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REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

Eighth 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

{SWD(2023) 288 final}

REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

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1. MAIN FINDINGS

Reliable monitoring of the rail market is fundamental to understanding market developments and taking informed policy decisions.

This report covers data up to 2020, including the impact of the COVID-19 pandemic on the sector.

There are several main findings for 2015-2020.

- On average, passenger traffic in terms of passenger-kilometres rose by 3% annually between 2015 and 2019. However, in 2020, passenger kilometres fell sharply by 46% due to the measures linked to the COVID-19 pandemic, including the travel restrictions[1].

- Between 2015 and 2019, freight traffic in terms of tonne kilometres also rose annually by 3%. Rail freight was also impacted by the pandemic but to a lesser extent than passenger rail, experiencing a fall of 8% from 2019 to 2020.

- Between 2015 and 2019, in most countries, the modal share of passengers transported by rail increased slightly. However, in 2020, due to the pandemic, the share decreased by 2.4 percentage points. The pandemic had an impact on both the demand (individual preferences leading to a greater use of individual means of transport) and the supply (cancellation of some commercial trains) of railway transport.

- The length of the high-speed network increased by almost 1,500 km between 2015 and 2020, while the number of passenger-kilometres on high-speed services was drastically reduced in 2020 due to travel restrictions linked to the pandemic. However, 2019 figures show promising developments in the number of passenger-kilometres. Should the 2015-2019 trend in terms of increased passenger-km continue, the targets set in the Sustainable and Smart Mobility Strategy for passengers using high-speed services in 2030 and 2050 would be met and exceeded.

- Railway undertakings had 1,192 active licences in 2020, an increase of 100 licences compared to 2018.

- The average market share of new entrants to incumbents in 2020 was:

    - 46% of rail freight markets, an increase of 11 percentage points compared to 2015;

[1] Preliminary data collected for 2021 show a gradual recovery for both passengers and rail freight volumes.

- 14% of passenger markets (public service obligation (PSO) and commercial combined), an increase of 2 percentage points compared to 2015;

- rail remains one of the safest modes of transport;

- at the end of 2020, over 910,000 people were employed in the rail sector. This represents a slight decrease compared to 2018 figures.

2. METHODOLOGY

This is the eighth edition of the rail market monitoring report that the Commission submits every two years to the European Parliament and the Council under Article 15(4) of Directive 2012/34/EU[2]. Its purpose is to provide an overview of the main developments in rail markets in the context of EU rail market policy[3]. The main focus of the Eighth report is on developments between 2015 and 2020, with references to 2019 data to highlight the impacts of the COVID-19 pandemic and on trends and policy developments extending beyond the reporting period up until the preparation date of this report.

In addition to Rail Market Monitoring (hereinafter RMMS) data submitted by the Member States and Norway, this report also draws on contributions from the statistical pocketbook *EU transport in figures*[4], reports from the European Union Agency for Railways[5], Eurostat[6], statistics collected by various sectoral organisations, presentations and studies. Where the RMMS Regulation is the only source, the report assesses developments for 2015-2020 to ensure data comparability. When using other sources, the report also presents developments over a longer period.

Aggregated data and averages refer to EU-27 (current number of EU Member States[7]).

3. RAIL AND SUSTAINABILITY

Rail has reduced its direct GHG emissions almost continuously since 1990, while carrying about 11.5% of freight and 5.1% of passengers across all modes in intra-EU transport in 2020. While rail has been continuously reducing its emissions between 1990 and 2019, freight transported by rail increased by nearly 10% in terms of ton-km and passenger-kilometre numbers increased by about 35%. In general, rail is comparatively less polluting and more energy-efficient than other motorised means of transport. In 2020, rail accounted for 0.4% of both transport GHG and CO_2 emissions and for 1.9% of transport energy consumption in the EU-27. To meet the objectives of the European Green Deal, rail will have to take up a bigger share of passenger and freight transport.

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2 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.

3 In addition to the rail market report, the European Union Agency for Railways publishes annual reports on safety and interoperability of railways.

4 https://transport.ec.europa.eu/facts-funding/studies-data/eu-transport-figures-statistical-pocketbook/statistical-pocketbook-2020_en

5 https://www.era.europa.eu/library/documents-regulations/corporate-publications

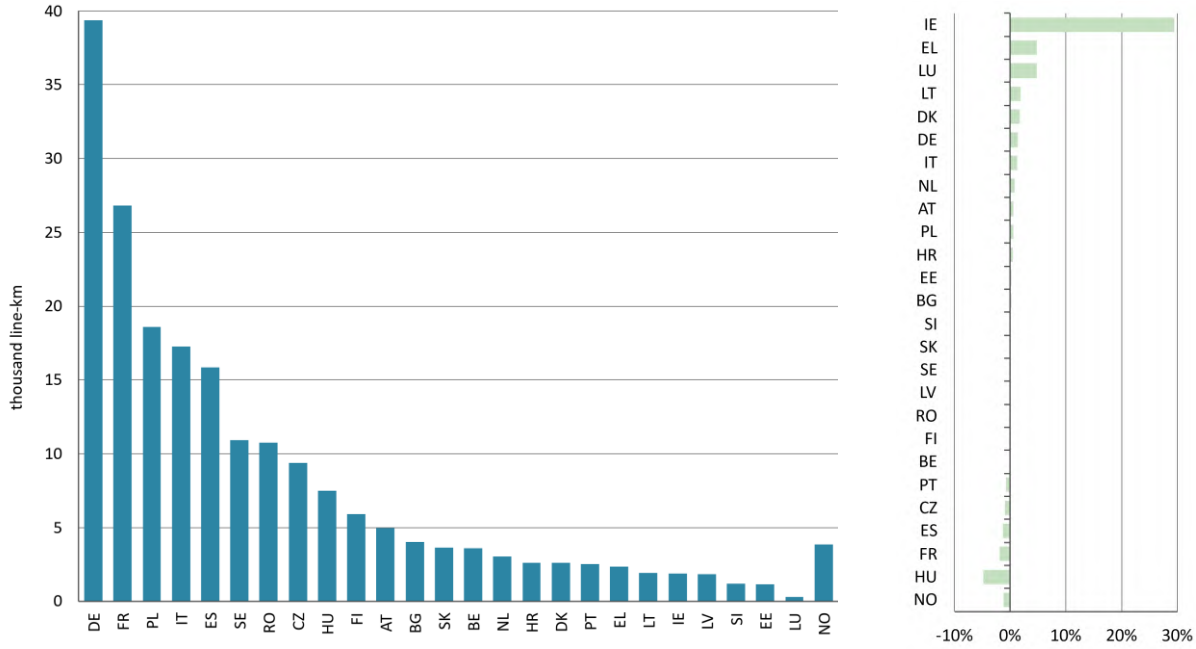
6 http://ec.europa.eu/eurostat/web/transport/data/database

7 Norway participates in the RMMS, but data for Norway are not included in EU totals and averages.

4. EU RAIL NETWORK

The total length of the EU-27 rail network in 2020 was around 201,000 line kilometres (0.4% less than in 2015). Around 57% of the network was electrified, an increase of 2,410 kilometres since 2015 (+2.2%).

