

## Impacts of the COVID-19 crisis and national responses on European railway markets in 2020

July 2021

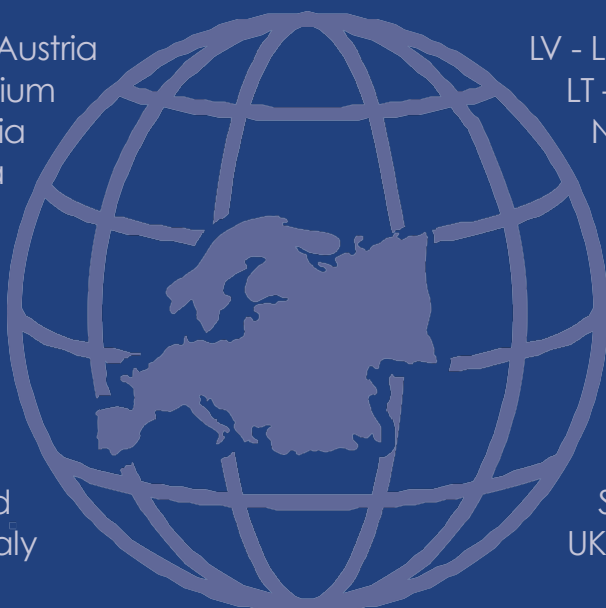


# 01

## Introduction


### Participating countries

AT - Austria  
BE - Belgium  
BG - Bulgaria  
HR - Croatia  
CZ - Czech Republic  
EE - Estonia  
FI - Finland  
FR - France  
DE - Germany  
GR - Greece  
HU - Hungary  
IE - Ireland  
IT - Italy




LV - Latvia  
LT - Lithuania  
NL - Netherlands  
NO - Norway  
PL - Poland  
PT - Portugal  
RO - Romania  
RS - Serbia  
SK - Slovakia  
SI - Slovenia  
ES - Spain  
SE - Sweden  
UK - United Kingdom

### SCOPE

  
**26**  
countries

**2019 → 2020**  
changes

**Analysis of the temporal impacts of the COVID-19 pandemic throughout 2020**



### CONTENT OF THE REPORT

- 02** Qualitative impacts of the COVID-19 crisis
- 03** The rail passenger market
- 04** The rail freight market
- 05** Train departures
- 06** Punctuality of trains

+ separate Excel dataset

### IRG-Rail publications to monitor the COVID-19 impacts



<sup>1</sup><https://irg-rail.eu/irg/news/press-release/264,European-rail-regulators-contribute-to-the-recovery-from-the-COVID-19-crisis.html>

<sup>2</sup><https://irg-rail.eu/irg/documents/market-monitoring/312,2021.html>

## IRG-Rail – A network of cooperation

The Independent Regulators' Group-Rail (IRG-Rail) was established by 15 European rail regulatory bodies in June 2011. From the beginning, the objective of the group has been to establish a network of cooperation between member regulatory organizations in the railway sector. The group has expanded over the years and today includes members from 31 countries.

IRG-Rail members aim to consistently deal with regulatory challenges and rail developments across Europe. IRG-Rail acts as a platform for cooperation, sharing best practice and promoting a consistent application of the European regulatory framework. As put forward in the Group's statutory document<sup>3</sup>, "the overall aim of IRG-Rail is to facilitate the creation of a single, competitive, efficient and sustainable railway market in Europe".

## what we do

Article 56 (paragraph 2) of Directive 2012/34/EU states that regulatory bodies have a formal duty to monitor the situation in the railway market. Market monitoring is therefore an essential task for the national regulatory bodies. It is also a vital instrument for enhancing market transparency, setting direction for the activities of regulatory bodies and encouraging market participants to develop and improve their activities.

### General aim of IRG-Rail Market Monitoring Working Group



The IRG-Rail Market Monitoring Working group was set up as a platform for cooperation and exchange of best practices in terms of collection and analysis of data. The group has agreed on a set of guidelines<sup>4</sup> for gathering railway related data. Based on the results of a yearly collection, an annual Market Monitoring Report is elaborated by the Working Group.

The Ninth IRG-Rail's Market Monitoring Report was published in April 2021. It provides an annual overview of market developments and the economic conditions in the railway sector in 2019 with respect to IRG-Rail member countries. The report also enables comparison over time regarding the development and competitiveness of the railway market.

### A specific analysis of the impacts of the COVID-19 pandemic



The coronavirus (COVID-19) pandemic significantly impacted European railway markets due to its effect on the global mobility of European passengers and freight transport in 2020. In line with regulatory bodies' responsibility to monitor their respective markets, this publication provides an annual overview of the consequences of the COVID-19 pandemic on rail markets observed in 2020 (compared with 2019). This publication examines changes in rail traffic and demand (for freight and passenger services), quality of service (punctuality of trains), and additional impacts and specific measures adopted for the rail sector by countries to mitigate the impacts and to ensure the public health.

This overview is based on data collected by IRG-Rail in 2020 and 2021 focusing on indicators which highlight the impact of the pandemic during 2020. The data from the graphics are available on the IRG-Rail website<sup>5</sup>.

### Methodology



It is the responsibility of each regulatory body to gather, quality-assure and submit data according to the guidelines agreed upon by the Working Group. The Working Group has developed a common template in order to ease the effort for the regulatory bodies and to ensure the comparability of the data. Data can originate from market surveys carried out by the regulatory bodies and/or national statistics as well as additional trustworthy sources. In the case of this specific publication and due to the early date for data collection of the COVID-19 impacts in 2020, several statistics gathered from countries are based on estimations. All data might be updated and consolidated and must be considered temporary for this publication.

Twenty-six countries contributed to this Report. However, most countries were not able to provide complete data. In order to ensure reliable and consistent information, this report only presents indicators for which enough data was made available. Consequently, some analyses are performed using data from a selection of the participating countries. In each section of the report, key figures and analyses presented use a consistent sample of countries. Therefore, some sections may not cover all 26 countries. Detailed information and specific data by country are provided as well in each section of this publication.

<sup>3</sup> <https://www.irg-rail.eu/irg/about-irg-rail/general-information/About-the-IRG-Rail.html>

<sup>4</sup> The guidelines can be found on [IRG-Rail website](#).

<sup>5</sup> The data can be found [here](#).

## OVERVIEW



The COVID-19 crisis has significantly impacted the EU transport system in 2020. The spread of the virus has led to restrictions of international and domestic travels and has caused a global decline in the demand for passenger transport while allowing rail transport to still provide crucial services. This has also been the case for the transportation of goods despite a global setback of the economic activity as well for freight transport.

This led to decreases in 2020 for transport demand in general, of about **-48% for annual passenger-km and of -7% for freight tonne-km**. The smaller decline of rail transport supply (**-8% for departures for passenger trains and -6% for freight trains**) mostly concerned the second quarter of 2020. Rail freight transport even showed an increase in comparison with 2019 during the last quarter of the year. In parallel to this drop in rail transport activity, the punctuality of rail transport showed improvement during all quarters of 2020 for both passenger and freight services.

Despite the application of temporary or permanent measures adopted to limit the impact of the pandemic on the railway sector (among which the adjustments of track access charges or state aids), the railway undertakings suffered direct economic consequences of this drop of rail activities. At the date of publication of this report the consolidated financial impacts in revenues have not been collected by IRG-Rail. The first results presented in the 9<sup>th</sup> Market Monitoring Report of IRG-Rail (temporary indicators based on a reduced panel of countries who could provide the data) showed global decreases for most countries during the first six months of 2020 of both passenger and freight revenues. The European infrastructure managers also recorded decreases of the access charges (from RUs and subsidies) collected for the first semester, with substantial differences between countries though.

