traction (presented in Table 6) mean that the same locomotives and wagons cannot be used in all countries. An expansion of activities across borders could imply in some cases that the railway undertaking must arrange for new rolling stock and new traction vehicles.

Table 6: Main railway gauge and electric current used per country (2022)

	Track gauge	**Electric current**		
	Mm	dc volts	ac volts	
BE	1 435	3 000	25 000	50 HZ
BG	1 435		25 000	50 HZ
CZ	1 435	3 000	25 000	50 HZ
DK	1 435	3 000	25 000	50 HZ
DE	1 435	800-1 200	15 000	16.7 HZ
		(contact rail)		
EE	1 520	3 000		
IE	1 600	1 500		
EL	600			
	750			
	1 000			
	1 435		25 000	50 HZ
ES*	1 000	1 500		

[15] Commission Implementing Regulation (EU) 2018/1795 of 20 November 2018 laying down procedure and criteria for the application of the economic equilibrium test pursuant to Article 11 of Directive 2012/34/EU of the European Parliament and of the Council, OJ L 294, 21.11.2018, p. 5–14.

	1 435		25 000	50 HZ
	1 668	3 000		
FR	1 000	750-850		
		(contact rail)		
	1 435	1 500	25 000	50 HZ
HR	1 435	3 000	25 000	50 HZ
IT	1 435	3 000	25 000	50 HZ
CY	-	-	-	-
LV	1 520	3 000		
LT	1 435			
	1 520		25 000	50 HZ
LU	1 435		25 000	50 HZ
HU	1 435		25 000	50 HZ
MT	-	-	-	-
NL	1 435	1 500		
AT	1 435		15 000	16.7 HZ
PL	1 435	3 000		
PT	1 000			
	1 668		25 000	50 HZ
RO	1 435		25 000	50 HZ
SI	1 435	3 000		
SK	1 435	3 000	25 000	50 HZ
FI	1 524		25 000	50 HZ
SE	1 435		15 000	16.7 HZ

Source**: Union Internationale des Chemins de Fer, railway companies**
Notes**: 1 435 mm = standard gauge**
***** ES**: new lines have a gauge of 1 435 mm and an electric current of 25 000 volts, 50 Hz**

Source: Statistical pocketbook 2024

Rolling stock and traction market

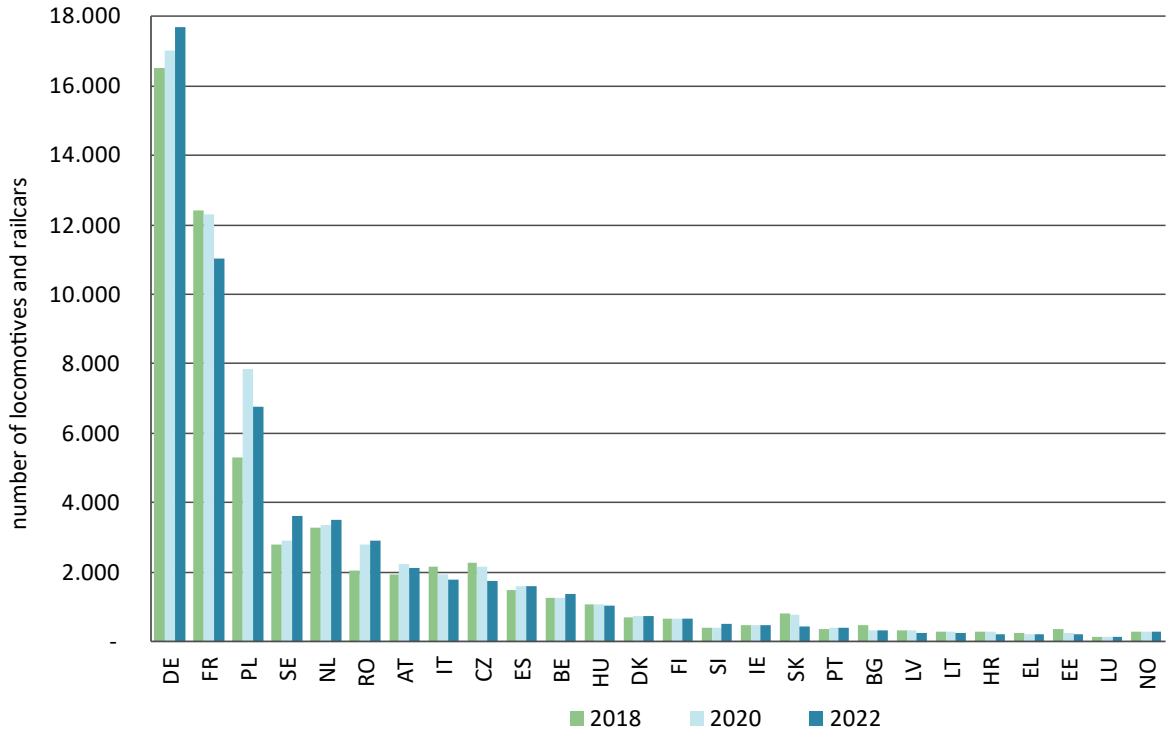
Smooth and non-discriminatory access to rolling stock is fundamental especially for competing rail operators to enter new markets or to extend their service offer.

Smaller and emerging passenger operators often face financial constraints that limit their ability to invest in new rolling stock when entering a domestic market through open access or competing for larger PSO contracts. Additionally, the availability of rolling stock on secondary and leasing markets is often limited, further challenging new entrants' access to rail markets.

Adequacy of available rolling stock also can be a significant deterrent for market entry and fair competition. Locomotives must be compatible with the infrastructure on which they are to be operated, with compatibility determined by track gauge, structure gauge, coupling and signalling equipment and, if electrified, the electrification system (which may use trackside rails or overhead catenary supplying power at several different voltages).

Figure 82 shows the number of locomotives and railcars by country in 2018, 2020 and 2022.

Figure 82: Stock of locomotives and railcars (number per country, 2018, 2020 and 2022)

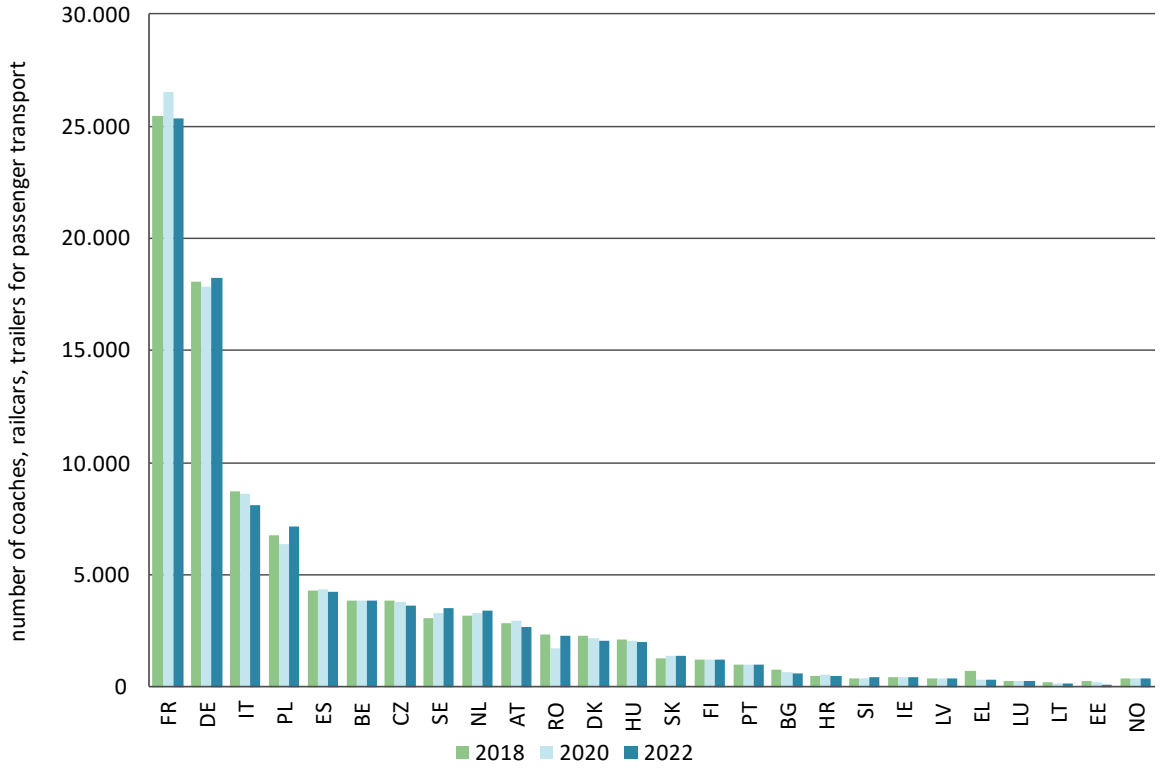


Source: Statistical pocketbook 2022

The fleet size ranges from 130 locomotives and railcars in Luxemburg up to 17 703 in Germany.

Figure 83 shows the number of coaches, railcars, trailers for passenger transport by country in 2018, 2020 and 2022.

Figure 83: Stock of coaches, railcars, trailers for passenger transport (number per country, 2018, 2020 and 2022)

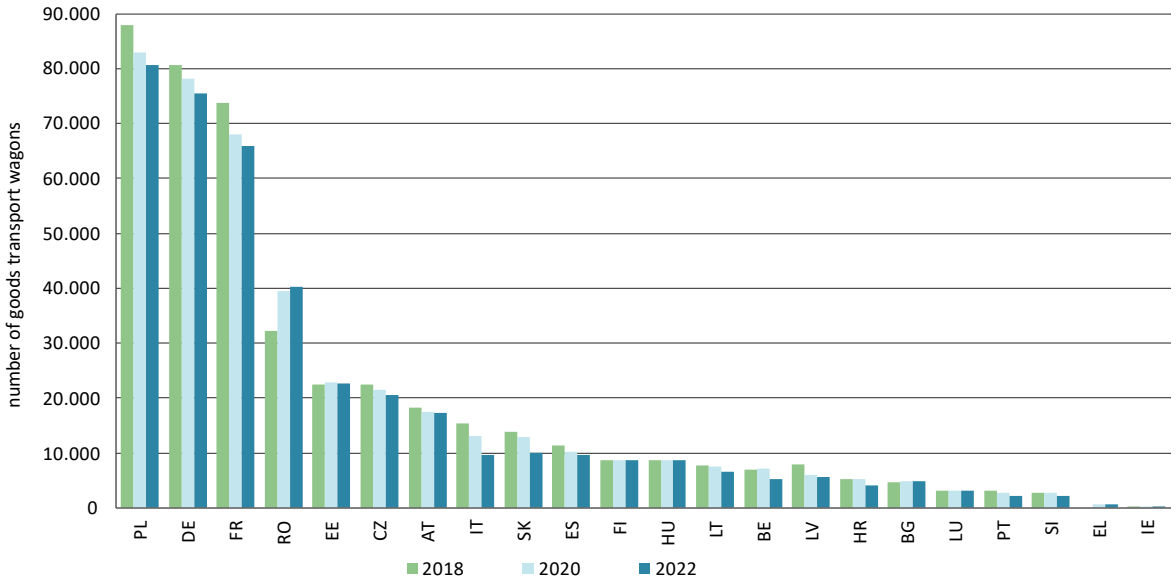


Source: Statistical pocketbook 2022

The fleet size ranges from 98 coaches, railcars, and trailers for passenger transport in Estonia up to 25 337 in France.

Figure 84 shows the number of goods transport wagons by country in 2018, 2020 and 2022.

Figure 84: Stock of goods transport wagons (number per country, 2018, 2020 and 2022)



Source: Statistical pocketbook 2022

The fleet size ranges from 254 goods transport wagons in Ireland up to 80 734 in Poland.

Additional Information

The stock of transported goods wagons is progressively decreasing. Various factors contribute to the overall decline in the number of goods wagons in use:

- **Shift to Containerization and Intermodal Transport**: Shippers increasingly favour intermodal solutions due to their flexibility and efficiency. Container transport relies on specialized wagons, which reduces the overall need for traditional goods wagons.

- **Changing Commodity Flows**: In many regions, declining heavy industries such as coal and steel have led to reduced demand for bulk wagon traffic. Although lighter or more specialized cargo (e.g., chemicals, consumer goods) has grown, it has not fully compensated for the decline in traditional bulk freight.

- **Ageing Fleet and Stricter Technical Requirements:** Many older wagons are being phased out because they no longer meet modern safety or environmental standards. Operators often replace them with fewer but more versatile wagons, rather than maintaining a larger fleet of outdated equipment.

- **Focus on Efficiency and Block Trains:** Freight operators increasingly use block trains – long trains running from a single origin to a single destination – to consolidate shipments. This approach reduces the total number of wagons

Ticketing

The choice for consumers to purchase cross-border/cross-operator rail tickets is rather restricted today. This situation strongly reduces the possibility to aggregate different travel options and combine separate tickets or even buy a single ticket covering the entire journey (through-ticketing), especially when multiple train operators are involved. This harms passengers' choice and hinders fair competition between different rail transport providers.

The European Commission has been advancing legislation on Multimodal Digital Mobility Services (MDMS) to integrate various transport modes, such as rail, bus, and air, into cohesive digital platforms. The objective is to enable passengers to seamlessly plan and book multimodal journeys while ensuring fair competition and innovation in digital mobility services.

On 29 November 2023, as part of the Passenger Mobility Package, the Commission presented a legislative proposal on MDMS. This proposal included revisions to existing regulations to enhance the accessibility of dynamic datasets, facilitating the development of more efficient and sustainable transport systems.

In December 2024, the Council adopted negotiating positions to reinforce passenger rights in intermodal transport, aiming to ensure effective enforcement across all member states and transport modes. This includes clarifying obligations and liabilities of travel service providers

involved in multimodal journeys, enhancing passenger protection, and simplifying procedures for reimbursement and compensation.

These developments align with the political guidelines set by the President of the EU Commission, emphasizing the importance of digitalizing transport services to improve mobility across Europe. The Commission continues to work on new proposals and regulations to further advance the integration of multimodal digital mobility services, ensuring that passengers benefit from seamless, efficient, and sustainable travel options.

In addition to these regulatory changes, the Commission is working towards the creation of a Common European Mobility Data Space. This initiative is designed to establish a secure and efficient system for sharing mobility-related data across the EU, fostering innovation, improving interoperability between transport services, and enhancing the overall efficiency of multimodal mobility. These legislative efforts aim to remove barriers in ticket distribution, create a level playing field among transport operators, and integrate rail more effectively into the wider transport system. By promoting seamless multimodal travel, the Commission seeks to improve consumer choice and support the EU's broader sustainability goals.

5.10. State aid

Public funding represents a significant part of rail sector financing, not only to build and maintain railway infrastructure, but also to fund unprofitable passenger transport services.

Specific Commission guidelines (RGL)[16] concern the implementation of Articles 93 and 107 of the Treaty on the Functioning of the European Union (TFEU) clarifying the rules governing public funding for railway undertakings. However, these guidelines date back to 2008 and they are no more fit to be applied to the current regulatory framework of the rail market. The need for a revision has been confirmed by a fitness check conducted by the Commission the findings of which were published in a report in October 2020.

The Commission started therefore a revision process whose main objectives are:

- Creating conditions for more balanced intermodal competition allowing a shift towards the rail and inland waterway sector;
- Reinforcing the conditions for intra-modal competition reflecting the full liberalisation of the sector decided by the EU in the context of the 4th Railway Package

The revision of the RGL relied on the input provided by a public consultation (closed in 2022) and a support study published in 2023. In parallel to the revision of the RGL, the Commission also contemplates the adoption of a new legal instrument (called "Block Exemption Regulation") which would allow Member States to be exempted from State aid notification to the Commission for land transport - related cases for which there is now a sufficient case-practice and sufficient experience that they are not problematic. To design such instrument, the

16 The Commission guidelines provide guidance on the compatibility with the TFEU of State aid to railway undertakings (Communication from the Commission — Community guidelines on State aid for railway undertakings, OJ C 184, 22.7.2008, p. 13–31 available at https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52008XC0722%2804%29)

Commission has already obtained from Council in end 2022 the power to do so for aid granted in the land transport sector (and not already covered by the passenger PSO Regulation – Regulation 1370/2007).

A draft proposal of the new state aid guidelines for the land and multimodal transport sector (replacing the 2008 RGL) as well as a draft proposal for the Land Transport Block Exemption Regulation have been submitted to public consultation in mid-2024.

Table 7 provides a list of the State aid cases for which a decision was taken between 2021 and 2022 (the list of decisions from 2019 to 2020 is available on the 8th RMMS report).

Table 7: State aid decisions 2021-2022

Case number	Working title	Member state	Decision date	Decision document/link
SA.58908	Support for digitalisation at ports and railway terminals, technology to trace rolling stock and ITUs	Germany	12-01-21	no public version yet
SA.60655	COVID-19 – Amendments to the existing aid scheme for the provision of rail freight services in certain forms of production and prolongation of temporary support for rail freight and passenger transport	Austria	25-01-21	https://ec.europa.eu/competition/state_aid/cases1/202217/291037_2246250_84_2.pdf
SA.60132	Prolongation of the programme for support of investments in combined freight transport	Austria	15-02-21	https://ec.europa.eu/competition/state_aid/cases1/202119/292135_2272719_58_2.pdf
SA.60383	Prolongation and amendments to the scheme on environmental compensation for rail freight transport	Sweden	15-02-21	https://ec.europa.eu/competition/state_aid/cases1/202218/292044_2247609_55_2.pdf
SA.59376	Covid-19 support for the rail freight sector	Italy	24-03-21	https://ec.europa.eu/competition/state_aid/cases1/202115/293163_2263446_46_2.pdf
SA.56402	Prolongation of the Swedish Eco-bonus scheme for short sea shipping	Sweden	26-03-21	https://ec.europa.eu/competition/state_aid/cases1/2

Case number	Working title	Member state	Decision date	Decision document/link
	and inland waterway transport			02124/284477_2283469_124_2.pdf
SA.60451	Aid for intermodal transport of containers by waterways in the Brussels-Capital Region for the period 2021 - 2025	Belgium	30-03-21	https://ec.europa.eu/competition/state_aid/cases1/202136/290796_2312439_82_2.pdf
SA.62763	COVID-19 - Amendment of an existing aid scheme for rail freight transport	Germany	21-05-21	https://ec.europa.eu/competition/state_aid/cases1/202122/294212_2278511_39_2.pdf
SA.59448	Single Wagon Load Scheme	Hungary	03-06-21	https://ec.europa.eu/competition/state_aid/cases1/202124/289465_2285210_87_2.pdf
SA.62762	Prolongation of the COVID-19 scheme for the reduction of track access charges for rail freight and commercial rail passenger services	Italy	09-06-21	https://ec.europa.eu/competition/state_aid/cases1/202129/294526_2298986_49_2.pdf
SA.60499	Aide au post-équipement des wagons pour réduire les nuisances sonores du transport ferroviaire de marchandises	Belgium	24-06-21	https://ec.europa.eu/competition/state_aid/cases1/202214/SA_60499_9097D07F-0000-CE6F-890B-3AED331A3D6B_125_1.pdf
SA.62018	Podpora provozovatelů železniční nákladní dopravy využívajících elektrickou trakci	Czech Republic	16-07-21	https://ec.europa.eu/competition/state_aid/cases1/202130/295208_2301374_34_2.pdf
SA.62800	Prolongation of the Swedish scheme on environmental compensation for rail freight transport (SA.60383)	Sweden	22-07-21	https://ec.europa.eu/competition/state_aid/cases1/202134/293904_2309172_84_3.pdf
SA.63825	COVID-19 – Amendment of the existing aid scheme for the provision for rail freight services in certain forms of production and to the temporary support for rail freight and passenger transport	Austria	22-07-21	https://ec.europa.eu/competition/state_aid/cases1/202134/295456_2308496_80_2.pdf
SA.62391	COVID-19 - Waiver of infrastructure access charges for public passenger	Denmark	30-07-21	https://ec.europa.eu/competition/state_aid/cases1/2

Case number	Working title	Member state	Decision date	Decision document/link
	transport services by rail			02134/295725_2308534_64_2.pdf
SA.63635	COVID-19 - Amendment of an existing aid scheme for rail freight transport and temporary support for long-distance rail passenger transport providers	Germany	30-07-21	https://ec.europa.eu/competition/state_aid/cases1/202134/295651_2308443_45_2.pdf
SA.60177	Aid scheme improving the quality of intermodal connections to and from Flemish seaports	Belgium	06-08-21	https://ec.europa.eu/competition/state_aid/cases1/202134/295563_2309149_132_2.pdf
SA.63652	Second prolongation of the COVID-19 scheme for the reduction of track access charges for rail freight and commercial rail passenger services	Italy	14-09-21	https://ec.europa.eu/competition/state_aid/cases1/202146/SA_63652_2083847C-0000-C166-A96B-3A67E4DD603D_56_1.pdf
SA.58817	State aid to support freight transport by inland waterways	Italy	20-09-21	https://ec.europa.eu/competition/state_aid/cases1/202144/SA_58817_B0FF097C-0000-C96D-BCBA-34B4F8441773_104_1.pdf
SA.62208	Grants to promote rail freight transport in Slovenia	Slovenia	20-10-21	https://ec.europa.eu/competition/state_aid/cases1/202222/SA_62208_905FF680-0100-C25B-8072-FF50AA410492_56_1.pdf
SA.100464	COVID-19: Reduction of infrastructure access charges for transport services by rail	Sweden	07-12-21	https://ec.europa.eu/competition/state_aid/cases1/202202/SA_100464_70012C7E-0000-C063-96C8-410E741A5E73_48_1.pdf
SA.62160	Mesure temporaire de réduction de la redevance pour le trafic ferroviaire commercial de voyageurs	Belgium	17-12-21	https://ec.europa.eu/competition/state_aid/cases1/202210/SA_62160_306E467F-0000-C06B-96E8-A294C7E8A79B_27_1.pdf
SA.62498	Projet d'arrêté royal modifiant l'arrêté royal du 21 décembre 2013 fixant les règles provisoires qui valent comme contrat de gestion d'Infrabel et de la	Belgium	17-12-21	https://ec.europa.eu/competition/state_aid/cases1/202210/SA_62498_A0394A7F-0000-CB60-9698-

Case number	Working title	Member state	Decision date	Decision document/link
	SNCB – Mesure temporaire de réduction du coût de la redevance d'infrastructure pour le trafic ferroviaire de fret.			E94A7C3FF103_28_1.pdf
SA.100234	Prolongation and refinancing of the aid scheme SA.47779 – Italy – Friuli Venezia Giulia – Measures for the development of combined transport	Italy	20-12-21	https://ec.europa.eu/competition/state_aid/cases1/202211/SA_100234_609CF37E-0000-CF66-80B1-3EA2FC0C6AE0_26_1.pdf
SA.64434	Aide pour la création d'un terminal de transport combiné rail-route à Grans-Miramas	France	02-02-22	https://ec.europa.eu/competition/state_aid/cases1/202219/SA_64434_00909480-0000-C12A-A102-BB7B4E0DA478_91_1.pdf
SA.62983	RRF Spain: Aid scheme to remove barriers to interoperability in rail freight transport in Spain	Spain	09-02-22	https://ec.europa.eu/competition/state_aid/cases1/202214/SA_62983_5005D67F-0000-CE16-82F5-A5D433F0CF74_47_1.pdf
SA.64546	Workshops for light maintenance of passenger trains in Kosice and Zilina	Slovakia	09-02-22	https://ec.europa.eu/competition/state_aid/cases1/202211/SA_64546_60AE647F-0000-CB6F-860B-225A4E3D0CB5_45_1.pdf
SA.100031	Reintroduction of the aid scheme for upgrading and constructing combined transport terminals	Czech Republic	03-03-22	https://ec.europa.eu/competition/state_aid/cases1/202214/SA_100031_107A6F7F-0100-CB43-BAC5-89D995B46895_41_1.pdf
SA.100286	Friuli Venezia Giulia Region's measures to develop intermodal freight transport as reviewed in 2022	Italy	03-03-22	https://ec.europa.eu/competition/state_aid/cases1/202211/SA_100286_00B7647F-0000-C76F-A121-B164F6AAFC83_27_1.pdf
SA.101108	Re-introduction of the State aid scheme supporting combined transport in the Province of Bolzano	Italy	18-03-22	https://ec.europa.eu/competition/state_aid/cases1/202232/SA_101108_901D6482-0000-CF64-B58D-95F6C6458D93_29_1.pdf