Figure 1: Length of national networks per country (thousand line-km, 2020) and relative change (2015-2020)



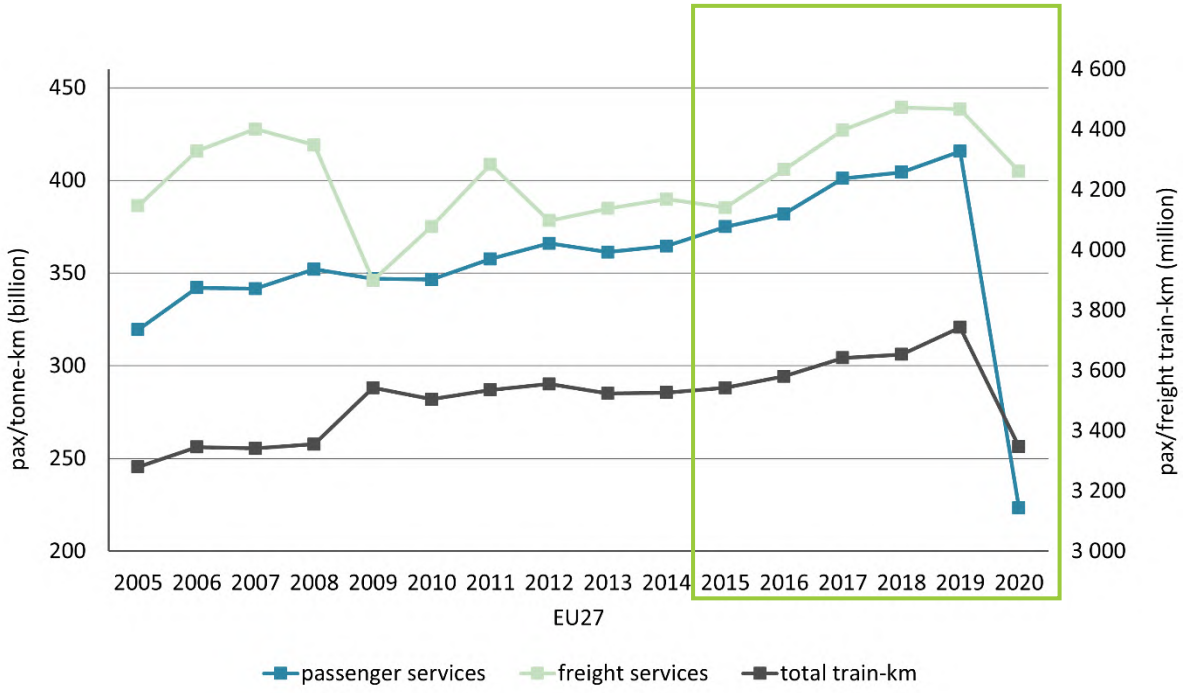
Source: Statistical pocketbook, 2022.

The EU's high-speed rail network stretched to over 11,500 kilometres by the end of 2020, an increase of 14.5% since 2015. Should the current trend to extend the network continue over the next decades, the length of the high-speed network would see an increase of about 50% for 2015-2030 and by a factor of 2.5 for 2015-2050. The Sustainable and Smart Mobility Strategy has set ambitious targets for high-speed rail traffic, which should double traffic volumes by 2030 and triple by 2050 compared to 2015 figures.

5. EVOLUTION OF RAIL SERVICES

After a decade of moderate increase in volumes, in 2020 the total number of EU train kilometres (both passenger and freight traffic) was severely impacted by the COVID-19 pandemic. Compared to 2019, in 2020 freight services declined by 8% in terms of train kilometres. Passenger services were more severely impacted as volumes declined by nearly half (46%) compared to 2019 levels. However, recent developments in the market seem to point to a return to pre-pandemic levels and, on certain segments, to even higher levels of supply and demand compared to pre-COVID times.

Figure 2: Passenger and freight volumes (pax-km, tonne-km and train-km, 2005-2020)



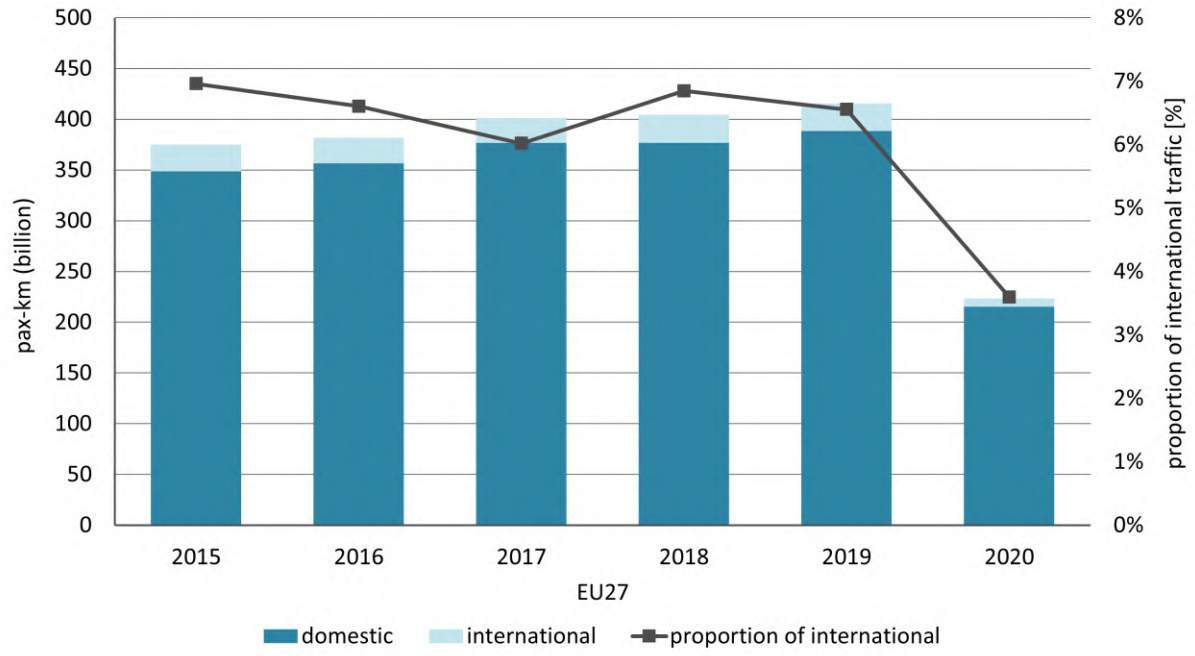
Source: RMMS, 2022. Infill data from various other sources and estimates. RO 2014 and PT 2020 were corrected due to an error of magnitude. RO 2015, LU 2015, LU 2016, HU 2016, LU 2019, HR 2019, NL 2019, LV 2020, and PL 2020 are EC estimates.

In 2020, rail transported some 1.4 billion tonnes of freight and 4.2 billion passengers.

The pandemic further accentuated the predominantly domestic dimension of passenger rail traffic. While before the pandemic, the proportion of international passenger services reached around 7% between 2015 and 2019, it shrank to less than 4% in 2020. A 2021 study[8] identified the main obstacles to long-distance cross-border rail, which included the variability of infrastructure charges, the capacity of rail infrastructure to cater for demand, the lack of suitable rolling stock, the fragmentation of ticketing systems, and the enforcement of passenger rights. The Commission's action plan to boost long-distance and cross-border passenger rail services[9] identified a set of measures to overcome these obstacles to long-distance and cross-border passenger rail services.