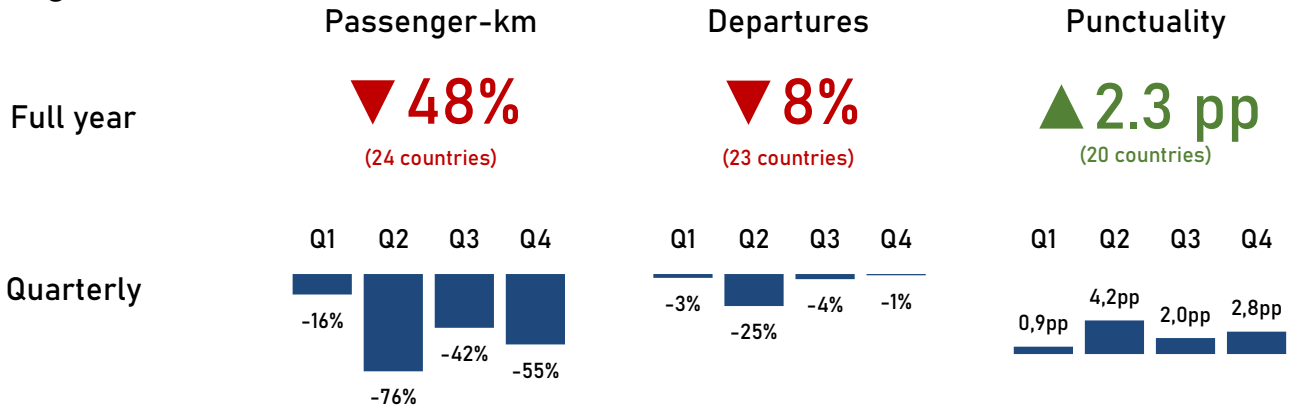
This is the second IRG-Rail publication of 2021 focusing on the impacts of the COVID-19 pandemic after the publication of the 9<sup>th</sup> Market Monitoring report. IRG-Rail will continue to closely monitor these impacts and responses for 2020 as well as for the coming years to assess how the European railway markets recover from the COVID-19 crisis. To support this work, IRG-Rail will publish its 10<sup>th</sup> Market Monitoring report in early 2022. This will include a complementary analysis (including financial analysis) and a more complete overview of key rail indicators.



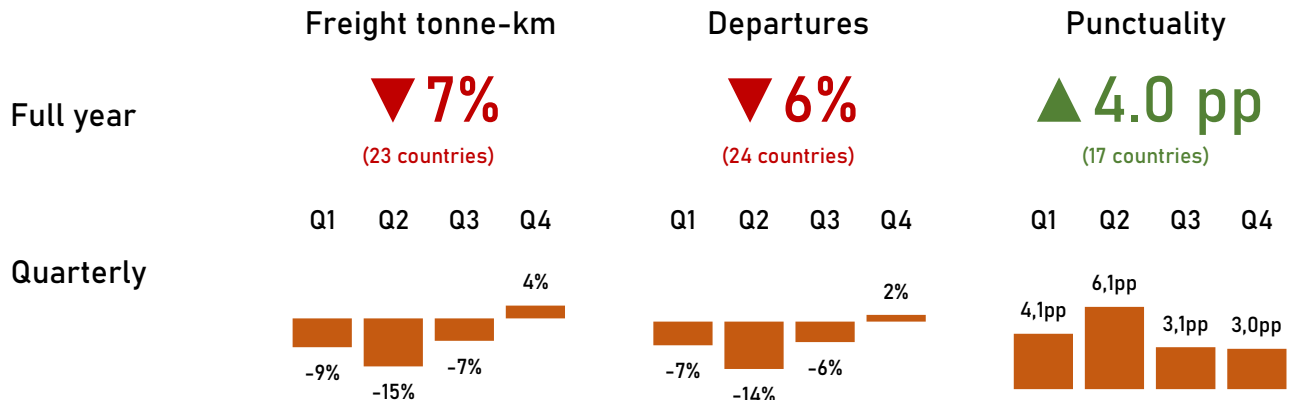
## Impacts of COVID-19 on European Railways



### Passenger services



### Freight services



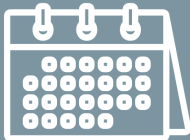
Notes: All comparisons are for 2020 compared with 2019. The number of IRG countries are provided under each metric in brackets. Punctuality is measured by the percentage of trains that arrived on time. The threshold used is based on the national thresholds applied for this statistic (see Chapter 6 for details).

# 02

## Qualitative impacts of the COVID-19 crisis and responses



### Impacts and measures 2020



2 main phases of impacts :

**23Feb. | 31Mar. → 30Jun.**  
**Mid Oct. → Dec. 2020**



**194 days**

on average with requirements / recommendations to stay at home



**13 / 26 states** provided financial aids to RUs

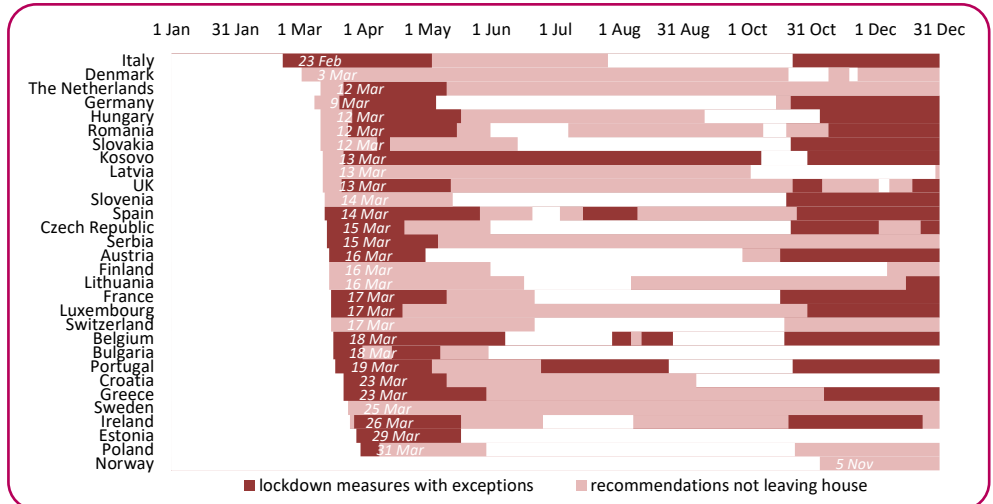
The sample used to calculate these figures is specified in the following pages.

## Global restrictions on rail transport demand

The COVID-19 pandemic affected all European countries during the majority of 2020. From March 2020, most countries implemented strict measures of confinement or restrictions on internal movement, resulting in a major drop in global mobility in all countries. This affected demand for rail transport, as well as other modes of transport.

In most cases, restrictive measures on internal movements lasted for the entirety of the second quarter of 2020. A second phase of strict measures was seen in several countries during the last quarter of 2020.

Figure 1 – Calendar of “Stay at home” requirements/recommendations per country<sup>6</sup>



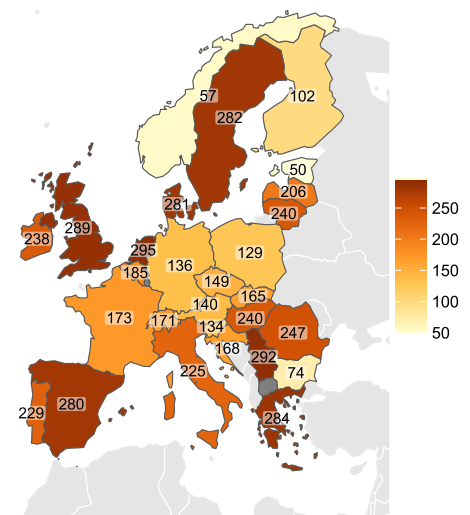
There were differences in lockdown measures and their impact on rail transport demand:

- **The implementation of measures to specific train services.** In several countries there was no regulatory restriction on the transport of goods, and some freight services even saw an increase in their demand for domestic distribution (e.g. **UK**).
- **The implementation by geographical region.** Some internal restrictions on movement varied at a regional level, as well as for national and international travels. This was the case for example in **Italy**, **UK** and **Germany**.

**16** countries reintroduced land, air and sea border control in light of the COVID-19 pandemic, banning or at least restricting international movements.

The drop in passenger demand due to lockdown measures and transport restrictions imposed by the national authorities had a direct impact on the economy of the railway sector, with the **partial or complete shutdown of several railway activities** (in particular international services)

Figure 2 – Number of days in 2020 with “stay at home” requirements/recommendations<sup>6</sup>



**Other derived impacts have also been observed by railway undertakings (RUs) or the infrastructure managers (IMs) as a result of the pandemic:**

- **Limitation of the capacity of transport:** some countries implemented rules to limit the capacity of passenger trains by as much as 50% or 40% (e.g. **Croatia, Italy, France, Portugal, Spain**), to prohibit the sale of more tickets than the available seats (e.g. **Denmark**), or to close train stations with short platforms where no social distancing could be maintained (**UK**);
- **Timetable adjustments:** reduced timetables were put in place (e.g. **Austria, Belgium, Finland, Italy, Norway, Slovakia, UK**) especially for PSO services, with the aim of ensuring minimal passenger services and essential connections or a higher reliability of train services, or allowing more capacity for freight services. The scheduled timetable was maintained during large parts of the year in **Portugal, Sweden** in order to avoid congestion on board trains. For freight transport the conditions of proposal of alternative rail/road PSO services were facilitated in some countries (e.g. **Poland**);
- **The implementation of additional sanitary measures to prevent the spread of the virus** was adopted by several RUs in Europe, leading to potential additional costs. In **Finland** new services were put in place to allow the purchase of an empty adjoining place or a cabin for your own use.
- **A temporary relaxation of legal terms** for passenger ticket change, cancellation, extension of the validity period, or refunding of season tickets were adopted in **Austria, Finland, France, Germany** or **UK**. An extension of the validity period of legal documents of RUs (e.g. safety certificate and train driving licence, deadlines for staff training) was adopted in some countries (e.g. **Poland, Spain**);
- **A decrease of tariffs for wagon rentals** due to the decrease in freight transportation was also noted by RUs in **Estonia**;
- **The suspension of planned rail maintenance** by infrastructure managers was noted in some countries (e.g. **Belgium**) due to subcontractors being unavailable. Other countries (e.g. **Austria**) indicated that due to reduced traffic the main infrastructure manager was able to focus on construction and maintenance work.