Case number	Working title	Member state	Decision date	Decision document/link
SA.100486	RRF Spain – TRTEL: support Programme for Sustainable and Digital Transport, co-incentive to boost rail freight transport based on environmental and socio economic merit	Spain	21-03-22	https://ec.europa.eu/competition/state_aid/cases1/202222/SA_100486_C06EF680-0000-CE6D-A4DD-92DDC1F2C58D_79_1.pdf
SA.100236	Reintroduction of the Integrated Transport Scheme in the Province of Trento	Italy	05-04-22	https://ec.europa.eu/competition/state_aid/cases1/202220/SA_100236_D000AD80-0000-C268-8F1A-7C3617C964AD_44_1.pdf
SA.101664	Reintroduction of scheme on funding for transhipment facilities for combined transport of non-federal companies [BMDV]	Germany	06-04-22	https://ec.europa.eu/competition/state_aid/cases1/202222/SA_101664_F04FF180-0100-CD42-9293-5CFD15178112_48_1.pdf
SA.62987	SA. 62987 - TRTEL - Aid scheme to promote digitalisation of freight transport	Spain	11-04-22	https://ec.europa.eu/competition/state_aid/cases1/202232/SA_62987_F0394982-0100-C8F7-B69B-E41236E95F39_83_1.pdf
SA.100658	RRF – Eco-incentives for the use of maritime freight transport	Spain	29-04-22	https://ec.europa.eu/competition/state_aid/cases1/202220/SA_100658_00319980-0100-C409-9636-1D912643D22F_90_1.pdf
SA.102132	COVID-19 – Amendments to the existing aid scheme for rail freight transport and the existing aid scheme on the waiver of track access charges	Austria	24-05-22	https://ec.europa.eu/competition/state_aid/cases1/202231/SA_102132_50844982-0000-C48B-9EEB-0BFA2A621BE3_42_1.pdf
SA.100432	RRF Slovenia - Support for the installation of ETCS equipment in rolling stock	Slovenia	02-06-22	https://ec.europa.eu/competition/state_aid/cases1/202224/SA_100432_10A54981-0000-C961-A45D-26C96BFA067F_46_1.pdf
SA.101273	Aid scheme to facilitate the purchase of handling equipment used in interports and intermodal terminals	Italy	08-06-22	https://ec.europa.eu/competition/state_aid/cases1/202225/SA_101273_70354D81-0000-CA65-ADDE-

Case number	Working title	Member state	Decision date	Decision document/link
				666FC9605174_48_1.pdf
SA.102270	Reintroduction of the COVID-19 scheme for the reduction of track access charges for rail freight and commercial rail passenger services	Italy	17-06-22	https://ec.europa.eu/competition/state_aid/cases1/202230/SA_102270_C0AB1682-0000-C463-953A-8D75B33F6878_27_1.pdf
SA.102868	Amendments to the environmental compensation scheme for rail freight transport	Sweden	06-07-22	https://ec.europa.eu/competition/state_aid/cases1/202231/SA_102868_30504982-0000-CB6F-8587-08738DEDA22A_38_1.pdf
SA.102868	Amendments to the environmental compensation scheme for rail freight transport	Sweden	06-07-22	https://ec.europa.eu/competition/state_aid/cases1/202231/SA_102868_30504982-0000-CB6F-8587-08738DEDA22A_38_1.pdf
SA.62985	SA.62985 - RRF Spain: TRTEL - Aid scheme promoting intermodality in rail freight transport	Spain	19-07-22	https://ec.europa.eu/competition/state_aid/cases1/202231/SA_62985_A0FA3F82-0000-C8CF-822A-2146115E96CE_81_1.pdf
SA.62985	SA.62985 - RRF Spain: TRTEL - Aid scheme promoting intermodality in rail freight transport	Spain	19-07-22	https://ec.europa.eu/competition/state_aid/cases1/202231/SA_62985_A0FA3F82-0000-C8CF-822A-2146115E96CE_81_1.pdf
SA.101952	Modernisation of inland waterway freight transport vessels	Czech Republic	22-07-22	https://ec.europa.eu/competition/state_aid/cases1/202235/SA_101952_F050D582-0000-CA78-A085-FC07AF5952B1_50_1.pdf
SA.101952	Modernisation of inland waterway freight transport vessels	Czech Republic	22-07-22	https://ec.europa.eu/competition/state_aid/cases1/202235/SA_101952_F050D582-0000-CA78-A085-FC07AF5952B1_50_1.pdf
SA.103381	COVID-19: Reintroduction of the reduction of track access charges for long-distance rail passenger services	Germany	25-07-22	https://ec.europa.eu/competition/state_aid/cases1/202232/SA_103381_D0CF6382-0000-CE6C-9366-

Case number	Working title	Member state	Decision date	Decision document/link
				D46E9EE3430B_24_1.pdf
SA.103381	COVID-19: Reintroduction of the reduction of track access charges for long-distance rail passenger services	Germany	25-07-22	https://ec.europa.eu/competition/state_aid/cases1/202232/SA_103381_D0CF6382-0000-CE6C-9366-D46E9EE3430B_24_1.pdf
SA.100322	COVID-19: Damage compensation for DB AG to cover damages incurred by DB Netz AG, DB Energie GmbH and DB Station&Service AG	Germany	27-07-22	https://ec.europa.eu/competition/state_aid/cases1/202414/SA_100322_70827B8E-0000-C893-BA50-EAD364E1093E_51_1.pdf
SA.64465	RRF -Aid scheme to support the development of combined transport	Slovakia	04-08-22	https://ec.europa.eu/competition/state_aid/cases1/202414/SA_109419_E0B8AE8E-0000-C578-B8FE-57C0B82A93DE_36_1.pdf
SA.102429	Mesures de réduction des redevances pour le trafic ferroviaire de fret	Belgium	05-10-22	https://ec.europa.eu/competition/state_aid/cases1/202242/SA_102429_3043C783-0000-CB71-9E48-FF3A3D739DF1_43_1.pdf
SA.62529	Aide à l'exploitation de services de wagons isolés pour la période 2021-2025	France	10-10-22	https://ec.europa.eu/competition/state_aid/cases1/202249/SA_62529_3091CD84-0000-C9C6-A7CD-E09BD6E07E2A_43_1.pdf
SA.64373	Aide à un projet de développement d'un service de fret ferroviaire entre Perpignan et l'Ile de France	France	13-10-22	https://ec.europa.eu/competition/state_aid/cases1/202307/SA_64373_E0AC5586-0100-CA3E-99E9-A83E5F6FB388_66_1.pdf
SA.103636	COVID-19 - Amendments to the existing aid scheme for the provision of rail freight services in certain forms of production and to the temporary support for rail freight transport	Austria	19-10-22	https://ec.europa.eu/competition/state_aid/cases1/202308/SA_103636_D07D7386-0000-C673-82FD-3FDEE7ED6EA9_36_1.pdf
SA.100463	Aid scheme to promote modal shift from road to rail and inland waterways	Netherlands	24-10-22	https://ec.europa.eu/competition/state_aid/cases1/202246/SA_100463_D0574384-0000-C1E1-8FE3-

Case number	Working title	Member state	Decision date	Decision document/link
				25CEA4AD371D_58_1.pdf
SA.100463	Aid scheme to promote modal shift from road to rail and inland waterways	Netherlands	24-10-22	https://ec.europa.eu/competition/state_aid/cases1/202246/SA_100463_D0574384-0000-C1E1-8FE3-25CEA4AD371D_58_1.pdf
SA.103155	Norma merci - Rail Freight Transport scheme in Italy 2023-2027	Italy	31-10-22	https://ec.europa.eu/competition/state_aid/cases1/202251/SA_103155_00131685-0100-CCE4-B11F-353C7A8AD4F3_39_1.pdf
SA.102508	Exemption from the fee for renewable energy sources for rail freight, rail passenger and urban transport using electric traction	Czech Republic	10-11-22	https://ec.europa.eu/competition/state_aid/cases1/202247/SA_102508_50DA7584-0100-C1F3-A7DC-A5AA0B7D568F_96_1.pdf
SA.100323	COVID-19: Damage compensation to Deutsche Bahn AG for damages incurred by DB Fernverkehr	Germany	28-11-22	https://ec.europa.eu/competition/state_aid/cases1/202316/SA_100323_F0628E87-0100-C617-B8C1-4D9E7989BDC4_55_1.pdf
SA.104518	Reintroduction of the COVID-19 scheme for the reduction of track access charges for rail freight and commercial rail passenger service	Italy	07-12-22	https://ec.europa.eu/competition/state_aid/cases1/202252/SA_104518_D0613085-0100-C505-9850-A8FAAE5FCA27_18_1.pdf
SA.100325	Support for service facilities charges payable by rail freight operators	The Netherlands	08-12-22	https://ec.europa.eu/competition/state_aid/cases1/202252/SA_100325_20761B85-0000-C7F5-8F37-C2126D517EAF_44_1.pdf
SA.103202	Prolongation with amendments of case SA.54990 - Aid in favour of rail freight transport Emilia - Romagna Region	Italy	19-12-22	https://ec.europa.eu/competition/state_aid/cases1/202308/SA_103202_10617986-0100-C902-96C4-1D1F25E4A8E1_43_1.pdf

Case number	Working title	Member state	Decision date	Decision document/link
SA.103856	"Ferrobonus" - Incentives for rail transport	Italy	19-12-22	https://ec.europa.eu/competition/state_aid/cases1/202308/SA_103856_40CD7986-0100-C8C4-B86D-D65D9659BCDD_41_1.pdf
SA.104264	Aid scheme for the provision of rail freight services in certain segments	Austria	21-12-22	https://ec.europa.eu/competition/state_aid/cases1/202305/SA_104264_A0980886-0100-CB31-BE3F-AE611FC1DDC2_26_1.pdf

Source: DG COMP, 2024

5.11. Regulatory bodies

Under Directive 2012/34/EU, regulatory bodies have the power to act, of their own accord or in response to a complaint, to:

- Prevent/redress discrimination
- Check access to the network and service facilities, charging, capacity allocation
- Monitor the competitive situation
- Adopt non-binding opinions on the infrastructure managers' business plans, contractual agreements with the Member States on infrastructure financing, capacity enhancement plans
- Audit the accounts of railway undertakings, operators of service facilities and infrastructure managers to check accounting separation
- Draw conclusions from the accounts on State aid, informing competent authorities; and
- Perform the economic equilibrium test.

The Fourth Railway Package further extended the scope of regulatory bodies' powers to check:

- Discrimination in traffic management, infrastructure renewals, maintenance
- Compliance with separation requirements and
- Conflicts of interest.

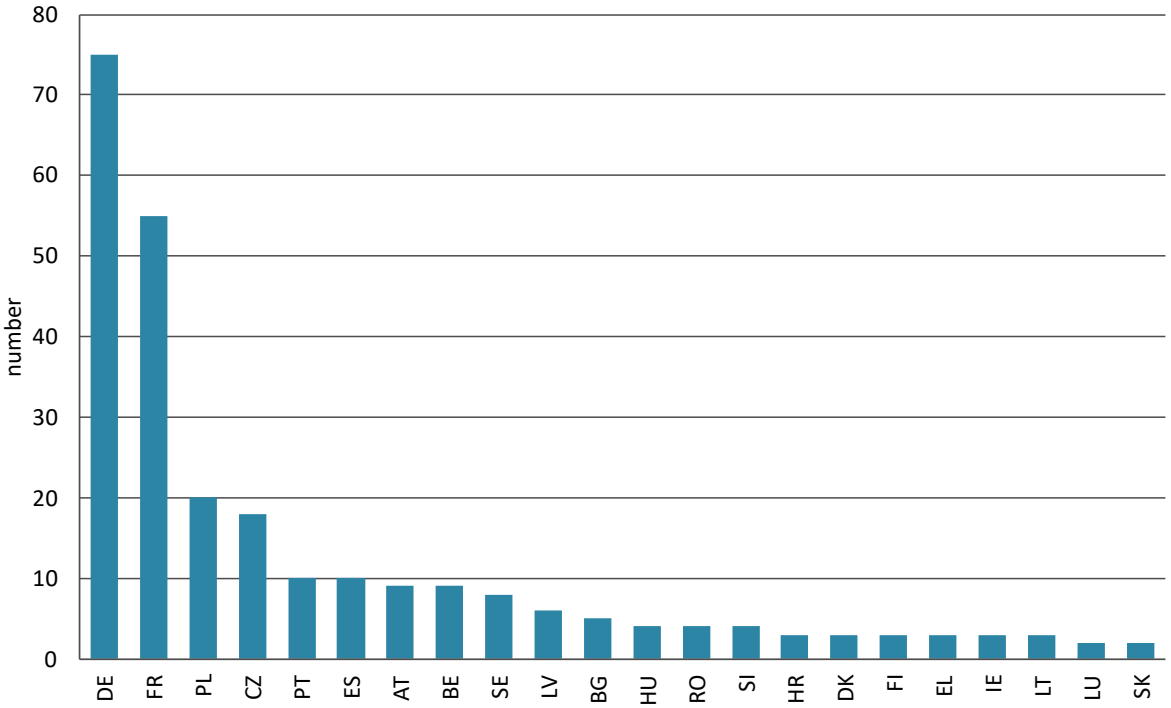
To comply with their duties, EU law gives regulators the power to request information, including data for market monitoring, from all actors and to impose penalties and fines if there is no reply. Regulatory bodies' decisions, which must be published, should be immediately binding and not subject to control by another administrative instance (judicial review).

Directive 2012/34/EU (Article 57) requires national regulatory bodies to cooperate among themselves and with other authorities. Regulatory bodies must exchange information on decision-making principles and practice and on the problems of interpreting transposed EU railway law; to do so, they must participate and work together in a network that convenes at regular intervals, i.e. the European Network of Rail Regulatory Bodies (ENRRB).

Directive 2012/34/EU requires Member States to staff and manage their regulatory bodies in a way that guarantees their independence.

Figure 85 shows the reported numbers of staff in the regulatory bodies per country.

Figure 85: Regulatory bodies staff dealing with rail market access (number, as available to the Commission in June 2022)

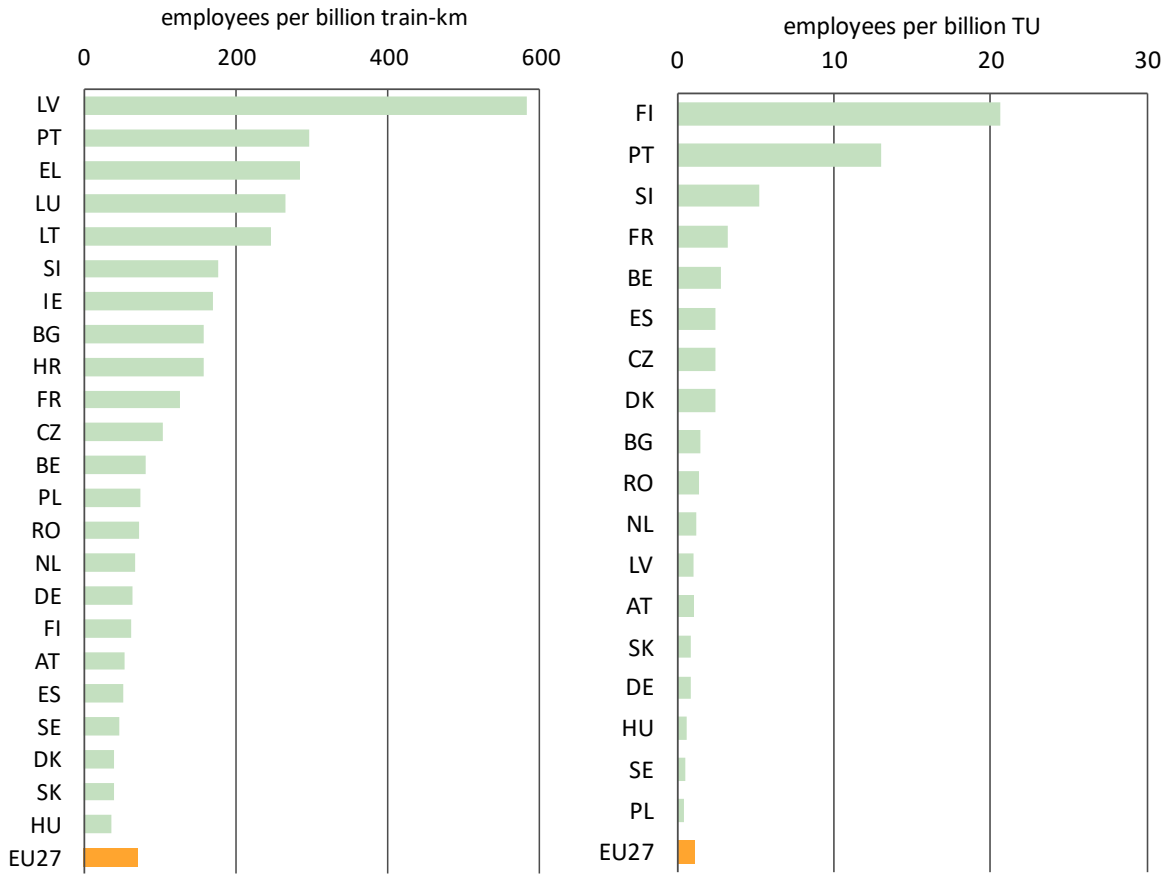


Source: DG MOVE, 2022

As of 2022, the EU27 employed 269 individuals in regulatory bodies overseeing rail market access. Germany and France had the highest numbers, with 75 and 55 employees respectively, while Luxembourg and Slovakia had the fewest, each with 2 employees.

Figure 86 shows the number of each regulatory body's employees in relation to the total passenger and freight train kilometres, as a measure of the market they must regulate, which consists of the market share of other RUs in commercial passenger, PSO passenger and freight markets.

Figure 86: Regulatory bodies staff dealing with rail market access (employees, as available to the Commission in June 2024, per billion train-km and per billion transport units, 2022)



Source: DG MOVE, 2022

5.12. Development of employment and social conditions in the rail market

5.12.1. Employment in rail

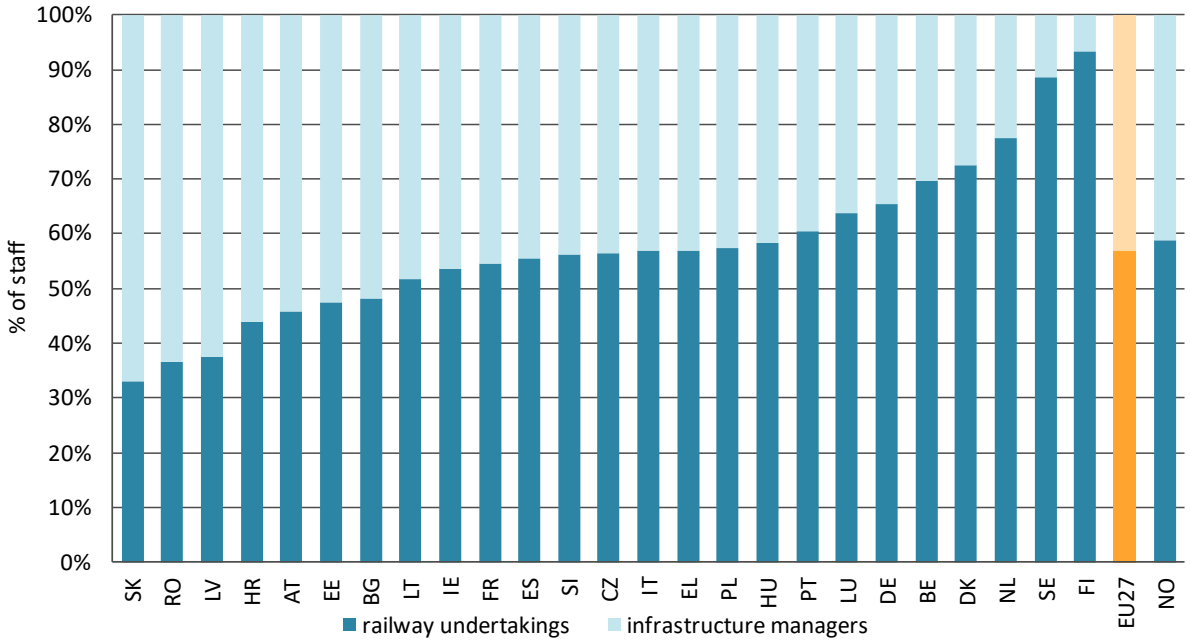
In 2022, around 900 000 were reported as employed in the EU27 railway sector, about 511 000 of which by railway undertakings (both incumbents and competitors) and 389 000 by infrastructure managers[17].

Labour force of the rail market (infrastructure managers and railway undertakings)

Figure 87 shows the reported distribution of railway employees between infrastructure managers and railway undertakings per country in 2022.

[17] Total employment data reported in the RMMS are not directly comparable with the Statistical pocketbook. This is because the Statistical pocketbook's figures are based on Eurostat data, plus estimates, and refer only to railway undertakings' staff.

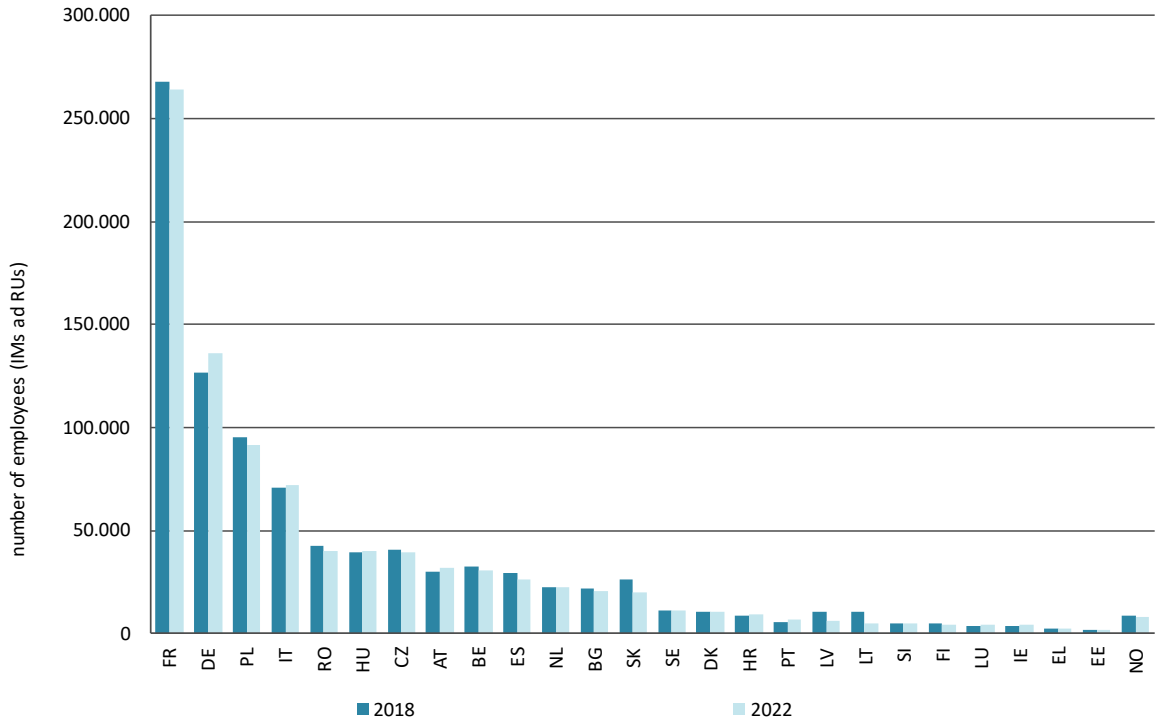
Figure 87: Proportion of infrastructure managers and railway undertakings on total rail employees per country, (% in 2022)



Source: RMMS, 2022

In the EU27, on average railway undertakings employed 57% of all railway staff. The proportion of the railway undertakings' staff of total rail staff appears to be the highest in Finland (93%) and the lowest in Slovakia (33%).