[8] https://op.europa.eu/en/publication-detail/-/publication/34244751-6ea3-11ec-9136-01aa75ed71a1
[9] https://transport.ec.europa.eu/news/action-plan-boost-passenger-rail-2021-12-14_en

Figure 3: Evolution of rail passenger traffic volumes (domestic, international and proportion of international in total traffic) (billion pax-km, 2015-2020)

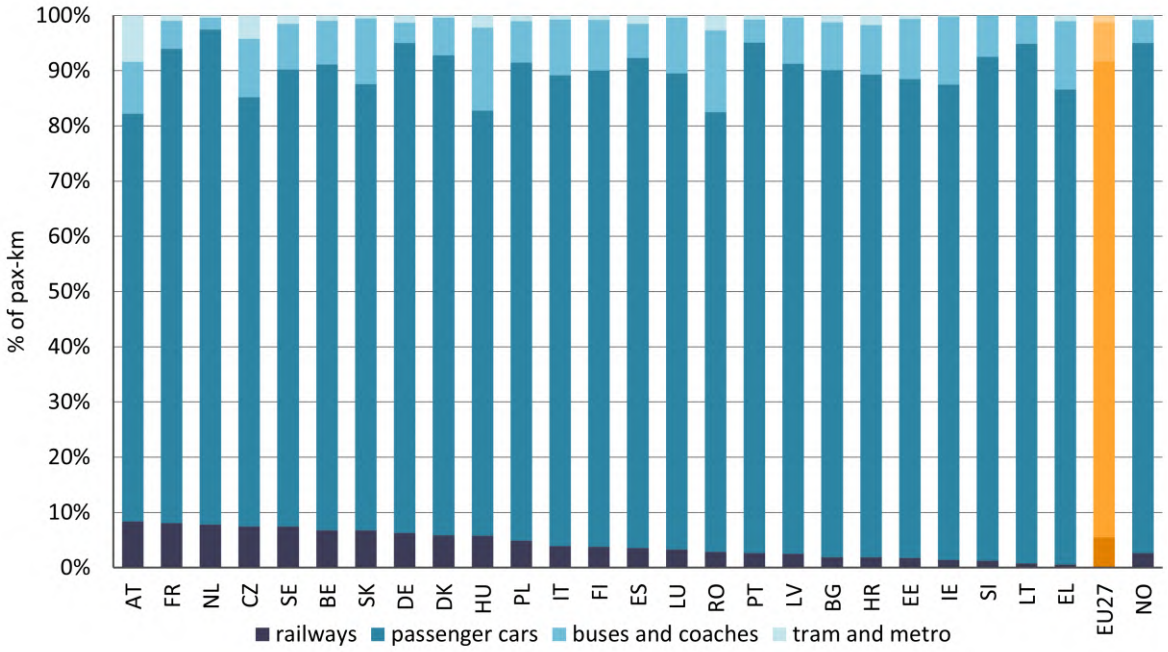


Source: RMMS, 2022. RO 2015, LU 2015, NL 2019, and HR 2019 are EC estimates.

The propensity of Europeans to travel by rail was on average 500 passengers-kilometres per inhabitant in 2020, a sharp fall compared to 2019 (934 km).

Between 2015 and 2019, the average modal share of rail increased from 7.6% to 7.8%. However, in 2020, due to the pandemic, the share of railways decreased by 2.4 percentage points, since people reverted to using their cars more.

Figure 4: Passenger land transport modal split by country (% in 2020) and change in percentage points for rail (2015-2019 and 2019-2020)

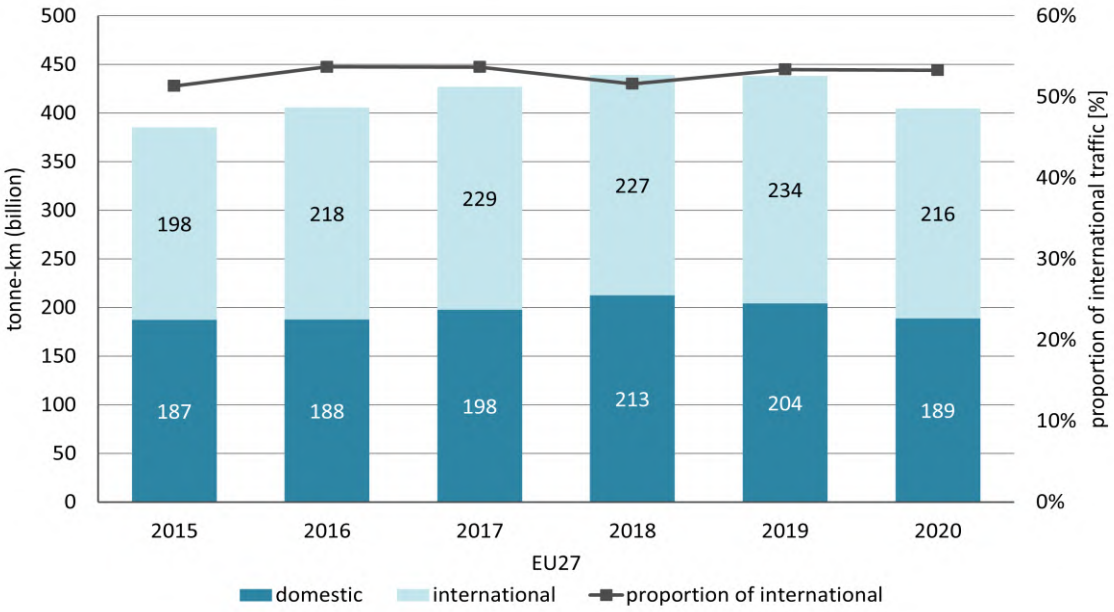


Source: Statistical pocketbook, 2022; excluding CY and MT.

The total rail freight traffic rose from 385 billion tonne kilometres in 2015 to 404 billion tonne kilometres in 2020, including a fall of 33 billion tonne kilometres between 2019 and 2020. Looking at the developments between 2009 and 2019, the increase in billion ton-km was almost 27%. Should this upwards trend remain sustainable with the same magnitude over the next decades, the Sustainable and Smart Mobility Strategy milestone to increase rail freight traffic by 50% by 2030 and to double it between 2015 and 2050 could be met and even slightly exceeded.

The proportion of international rail freight services remained consistently above 50%, showing a significantly smaller impact of the pandemic on rail freight international connections compared to rail passenger international connections.