<sup>6</sup> Source: Oxford COVID-19 Government Response Tracker, indicator C6 “Stay at home requirements”. The indicator records orders (either requirements or recommendations) to “shelter-in-place” and otherwise confine to the home.

## Response measures adopted in 2020



**Some temporary or permanent financial measures were adopted in 2020 to limit the impact of the pandemic on the railway sector by the states or infrastructure managers:**

- **Adjustment of track access charges:** six countries noted adjustments in the charging principles applied by infrastructure managers for rail activities. These adjustments could be applied as **raw discounts** of global or specific charges, the **postponing of the invoicing**, or as **changes of the references** for charges or discount schemes to take into account the sudden decrease of volumes. Several infrastructure managers also decided to apply a **relaxation of cancellation charges or reservation penalties**.
- **State aids to railway undertakings** have been provided in various ways to limit the impacts for the railway sector, as a **funding of track access charges** (three countries), and 13 RBs noted a **raw compensation of loss of revenue** (with possible incentives) or as an increase of **public subsidies**. 16 countries also granted **temporary unemployment aid** and **subsidised loans**, or the **postponement of public charges or debts**. **Temporary PSO contracts** have been granted as well in two countries.
- **State aids to the infrastructure managers** or specific funding and incentives for infrastructure projects (or direct capital increase) were also granted in specific countries to compensate for their loss of revenue.

### Regulation (EU) 2020/1429 establishing measures for a sustainable rail market in view of the COVID-19 outbreak

On October 7<sup>th</sup>, 2020, regulation (EU) 2020/1429 establishing measures for a sustainable rail market in view of the COVID-19 outbreak was adopted. This regulation includes temporary measures to help the railway sector to face the impacts of the COVID-19 pandemic. It enables Member States to authorise infrastructure managers to remove, postpone or lower the charges for access in rail infrastructure during the pandemic, while ensuring state aids to the IMs for this loss of revenue. This temporary regulation which substitutes to the actual European regulatory framework for track access charges, first applied during a period of reference going from March 1<sup>st</sup> 2020 until December 31<sup>th</sup> 2020, but has been extended until June 30<sup>th</sup> 2021 by Commission delegated regulation (EU) 2020/2180 of December 18<sup>th</sup>, 2020.

At the time of the publication, several countries considered applying for 2020 or 2021 specific national regulations in line with Regulation (EU) 2020/1429, but no country directly applied this European regulation.

**Figure 3** – Financial measures adopted by states or infrastructure managers by category

	Adjustment of Track Access Charges (TAC) and cancellation/reservation charges				State aids to the railway undertakings or infrastructure managers					
	Changes of the level of TAC	Postponing of the invoicing	Changes of the reference for TAC	Relaxation of cancellation charges / reservation penalties	Fundings of TAC	Compensation for the loss of revenue for the infrastructure manager	Compensations for the loss of revenue for the railway undertakings	Temporary PSO contract	Loan facilities, credit guarantees, or postponing of public charges or debts (or "tax vacation")	Temporary unemployment aid and short-term work
Austria				x	x	x		x		x
Belgium				x					x	x
Bulgaria										
Croatia				x			x		x	
Czech Republic										
Estonia			x				x			
Finland							x		x	
France					x		x			x
Germany				x	x	x	x		x	x
Greece							x			
Hungary						x	x			
Ireland										
Italy	x	x		x		x	x		x	x
Latvia									x	
Lithuania									x	
Netherlands							x			
Norway		x		x				x	x	x
Poland				x			x		x	
Portugal				x						
Romania						x	x		x	x
Serbia										
Slovakia	x									
Slovenia				x						x
Spain			x	x					x	
Sweden		x					x		x	x
UK							x			x



This overview of global impacts and measures taken by States / Regulatory bodies / Infrastructure managers is based on free text-field answers collected by IRG-Rail at the end of 2020 and the beginning of 2021 focusing on indicators which highlight the impact of the pandemic during 2020. This section aims to show a collection of factors cited by countries but does not represent an exhaustive overview of impacts and measures observed for every country in the panel.

The complete answers to these qualitative questions can be found in the dataset published with the report.

# 03

## The rail passenger market



2019 ▶ 2020 comparison



**-11%**  
train-km



**-48%**  
passenger-km

**[-25% to -65%]**  
passenger-km  
for PSO services

**[-41% to -93%]**  
passenger-km  
for non-PSO services

The sample used to calculate these figures is specified in the following pages.

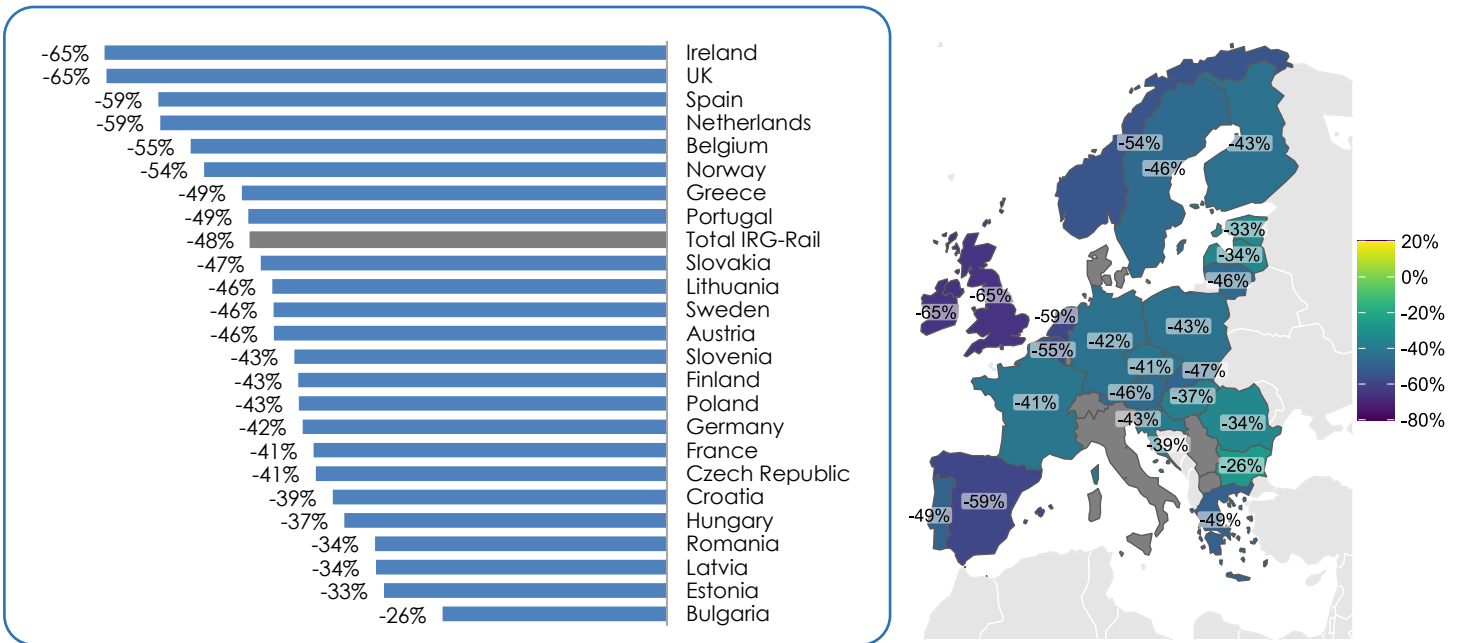




## Passenger traffic - A decrease of almost 50 % compared with 2019

- Passenger traffic indicates a severe shortfall in 2020 because of the COVID-19 pandemic. All of the 24 countries providing data showed a negative difference between 2019 and 2020.
- Passenger-km came down from 419 billion in 2019 to 217 billion in 2020 which was an average decrease of 48%, ranging from -26% to -65%.