Figure 88: Total number of employees in the rail market (infrastructure managers plus railway undertakings) per country (number, 2018 and 2022)



Source: RMMS, 2022

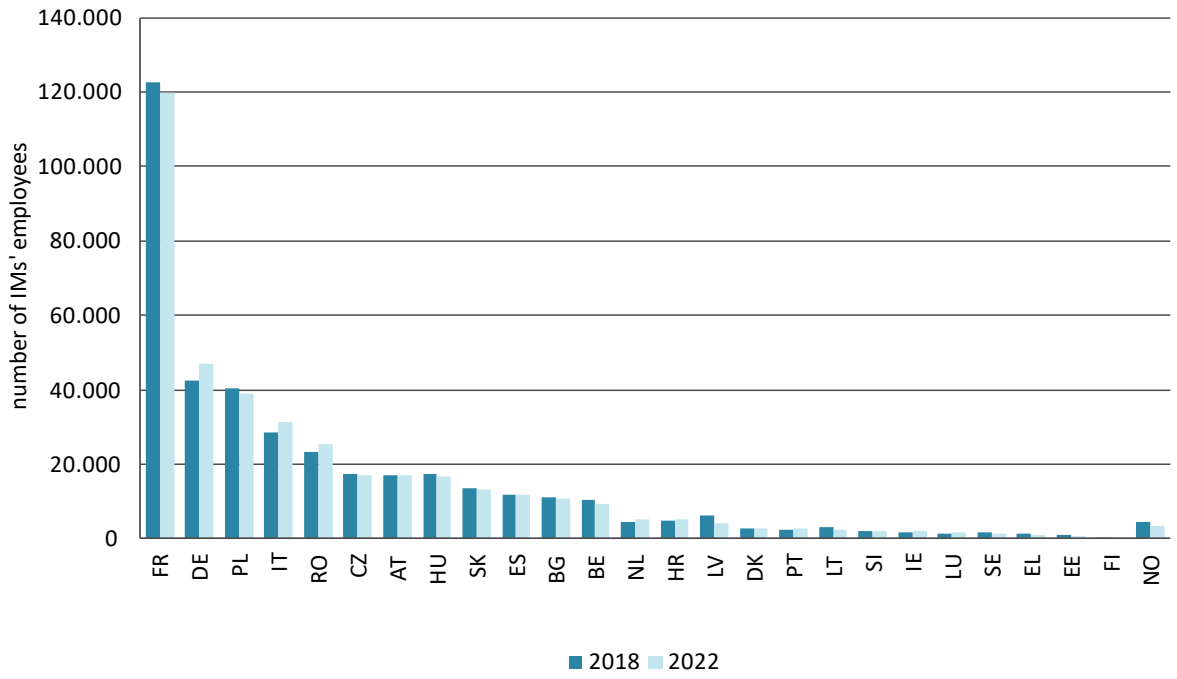
France, Germany, Poland, and Italy are the countries with most staff (all have more than 65 000 employees).

Greece and Estonia have the fewest rail staff (with 2 300 and 1 432 employees respectively). The country where the number of staff increased most between 2018 and 2022 is Germany with 9 500 more staff. In Slovakia staff numbers decreased over the same period by more than 7 000 employees.

Labour force of the rail infrastructure managers

Figure 89 compares how the absolute number of staff of the infrastructure managers (both the main one and the others – if any) evolved between 2018 and 2022 in each country.

Figure 89: Total number of employees of the infrastructure managers per country (number, 2018 and 2022)



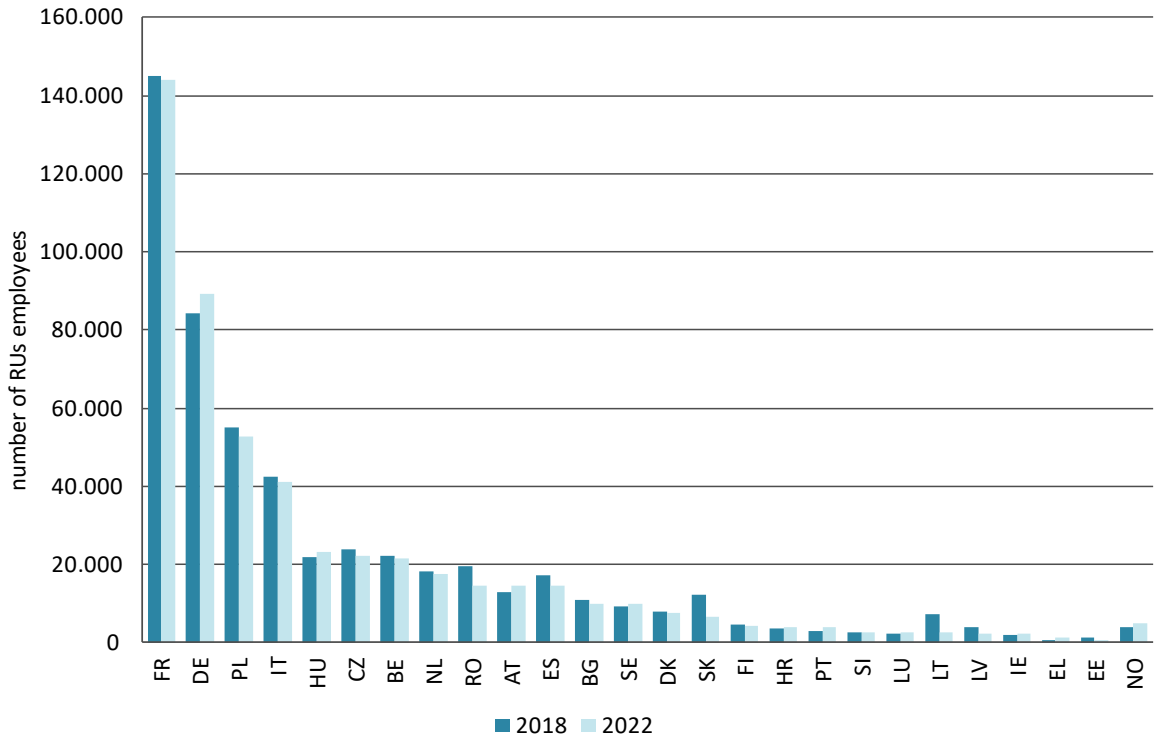
Source: RMMS, 2022

Apart from France, the largest number of employees of infrastructure managers in 2022 were reported by Germany and Poland (with 46 900 and 38 934 employees respectively), whereas Greece, Finland and Estonia reported less than 1 000 employees. Based on RMMS data, Germany and Italy reported the highest increase in the number of infrastructure managers' staff (adding 4 600 and 2569 employees over the surveyed period respectively), whereas France and Latvia reported a decrease of more than 2 000 employees.

Labour force of the railway undertakings

Figure 90 compares changes in the absolute number of staff of the railway undertakings (irrespective of whether they are incumbents or alternative operators) between 2018 and 2022 in each country.

Figure 90: Total number of employees of the railway undertakings per country (number, 2018 and 2022)

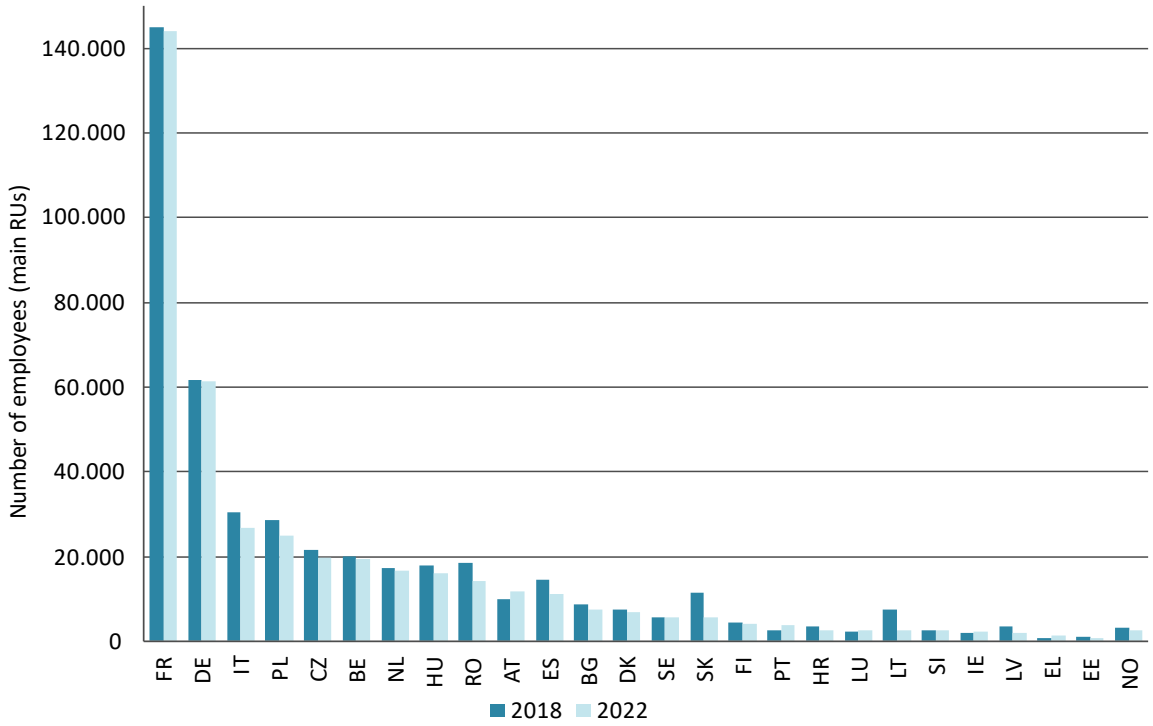


Source: RMMS, 2022

Apart from France, the highest number of staff for railway undertakings was reported by Germany, Poland, and Italy (all with more than 40 000 employees). The smallest number of railway undertakings' employees is Estonia, with 678 employees. Based on RMMS data, the highest increase in railway undertakings' staff between 2018 and 2022 was reported by Germany with 4 900 employees. In Slovakia staff decreased by more than 6 000 employees.

Figure 91 shows the reported total number of employees of the incumbent or other main railway undertakings for 2018 and 2022 per country.

Figure 91: Number of employees of the main railway undertaking per country (number, 2018 and 2022)

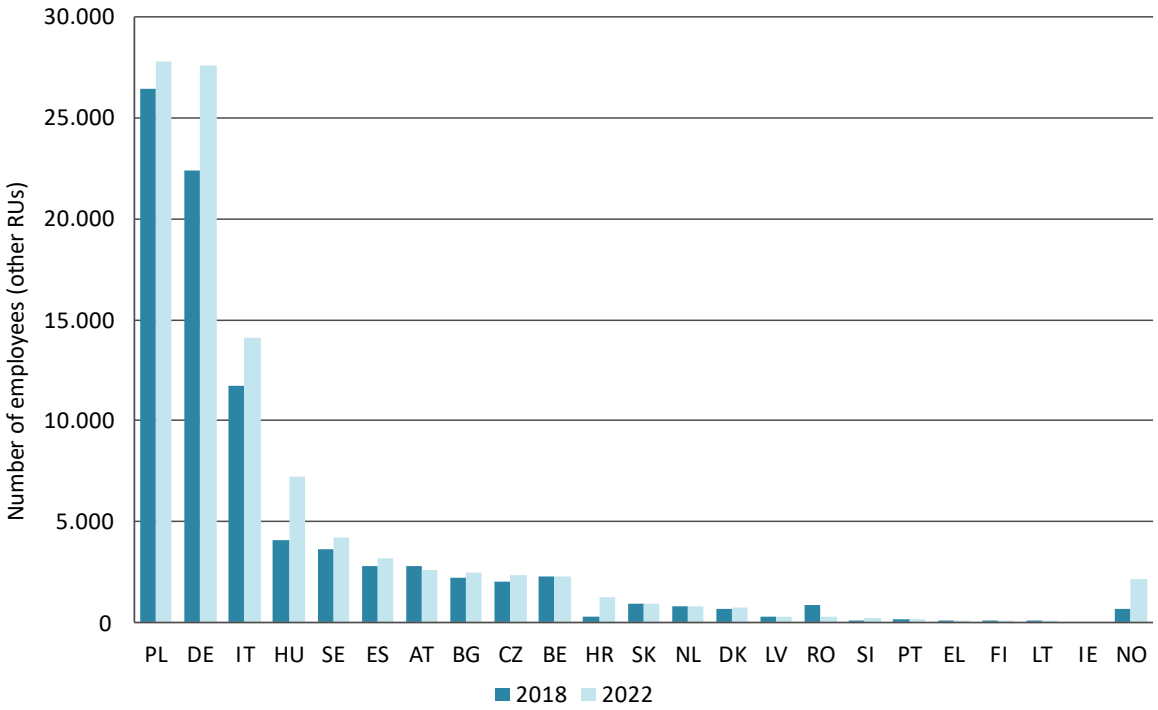


Source: RMMS, 2022

Apart from France, the largest number of employees of the main railway undertaking in 2022 was reported in Germany with 61 500 employees, whereas Estonia reported less than 1 000 employees. RMMS data suggest that the largest increase in staff of the main railway undertaking between 2018 and 2022 was in Austria (1 785 employees), whereas Slovakia recorded a significant decrease (more than 5 700 employees less than in 2018).

Figure 92 shows the reported total number of employees of other railway undertakings (alternative operators) for 2018 and 2022 per country.

Figure 92: Number of employees of other railway undertakings per country (number, 2018 and 2022)



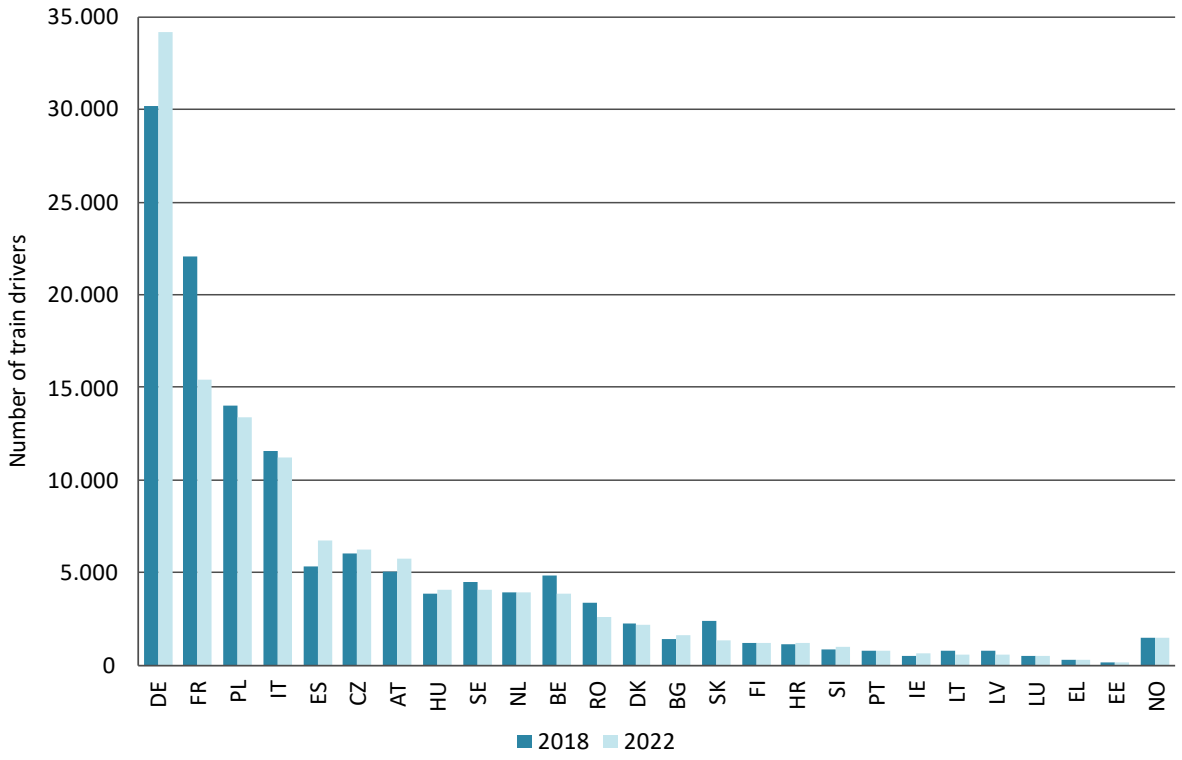
Source: RMMS, 2022

Germany and Poland reported around 27 000 employees working for operators other than the incumbent in 2022. In contrast, Latvia reported only 55 employees working for alternative operators. Based on available data, between 2018 and 2022 the staff working for alternative operators increased most in Germany with more than 5 200 additional employees. The most significant decrease was reported in Austria, where almost 200 employees were lost in these undertakings.

Train drivers

Figure 93 shows the reported total number of train drivers employed by main and other railway undertakings for 2018 and 2022 per country.

Figure 93: Number of train drivers of main and other railway undertakings per country (number, 2018 and 2022)



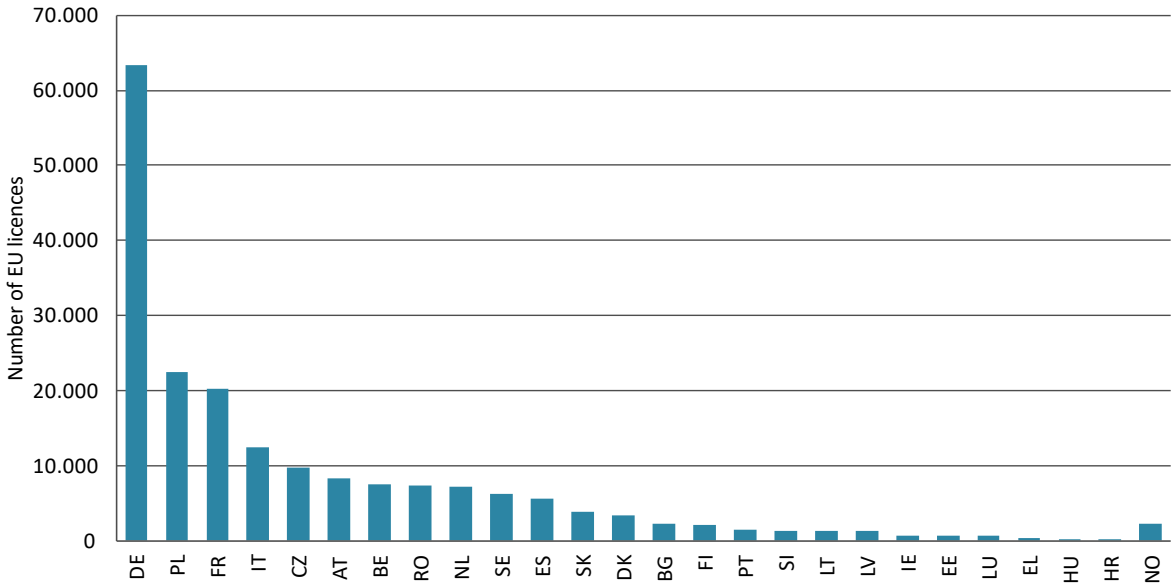
Source: RMMS, 2022

In Germany, Poland, France, and Italy, more than 10 000 train drivers were working for railway undertakings. Estonia reported the lowest number of employed train drivers in 2022 (180). Germany has significantly increased the number of train drivers, with an increase of 4 000 between 2018 and 2022. A significant decrease of more than 6 700 train drivers has been reported for France.

The RMMS collects information about the number of employees working for railway undertakings as train drivers. However, not necessarily all staff that have a train driver licence are in active employment as a train driver. It is interesting therefore to look at the number of train driver licences, as this could provide a rough idea of available resources in case of a shortage of such a specialised and skilled function.

Directive 2007/59/EC introduced an EU certification scheme for train drivers including the issuing of European train driver licences by the national safety authorities and harmonised complementary certificates by the employer. All train drivers should hold a European licence from October 2018 onwards. Figure 94 shows the reported total number of valid EU train driver licences in 2022 per country, as collected by ERA from the national safety authorities.

Figure 94: Number of valid EU train driver licences, (2022)



Source: European Union Agency for Railways (ERA), 2022.

Germany has issued the highest absolute number of EU train driver licences by far (63 317), followed by Poland and Italy (all more than 10 000 licences). Croatia reported the lowest number, with 79 valid EU train driver licenses.

5.12.2. Socio-demographic structure of the rail labour market

Traditionally, the rail sector has been characterised by an ageing workforce and a predominance of male workers. Technological developments and digitalisation also play a major role on the sector's employment structure and characteristics.

Structure by gender

With only 23% of women workers, the transport sector is not gender balanced.

The EU rail sector also remains male-dominated, with women representing only around 23% of the EU27 railway workforce. This imbalance is especially pronounced in technical roles, such as drivers and technicians, and in managerial positions. Compounding this issue is an aging workforce and a general shortage of staff. However, initiatives in recent years aim to promote gender diversity and create a more inclusive environment:

- The Women in Transport – EU Platform for change[18], launched on 27 November 2017, continues to provide an active forum for transport stakeholders with the aim to strengthen women's employment and equal opportunities for women and men in the transport sector. Several EU associations from the rail sector have joined the platform, as well as the European Union Agency for Railways and Europe's Rail (previously Shift2Rail Joint Undertaking). The EU associations may directly bring actions to the platform or channel actions from their members: 21 actions had been shared by June 2022, out of which eight are from the rail sector. The website of the platform contains a declaration (signed by several rail actors) to ensure equal opportunities for women and men in the transport sector, an online module to exchange good practices and examples of measures that can be taken at company level to improve gender balance. The platform meets 3 times per year and uses a wiki as a cooperation tool.

- Women in Rail Award 2024: Collaboratively launched by the European Commission's Women in Transport platform, Europe's Rail Joint Undertaking (EU-Rail), the European Union Agency for Railways (ERA), the Community of European Railway and Infrastructure Companies (CER), the European Rail Supply Industry Association (UNIFE), and the Federation of European Train Drivers' Unions (ALE), this award aims to promote fairness, diversity, and equality in the rail sector. It celebrates outstanding and inspiring women and their achievements, recognizing individuals or groups who have significantly advanced the EU railway sector or overcome barriers for women within the industry.