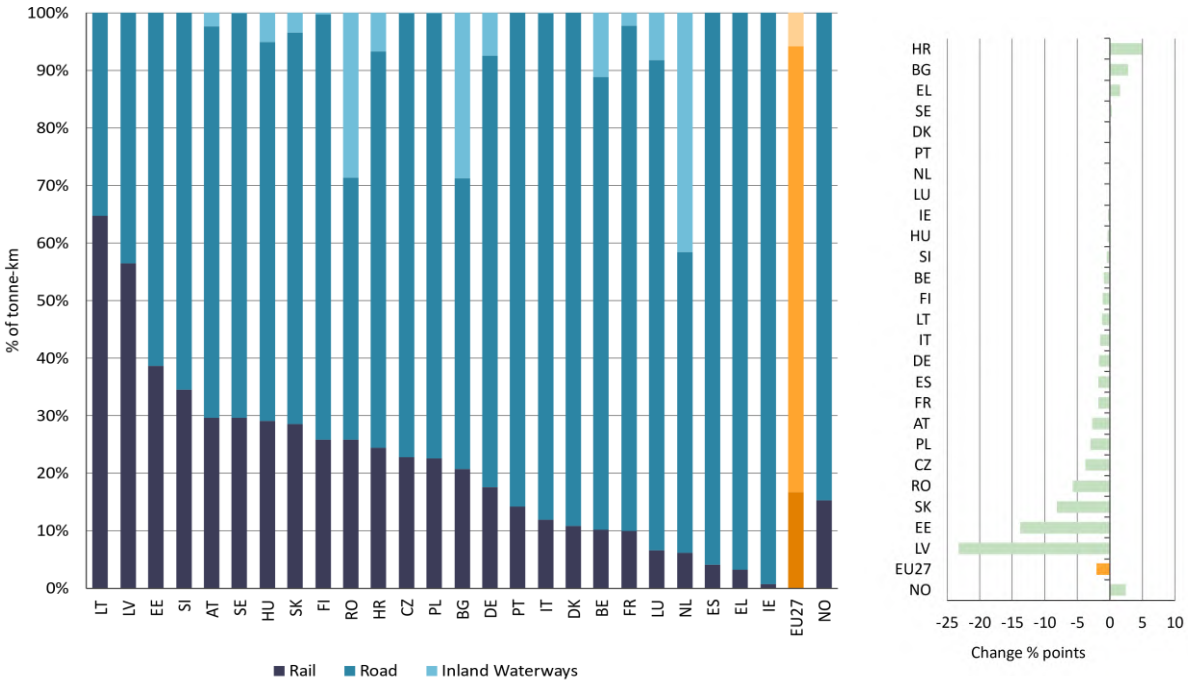
Figure 5: Evolution of rail freight traffic volumes (domestic, international and proportion of international in total traffic) (billion tonne-km, 2015-2020)



Source: RMMS, 2022. LU 2015, RO 2015, HU 2016, LU 2019, LV 2020, and PL 2020 are EC estimates.

Road transport dominates total freight land transport within the EU-27, with a share consistently higher than 70% between 2015 and 2020. During the same period, the rail mode share decreased from 18.9% to 16.7%, with significant differences between countries.

Figure 6: Freight land transport modal split by country (% in 2020) and change in percentage points for rail (2015-2020)



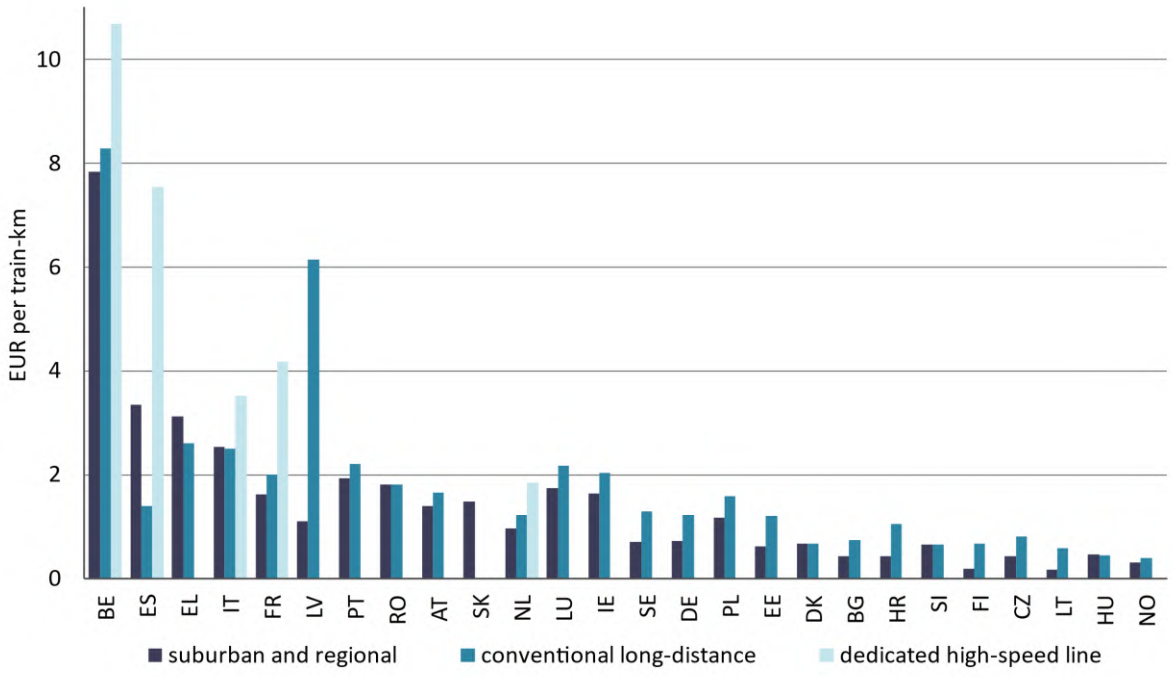
Source: Statistical pocketbook, 2022.

6. EVOLUTION OF FRAMEWORK CONDITIONS IN THE RAIL SECTOR

6.1. Infrastructure charging

On average, track access charges for high-speed rail (excluding markups) were higher than for other passenger services.

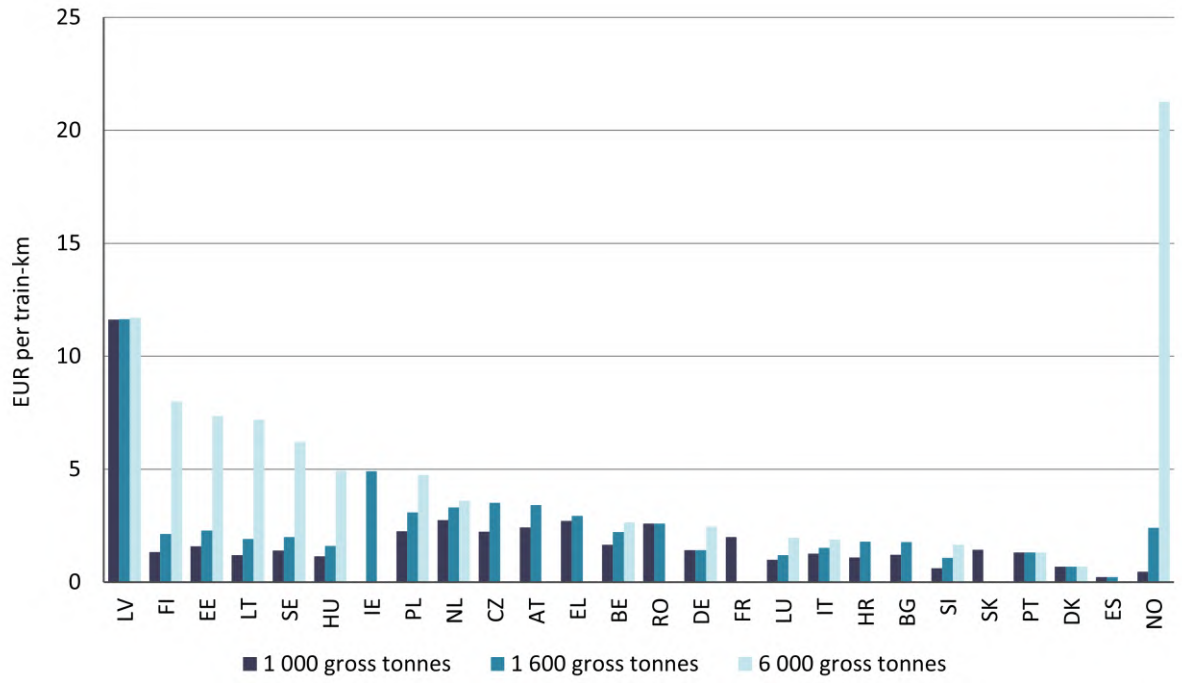
Figure 7: Access charges (excluding markups) for different categories of passenger trains, by country (EUR per train-km, 2020)



Source: RMMS, 2022.