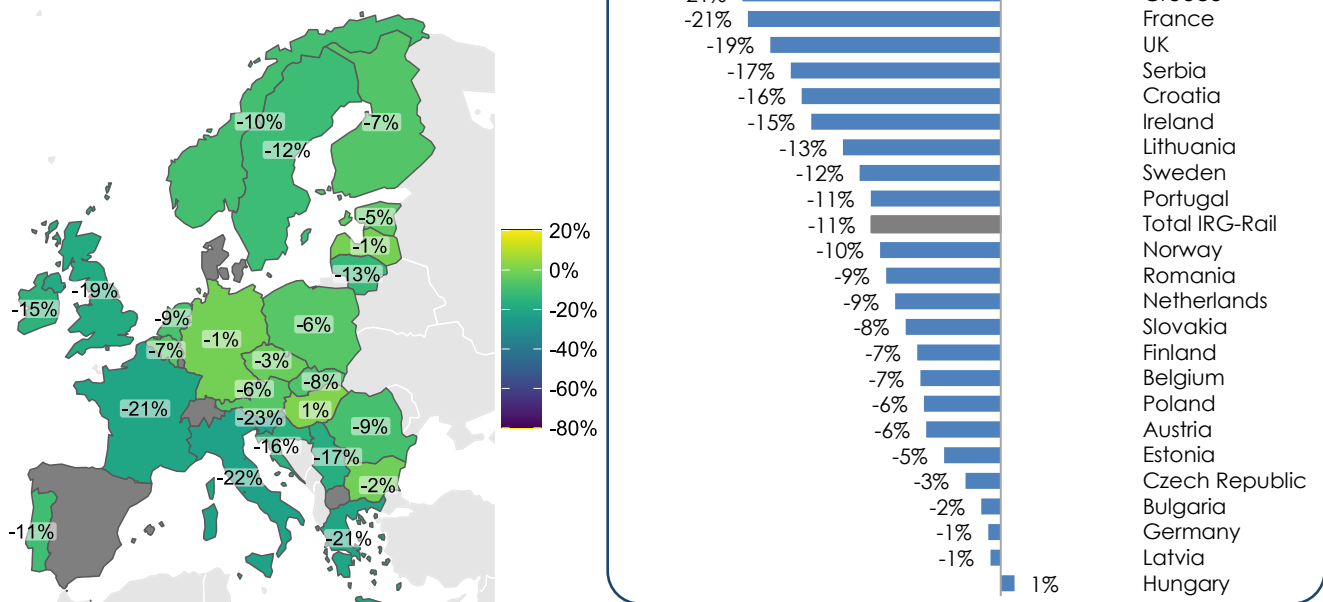
Figure 4 – Change in passenger-km, comparison 2020/2019



A total of 2.9 billion passenger train-km were recorded for the 25 countries which submitted data. This was a 11% reduction from 3.2 billion passenger train-km in the previous year. This drop can be attributed to a reduced number of trains in many countries. However, in several countries such as Germany, Austria, Bulgaria (and possibly other European countries as

well), PSO services were partly or fully maintained by public authorities to guarantee a minimum access to public transport. Passenger train-km fell in all countries, apart from Hungary (increased by 1%). In Hungary, operators were not requested to significantly reduce their PSO services in order to ensure safe travel on trains.

Figure 5 – Change in passenger train-km, comparison 2020/2019



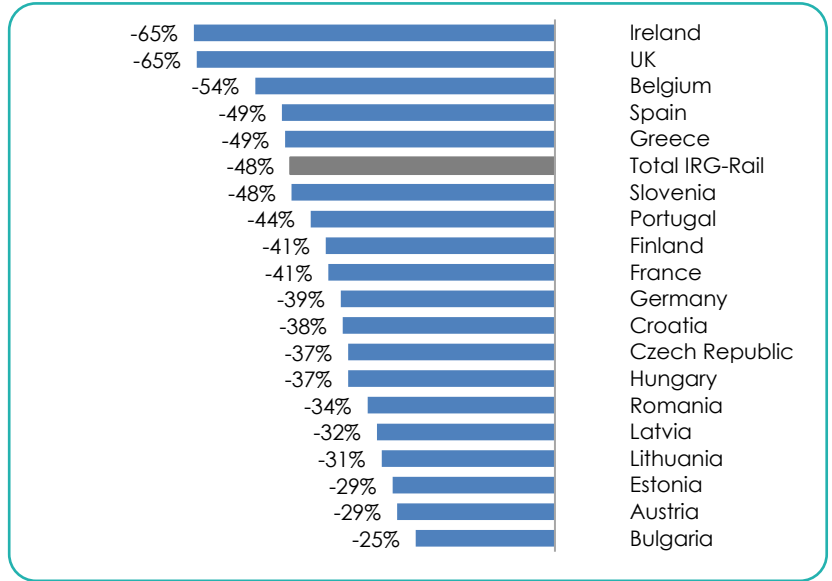
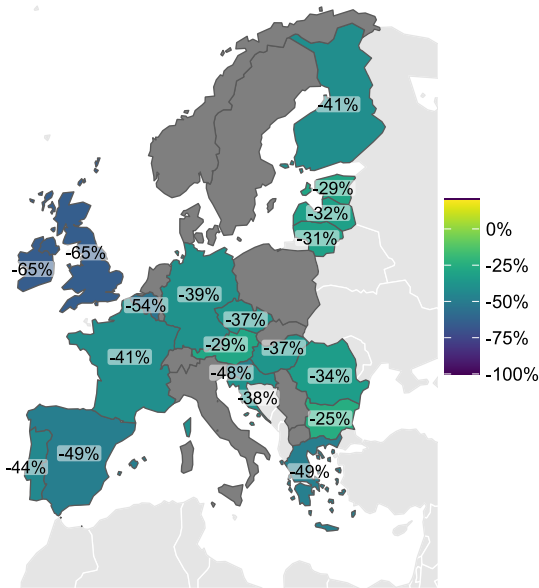


## Passenger services – The drop for passenger traffic was greater for non-PSO services in most countries



**For PSO-traffic**, passenger-km in 19 countries decreased from 228 billion in 2019 to 119 billion in 2020, a fall of nearly 50%. The largest decreases were in Ireland and the UK. In Austria, from April 2020 onwards, long-distance trains from Vienna to Salzburg (including incumbent's trains) were temporarily made PSO. In the majority of countries, the drop between 2019 and 2020 ranges from -30 to -50%. This is because, even if trains kept running in some countries, there was a large reduction in passengers due to "stay at home" recommendations of the governments.

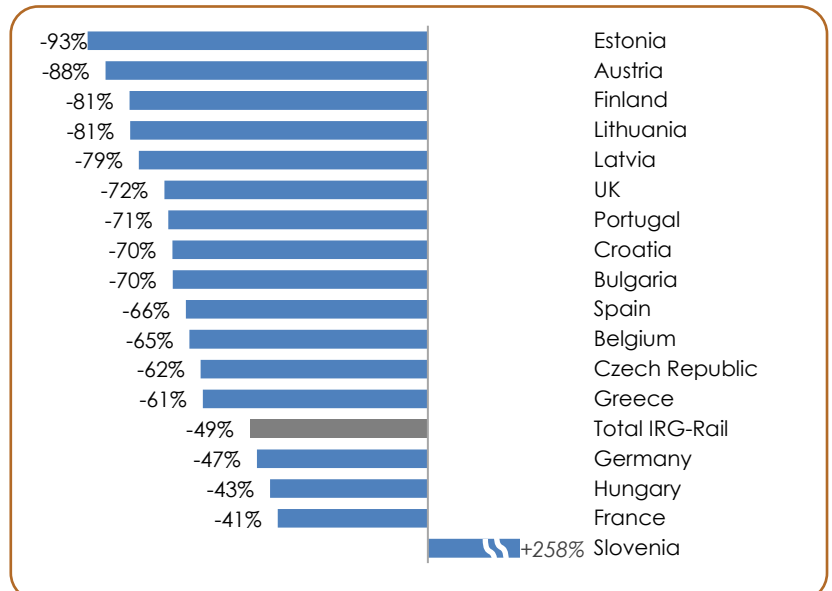
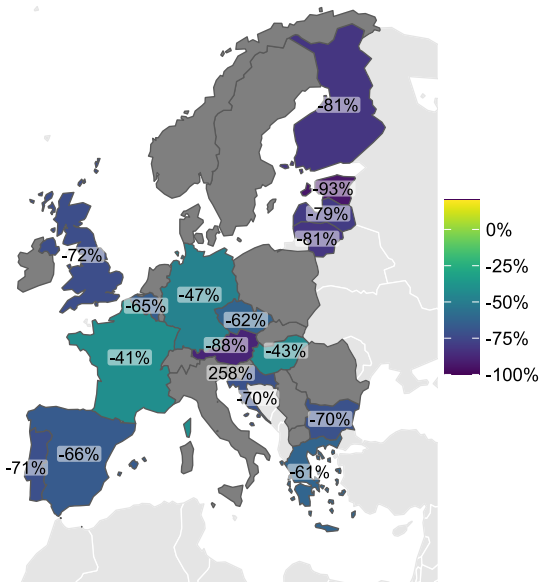
Figure 6 – Change in PSO passenger-km, comparison 2020/2019