- On 5 November 2021, the sectoral social partners represented by the Community of European Railway and Infrastructure Companies (CER), representing railway sector employers, and the European Transport Workers' Federation (ETF), representing railway workers have seized the opportunity of the 'European Year of Rail 2021', to sign the 'Women in Rail autonomous agreement' aimed at promoting employment of women in the sector. The agreement, which was the fruit of more than 3 years of negotiations, aims to attract more women to the rail sector, give women better protection and guarantee equal treatment in the workplace thanks to measures agreed under a general gender equality policy, which covers areas such as concreate targets, how to attract more women to the sector, reconciliating professional and private life, promotion and career development, equal pay, health and safety at work and prevention of sexual harassment and sexism. Information on the agreement can be found here[19] and here[20].

- The Commission's 'Women in Transport – Platform for Change' together with railway sector used the momentum of the European Year of Rail 2021 to highlight the cause of women in rail by honouring achievements of efforts and work promoting women in the railway sector through a 'Women in Rail Award' in four different categories ('best employer', 'best initiative against harassment', 'best improvement of inclusion in the

[18] https://transport.ec.europa.eu/transport-themes/social-issues/women-transport/women-transport-eu-platform-change_en

[19] https://www.etf-europe.org/women-in-rail-agreement-signed-and-ready-for-implementation/

[20] https://cer.be/publications/latest-publications/european-social-partner-agreement-women-rail

workplace', and a 'rising star' award). More than 50 companies from the rail sector presented applications for the awards. The award ceremony took place on 8 March 2022, International Women's Day. More information on the award, the winners, and the ceremony can be found here[21].

- In the SSMS, Action 70, the Commission has committed to 'launch initiatives to increase the attractiveness of the transport sector' to make it more resilient and competitive. In addition to the above-mentioned initiatives, the Commission has published several studies, notably to help the sector in the transition to automation and digitalisation[22] and to improve the work-life balance of transport workers in all modes through good practice examples for staff scheduling and rostering schemes[23]. As awareness raising about opportunities in the transport sector together with challenging stereotypes linked to the sector cannot start early enough, the Commission has also published 'Educational toolkits to help fight gender stereotypes'[24] for primary and secondary school children, based on examples from the transport sector. The Commission is also about to launch a network of Diversity Ambassadors in Transport with the objective to promote diversity, equality, and inclusion in the transport sector for workers as well as for transport users.

Figure 95 shows the gender mix of railway staff (main infrastructure managers and railway undertakings) per country in 2022, as reported in the RMMS.

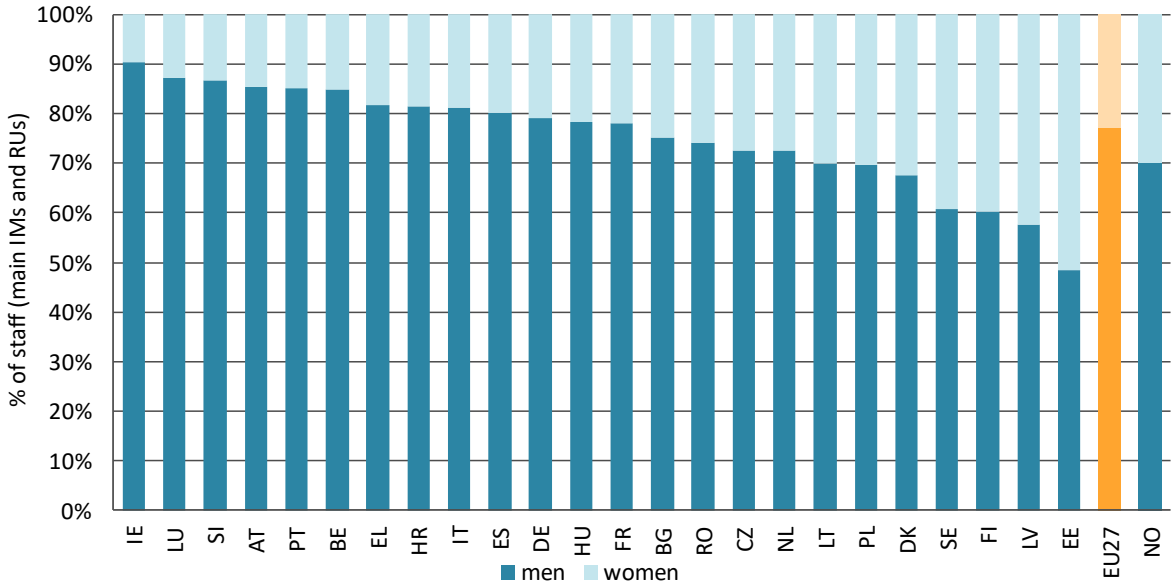
[21] https://transport.ec.europa.eu/news/european-commission-announces-winners-women-rail-award-2022-03-08_en

[22] https://op.europa.eu/en/publication-detail/-/publication/596d2d1a-4049-11ec-89db-01aa75ed71a1/language-en/format-PDF/source-search

[23] https://op.europa.eu/en/publication-detail/-/publication/21a9b75a-315e-11ec-bd8e-01aa75ed71a1/language-en

[24] https://transport.ec.europa.eu/transport-themes/social-issues/women-transport/attractiveness-transport-sector/educational-toolkits-help-fight-gender-stereotypes_en

Figure 95: Total employees (main infrastructure managers plus railway undertakings) by gender structure, (% in 2022)

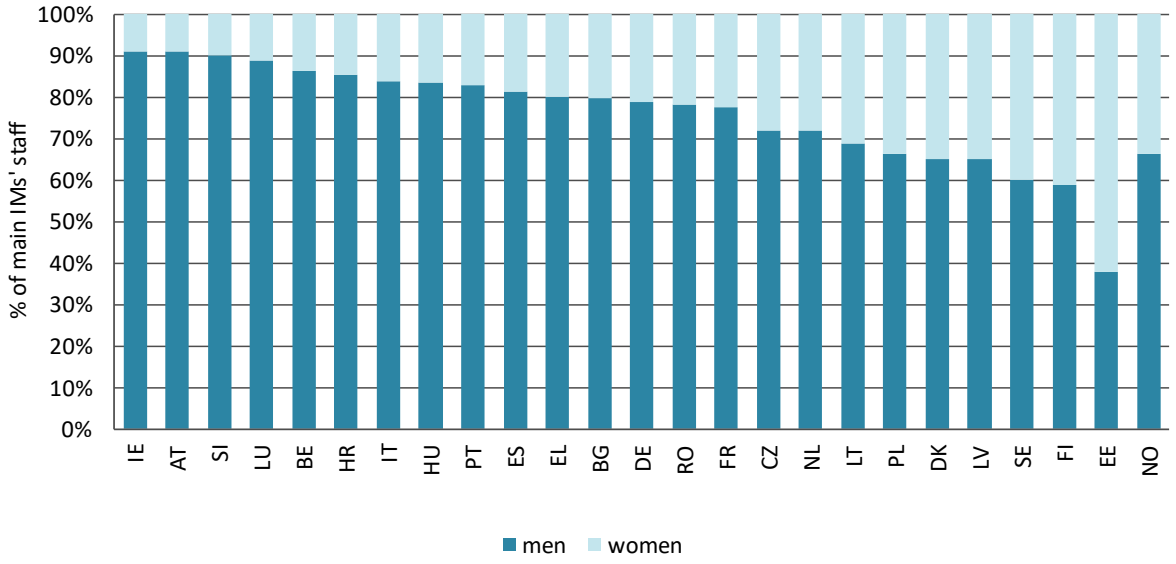


Source: RMMS, 2022

The highest share of women on the total workforce was reported by Estonia (51.5%) followed by other Baltic and northern countries such as Latvia, Finland, Sweden, and Denmark. Ireland reported the lowest share (10%).

The RMMS collects information on the gender mix, also distinguishing between employees of main infrastructure managers and railway undertakings. Figure 96 shows the gender mix of main infrastructure managers' staff per country in 2022.

Figure 96: Main infrastructure managers' employees by gender structure (% in 2022)

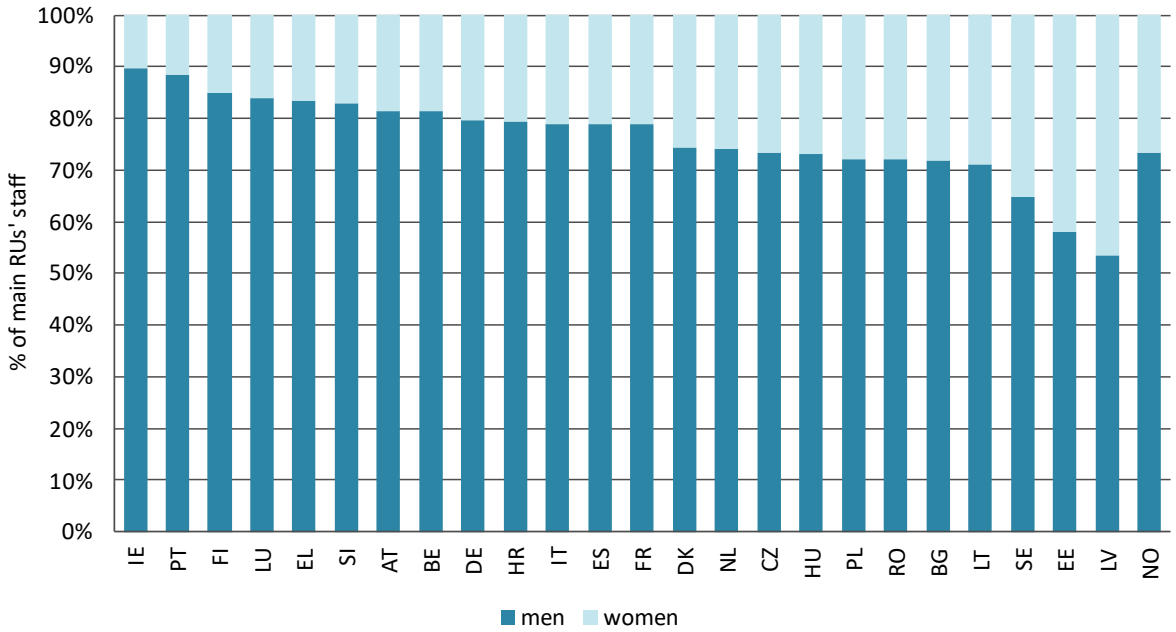


Source: RMMS, 2022

Estonia is the country with the largest share of women in main infrastructure managers' employees (62%). For infrastructure managers the lowest share has been reported by Ireland and Austria (9%).

Figure 97 shows the gender mix for the main railway undertakings' staff in 2022 by country.

Figure 97: Main railway undertakings' employees by gender structure (% in 2022)



Source: RMMS, 2022

Latvia reported the highest share of women in the main railway undertakings' staff (46%), whereas Ireland reported the lowest (10.3%).

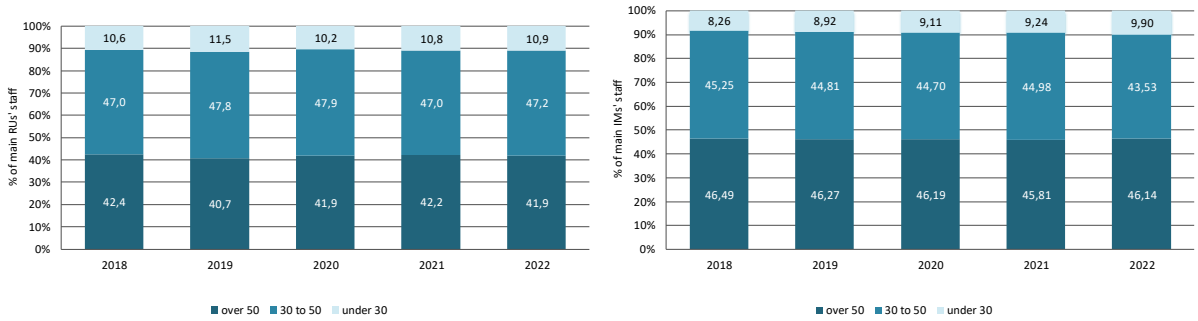
Structure by age

An ageing workforce continues to be a concern for the sector, given the risk of losing specialised skills in the medium term.

Figure 98 shows that in 2022 in the EU27 on average 41.9% of the staff of railway undertakings was older than 50 years. This is a decrease of 0.5 percentage points compared to the 42.4% of 2018. On the other side, the share of younger employees (below 30 years) working for railway undertakings has slightly increased in the EU27: from 10.6% in 2018 to 10.9% in 2022.

Infrastructure managers tend to have an older workforce, but their share of younger employees also increased between 2018 and 2022: from 8.3% to 9.9% in the EU27 (Figure 98).

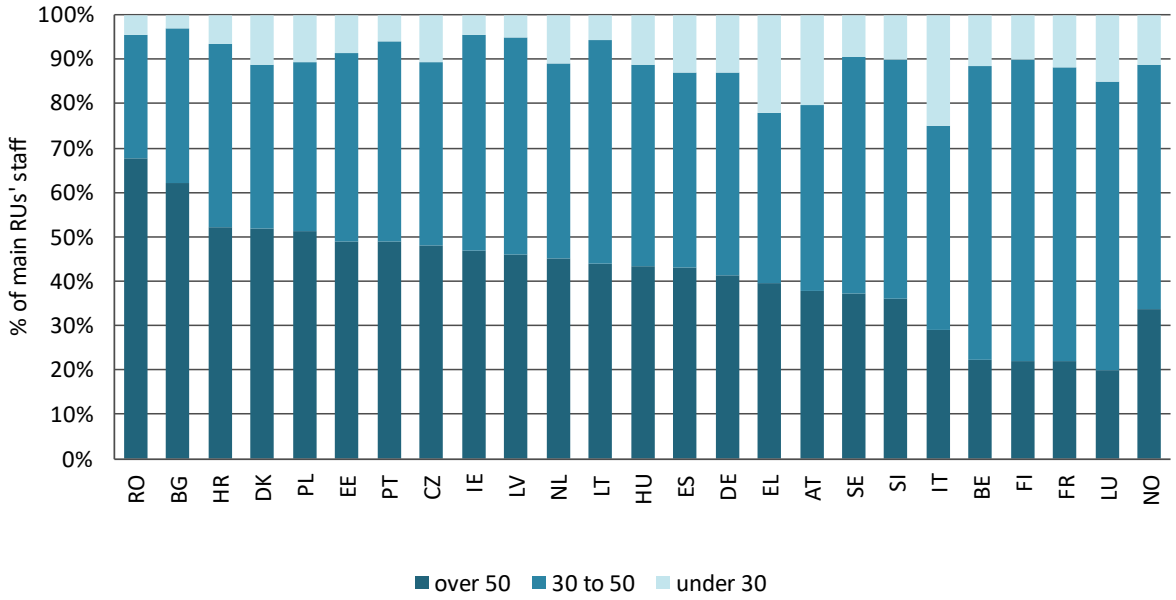
Figure 98: Employees by age group, main railway undertakings and infrastructure managers (%, 2018-2022)



Source: RMMS, 2022

Looking at the distribution of main railway undertakings' staff by age group per country (Figure 99), the proportion of more aged workforce is largest in Romania and Bulgaria where over 60% of the workforce was over 50 in 2022. Italy, Greece, and Austria are the only countries to have reported a proportion of workers under 30 higher than 20%.

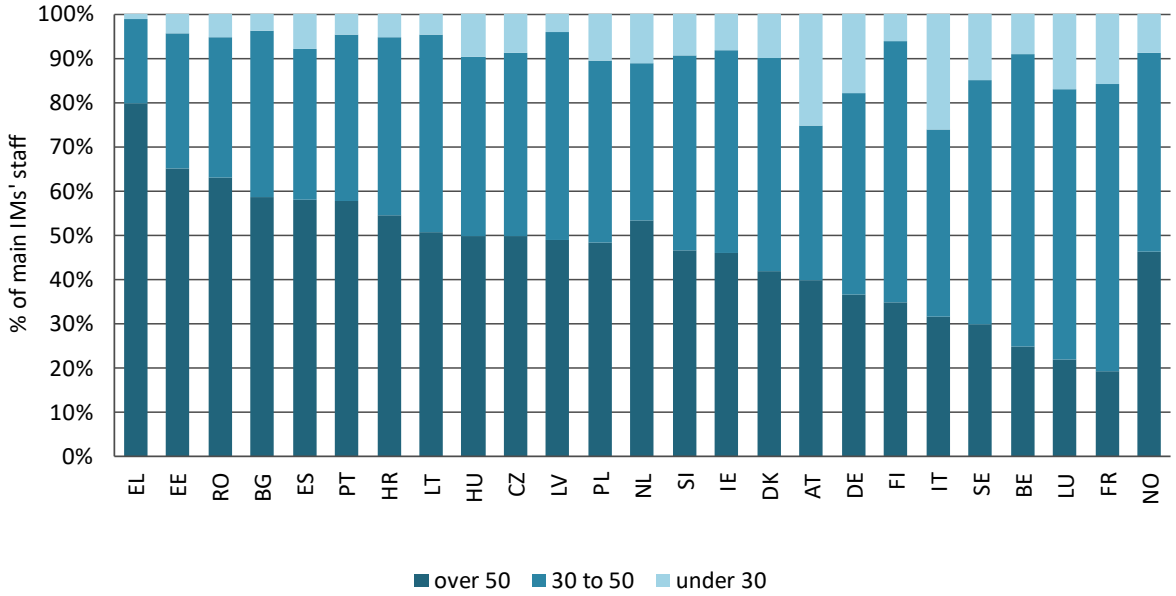
Figure 99: Main railway undertakings' employees by age group and country, (% in 2022)



Source: RMMS, 2022

With respect to the distribution of main infrastructure managers' staff by age group per country (Figure 100), the proportion of more aged workforce is greatest in Greece, Estonia and Romania, where over 60% of the workforce was older than 50 years in 2022. In contrast, less than 30% of the workforce were over 50 in Belgium, Luxembourg, and France. Austria and Italy are the only countries to have reported a proportion of employees under 30 higher than 20%.

Figure 100: Main infrastructure managers' employees by age group and country, (% in 2022)



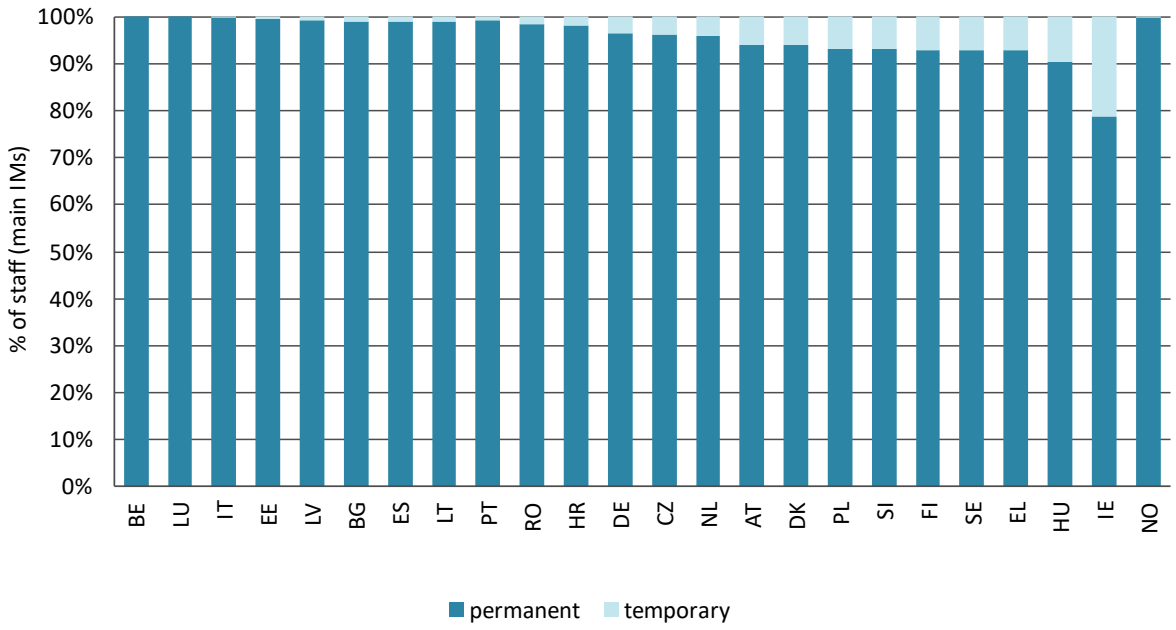
Structure by contract type

The RMMS also collects information on three aspects of employment contracts, both for the main infrastructure manager and for the incumbent/other main railway undertakings:

- Permanent or temporary contracts
- Full-time or part-time working hours and
- Apprenticeships/training

Figure 101 and Figure 102 show the proportions of temporary and permanent employees of the main infrastructure manager and the incumbent/other main railway undertakings respectively, per country in 2022.

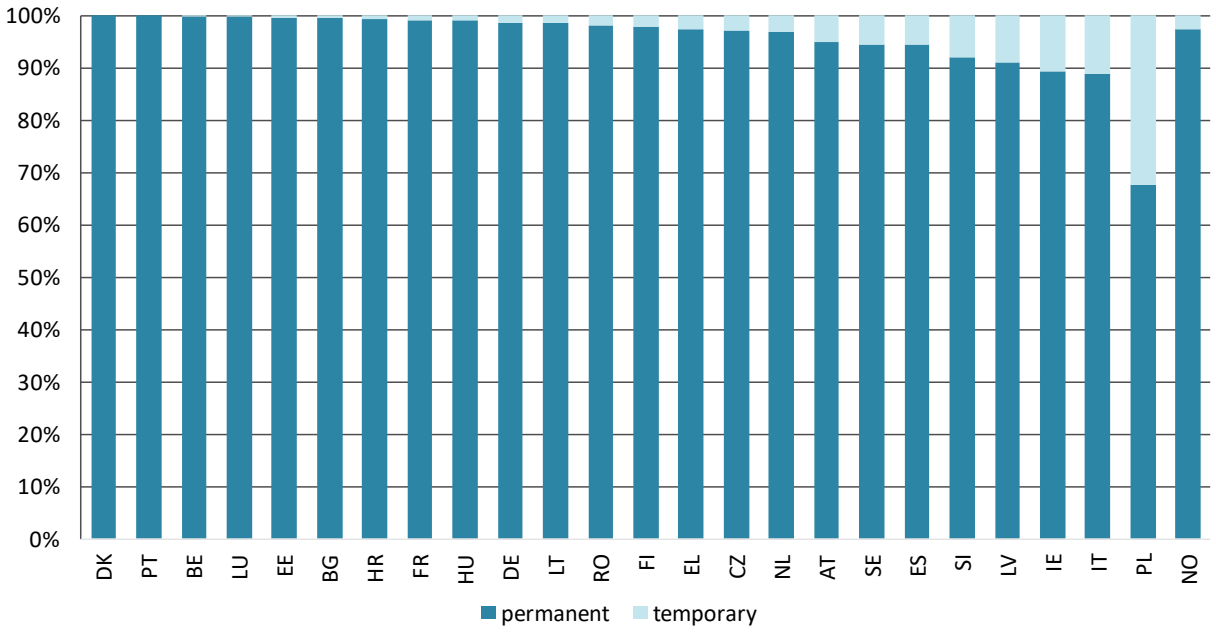
Figure 101: Employees of main infrastructure manager by contract type (permanent or temporary) per country, (% in 2022)



Source: RMMS, 2022

On average, 95.8% of the main infrastructure managers' employees in EU27 have permanent contracts All employees of infrastructure managers appear to have permanent contracts in Belgium and Luxembourg, whereas in Ireland only 78.5% of them do.