Freight charges (excluding markups) are monitored for three different maximum gross tonnages (1,000, 1,600 and 6,000). In most Member States, access charges increase with train size, although not necessarily proportionally to tonnage.

Figure 8: Access charges (excluding markups) for different categories of freight trains, by country (EUR per train-km, 2020)



Source: RMMS, 2022.

For high-speed trains, track access charges declined consistently across the EU.

To mitigate the economic impact of the COVID-19 pandemic, Regulation 2020/1429, adopted in October 2020, made it possible to temporarily ease rules on charges[10]. The measure proved beneficial in reducing the financial burden on the rail sector – particularly on rail undertakings active in passenger transport – in a context of declining traffic volumes.

6.2. Capacity allocation and infrastructure limitations

In 2020, the EU-27 network had a total combined intensity of use (freight and passenger trains) of 16.73 thousand train kilometres per line kilometre. This is significantly less than in the years before the COVID-19 pandemic.

The total length of track declared congested has constantly risen since 2015 and increased sharply in 2020. Although an increase is observed in most Member States over the period, the sharp increase in the length of congested tracks is largely due to a change in the criteria used to declare a section congested in Italy.

In cases of congestion, the services most commonly prioritised by Member States are those provided under a PSO, followed by international passenger services. Freight traffic is seldom given top priority.

To overcome incompatibility between national legacy train control systems, a common

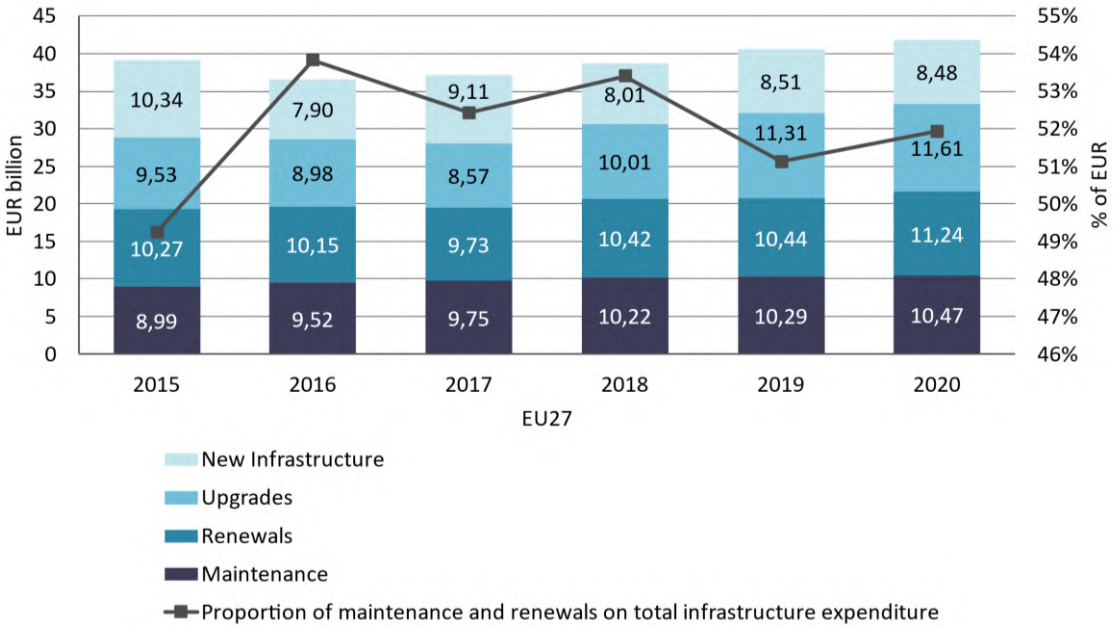
[10] Regulation (EU) 2020/1429 of the European Parliament and of the Council of 7 October 2020 establishing measures for a sustainable rail market in view of the COVID-19 outbreak (OJ L 333, 12.10.2020, p. 1).

European signalling system - the European Railway Traffic Management System (ERTMS) is being introduced. Under the ERTMS European deployment plan[11], this signalling system should be deployed on 15,682 kilometres of track by 2023. So far, the system has been installed on 5,906 kilometres of the planned track length (or 38%), a significant delay compared to the planning since the deployment achieved by the end of 2019 represented about 78% of the target planned.

6.3. Infrastructure spending and funding

Total infrastructure spending rose from EUR 39.1 billion in 2015 to EUR 41.8 billion in 2020. In 2020, 25% of the spending was on maintenance, 27% on renewals, 28% on upgrades and 20% on investments in new infrastructure.

Figure 9: Spending on infrastructure and proportion of maintenance and renewals (EUR billion, 2011-2020)



Source: RMMS, 2022.

In 2020 in the EU-27:

- total maintenance and renewal spending reported was EUR 21.7 billion, representing 52% of the total spending with significant variations between countries;

- national budgets contributed to 69% of total spending, whereas EU co-financing accounted for 8%. The remaining share of financing came from other sources, including loans, equity financing and charges. After 2020, EU funding through Connecting Europe Facility, Cohesion policy and the Recovery and Resilience Facility is likely to determine an increase in the share of EU funding over the total spending on rail.

[11] Commission Implementing Regulation (EU) 2017/6 of 5 January 2017 on the European Rail Traffic Management System European deployment plan, OJ L 3, 6.1.2017, p. 6-28.

6.4. Quality of rail transport services

Safety remains the top priority for the development of the single European railway area. The European Union Agency for Railways (ERA) monitors the progress on safety and interoperability of the EU rail system. In its 2022 report[12], the ERA highlights once more how European railways remain among the safest in the world[13] compared to other modes of transport. Travelling by car is estimated to be about 44 times riskier than travelling by train.

The average punctuality of regional and local passenger services[14] fell from 93.1% in 2015 to 88.7% in 2020. The average punctuality of long-distance and high-speed passenger services also fell from 84.9% in 2015 to 82.6% in 2020.

The average reliability[15] of local and regional passenger services dropped between 2015 and 2020, with the share of cancelled services rising from 1.4% to 4.0%. The average reliability of long-distance and high-speed passenger services also dropped between 2015 and 2020, with the share of cancelled services increasing from 1.5% to 6.0%. However for both indicators the performance worsened in 2020 compared to 2019 as a direct consequence of the COVID-19 pandemic.

In rail freight, between 2015 and 2020, the average punctuality[16] slightly fell from 65% to 64.1% for domestic services, while for international services it rose from 44.2% to 47.4%.

Over the same period, reliability slightly dropped for domestic services, with the share of cancelled services increasing from 6.6% to 7.4%, while there was a smore significant reduction in the share of cancelled international services, from 15.5% in 2015 down to 8.9% in 2020.