**For non-PSO traffic**, passenger-km in 17 countries decreased from 128 billion in 2019 to 66 billion in 2020, meaning that half of the non-PSO traffic was eliminated. The drop exceeded 50% in 13 of the 17 countries and even 80% in four countries. In some countries, such as Estonia, Finland and Latvia non-PSO services stopped running entirely. Moreover, in many countries non-PSO services are international trains which have to cross

borders and therefore were the first to be stopped when countries announced their lockdown measures. As an exception, Slovenia showed an increase in non-PSO traffic in 2020. The reason for such an increase was the introduction of several non-PSO international tourist trains from Czech Republic and Slovakia via Slovenia to Croatia. These trains ran predominantly during the summer months to Rijeka.

Figure 7 – Change in non-PSO passenger-km, comparison 2020/2019

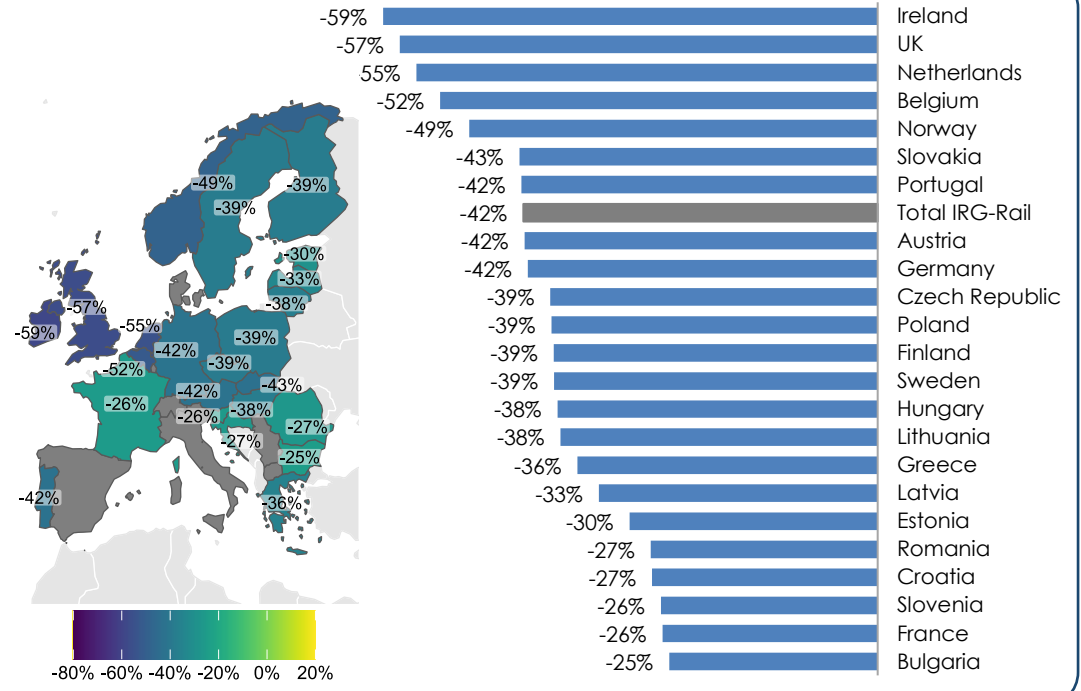




The **occupancy rate** (pass-km/train-km) dropped by more than 40% on average – Q2 was the most affected quarter

Figure 8 – Change in passenger-km per train-km, comparison 2020/2019

As a result of the decreasing train-km and reduced passenger-km, the derived ratio of these two indicators decreased by 42% on average for the 23 countries providing data. While the downturn of the occupancy rate can be partly explained by the strictness of the lockdown/"stay at home" restrictions, other factors such as changes in mobility behaviour could also have played a role in this decrease.



Railway undertakings in all monitored countries started off in 2020 with large growth rates for their passenger traffic (except for France due to a strike). All countries were then severely impacted by the pandemic when governments were forced to impose lockdown measures in March, April and May. Some countries, such as Italy or France, only reached one fifth of the traffic in passenger train-km compared with the previous year, while in Slovenia and Serbia all passenger services were suspended in April. On average in all monitored countries, train-km dropped by 42% in April and almost 30% in way undertakings May. With several of these measures being upheld throughout the year, only a few countries managed to recover their traffic. Due to another lockdown at the end of 2020, most European countries' railway undertakings faced another downturn but not as heavy as in the Q2 2020.

Figure 9 – Change in passenger train-km, monthly comparison

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Slovenia	+7%	+12%	-48%	-100%	-66%	-3%	+6%	+8%	+8%	+2%	-58%	-48%
Italy	+2%	+4%	-43%	-74%	-58%	-28%	-9%	-8%	-6%	-6%	-17%	-23%
Greece	+3%	+5%	-26%	-76%	-48%	-21%	-4%	-1%	-5%	-1%	-35%	-43%
France	-28%	+6%	-39%	-84%	-61%	-32%	-8%	-4%	-2%	+4%	-31%	+133%
Serbia	-5%	+11%	-35%	-100%	-48%	-2%	-7%	-9%	-5%	+0%	-2%	-9%
Lithuania	+11%	+14%	+4%	-34%	-28%	-22%	-18%	-11%	-10%	-10%	-20%	-28%
Sweden	+2%	+5%	-2%	-23%	-27%	-20%	-14%	-13%	-9%	-10%	-8%	-21%
Portugal	+2%	+5%	-9%	-40%	-22%	-7%	-11%	-7%	-6%	-9%	-12%	-12%
IRG	-3%	+4%	-16%	-42%	-29%	-11%	-5%	-4%	-1%	-1%	-9%	+7%
Slovakia	-0%	+4%	-16%	-30%	-18%	-7%	+1%	-3%	-5%	-7%	-7%	-5%
Finland	+6%	+9%	+0%	-9%	-26%	-18%	-14%	-8%	-6%	-6%	-6%	-4%
Belgium	-0%	+4%	-14%	-44%	-12%	-3%	-4%	-2%	-0%	-2%	-3%	+2%
Poland	+7%	+10%	-7%	-32%	-29%	-14%	-4%	-4%	+1%	-0%	-1%	-2%
Estonia	+6%	+9%	+2%	-31%	-27%	-16%	-8%	-6%	+4%	+3%	+6%	+3%
Czech Republic	+4%	+6%	-5%	-21%	-15%	-6%	+2%	+2%	+1%	+0%	-2%	-1%
Germany	+3%	+1%	-2%	-17%	-7%	+7%	-4%	-2%	+2%	-1%	+0%	+8%
Latvia	+4%	+8%	+1%	-5%	-5%	-4%	-1%	-1%	-1%	-1%	-1%	-3%

# 04

## The rail freight market

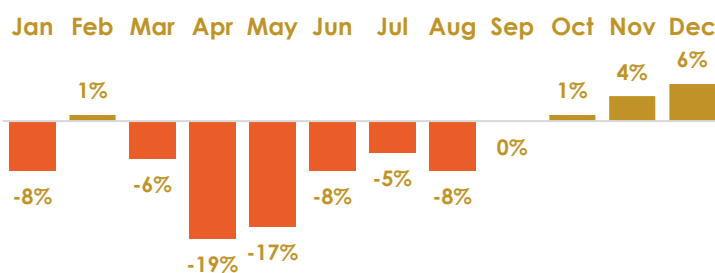


### 2019 ► 2020 comparison



**-5%**  
train-km

#### Changes in freight train-km, monthly comparison



The sample used to calculate these figures is specified in the following pages.