Figure 102: Employees of main railway undertaking by contract type (permanent or temporary) per country, (% in 2022)

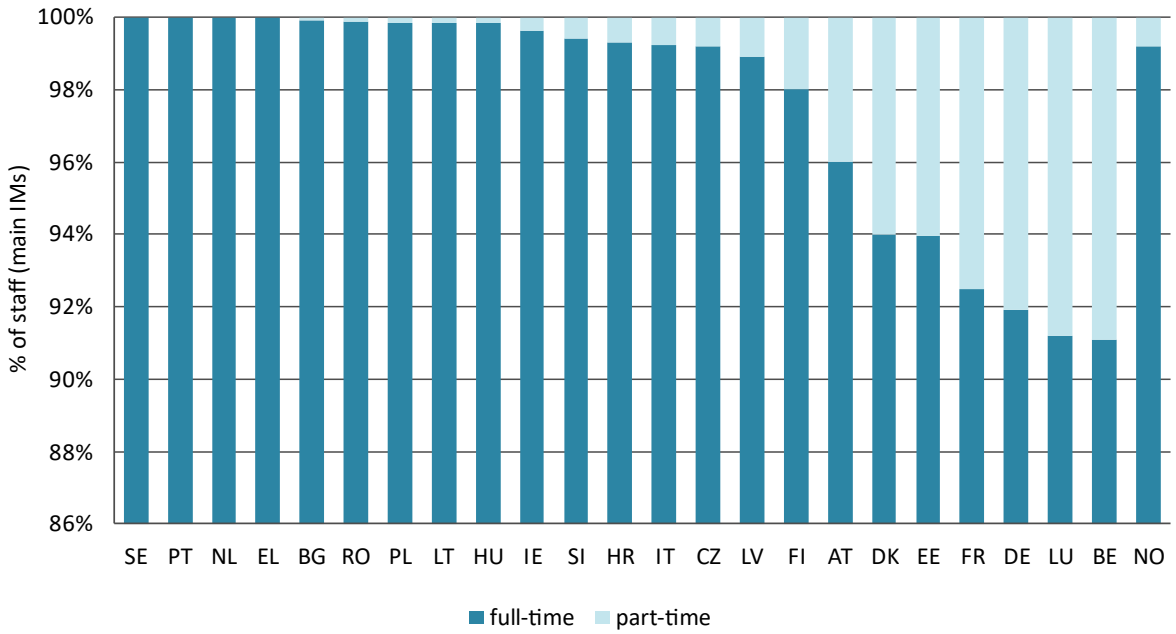


Source: RMMS, 2022

All employees of railway undertakings' employees appear to have permanent contracts in Denmark, and Portugal, but in general the proportion is high in most countries. Only Ireland, Italy and Poland have a proportion of railway undertakings' employees with permanent contracts lower than 90%.

Looking at contracts from the point of view of working hours, Figure 103 and Figure 104 show the proportions of full-time and part-time employees per country in 2022 for the main infrastructure managers and the main railway undertakings respectively.

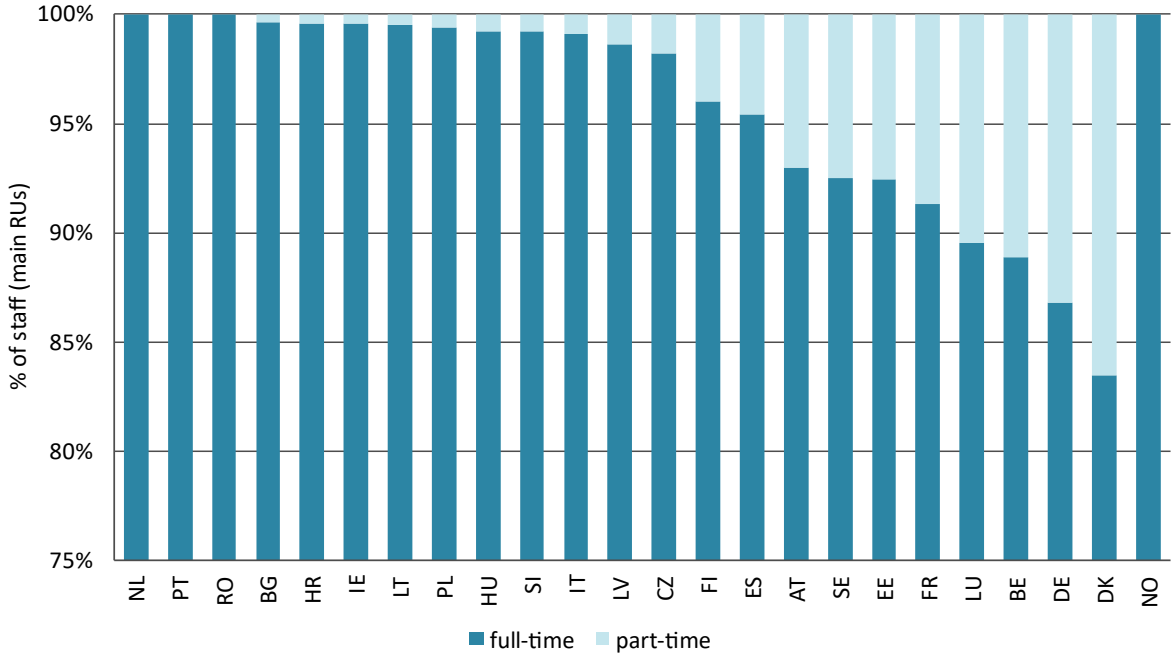
Figure 103: Employees of main infrastructure manager by contract type (full-time or part-time) per country, (% in 2022)



Source: RMMS, 2022

Sweden, Portugal, the Netherlands, and Greece reported that all infrastructure manager's employees have full-time contracts. The lowest share of full-time contracts can be found in Luxembourg (91.2%) and Belgium (91.1%).

Figure 104: Employees of main railway undertaking by contract type (full-time or part-time) per country, (% in 2022)



Source: RMMS, 2022

As for the main railway undertakings, all employees appear to have full-time contracts in the Netherlands, Portugal, and Romania. The lowest share of full-time contracts was reported in Denmark (83.5%).

Training needs are a fundamental aspect of employment in the railway sector, given increased digitalisation, the development of mobility as a service and the age structure of the staff.

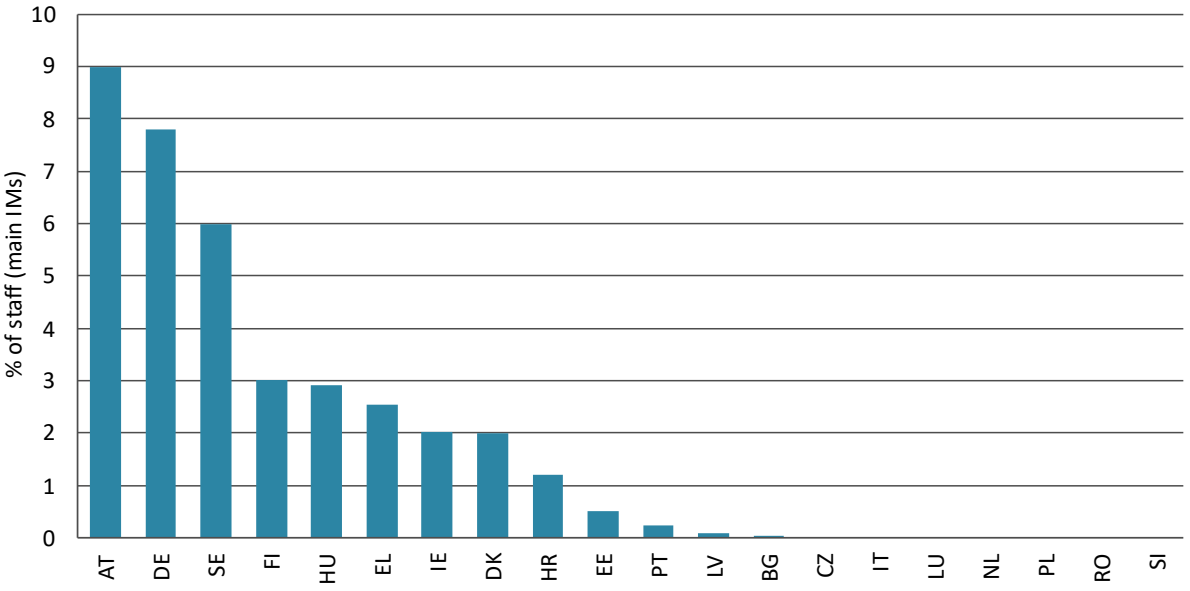
The STAFFER Blueprint is an EU-funded framework for strategic cooperation between key businesses, trade unions, education and vocational training stakeholders and public authorities. The aim is to support an overall sectoral skills strategy and develop concrete actions to address short- and medium-term skills needs. After several months of preparation, 32 partners submitted their proposal for a European project in February 2020. The Commission announced during the summer of 2020 that the project – Skill Training Alliance For the Future European Rail system (STAFFER) – had been approved to be the future Blueprint for our sector.

Coordinated by the University of Genoa, the alliance officially started on 1 November 2020 and will last for 4 years. Its objective is to help identify the main existing skill gaps and assess the future needs in our industry, Vocational & Education Training (VET) institutions and technical universities to propose adaptations to curricula, training, and educational programmes to address new technological developments and trends. STAFFER will deliver human capital solutions for all levels of rail value chain, gaining the holistic view of the sector as a system of systems, unifying the European rail world. The ultimate result of STAFFER will be the establishment of a rail stakeholder partnership, the Sector Skill Alliance, to finally develop a holistic Blueprint strategy to recognise present and new skill needs suitably and timely, and substantially contribute to achieve the Single European Rail Area. Such a strategy will allow to overcome the fragmentation of the rail sector and help rail industry and VET institutions to design and realise concrete actions to satisfy skill needs, going beyond the project's lifetime and beyond the organisations involved in the Alliance.

Finally, Figure 105 and Figure 106 show the proportions of staff of the main infrastructure manager and the incumbent/other main railway undertaking respectively who are currently in an apprenticeship or other training.

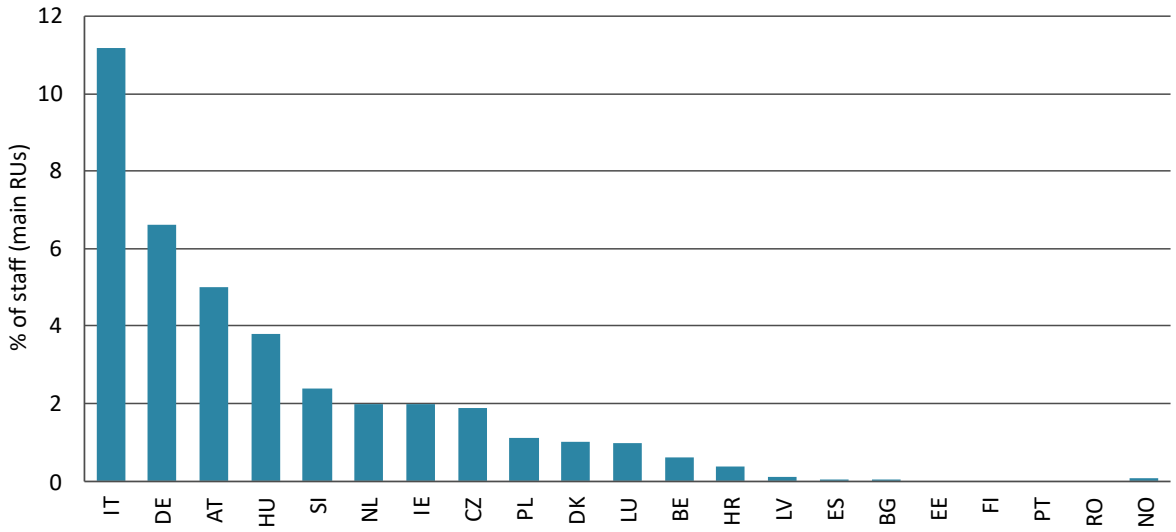
Austria, Germany, and Sweden have the highest shares of employees of main IM in training, whereas Italy, Germany, and Austria have the highest shares of employees of main RU.

Figure 105: Employees of main infrastructure manager in training per country, (% in 2022)



Source: RMMS, 2022

Figure 106: Employees of main railway undertaking in training per country, (% in 2022)



Source: RMMS, 2022

5.13. Digitalisation

The broader adoption of digital solutions is essential for improving railway performance, benefiting both customers and businesses. On the other hand, digital gaps and uneven implementation can create technical barriers to market access and hinder seamless rail transport across borders.

ERTMS

The European Rail Traffic Management System (ERTMS) has several advantages in comparison to class B- systems[25]. In addition to cross-border interoperability, ERTMS allows for higher safety, capacity and reliability, and a potential reduction in maintenance costs.

ERTMS is set out in the technical specification for interoperability relating to the control-command and signalling subsystems of the rail system in the European Union (CCS-TSI)[26]. The latest revision introduced technical specifications for automated train operations (ATO) up to grade of automation 2 and enabled FRMCS readiness. It also includes specifications for modularity reducing the risk of vendor lock-in. Future updates of the regulation from a new technology perspective will include full specifications for FRMCS, for absolute safe train positioning and for ATO up to grade of automation 4. Future updates will not only contribute to introducing innovation on the market but will also aim at further opening of the market by completing the modularity and the harmonisation of ERTMS.

The TEN-T Guidelines[27] establish ERTMS as one of the priorities for railway infrastructure development and set out a deadline for its deployment on the Core Network by 2030, on the Extended Core Network by 2040 and on the Comprehensive Network by 2050.

Without an accelerated deployment of ERTMS, achieving the Green Deal and SSMS objectives will not be possible. Indeed, the TEN-T Guidelines dedicate a separate article solely to ERTMS. As such, the deployment of ERTMS takes a key place in the revised legal framework.

The new Article 18 sets out an obligation for Member States to deploy ERTMS on the core network by 31 December 2030. As regards the extended core network and the comprehensive network, the new deployment deadlines are set for 31 December 2040 and for 31 December 2050 respectively. Furthermore, Class B systems on the entire TEN-T network should be decommissioned by 31 December 2050.

Member States should also ensure that as of 31 December 2030, only radio-based ERTMS are deployed on new lines, as of 31 December 2040 in the context of signalling system upgrades, and the entire TEN-T network should be equipped with radio-based ERTMS by 31 December 2050.

One major new element will be the integration of the nine Core Network Corridors with the eleven Rail Freight Corridors in a common set of “European Transport Corridors”. While striving for maximum stability of the existing TEN-T network, this merger brings certain changes, such as the identification of an extended core network that will be fully integrated into the corridors.

Finally, regarding governance the role of the European Coordinators for ERTMS has been enhanced as they have received the prerogative to establish and chair a consultative forum grouping all key stakeholders. Each Member State will need to designate a national ERTMS representative to attend the consultative Forum. The national coordinator for ERTMS should

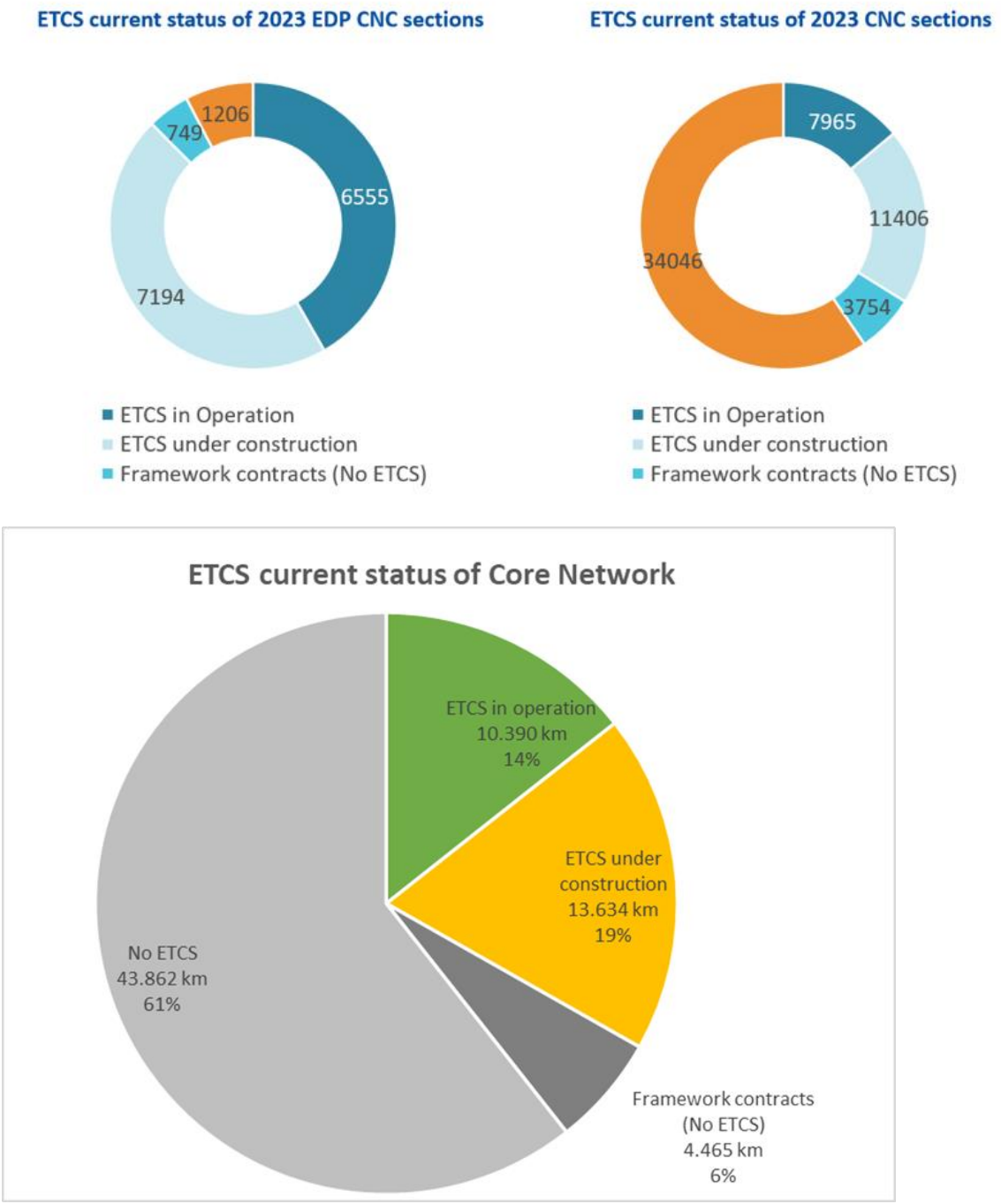
[25] Class B systems are national legacy signalling systems. In some countries, they need to co-exist with ERTMS. They make the ERTMS- installations more complex and expensive to realise.
[26] Commission Implementing Regulation (EU) 2023/1695 of 10 August 2023 on the technical specification for interoperability relating to the control-command and signalling subsystems of the rail system in the European Union available at http://data.europa.eu/eli/reg_impl/2023/1695/oj
[27] Regulation (EU) No 2024/1679 of the European Parliament and of the Council of 13 June 2024 on Union guidelines for the development of the trans-European transport network

become an ERTMS one-stop-shop in each Member State. The national coordinator should be a direct discussion partner both for the European Coordinator and for fellow colleagues from other countries. The national representatives should bring together all relevant national stakeholders, including public administration, infrastructure managers, railway undertakings, rolling stock keepers and the supply industry. The national representative should manage the deployment of ERTMS, including the supervision of the drafting of the National Implementation Plan for ERTMS. Furthermore, other stakeholders may be invited to participate in the ERTMS Forum.

Following the adoption of the revised TEN-T Guidelines, the European Deployment Plan (EDP)[28] will be revised by 2026 at the latest.

[28] Commission Implementing Regulation (EU) 2017/6 on the European Rail Traffic Management System European deployment plan on 5 January 2017

Figure 108: ETCS status on the core network

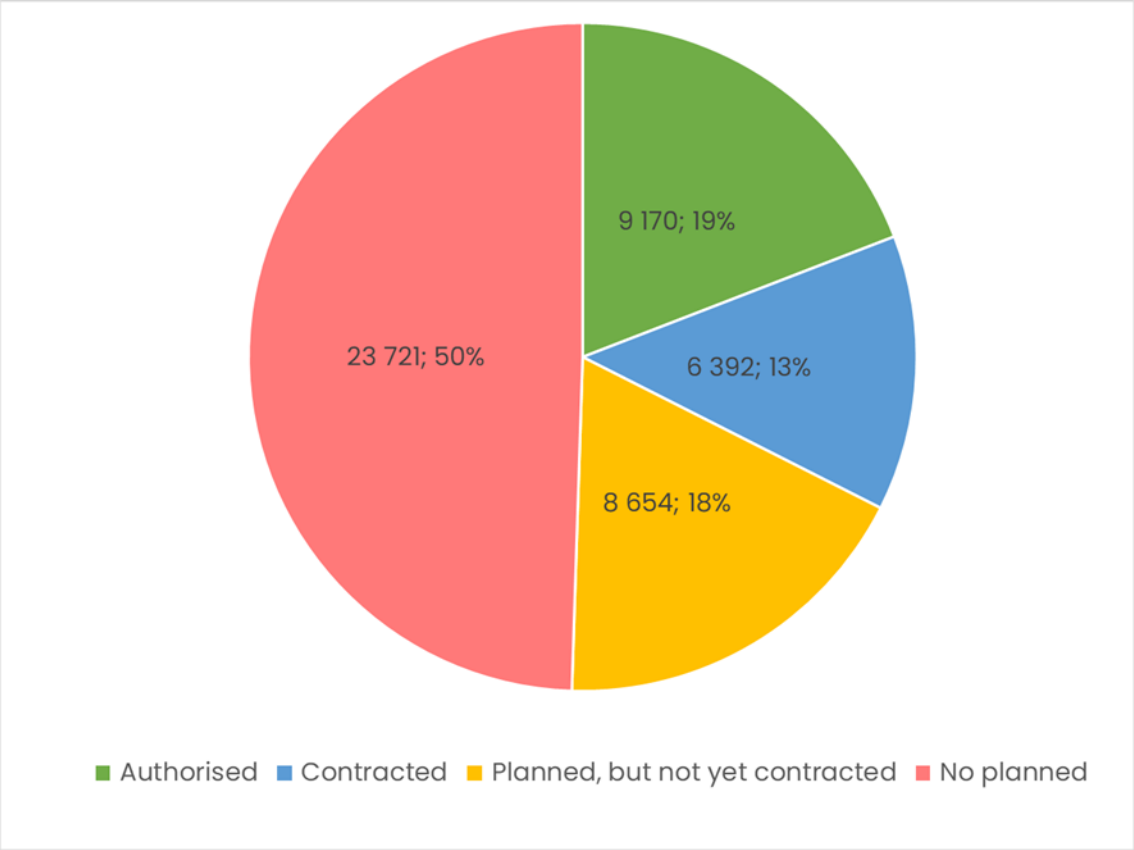


Source: DG MOVE, 2025

The chart clearly indicates that significant efforts are still required to meet the 2030 targets for the trackside deployment of ERTMS on the core network. At present, only 14% of the core network is equipped with ERTMS, with contracts in place for an additional 19%.

ERTMS, as a system, requires a synchronised deployment both trackside and on-board and crucial system benefits only occur when both trains and trackside are equipped. Therefore, rolling stock deployment is essential. The chart shows that approximately half of the vehicles currently in service are either already equipped with ERTMS or scheduled to be equipped.