6.5. Public service contracts

In 2020, PSO passenger services represented on average 64% of the total passenger kilometres in the EU27, an increase compared to the 60% recorded for 2019. The rise in the share of passenger services provided under PSOs can be attributed to a more than proportional drop in the number of passenger-km in commercial services in the context of the pandemic. 99% of PSO passenger services were domestic, with a prevalence of regional over long-distance services.

According to RMMS data, all passenger traffic was covered by a PSO in Denmark, Estonia, Ireland, Luxemburg and the Netherlands. Many countries reported a PSO share of almost 100%. Over 30% of passenger kilometres are on commercially operated services in Italy, Sweden, Germany, Spain and France.

12 https://www.era.europa.eu/system/files/2022-10/Report%20on%20Railway%20Safety%20and%20Interoperability%20in%20the%20EU%202022.pdf

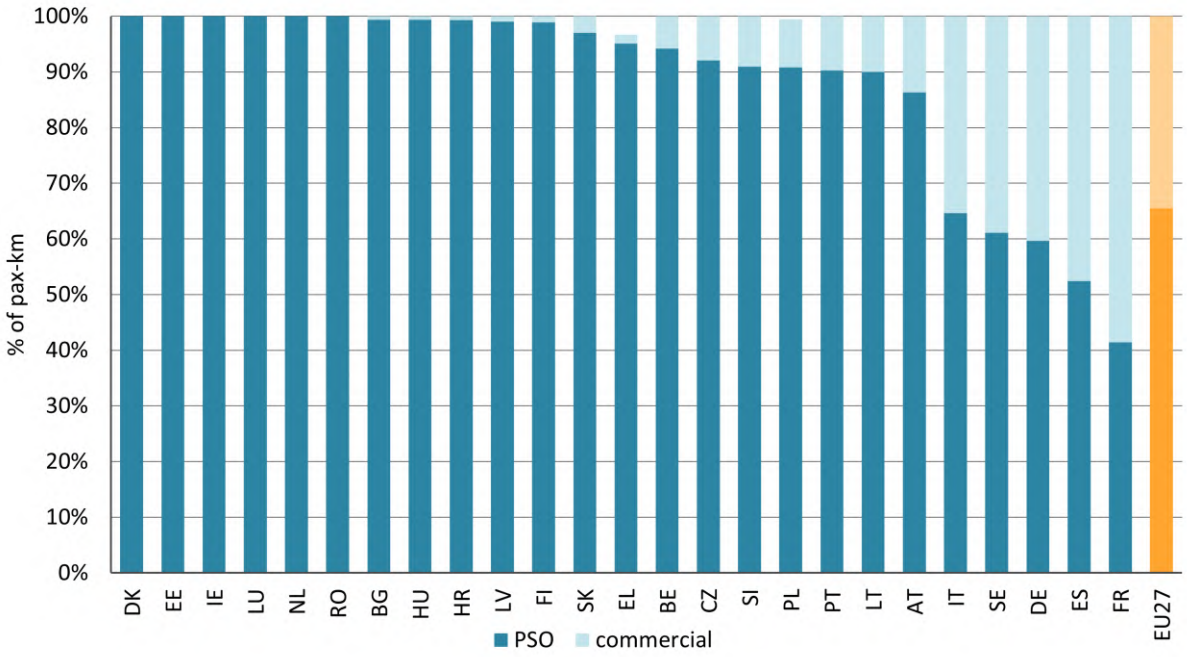
13 Based on railway fatality rates estimated in five jurisdictions, the 2022 report identifies the EU railway system as the second safest in the world after South Korea.

14 RMMS considers a passenger train to be punctual if it is not delayed by no more than 5 minutes.

15 Defined in terms of the share of cancelled services.

16 RMMS considers a freight train to be punctual if it is delayed by no more than 15 minutes.

Figure 10: Share of passenger traffic offered respectively under a PSO and commercial rail services per country (% of pax-km, 2020)



Source: RMMS, 2022. Data for BE, PT, EL and FR are estimates. RO not available.

Of the 149 million PSO passenger kilometres in 2020, 28% were on services that had been competitively tendered. In relative terms, 92% of all the EU-27 competitive tendering occurred in the two Member States which liberalised their services early (80% in Germany and 12% in Sweden). The 28% share of competitively tendered services is comparatively low, as the value of this indicator was nearly 44% in 2019, up from 40% in 2015.

PSO compensation remains a significant source of revenue for railway undertakings in a majority of Member States.

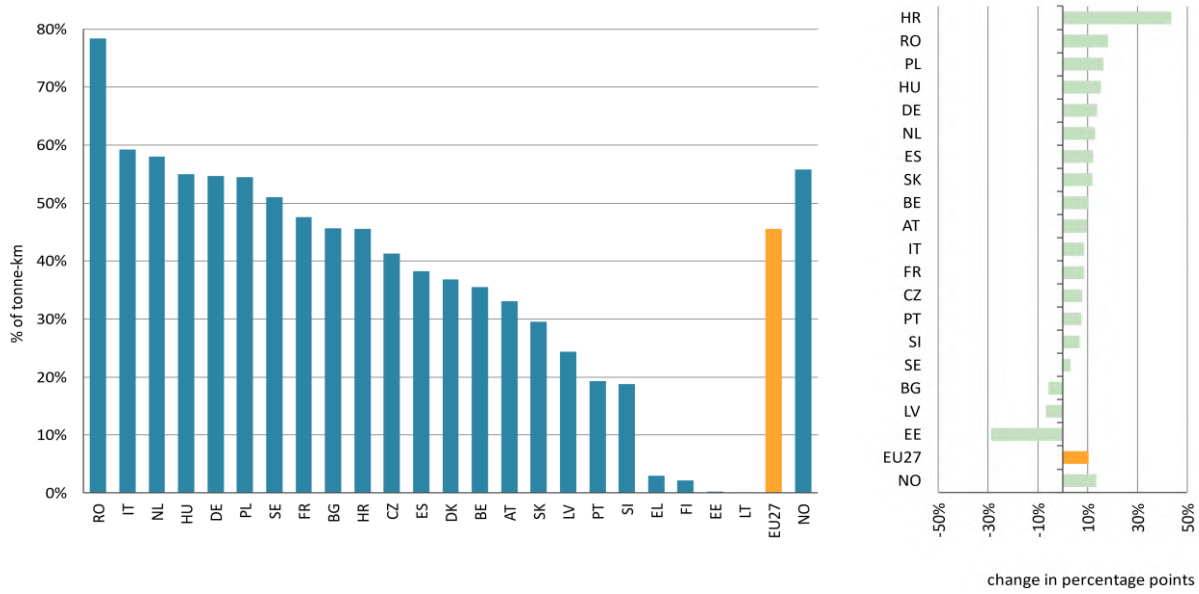
6.6. Licensing

Overall, 1,192 active licences for railway undertakings were reported in the EU-27 in 2020. Germany reported the highest number (475) and Luxembourg the lowest (2).

6.7. Degree of market opening and utilisation of access rights

In freight, the average market share for new entrants increased from 35% to 46% between 2015 and 2020. In general, the COVID-19 pandemic did not slow down the market penetration of new entrants in the rail freight segment.