**-7%** tonne-km  
[-47% to +16%] among countries

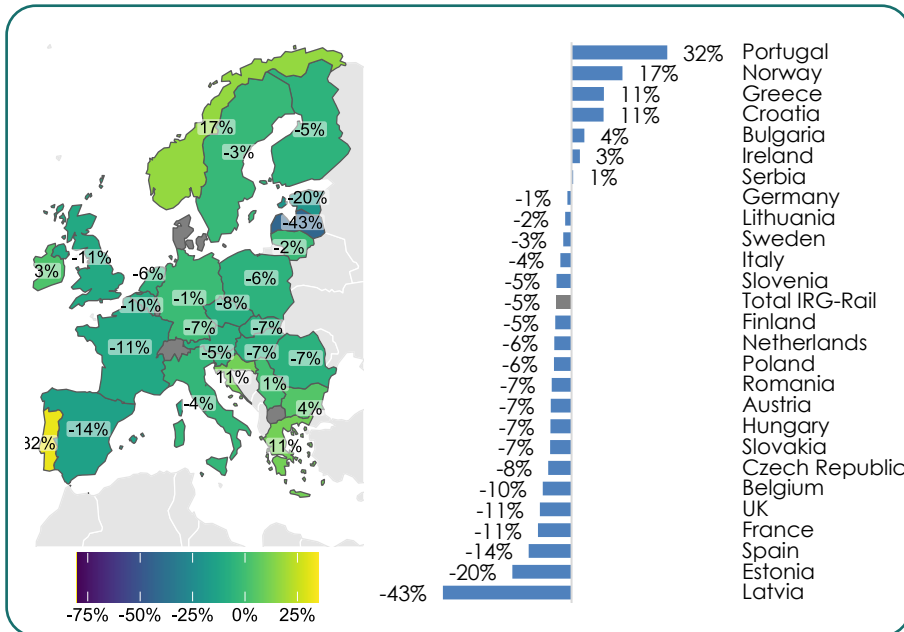
**-1%** change in freight load factor (tonne-km/train-km)



## Freight traffic – Mixed impact throughout Europe with 5% global decrease compared with 2019

In general, freight traffic was much less affected by the COVID-19 pandemic than passenger traffic in 2020. In some countries, freight services were prioritised amid the contraction of passenger traffic. In the 23 monitored countries a total of 386.6 billion net tonne-km were transported. This was a decrease of 7% compared to 2019, with a total of 413.8 billion net-tonne km. The differences between the monitored countries are significant (and often similar in tonne-km and train-km). In Latvia, freight traffic decreased in tonne-km by 47%. Estonia also experienced a severe drop by 18%. Most countries experienced decreases, but net tonne-km actually increased in Bulgaria, Greece, Croatia and Hungary. Portugal and Norway showed a strong growth in freight train-km while recording a decrease in net tonne-km at the same time.

Figure 10 – Change in freight train-km, comparison 2020/2019



A total of 732.2 million freight train-km were recorded for the 26 countries that submitted data. **This was a 5% reduction from 771.7 million freight train-km in 2019.**

As the GDP of the EU fell by roughly 4.8% in 2020 according to EUROSTAT, the reduction of freight train-km can at least partly be explained by the general drop in economic activity due to the COVID-19 crisis. Although the total IRG-Rail average development in freight train-km is quite close to the development of the EU GDP, the development in single countries varies widely: from a rise of 32% in Portugal to a decrease of 43% in Latvia. Seven countries reported an increase in freight train-km, while 19 out of 26 countries registered a decrease.

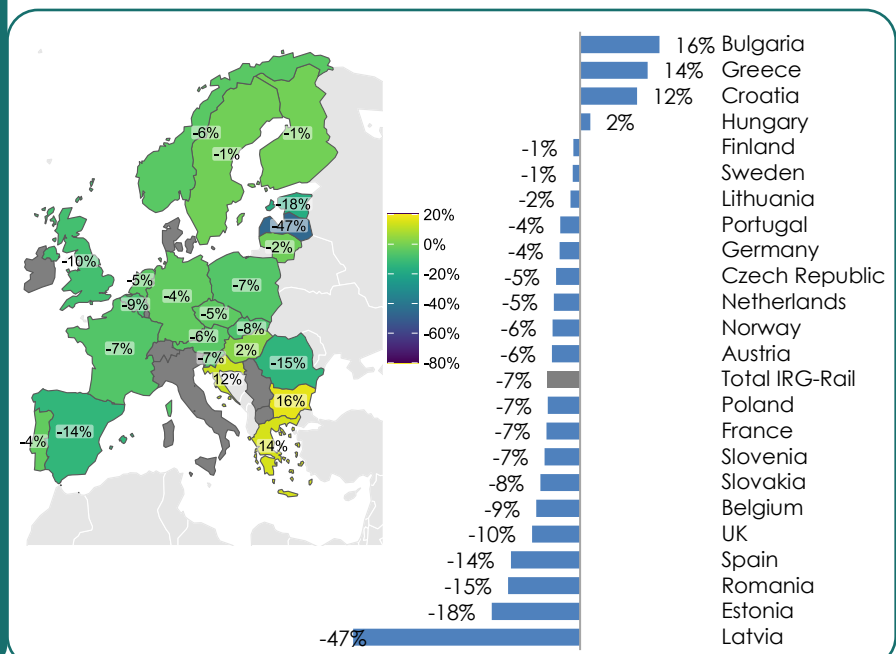
The sharp drop in Latvia can be explained by a substantial increase in 2019 due to the closure of a large coal terminal in Russia, which led to a diversion of the cargo to other ports, i.e. in Latvia. As the Russian coal terminal reopened in 2020, Latvian cargo decreased again. Furthermore, Russian transports through Latvia decreased due to sanctions imposed on Russia.

In 2020, a total of 386.6 billion net tonne-km were recorded for the 23 countries that submitted data. **This was a 7% reduction from 413.8 billion net tonne-km in 2019.**

This fall can be attributed to a reduction in freight services during the pandemic and closed borders between some countries, especially during Q2 2020. Globally, the international supply chain was disrupted due to grounded planes and some cargo ships were denied entry to ports. This disruption could have had an effect on rail freight.

Net tonne-km decreased in 2020 in 19 out of 23 reported countries, while four countries (Bulgaria, Greece, Croatia and Hungary) recorded an increase. The increase in Croatia can mainly be attributed to an increase in cereal exports from Hungary to Italy that have been transported through Croatia. Other goods' transportation such as wood from Hungary to Italy via Croatia as well as container transports from Hungary to Croatian ports also played a role in the increase. For Hungary especially, international transport led to a growth: in 2020, four new railway undertakings that are mainly active in international transport entered the market. The increase for Greece can also be explained by a new railway undertaking that started operating in 2018 and since then gradually developed its work.

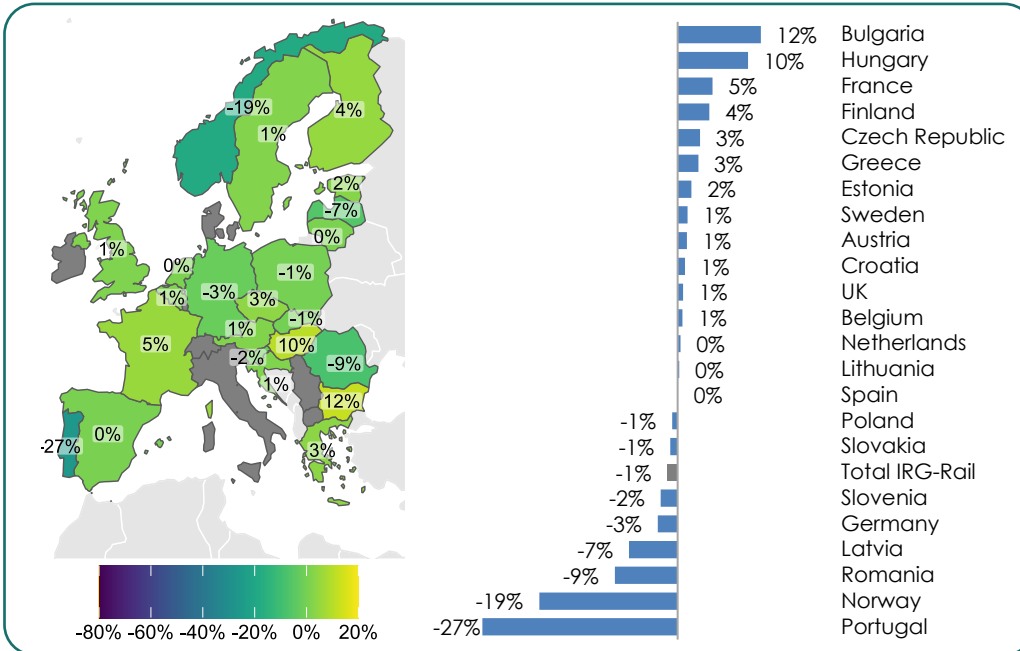
Figure 11 – Change in net tonne-km, comparison 2020/2019