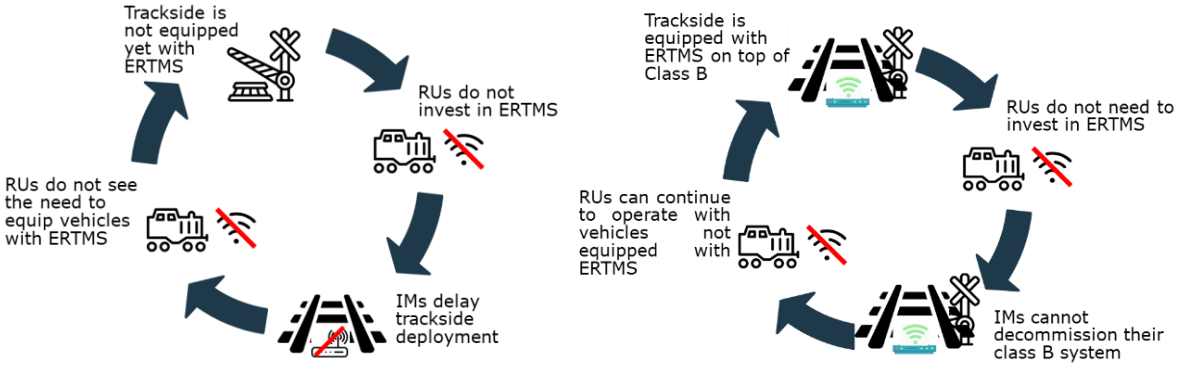
Figure 109: Vehicles equipped with ERTMS



Source: DG MOVE, 2025

Often, operators do not equip their entire newly purchased fleet with ERTMS, as they see little incentive to invest while most lines in their operating areas remain unequipped and/or Class B systems are still in use. At the same time, some infrastructure managers delay deployment due to the lack of available ERTMS-equipped rolling stock, creating a vicious cycle. This situation risks hindering trackside deployment or forcing infrastructure managers to maintain dual trackside systems for longer than originally planned.

Figure 110: Vicious circle of ERTMS deployment



Source: DG MOVE, 2022.

If this approach continues, the anticipated benefits of ERTMS deployment will not be fully realised. As the ERTMS business case[29] showed, ERTMS can only bring the expected benefits if both trackside and on-board are deployed in a coordinated way. A dual on-board strategy, which consists of equipping the whole fleet with ERTMS on top of the legacy system, is the best migration strategy. This would allow keeping only one system trackside once ERTMS is deployed on a given line. However, the decommissioning of the Class B systems trackside is only possible if almost the entire fleet is equipped with ERTMS[30].

Therefore, if a significant share of the new rolling stock continues not being fitted with ERTMS, this situation will adversely impact the business case for ERTMS and the ERTMS deployment overall, as it will lead to additional costs in the short and medium-term (retrofitting costs) and will prevent infrastructure managers from decommissioning their Class B systems and thus achieving the expected benefits on maintenance.

Telematics applications

Implementation of rail telematics applications is key to achieve paperless rail transport.

Requirements for telematics applications applicable for both freight and passenger rail services are laid down in the technical specification for interoperability relating to the telematics subsystem of the Union rail system (TAF/TAP TSIs). The revision of the Telematics TSIs is currently underway and is expected to be finalised in 2025. The review will introduce consistency between common aspects for both freight services and passenger services under a single TSI Telematics supporting data sharing for:

(1) Capacity and traffic management, as well as train preparation;
(2) Management of freight wagons and their shipment;
(3) Rail ticketing and passenger information.

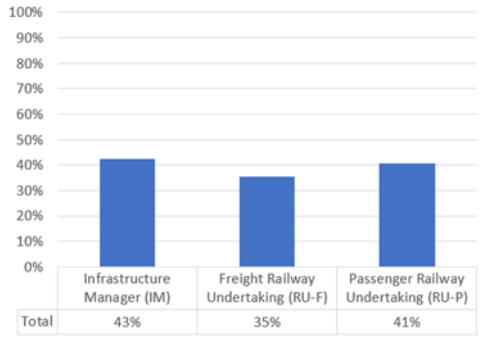
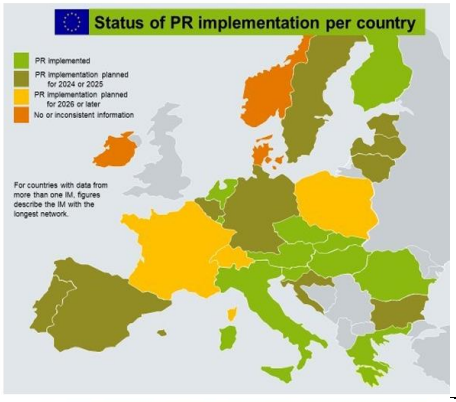
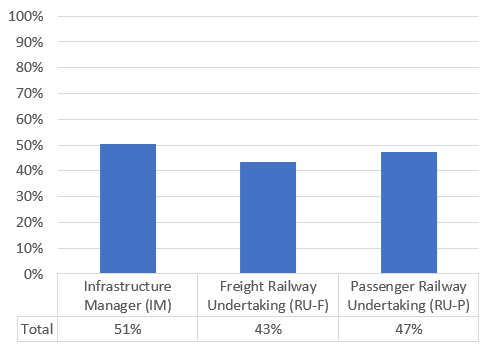
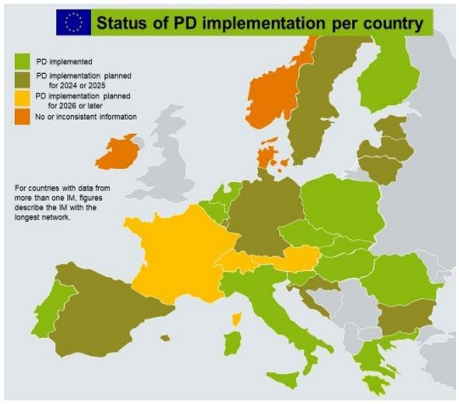
The review also aims to reinforce the European Union Agency for Railways (ERA) as the system authority for telematics. Additionally, it seeks to enable enforcement of the Regulation by introducing implementation deadlines, along with a monitoring and compliance assessment framework under ERA's oversight.

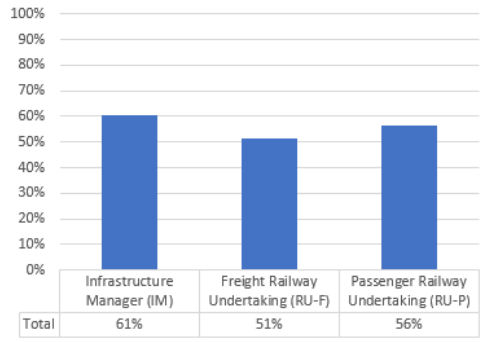
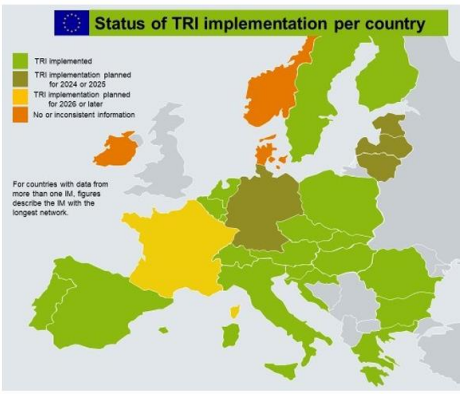
Pending the introduction of legally binding implementation deadlines, implementation of telematics functions is progressing at sector level based on the Master Plans.

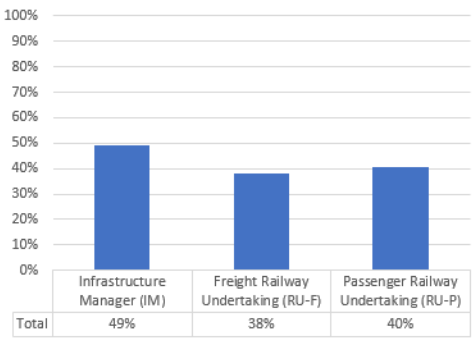
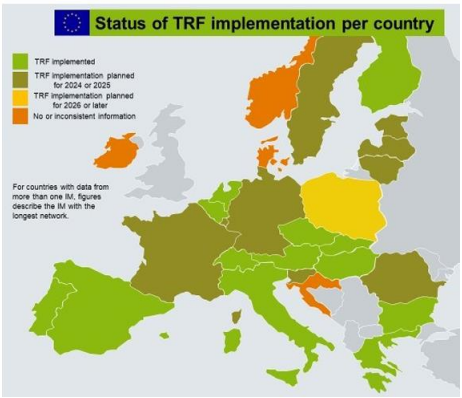
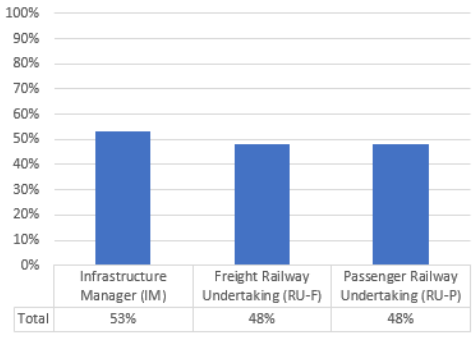
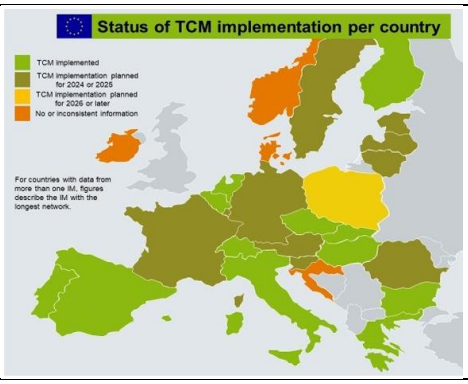
Article 23 of Regulation (EU) 2016/796 requires ERA to assist the Commission in the monitoring of deployment of specifications for telematics applications. Accordingly, ERA compiles and publishes a yearly report on the degree of implementation of functions defined in the TAF/TAP TSIs. For the purpose of this report, the monitoring of the implementation of key functions for capacity and traffic management is highlighted in the table below. Implementation status figures are presented for infrastructure managers (IMs), freight railway undertakings (F-RUs), and passenger railway undertakings (P-RUs) 'as-is' from the 2023 ERA's status reports on the implementation of TAF TSI and TAP TSI respectively.

[29] DG Move EC. 2019. ERTMS business case on the 9 core network corridors – Second Release
[30] The threshold was set at 90% of the fleet equipped in the ERTMS business case analysis.

According to applicable TAF/TAP TSI master plans, the target implementation milestone for functions supporting capacity management was 2017 for IMs and F-RUs, 2018 for P-RUs.

	Implementation status	Implementation forecast for IMs
Path allocation		
Path Request (PR)		
Path Details (PD)		

	Implementation status	Implementation forecast for IMs
Traffic management		
Train running information (TRI)		

	Implementation status	Implementation forecast for IMs
Traffic management		
Train forecast information (TRF)		
Train Compositio n (TCM)		

Although implementation is suffering from systematic delays, it can be underlined that IMs commitment collected through 2022 ERA survey highlights that implementation of functions supporting capacity management and traffic management is mainly planned for completion in the course of 2024 or 2025 and therefore in due time for the 2026 timetable period.

5.14. External dimension of rail transport policy

The implementation of the EU rail *acquis* by **Switzerland and EEA Countries** ensures a level of harmonisation and interoperability for the rail industries, as the basis for free market access. The bilateral Land Transport Agreement ensures cooperation between Switzerland and the EU in rail matters and sets out conditions for reciprocal access to land transport and complementing the Free Trade Agreement. Through the implementation provisions to the Railway Ordinance, Switzerland applies the European technical specifications for interoperability (TSIs) as accepted standards and rules of diligence.

The Commission provides support in total to the 10 **candidate countries and potential candidates** for EU membership, on the development and financing of the rail component of trans-European transport networks, and on the transposition and implementation of the EU rail transport *acquis*. The Commission monitors their progress in alignment of their national regulatory frameworks and helps to prepare them to for the integration to the Single European Rail Area as part of the accession. The European Union Agency for Railways (ERA) provides technical assistance to the beneficiaries of the instrument for pre-accession assistance (IPA) with a new grant agreement signed with the Commission's Directorate-General for Enlargement and Eastern Neighbourhood for the period 2024-2026. In addition, ERA has bilateral agreements: an administrative arrangement with Ukrainian administration and Memorandum of

Cooperation with the Ukrainian Railways 'Ukrzalznytsia', and an administrative arrangement with the Transport Community's Permanent Secretariat.

In the **Western Balkans region**, the Commission is also active through the Transport Community Treaty[31]. Regarding the reforms for the non-discriminatory access to rail infrastructure and the opening of the rail market at the regional level, four out of six partners have opened their market at the national level, while some partners have started initial bilateral discussions on opening the market at the regional level. While the national rail market opened for all operators in North Macedonia since December 2023, amendments to the law in 2024 closed the market again to new entrants until the country joins the EU. In 2024, the highlight on the ground was the start of the joint rail border controls at a border crossing point in Bijelo Polje between Montenegrin and Serbian authorities. As of 2022, Ukraine, Moldova and Georgia have participated in the work of Transport Community as observing members. In 2024, Commission supported the development of the next generation TCT Action Plans (for the period 2025-2027), which are also being developed for the observing members. The soon to be published fourth progress report will be the last to cover the first generation of the action plans on acquis alignment for the period 2020-2024. The observing participants will have a first status report on the TCT Annex I.

In October 2024, the Commission approved the Reform Agendas of Albania, Kosovo, Montenegro, North Macedonia and Serbia to pave the way for payments under the EU's €6 billion Reform and Growth Facility. The Reform and Growth Facility offers increased financial assistance under the Growth Plan for Western Balkans by complementing the current assistance under the Instrument for Pre-accession Assistance (IPA III), and part of the funding for this facility will be designed for the improvement of rail infrastructure in the Western Balkans. The Commission supports recovery, reconstruction and modernisation of Ukraine with up to €50 billion through the Ukraine Facility (2024-2027), which also aims to mobilise important reforms on the way to EU accession, such as the long-standing rail reform. In October 2024, the Commission adopted a growth plan (€1.8 billion) to support Moldova's economic growth and accelerate important reforms for the period 2025-2027. The reform agenda is not yet agreed, but the rail sector is likely to be on the focus areas.

The development of southern rail transport connectivity involves close cooperation with **Türkiye**. EU cooperation and technical assistance in the rail sector also extends further towards the neighbouring countries, notably in the Mediterranean and in the southern and eastern regions.

At international level, the Commission continues to coordinate EU positions and represent the EU in the **Intergovernmental Organisation for International Carriage by Rail (OTIF)**. The Commission participates in the activities of all OTIF bodies, including the ad hoc Committee on Legal Affairs and International Cooperation established in 2021 by decision of the 15th General Assembly. The European Union acceded to the Convention concerning International Carriage by Rail (COTIF[32]) in July 2011 and became a member of OTIF with the status of 'regional economic integration organisation'. OTIF develops uniform legal regimes for international rail transport as regards technical interoperability, dangerous goods, and railway contract law. OTIF and the

[31] Treaty establishing the Transport Community, OJ L 278, 27.10.2017, p. 3.

[32] Council Decision 2013/103/EU of 16 June 2011 on the signing and conclusion of the Agreement between the European Union and the Intergovernmental Organisation for International Carriage by Rail on the Accession of the European Union to the Convention concerning International Carriage by Rail (COTIF) of 9 May 1980, as amended by the Vilnius Protocol of 3 June 1999, OJ L 51, 23.2.2013, p. 1.

European Commission, assisted by the European Union Agency for Railways, cooperate to maintain equivalence between EU and OTIF legislation concerning railway interoperability and safety to the extent necessary for international rail traffic, to facilitate rail transport services between the EU Member States and non-EU OTIF Contracting States.

The **Organization for Cooperation between Railways (OSJD)** is a platform for rail cooperation at ministerial level and between railway companies. The OSJD brings together 29 countries (including nine EU Member States), with a view to creating a common rail transport space in Eurasia. The Commission, with the assistance of ERA, contributes to OSJD work through its participation, coordination, and active role in relevant initiatives. Important developments are taking place regarding the ongoing reform process to adapt OSJD to the current administrative, legal, and economic situation in the rail sector. The Commission sees potential to promote further alignment of OTIF and OSJD regimes to contribute to more favourable rail transport conditions between Europe and Asia, which in turn will underpin new business opportunities for EU industry.

The Commission and several EU Member States also participate in the activities of the Unified Rail Law (URL) initiative within the **United Nations Economic Commission for Europe (UNECE)**. In February 2013, 37 member countries of the UNECE signed the Joint Declaration on the promotion of Euro-Asian rail transport and activities towards unified railway law. In April 2019, the Commission submitted a working document[33] stressing the opportunity of creating a single legal and liability regime for Euro-Asia rail freight traffic, through the adoption of an "interface" convention. At its session in November 2021, the UNECE Working Party on Rail Transport noted the view expressed by a large majority of its members in favour of a step-by-step approach for the development of URL, and the finalisation and adoption, as a first step, of an interface law convention on contract for international carriage of goods by rail between OTIF and OSJD rules to fill a gap in the international regulations when neither OTIF nor OSJD rules apply over the entire journey (traffic on Euro-Asian corridors). The Working Party also noted the view expressed by one of its members on its position regarding URL as a single set of rules for any cross-border rail transport in the Euro-Asian area replacing OTIF and OSJD rules, and only being put in force after all annexes (e.g. infrastructure, rolling stock, wagon law, transport of dangerous goods, etc.) are adopted.

The EU rail transport sector can benefit from increased engagement with strategic partners and high- growth economies beyond the direct neighbourhood. A significant example is the Platform of the Rail Regulatory Bodies. The Commission (lead by DG MOVE) and ERA invite the main rail regulatory bodies across the world (US Federal Railroad Administration, Australia, GCC, India, etc.).

Bilateral efforts resulted, in 2019, in the organisation of a joint EU-India seminar on common rail issues in New Delhi together with the Indian Ministry of Transport. Throughout 2021, DG MOVE had several meetings with the Indian Mission to Brussels and the Indian Ministry of Railways to discuss the implementation of the EU-India Roadmap for 2025 and the set-up of cooperation projects. The Commission seeks to increase dialogue and cooperation with the ASEAN region and with Africa. Among other activities, a platform to further discuss EU-ASEAN cooperation for the deployment of ERTMS.

[33] Commission Staff Working Document SWD (2019) 152 final, 27.3.2019 'Contribution to the 19th session of the UN ECE Group of Experts towards Unified Railways Law: Options available for converting URL into a legally binding instrument – URL as contract of carriage's convention'.

6. The quality of rail services

6.1. Safety

Safety remains the top priority for the development of the single European railway area.

Directive (EU) 2016/798 was included in the Fourth Railway Package as a recast of the Safety Directive (Directive 2004/49/EC). Directive 2016/798 aims to improve access to the market for rail transport services by laying down common principles for the management, regulation and supervision of railway safety, and by providing for more effective safety certification arrangements and the migration to a single safety certificate. With the full transposition by Member States, the Directive also provides for a framework to be put in place to ensure equal conditions for all entities in charge of vehicle maintenance through application of the same certification requirements and conditions across the EU. The purpose of this certification system is to provide a framework for harmonising requirements and methods to assess the ability of entities in charge of maintenance across the EU.

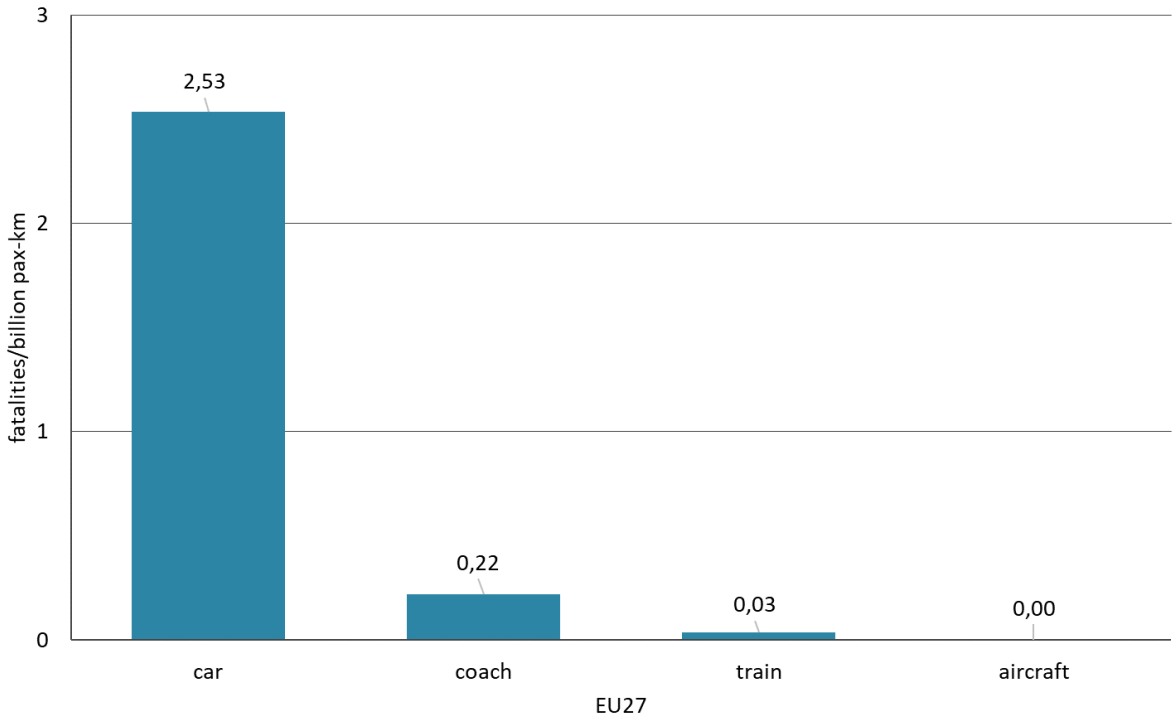
The European Union Agency for Railways became an EU-wide authority for safety certification of railway undertakings. By the end of December 2023, ERA had issued 211 single safety certificates, including for major players in the sector. National safety authorities continue to act as the principal supervisors for railway undertakings and issue safety authorisations for infrastructure managers. ERA monitors the activities of national safety authorities (NSAs), their performance and organisation through three-year cycle audits and through heightened collaboration with the NSA network, ensuring the alignment of criteria and procedures with those used by the Agency itself. The second auditing cycle which covered all NSA tasks is coming now to an end.

The Agency monitors the progress on safety and interoperability of the EU rail system, as mandated by Regulation (EU) 2016/796. Every two years the Agency publishes a report on progress on safety and interoperability in the single European railway area[34] together with several other technical monitoring reports. The last report was published on 3 June 2024. It highlights how European railways remain among the safest in the world, however, notes also slight increases in recent years in accident and fatalities statistics back to pre-COVID-19 levels.

Figure 111 shows the risk of a fatal accident per billion passenger kilometres for different modes in 2012-2022 as reported by the Agency for the EU27.