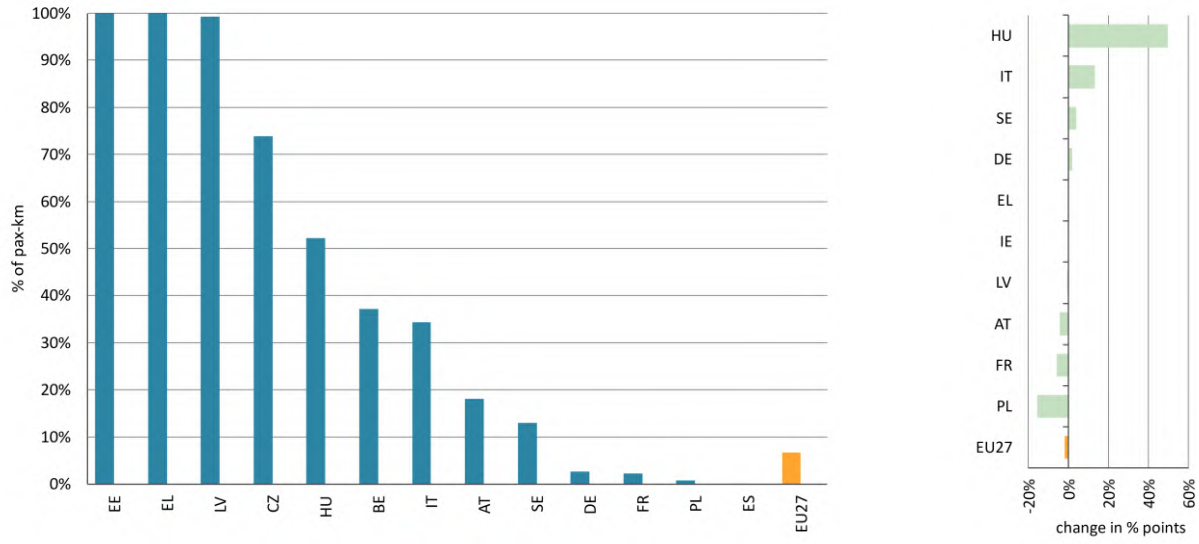
Figure 11: New entrants' market share in the rail freight market per country (% in 2020) and change in percentage points (2015-2020)



Source: RMMS, 2022. NL 2015 adjusted. RO 2015, LV 2020 and PL 2020 estimated. DK, FI, EL, IE, LV, LT and LU for 2015 not available.

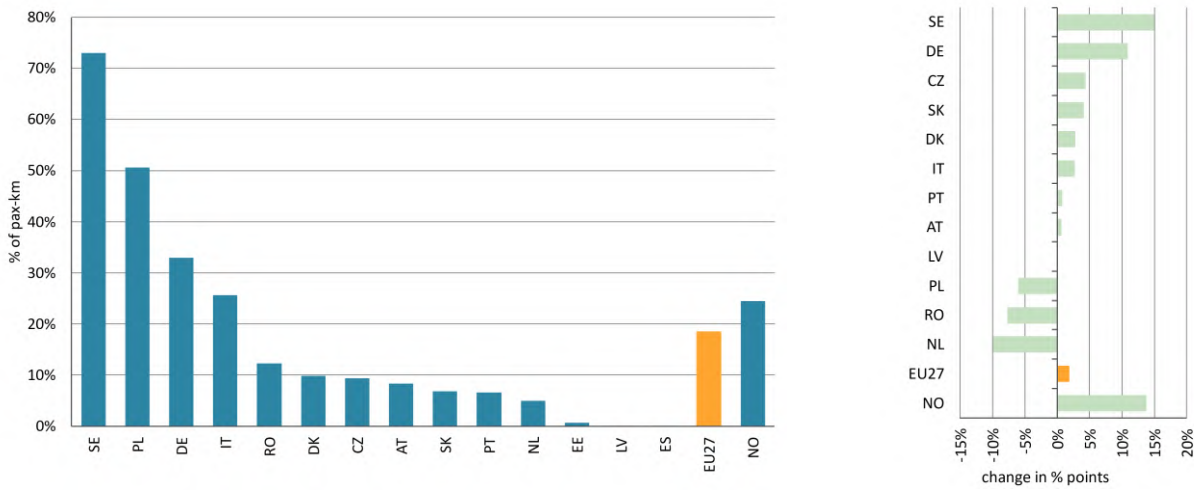
In commercial passenger rail, new entrants had an average 6.6% market share in 2020, and a 18.5% market share in national PSO passenger markets.

Figure 12: Competitors' market share in the commercial passenger market per country (% in 2020) and change in percentage points (2015-2020)



Source: RMMS, 2022. NO declared data as confidential. BG, DK, FI, HR, LT, PT and SI reported no new entrants in commercial services with a market share of 1% or more for 2020. No commercial passenger services in IE and RO. No data available for NL, LU and SK.

Figure 13: New entrants' market share in the PSO passenger market per country (% in 2020) and change in percentage points (2015-2020)



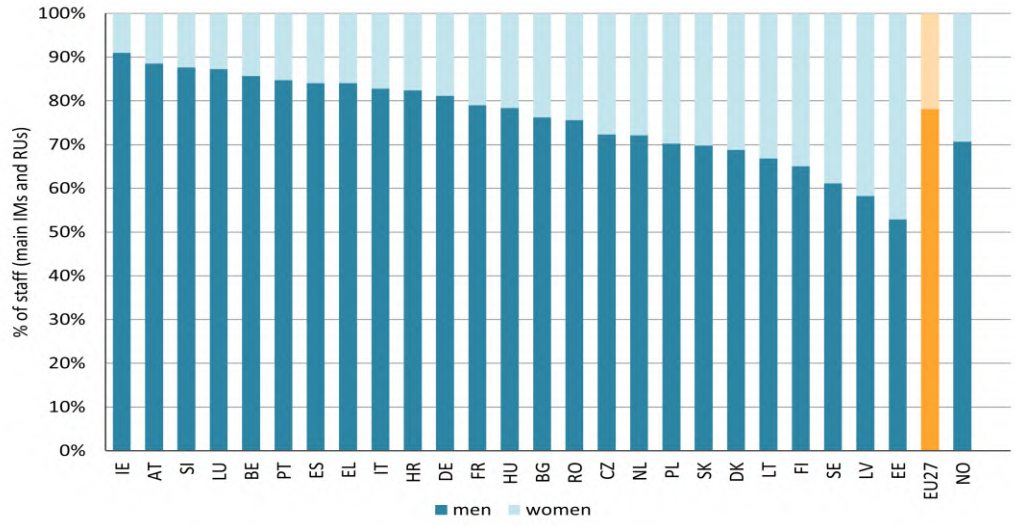
Source: RMMS, 2022. Data for PT 2015 represent an estimate. No new entrants in the PSO passenger market reported by BE, BG, HR, EE, FI, FR, EL, HU, IE, LT, LU, SI and ES.

6.8. Employment and social conditions

By the end of 2020, over 910,000 people were employed in the EU-27 railway sector, of which around 523,000 by railway undertakings and 387,000 by infrastructure managers. This represents a slight fall compared to 2018 figures, with around 2,000 less employees each for railway undertakings and infrastructure managers.

The railway workforce is predominantly male. On average only 22% of employees are women.