## The freight net tonne-km per train-km remained stable in Europe in 2020 (-1%) – moderate month-on-month decreases in traffic throughout 2020

Figure 12 – Change in net tonne-km per freight train-km, comparison 2020/2019

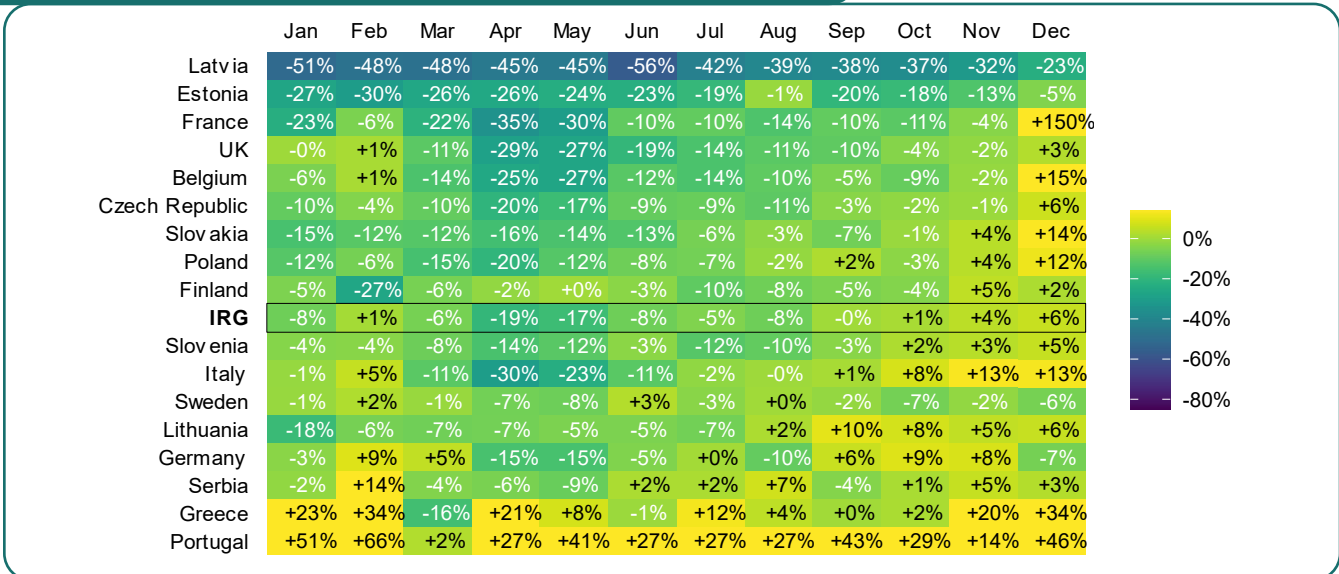


The graph on net tonne-km per train-km shows the development of weight-intensity of the driven freight km. Although the overall IRG-Rail average of the 23 countries that submitted data seems relatively constant (decrease of 1% vs. 2019), the development varies widely between the countries. While Bulgaria reported an increase of 12%, Portugal showed a decrease of 27%. This could suggest that the structure of the transported goods has changed either to heavier goods that led to a higher load factor (i.e. Bulgaria), or towards lighter goods that led to a lower load factor (i.e. Portugal). For Norway, the development can be explained by the increase in transport of light intermodal goods, such as food and packages, while simultaneously heavy industrial transportation such as lumber, iron, cars and airplane fuel decreased. Eight out of 23 countries showed a downturn in net tonne-km per train-km, while in 15 countries stable results or increases were observed.

The heatmap shows that the decrease of freight train-km on average for the shown 17 countries was strongest in April and May, where we observe a decrease of 19% and 17% respectively compared to 2019. The decreases were moderate from June to September before a growth in freight traffic was observed during the last quarter of the year.

National development varies widely: from a sharp fall in Latvia in June (-56%) to a strong rise in Portugal (+66%) in February. The hike of +150% in France in December is strongly influenced by a strike that led to a very low value in December 2019. The months most affected were April and May: In April, all but two countries show a decrease - in May, all but three countries. November and December saw the strongest increases: In November, 10 out of 17 countries had increases in freight train-km, while in December there were increases in 13 countries.

Figure 13 – Change in freight train-km, monthly comparison



# 05

## Train departures



### 2019 ▶ 2020 comparison



**-8%** passenger train departures  
[-30% to 0%] among countries



**-6%** freight train departures  
[-37% to +24%] among countries

**-40%**

largest monthly  
drop of  
departures  
observed in  
**April 2020**

The sample used to calculate these figures is specified in the following pages.



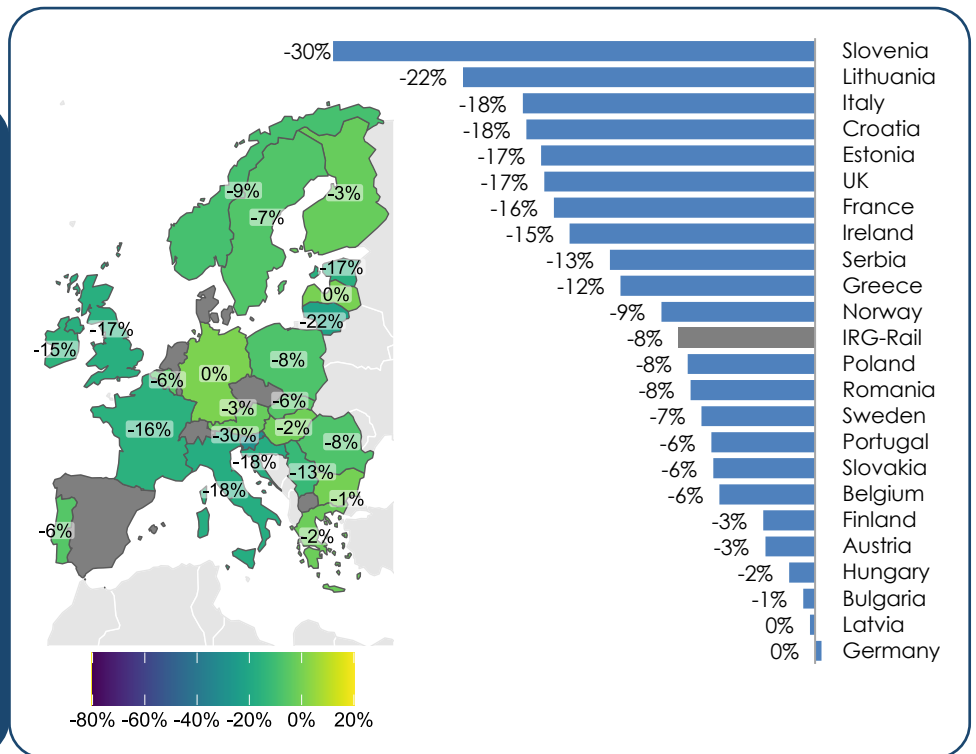
# The passenger train departures fell by 8% on average in 2020, with largest drop of 40% in April

**Figure 14** – Change in passenger train departures, comparison 2020/2019

The number of **passenger trains** fell during 2020, particularly from March to June when widespread restrictions were imposed in most countries.

During 2020 there were 34.4 million passenger trains running in 23 countries. This was a decrease of 8% compared to 2019, when 37.6 million passenger trains ran. This shows that many countries were running reduced timetables. Capacity of trains had to be reduced to meet social distancing restrictions, and the number of trains is not directly linked to passenger numbers (which fell by 48%).

During the first wave of the pandemic from March 2020, services were kept running for the use of key workers. Service numbers were adjusted in stages as restrictions were relaxed.

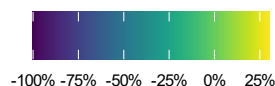


Looking at the full year, 22 of the participating countries experienced a fall in passenger train numbers. In Latvia and Germany, the number of trains was unchanged. The largest decrease was in Slovenia, where numbers fell by 30% due to suspension of services between 22 March and 10 May. The next largest decreases were in Lithuania (-22%), Italy and Croatia (-18%), Estonia and the UK (-17%).

Although the number of departures increased in some countries in Q1, there were decreases in nearly all countries in Q2 (with exception of Bulgaria, where the number remained unchanged). In Q3 and Q4, the number of passenger trains compared to 2019 fell in 18 countries.