[34] See the *Report on Railway Safety and Interoperability in the EU 2024* available at https://www.era.europa.eu/content/report-railway-safety-and-interoperability-eu-2024

Figure 111: Fatality risks of different transport modes (fatalities per billion pax-km, 2018-2022)

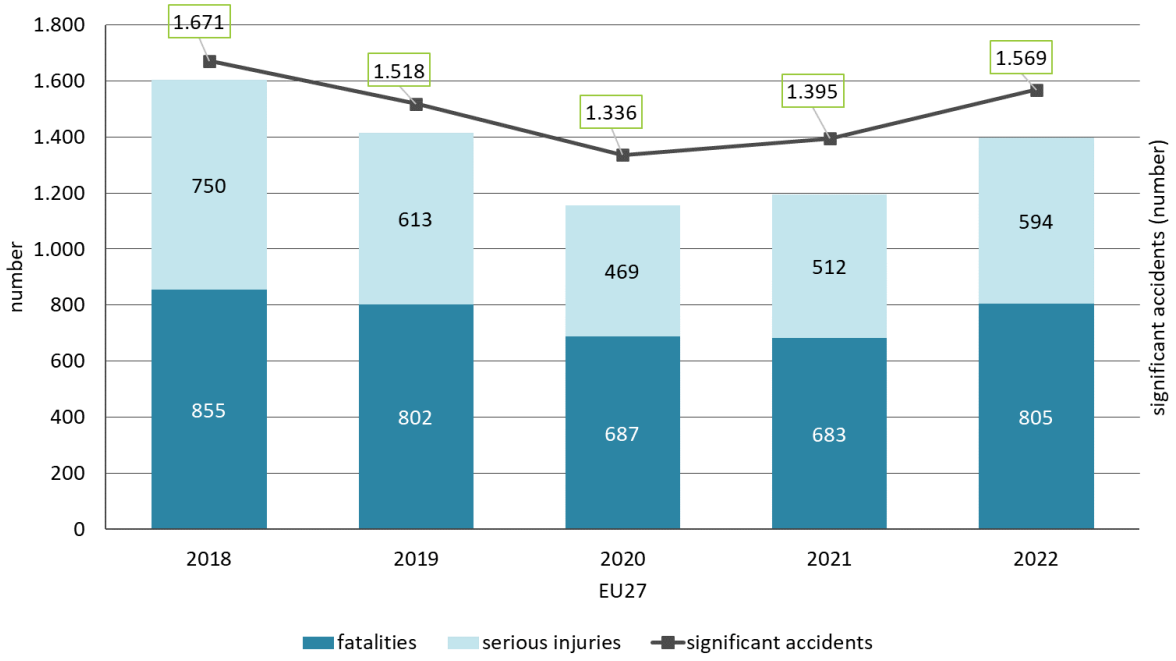


Source: European Union Agency for Railways (ERA), 2024

The fatality risk of travelling by car is almost 84 times higher than travelling by train. Travelling by bus has a fatality risk 7.3 times higher than travelling by train. Aircrafts and trains are the safest means of transport, with a similar fatality risk.

Figure 112 shows the number of significant rail accidents, fatalities, and serious injuries over the period 2018 to 2022 as provided by the Agency for the EU27.

Figure 112: Significant rail accidents and resulting casualties (number, 2018-2022)



Source: European Union Agency for Railways (ERA), 2024

Rail safety was improving over period 2018-2020, however in recent years a slight increase of the number of significant accidents and related casualties was recorded, going back to pre-COVID-19 levels. The number of significant accidents increased by 12% in 2022 compared with 2021 and by 6 % compared with the average of the 4 preceding years.

Table 8 lists the most serious train accidents of the last 2 years.

Table 8: Serious accidents 2023-2024 (update 26 August 2024)

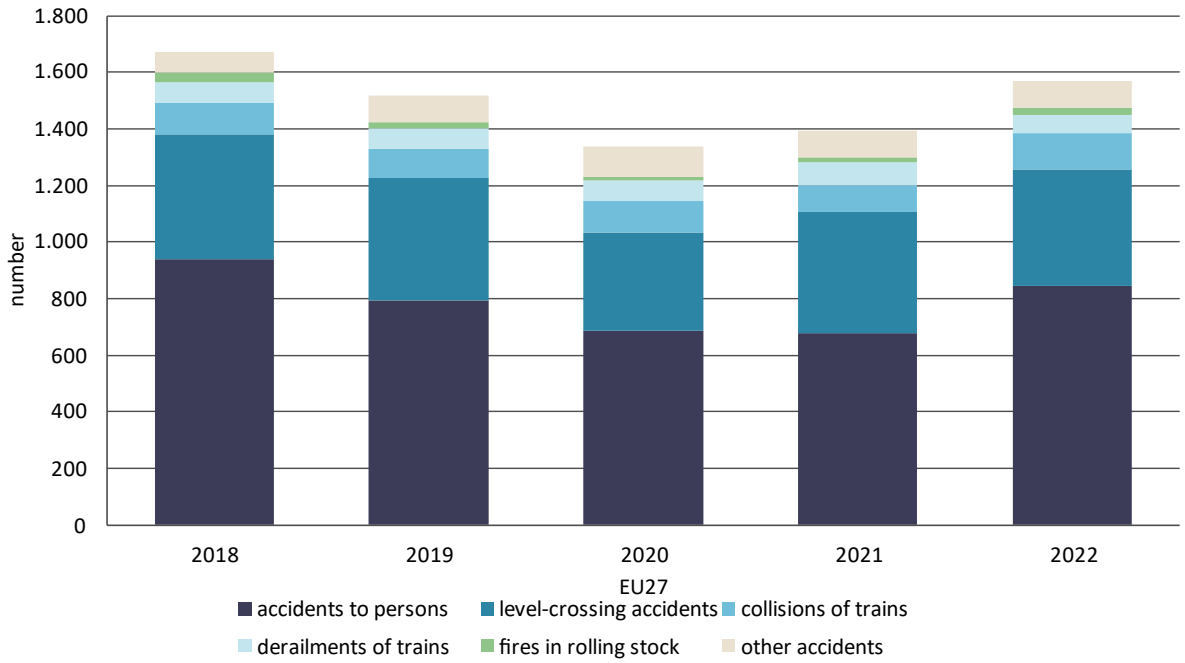
Date	Location	Description
2023		
28 Feb	Tempi (EL)	57 people are killed and 85 seriously injured in a head-on collision of a long-distance passenger train and a freight train.
4 May	Hürth-Kalscheuren Brühl, DE	2 members of railway staff are killed when hit by a passing high-speed train.
30 Aug	Brandizzo, IT	5 workers performing infrastructure maintenance are killed when struck by a passing train.
28 Nov	Thurio, IT	2 people died in a collision between a regional passenger train and a truck on a level crossing.
21 Dec	Postojna Prestranek, SI	2 workers performing infrastructure maintenance died when struck by a local passenger train.
2024 (until end of June)		
5 Jun	Pardubice, CZ	4 passengers killed in a collision between long-distance passenger train and a freight train.
27 Jun	Nové Zámky Dvory nad Žitavou, SK	Seven people are killed after a passenger train collides with a bus on a level crossing.

Source: European Union Agency for Railways (ERA) database of serious accidents

Year 2023 was marked with the accident in Tempi, Greece, being one of the most tragic railway accidents in recent history in the EU. Immediately following the accident, the European Commission offered its support to Greece in restoring confidence of the society to the Greek railway system. As part of these efforts, the EU Agency for Railways performed a comprehensive assessment of the situation. On this basis, Greek authorities prepared an action plan addressing identified findings with the objective to improve the way rail safety is managed among stakeholders. Implementation of this plan is supported by experts from the Agency who share their expertise and knowledge with the Greek railway sector. On request of the Greek authorities, the Agency also assists in the independent investigation of the causes of the Tempi accident.

Figure 113 represents significant rail accidents by different types over the period 2018 to 2022, as provided by the Agency for the EU27.

Figure 113: Significant rail accidents by type of accident (number, 2018-2022)



Source: European Union Agency for Railways (ERA), 2024

The increase of rail significant accidents in 2022 was almost entirely driven by accidents to persons. Other categories of accidents remained at a relatively stable level. Increase recorded in 2021 was linked to accidents at level crossings. Overall, the level of so-called internal accidents (caused by factors on which the railway system has direct influence) remained stable over recent years, whereas external accidents (caused in general by third parties, external to railway system) are fuelling the increase which is visible since 2020.

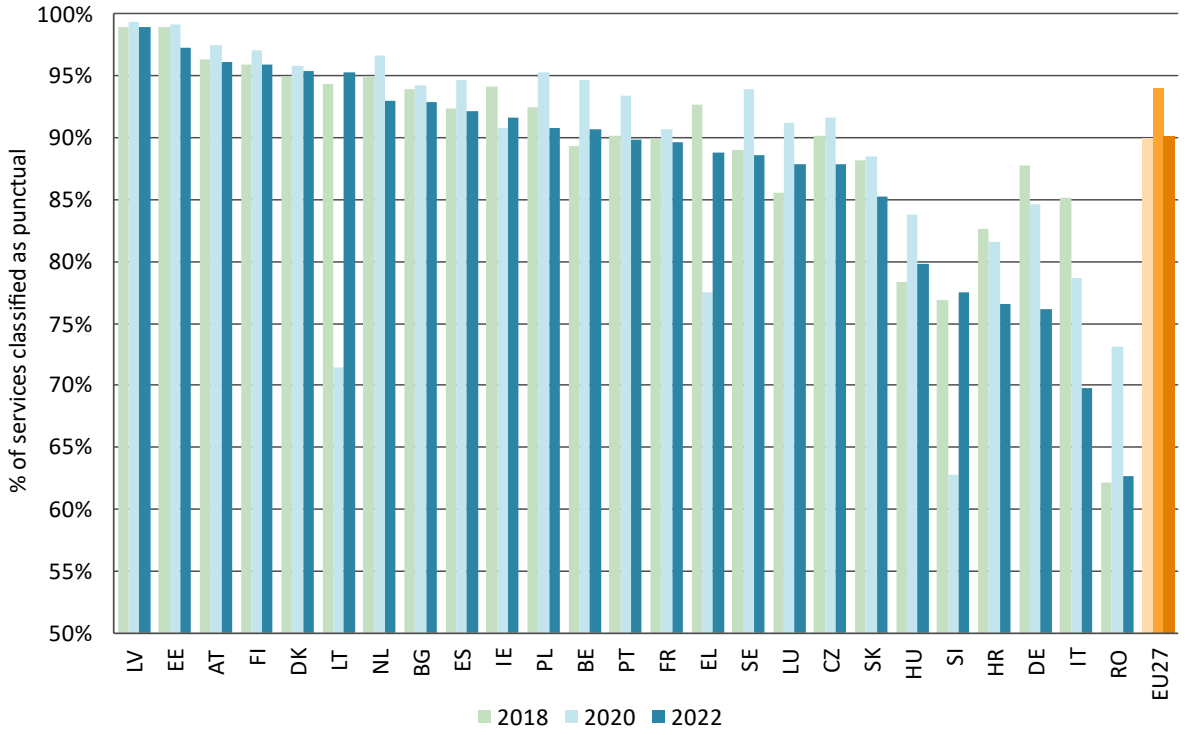
6.2. Punctuality and reliability of passenger services

6.2.1. Punctuality by category of passenger services

Under the RMMS, Member States are requested to report the number of passenger services arriving on time (meaning with a delay of five minutes or less). However, different definitions of punctuality applied in Member States and the variability in the quality of data provided at the beginning of the implementation of Regulation 2015/1100 make it difficult to obtain fully comparable data across countries and years.

Figure 114 shows the reported punctuality of services classified as regional or local per country for the years 2018 to 2022.

Figure 114: Punctuality of regional and local passenger services per country (%, 2018 to 2022)

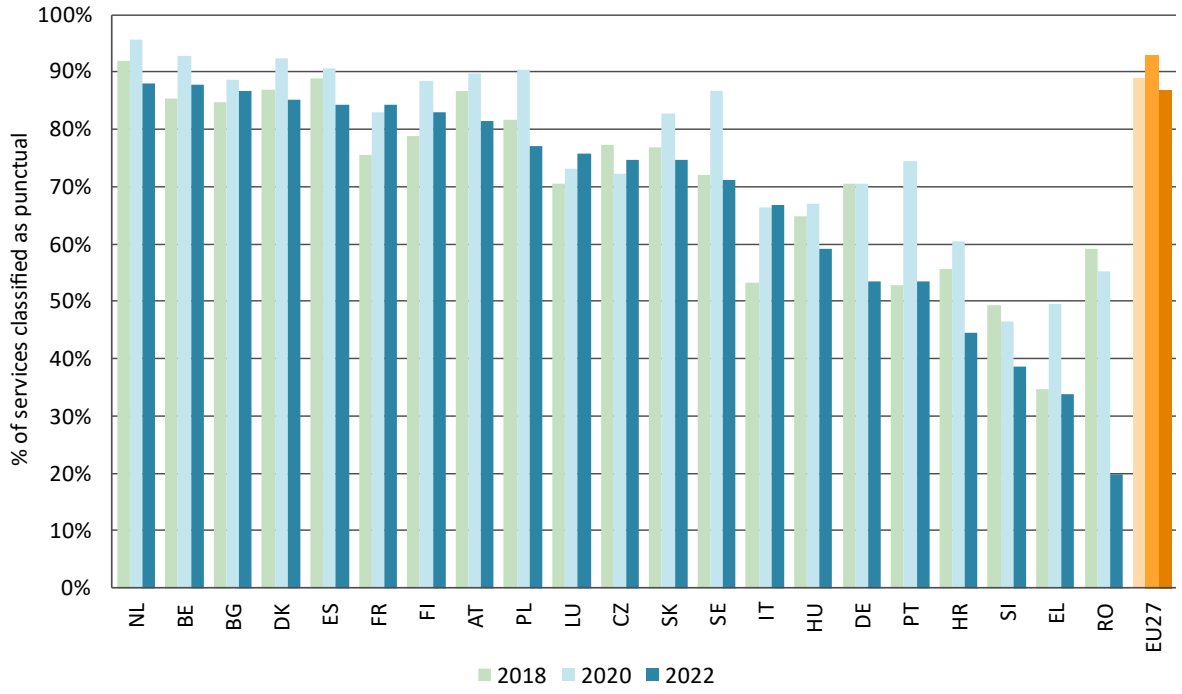


Source: RMMS, 2022

The EU27 average punctuality of regional and local passenger services increased from 90% in 2018 to 94% in 2020 during the pandemic. However, it decreased back to 90% in 2022. Latvia reported the highest punctuality level in 2022 (98.9%), whereas in Romania only 63% of the regional and local passenger services were on time. In Germany and Italy, the punctuality decreased by more than 10 percentage points since 2018.

Figure 115 shows the reported punctuality of services classified as long-distance or high-speed per country for the years 2018 to 2022.

Figure 115: Punctuality of long-distance and high-speed passenger services per country (%, 2018 to 2022)



Source: RMMS, 2022

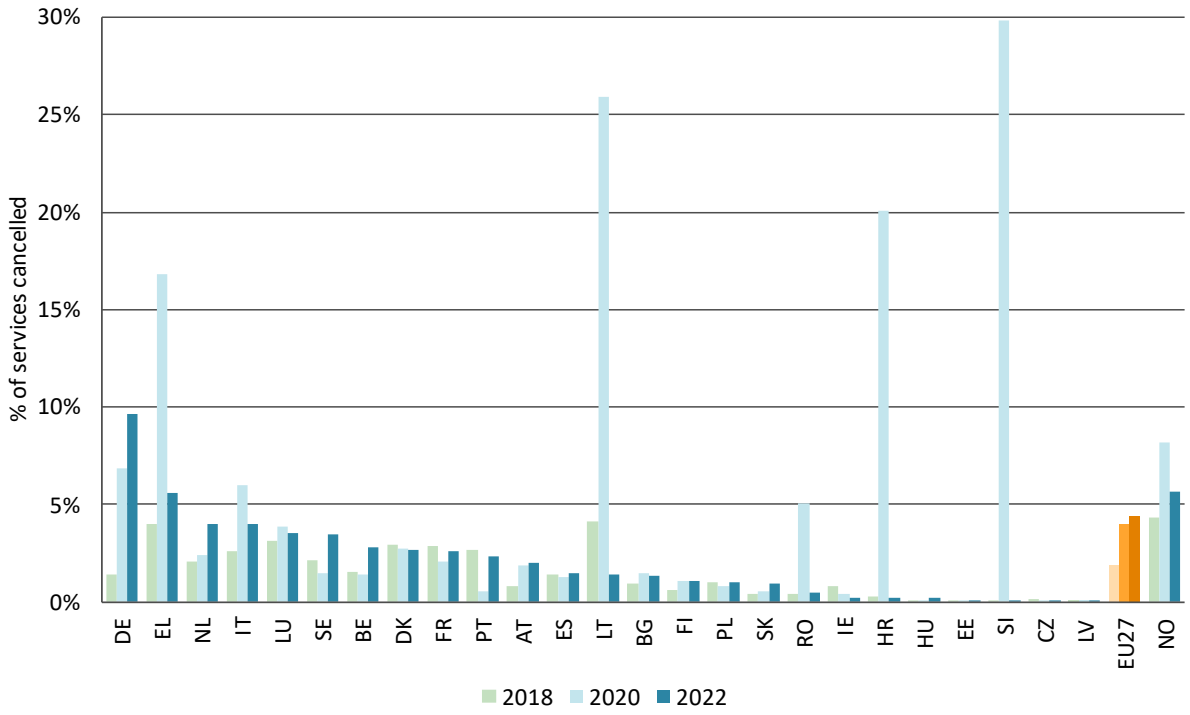
The EU27 average punctuality of long-distance and high-speed passenger services increased from 89% to 2018 to 93% in 2020 and then decreased to 87% in 2022, which is lower than pre-pandemic level.

The Netherlands and Belgium reported the highest punctuality level for 2022 (88%), followed by Bulgaria with (88%). Punctuality in this category has significantly decreased in Romania, from 59% in 2018 to 20% in 2022.

6.2.2. Reliability by category of passenger services

The EU27 average reliability local and regional passenger services decreased between 2018 and 2022 (Figure 116), with the share of cancelled services increasing from 1.9% to 4.4%. A higher bar in the chart means a higher percentage of services cancelled on total and thus a lower reliability. The percentage of services cancelled increased sharply in 2020 in Latvia, Slovenia, Croatia, and Greece, which is probably related to the impact of the COVID-19 pandemic.

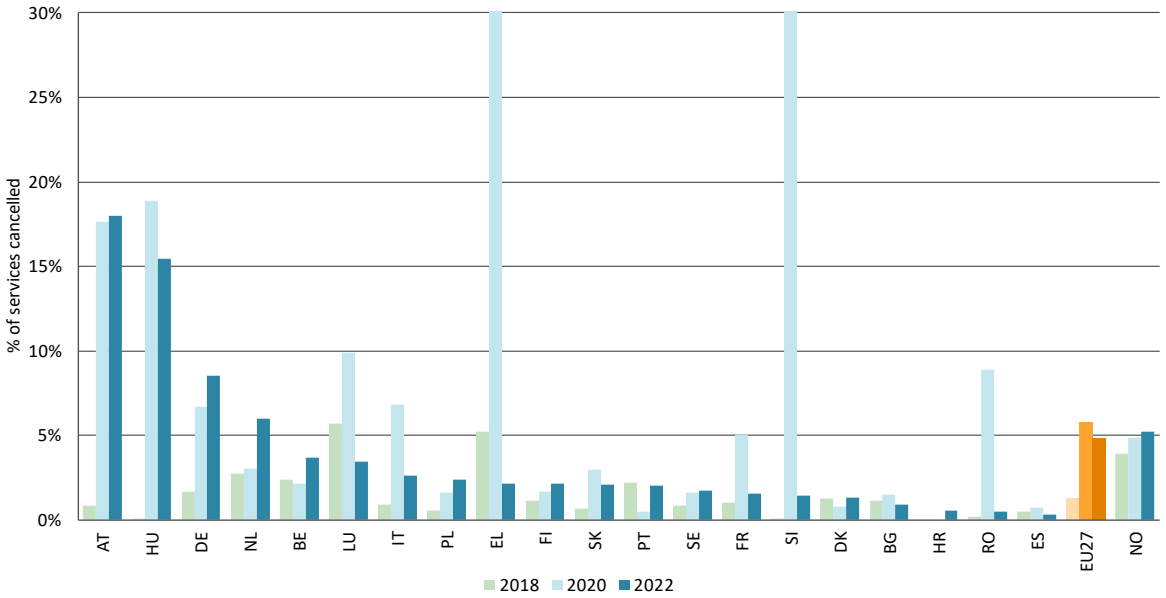
Figure 116: Reliability of regional and local passenger services per country, (%, 2018 to 2022)



Source: RMMS, 2022

Figure 117 shows the reported reliability of long-distance and high-speed passenger services, measured as the share of cancelled services on total services. Here too, a higher bar in the chart means a higher percentage of services cancelled on total and thus a lower reliability.

Figure 117: Reliability of long-distance and high-speed passenger services per country (%, 2018 to 2022)



Source: RMMS, 2022

The EU27 average reliability of long-distance and high-speed passenger services decreased between 2018 and 2022, with the share of cancelled services increasing from 1.3% to 4.9%. Austria reported the highest share of cancellations in 2022 with 18%, whereas the lowest shares of cancellations were in Romania (0,5%) and Estonia (0.3%).

Possible factors contributing to the trend observed from 2018 to 2022 regarding the reliability of both local and regional passenger services, as well as long-distance and high-speed passenger services, include staff shortages and challenges related to operations and infrastructure. The difficulty in recruiting and retaining adequate staff, especially in essential positions like train drivers, combined with ageing infrastructure and a backlog in maintenance, may have led to more frequent operational disruptions.

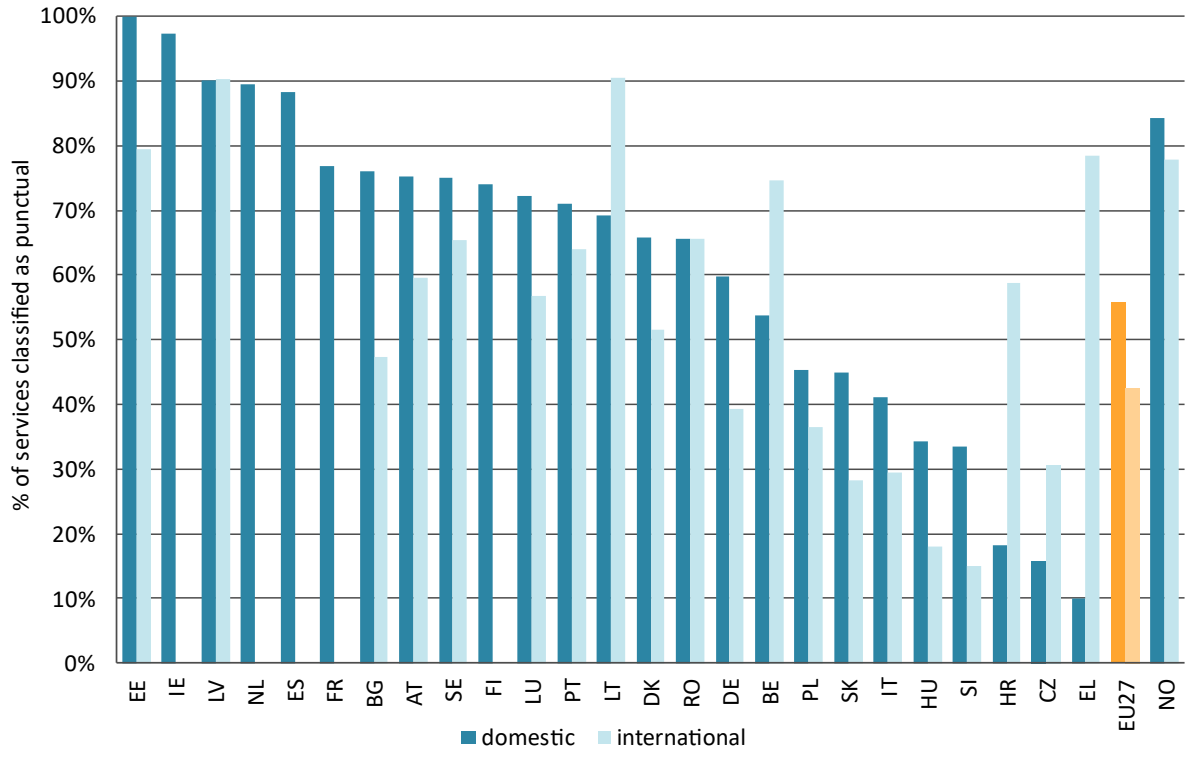
6.3. Punctuality and reliability of freight services

6.3.1. Punctuality by category of freight

Under the RMMS, Member States are requested to report the number of freight services arriving on time (defined as those having a delay of 15 minutes or less). However, different definitions of punctuality applied in Member States and the variability in quality of data provided at the beginning of the implementation of Regulation 2015/1100 make it difficult to obtain fully comparable data across countries and years.