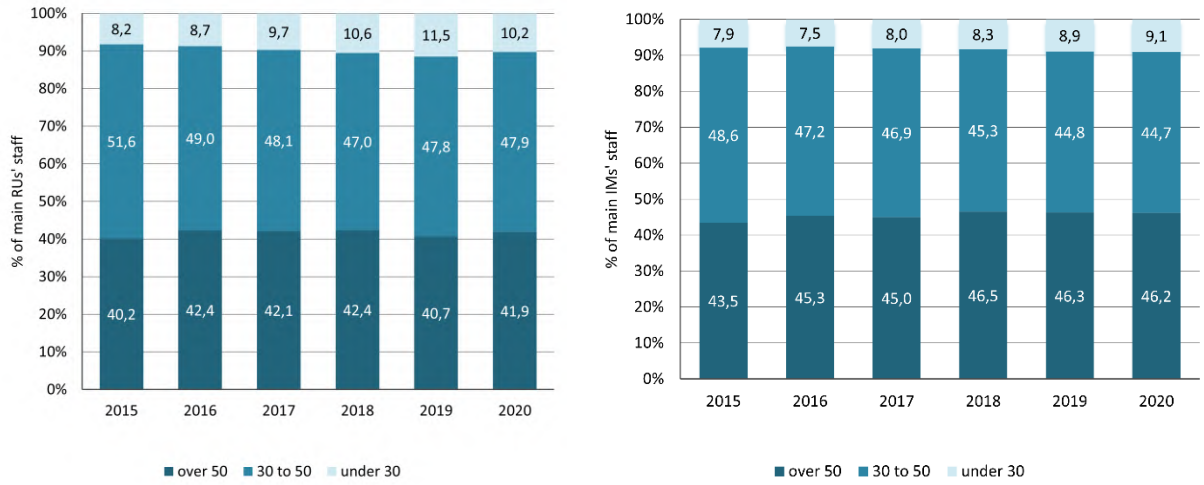
Figure 14: Total employees (main infrastructure managers plus railway undertakings) by gender structure, (% in 2020)



Source: RMMS, 2022.

The share of younger employees (below 30 years) working for railway undertakings rose from 8.2% in 2015 to 10.2% in 2020. An ageing workforce continues to be a concern: in 2020, on average, 41.9% of railway undertakings' staff was over 50 years old. Infrastructure managers tend to have an older workforce than railway undertakings, but the share of younger employees also rose between 2015 and 2020 from 7.9% to 9.1%.

Figure 15: Employees by age group, main railway undertakings and infrastructure managers (%, 2015-2020)



Source: RMMS, 2022. 2015 data not available for RUs in LV, LU, ES and SE; 2020 data not available for RU in NL; 2015 data not available for IMs in ES, LU and LV.

Full-time employment is the most common status for employees of both infrastructure managers and railway undertakings.

7. CONCLUSIONS

The COVID-19 pandemic had a very strong impact on the railway sector in 2020, especially in passenger transport, where volumes almost halved compared to 2019. The EU put forward several measures, such as the Recovery and Resilience Facility and a Regulation to ease charging during the pandemic to counter the effects of the pandemic on the rail sector.

Yet, as the severity of the pandemic gradually declined and containment measures put in place by Member States (including significant restrictions on the free movement of persons) were being lifted, the sector has been gradually recovering. The sector can be expected to play an increasingly important role within the EU transport system, contributing to reduce transport-related pollution and energy consumption.

Aside from the effects of the pandemic, some longer-term trends can be observed when comparing the 2019 data in this report with data from previous reports.

First, rail has almost continuously reduced direct greenhouse gases emissions since 1990 while substantially increasing the volumes of traffic. This has mainly been the result of the electrification of the rail network and the declining carbon intensity of the EU's electricity mix.

Second, the picture remains mixed on market opening. The Fourth Railway Package opened access to the commercial provision of rail domestic passenger services, starting with the 2021 timetable. It also introduced competitive tendering as the standard procedure for attributing public service contracts, with a transition period until December 2023. The Commission will be closely monitoring the correct transposition[17] and application of the Fourth Railway Package, to ensure it achieves its full potential in the medium term.

Third, while the high-speed rail network is growing, international passenger services remain largely stagnant. The Commission's 2021 action plan to boost long-distance cross-border passenger services aims at tackling the main obstacles facing these services, from ticketing to improved interoperability across borders. At the same time, while rail freight traffic was on the rise until the COVID-19 pandemic (and was less affected than passenger transport), more needs to be done to sustain this positive trend so that the targets in the Sustainable and smart mobility strategy and the European Green Deal can be met. In particular, rail transport needs to fully exploit the capacities of the EU's network and needs to be better integrated with other transport modes. This will be the objective of the Greening Freight Package to be adopted later in 2023.

Fourth, on financing, while the rail sector remains a major beneficiary of national and EU funds, the results seem to indicate that a number of Member States favour operational subsidies over longer-term investments that would improve the quality of the infrastructure and the framework conditions for all railway undertakings.

The Connecting Europe Facility (CEF), Cohesion policy, and the Recovery and Resilience Facility (RRF) are golden funding opportunities to push for the rail sector's much-needed modernisation. The CEF funding is targeting primarily rail border crossing projects, like Rail

[17] In European Union law, transposition is a process by which the European Union's member states give force to a directive by passing appropriate implementation measures.

Baltica, Brenner and Lyon-Torino. Over two financial perspectives, since 2014, 70% of the CEF budget is invested in rail. Under the Member States' recovery and resilience plans submitted to benefit from support under the RRF, just over EUR 50 billion is allocated to rail (including investments in ERTMS and rolling stock). This amount represents most of the RRF funding benefiting the transport sector. Another EUR 18.2 billion of ERDF and Cohesion Fund has been allocated to rail in the 2021-2027 Cohesion policy programmes. The priority should now be to swiftly implement these projects in line with the agreed targets.

Research and innovation remain central to unlocking the full potential of the sector. The EU's Rail Joint Undertaking (EU-Rail) established in 2021 will build on the successful work of the Shift2Rail Joint Undertaking. The aim is to ensure a fast transition to a more attractive, user-friendly, competitive, affordable, easy to maintain, efficient and sustainable European rail system that is integrated into the broader transport system.

Looking beyond 2020, the European Year of Rail 2021 (EYR) put rail back in the spotlight. The EYR brought together EU institutions, Member States and the sector at large to promote the benefits of rail transport, while also discussing how to tackle the main obstacles facing the sector. The year 2022 marked the start of Russia's war of aggression against Ukraine, which was a tragic year for Europe as a whole. The rail sector has been at the heart of the EU's solidarity response with Ukraine. Indeed, rail undertakings overwhelmingly responded to the call for help, which brought Ukrainian refugees to safety in Europe. At the same time, the rail sector has also helped to set up EU-Ukraine solidarity lanes, alternative trade and transport corridors to help Ukraine export its goods to the rest of the world and import the goods it needs. At the same time, the war against Ukraine has put a renewed focus on the need to improve the single European rail area, notably in cross-border connectivity and the availability of a single European gauge, to achieve the necessary resilience for Europe.

All in all, data in this report show that, despite the COVID-19 pandemic, rail is moving forward again, and generating more traffic. However, the pace of progress is not proportionate to the climate change imperative and rail's expected contribution to transport decarbonization. The sector at large, with the support of Member States and the EU, should build on the momentum created by the EYR 2021 and push for the much-needed transformation of rail to become the backbone of the EU's sustainable, smart and resilient mobility system.