Figure 118 shows the reported punctuality of domestic and international freight services per country in 2022.

Figure 118: Punctuality of domestic and international freight services per country (%, 2022)



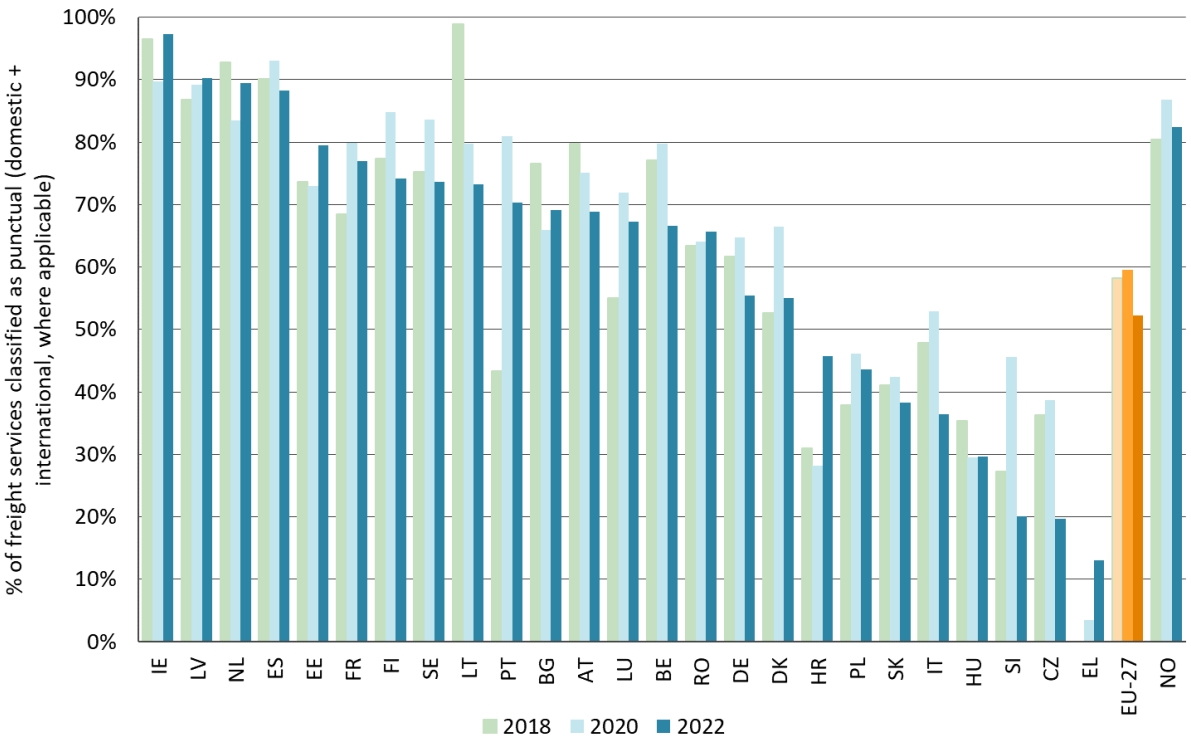
Source: RMMS, 2022

On average, the EU27 punctuality in 2022 was 56% for domestic and 42% for international freight services. In 2022, in Estonia apparently all domestic freight services arrived on time, whereas Latvia reported the highest share (90.3%) of international freight services being punctual.

The EU27 average punctuality of domestic and international freight services combined increased from 58% in 2018 to 60% in 2020 during the pandemic. However, it decreased to 52% in 2022. Ireland reported the highest punctuality level in 2022 (97%, domestic only). Notable decreases in punctuality between 2018 and 2022 were recorded In Lithuania and the Czech Republic.

Figure 119 shows the combined reported punctuality of domestic and international freight services per country for the years 2018 to 2022.

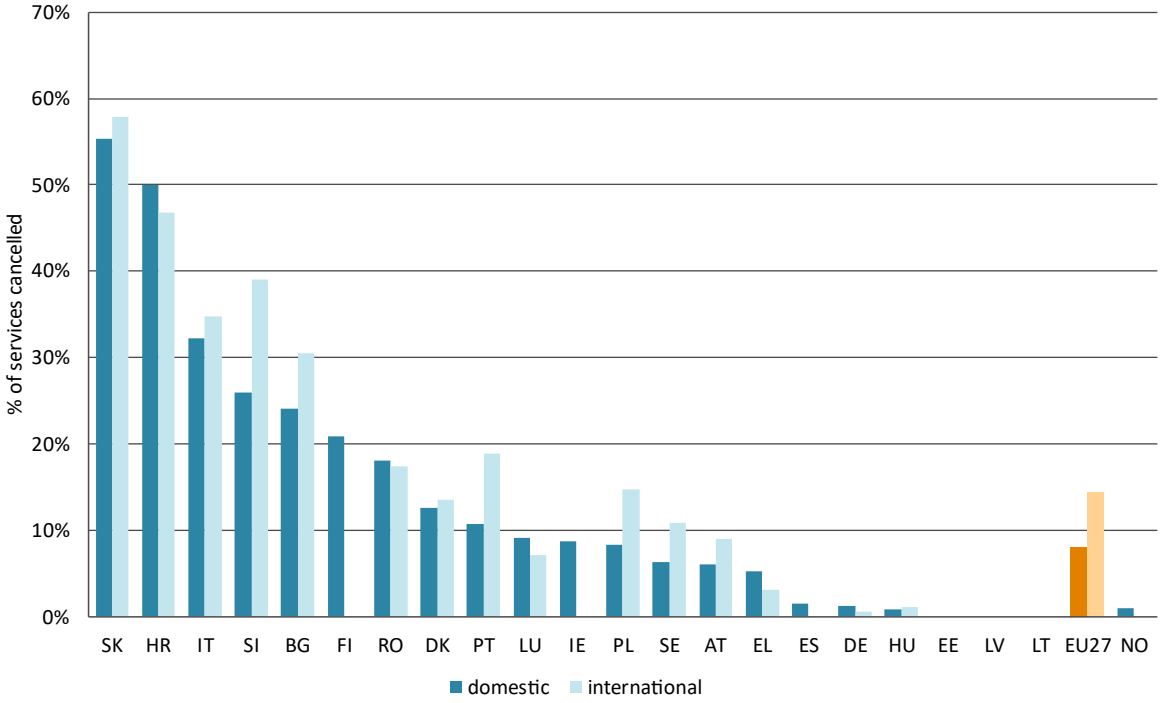
Figure 119: Combined punctuality of domestic and international freight services per country (%, 2018 to 2022)



6.3.2. Reliability by category of freight

Figure 120 shows the reported reliability of domestic and international freight services, measured as the share of cancelled services on total services, for the year 2022. A higher bar in the chart means a higher percentage of services cancelled on total and thus a lower reliability.

Figure 120: Reliability of domestic and international freight services per country (% in 2022)



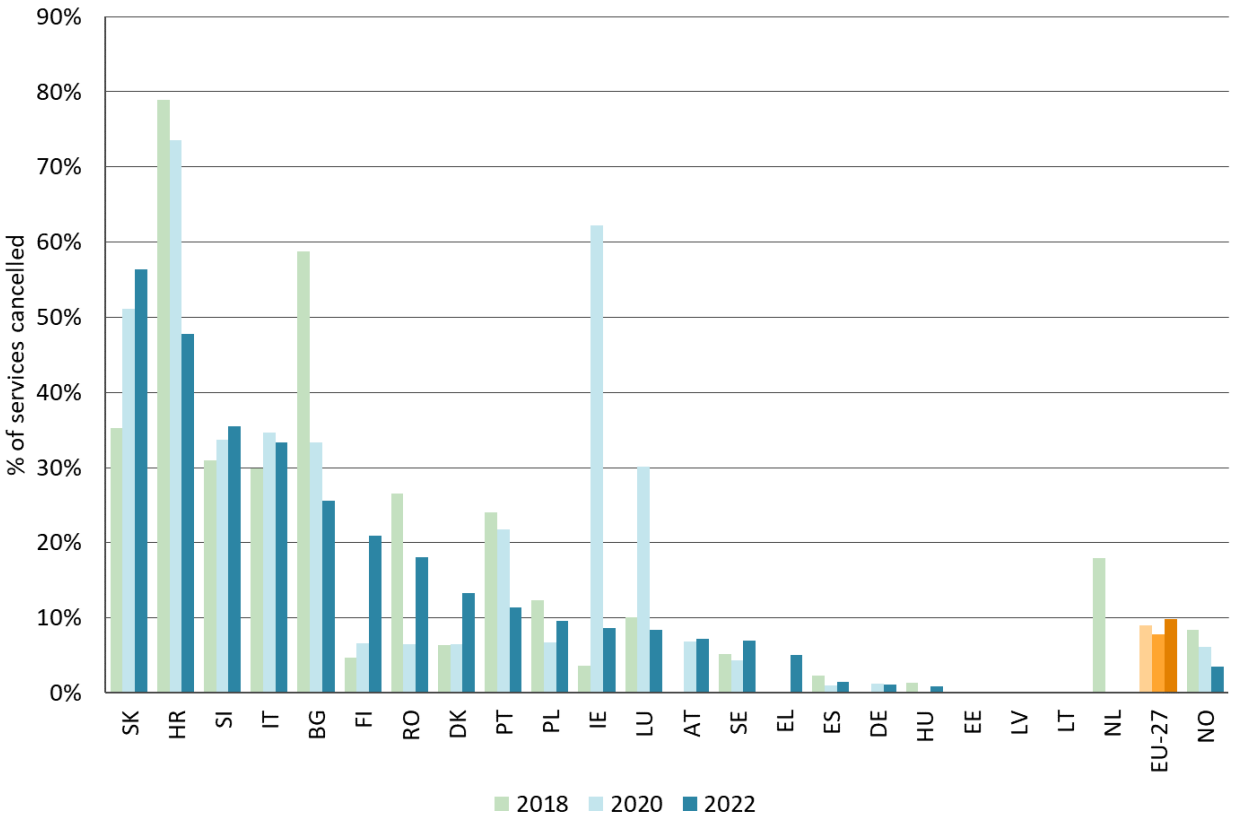
Source: RMMS, 2022

On average, in 2022 8.1% of domestic and 14.5% of international freight services were cancelled in the EU27. Slovakia reported the highest domestic cancellation rate with 55% and the highest international cancellation rate with 58%, whereas Germany, Hungary, Estonia, Latvia, and Lithuania had the most reliable freight services in 2022.

The 2018 – 2022 trend shows a slight increase in the rate of cancelled freight services (domestic and international combined), albeit with significant differences among Countries. Reliability improved significantly in Bulgaria, Croatia and Portugal.

Figure 121 shows the combined reported reliability of domestic and international freight services per country for the years 2018 to 2022 in terms of freight trains cancelled.

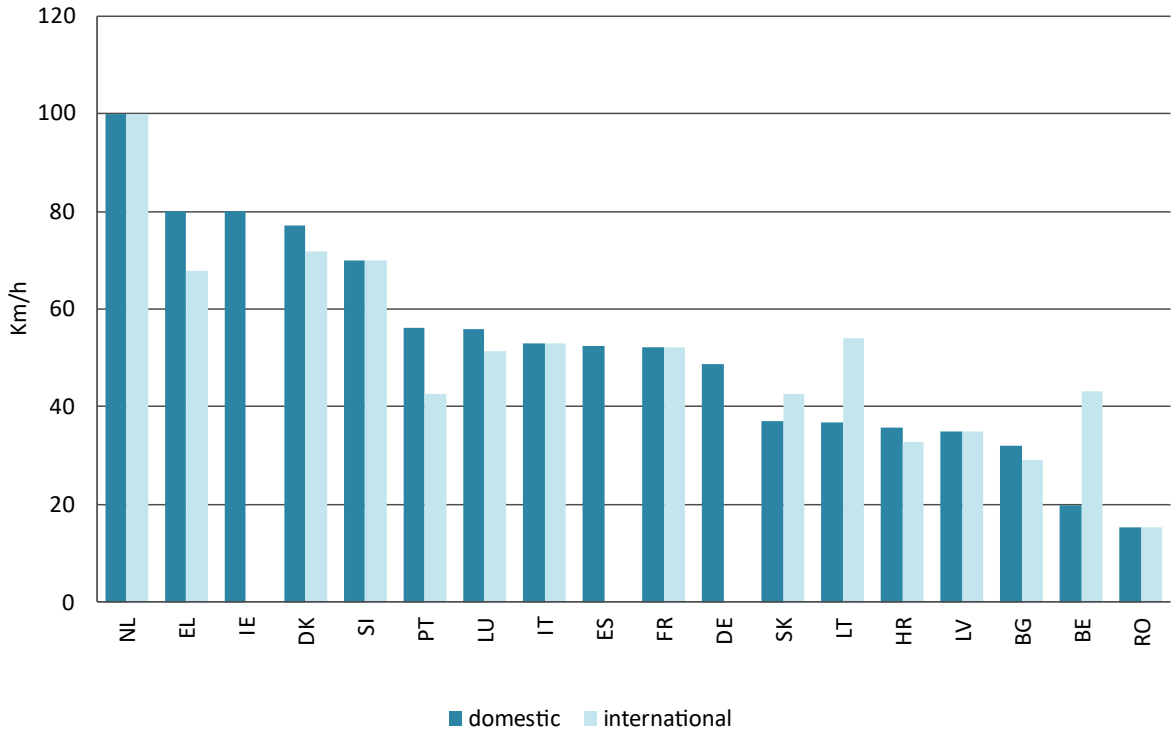
Figure 121: Reliability of domestic and international freight services per country (% in 2022)



6.3.3. Average timetable speed of freight services

The RMMS collects data on the average timetabled speed of both domestic and international freight services, on a voluntary basis. Most Member States provided this information in the RMMS (Figure 121 shows the reported figures for 2022).

Figure 121: Average timetabled speed of freight services per country, (Km/h, 2022)



Source: RMMS, 2022

The reported average timetable speed of domestic and international freight services ranges from 15.2 km per hour (Romania) up to 100 km per hour (the Netherlands). In countries with higher timetable speed, domestic freight services tend to have higher timetable speeds than the international freight services.

6.4. Passenger rights

Regulation (EU) 2021/782 on rail passengers' rights and obligations applies as of 7 June 2023.[35] It replaces Regulation (EC) No 1371/2007 on rail passengers' rights and obligations[36], which had already established:

- Passengers' rights to information before and during the journey;
- Rights to assistance and compensation in the event of delays or cancellations;
- Free of charge assistance for persons with disabilities or reduced mobility;
- Rules on liability in the event of an accident;
- Provisions on a quick and accessible system of complaint handling and rules on service quality performance;

[35] Regulation (EU) 2021/782 of the European Parliament and of the Council of 29 April 2021 on rail passengers' rights and obligations, http://data.europa.eu/eli/reg/2021/782/oj

[36] Regulation (EC) No 1371/2007 of the European Parliament and of the Council of 23 October 2007 on rail passengers' rights and obligations, http://data.europa.eu/eli/reg/2007/1371/oj

- Full application and effective enforcement of EU law through national enforcement bodies (NEBs) designated by Member States.

The most important novelties under Regulation (EU) 2021/782 include[37]:

a) A provision on the sharing of real-time traffic and travel information, which would make it possible to further develop the rail ticketing market;
b) An obligation for rail carriers belonging to one sole undertaking (100% ownership of subsidiary companies included) and performing international, long-distance domestic and regional rail services to offer such services as a through-ticket;
c) The reduction of the pre-notification periods (from 48 hours to 24 hours) when people with disabilities or reduced mobility request assistance, so that they can travel more spontaneously without facing obstacles during their journey;
d) The passenger's right to self-rerouting and reimbursement of the additional public transport (rail or bus) ticket where carriers do not offer a timely solution (within 100 minutes) to continue the journey;
e) The possibility to carry assembled bicycles on board new and major refurbished trains (procured as of June 2025), which would increase the options for green journeys; and
f) The introduction of a 'force majeure' clause, exempting carriers from liability to pay compensation for delays, missed connections and cancellations in 'extraordinary circumstances'; this would ensure a level playing field with other transport modes[38].

While the scope of the Regulation covers all railway services, Member States may decide to exempt urban, suburban, and regional services (apart from certain mandatory requirements). As regards regional services in particular, the provisions on the carriage of bicycles, through-tickets, self-rerouting and PRM protection remain mandatory (for through-tickets and self-rerouting, this may be postponed until 2028 if duly justified).

Member States that had in place exemptions for long-distance domestic rail services under Regulation (EC) No 1371/2007 could have kept them until their expiry date in December 2024. Beyond that date, an exemption for domestic long-distance rail services may be granted only:

- By one of those Member States applying such an exemption under Regulation (EC) No 1371/2007;
- From certain exhaustively listed provisions (whereas all other provisions remain applicable); and
- For a period not exceeding 5 years, i.e. until December 2029 at the latest.

Furthermore, where it is technically not feasible for an infrastructure manager to distribute real-time data to any railway undertaking, ticket vendor, tour operator or station manager, a Member State may apply an exemption from the rules on the sharing of real-time information until 2030

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[37] Q&A on new rail passenger rights rules : https://transport.ec.europa.eu/document/download/968aea66-8602-4eb1-aa4c-7533e5bbba88_en?filename=QA_Rail_Passenger_Rights.pdf

[38] Carriers may be exempted from paying compensation, but not from other financial obligations such as reimbursement of the ticket price and re-routing to the destination, payments for killed/injured passengers or damaged/lost luggage/mobility equipment. Strikes by rail carriers' staff and acts or omissions by other railway undertakings using the same infrastructure, or by infrastructure or station managers, cannot trigger the force majeure clause. The 'extraordinary circumstances' are events that the carrier could neither avoid nor prevent despite having taken the care required. The provision covers, among others, extreme weather conditions, major public health crisis and terrorist attacks.

at the latest but will have to re-assess the technical impossibility every second year. Member States will have to inform the Commission on the reasons that made this particular exemption necessary and indicating the measures they envisage to improve the situation.

7. Conclusions

The European rail sector has demonstrated significant resilience in the aftermath of the COVID-19 pandemic. Passenger traffic, which saw a sharp decline of 46% in 2020 compared to 2019, rebounded to 96% of pre-pandemic levels in 2022, with total passenger kilometres reaching 395 billion. Freight services experienced a more modest impact, with a recovery already achieved by 2021, when volumes went back up to 2019 levels. 2022, however, saw a small contraction in volumes in the rail freight market.

The rail sector's recovery has been bolstered by targeted EU interventions, including Regulation (EU) 2020/1429, which allowed Member States to waive access charges to mitigate financial strain on railway undertakings. These measures provided immediate relief and enabled the sector to sustain operations during the pandemic's peak. As Member States continue to implement national recovery and resilience plans under the EU Recovery and Resilience Facility, rail investments are poised to play a central role in driving economic and mobility-related growth.

Rail transport remains a critical component of the EU's strategy to achieve its climate goals. With only 0.3% of total transport-related greenhouse gas emissions, rail is the most environmentally friendly mode of motorized transport. The electrification of 57% of the EU rail network and the continued retrofitting of freight wagons with quieter and greener technologies underscore the sector's commitment to reducing its environmental footprint. Rail investments under the Green Deal and the Sustainable and Smart Mobility Strategy aim to double rail freight and triple high-speed passenger traffic by 2050 compared to the 2015 baseline, marking a significant shift towards sustainable transport.

Noise pollution remains a concern, with 22 million people in Europe exposed to harmful railway noise. EU initiatives, such as retrofitting freight wagons with silent brake blocks and revising noise technical specifications, are addressing this challenge. Continued financial and regulatory support is critical to meeting ambitious sustainability targets.

Market liberalization has stimulated competition in the European rail sector, with new entrants gaining significant market share, particularly in freight transport. In this segment, the competitors' average market share in the EU27 increased from 39% to 49% between 2018 and 2022. In the passenger market, the increase in the competitors' market share was also remarkable, both for commercial services (12,6% market share, with a 6,6% increase between 2018 and 2022) and for PSO (21% market share, or +8% compared to 2018). However, challenges persist, including disparities in access charges and the need for a more even implementation of existing regulations across Member States. With the Fourth Railway Package now fully applicable, further market opening is expected, thereby fostering innovation and increasing service quality for both passengers and freight. The Commission will continue to closely monitor the correct transposition and implementation of the Fourth Railway Package, to ensure it achieves its full potential.

In 2022, PSOs accounted for a significant portion of rail passenger operations: on average, PSO passenger services accounted for 58.7% of total passenger kilometres in the EU27, down from 66% in 2020, highlighting a progressive move towards a more competitive rail market. The competitive tendering of PSOs has increased and is expected to continue to increase in the

years to come, enhancing service quality and cost efficiency. However, challenges remain in balancing market liberalization with ensuring equitable access, particularly in less populated regions. The EU is encouraging greater transparency and competition to optimize their social and economic impact.

High-speed rail represents a cornerstone of Europe's transport modernization efforts. The network has expanded to 12,015 kilometres in 2022, with plans for an additional 1,600 kilometres by 2035. Spain, France, and Italy continue to lead in high-speed investments, contributing to enhanced connectivity and reduced travel times across the continent.

Infrastructure investment remains critical, with the EU allocating significant funding through mechanisms like the Connecting Europe Facility and the Cohesion Fund. These investments prioritize projects that address bottlenecks, improve multimodal connectivity, and upgrade existing infrastructure. The emphasis on digitalization, including the deployment of the European Rail Traffic Management System (ERTMS), further strengthens rail's capacity to meet future mobility needs.

Digital technologies are set to bring significant improvements to the rail sector, enhancing operational efficiency and passenger experience. The rollout of ERTMS, a key component of the EU's digital transition strategy, is set to improve interoperability and safety across Europe's rail networks, although to date only around 33% of the core network is either equipped with ERTMS or has secured contracts for its installation. Additionally, investments in smart ticketing systems and real-time data platforms will improve to making rail more accessible and user-friendly for passengers.

Innovation through the Europe's Rail Joint Undertaking is advancing areas such as automated train operations, digital freight management, and sustainable asset management. These initiatives align with broader EU goals to position rail as the backbone of a multimodal, sustainable transport system.

As Europe transitions towards a greener, more connected future, rail will play a pivotal role in reducing emissions, enhancing mobility, and fostering economic growth. Continued investments in infrastructure, market opening, and technological innovation are essential to realizing the EU's vision of a sustainable transport system by 2050. The full implementation of the Fourth Railway Package, strengthening cross-border connectivity, addressing capacity constraints, and ensuring equitable access to rail services will be key priorities in the years ahead.

By integrating these strategic elements, the European rail sector has a chance to lead the transformation of the continent's transport landscape, delivering on its promise of sustainable, efficient, and inclusive mobility.