**Figure 15** – Change in passenger train departures, monthly comparison

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Slovenia	+1%	+5%	-51%	-100%	-75%	-8%	-2%	-2%	+2%	-0%	-64%	-52%
Lithuania	+7%	+11%	-3%	-43%	-41%	-11%	-32%	-23%	-24%	-23%	-32%	-41%
France	-29%	+3%	-37%	-79%	-56%	-64%	-6%	-1%	+3%	+3%	-14%	+148%
Italy	+0%	+4%	-35%	-66%	-46%	-23%	-11%	-12%	-7%	-5%	-6%	-9%
Estonia	+2%	+5%	-3%	-45%	-45%	-31%	-19%	-20%	-15%	-10%	-11%	-10%
UK	+3%	+5%	-10%	-44%	-39%	-27%	-22%	-20%	-11%	-11%	-14%	-8%
Serbia	-3%	+17%	-32%	-100%	-44%	+3%	+2%	+0%	+0%	+3%	+4%	-5%
IRG	-2%	+4%	-13%	-40%	-27%	-17%	-7%	-6%	-1%	-2%	-5%	+5%
Norway	+1%	+4%	-11%	-32%	-23%	-11%	-8%	-14%	-2%	-6%	-4%	-8%
Poland	+2%	+5%	-9%	-32%	-29%	-15%	-8%	-7%	+1%	-1%	+0%	-1%
Sweden	+1%	+4%	-2%	-17%	-22%	-14%	-12%	-6%	-4%	-4%	-6%	-4%
Portugal	-1%	+0%	-11%	-36%	-12%	+0%	-5%	-2%	+0%	-4%	-3%	-5%
Slovakia	+1%	+4%	-15%	-28%	-16%	-4%	-1%	-3%	-4%	-5%	-3%	-2%
Belgium	+0%	+5%	-12%	-41%	-11%	-3%	-4%	+1%	-0%	-3%	-5%	+3%
Finland	+4%	+7%	-2%	-3%	-12%	-8%	-9%	-5%	-2%	-4%	-3%	-1%
Greece	+28%	+31%	-1%	-54%	-15%	+7%	+2%	+4%	+1%	+7%	-16%	-20%
Latvia	+1%	+5%	+0%	-5%	-8%	-1%	-1%	+2%	+3%	-1%	-1%	+1%
Germany	+2%	+4%	-3%	-22%	-6%	+3%	+5%	+3%	+6%	+5%	+5%	+4%



The combined monthly data from 17 countries show that the number of passenger trains fell by 2% in January. This can be attributed to strike action in France, where the number of trains in January 2020 fell by 29%.

In March there was a fall of 13%, as restrictions were imposed throughout the month. The largest decrease was in April where numbers fell by 4%, from 2.8 million to 1.6 million. More services started to run from June due to a relaxation in lockdown measures, and there were small decreases in July and August.

In September and October, the number of trains running in all participating countries was similar to numbers in 2019. However, this did vary by country, with decreases of more than 10% in three countries (UK, Estonia and Lithuania). In November there was a decrease of more than 10% in six countries.

While in April lockdown measures affected train numbers in all countries, in the second half of the year levels of restrictions varied in each countries. This led to increased train numbers in some countries (similar to 2019 levels) and decreases in others.

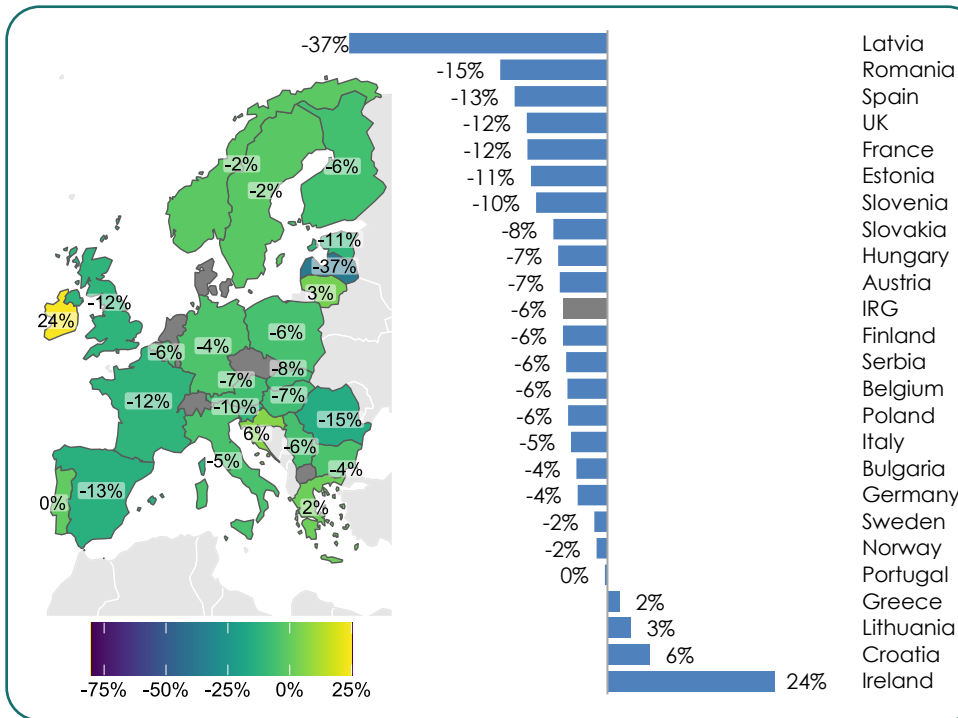
Germany was the only country where from June onwards passenger train numbers were higher compared to the same month in 2019. The largest decreases in train numbers in November and December was in Slovenia.





## The freight train departures fell by 6% on average in 2020

Figure 16 – Change in freight train departures, comparison 2020/2019



The number of freight trains fell during 2020, particularly during the months April to June.

During 2020 there were 4.0 million freight trains running in 24 countries. This was a decrease of 6% compared to 2019, when 4.3 million freight trains ran. There were increases in numbers in some countries, with the largest increase in Ireland (+24%). However, this was due to lower-than-expected freight train departure figures in Ireland for 2019, when works resulted in some rail freight services being replaced by road haulage for their duration. Greece, Lithuania and Croatia also ran more freight trains in 2020 compared to 2019.

Although numbers were reduced, some countries prioritised freight services as passenger train numbers decreased. Freight services were needed for the rising demand in goods such as food, fuel and medicine during the pandemic.

Whereas the IRG total was a decrease of 6%, there were some increases in departure numbers (Greece, Lithuania, Croatia and Ireland).

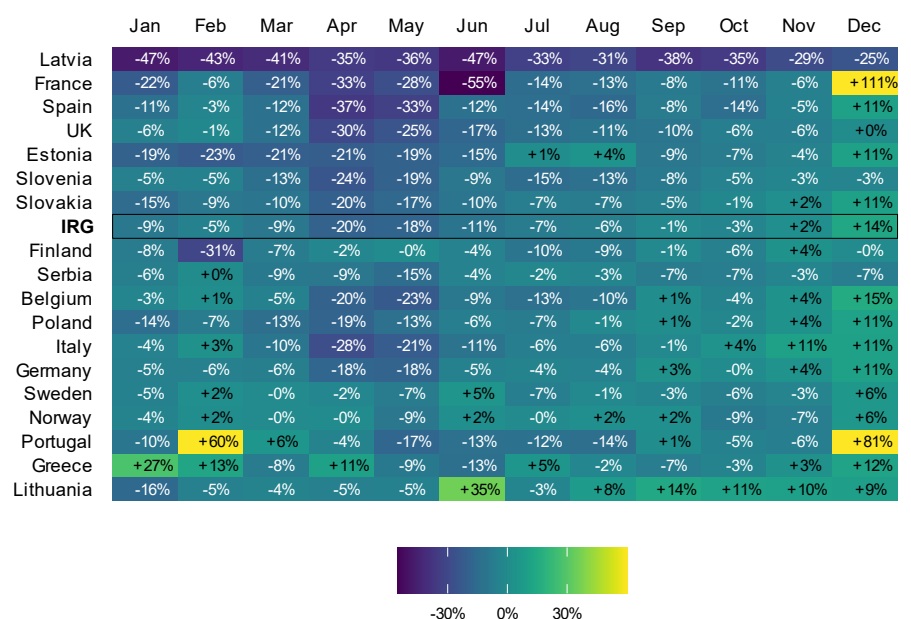
The combined monthly data from number of freight departures fell by 9% and 5% in January and February, suggesting this was due to reasons other than the pandemic. The largest decrease was 20% in April, from 287,000 trains to 231,000. The extent varied with falls of over 20% in 8 countries, but there was an increase of 11% in Greece.

In May the number of freight trains decreased by 18%, and there were smaller decreases of 1-7% between June and October. The combined numbers increased in November and December. This was driven by increase in services in Germany and Poland.

The largest decreases were in Latvia, due to changes in the world market meaning less cargo was transported through Latvian ports, and Russia and Belarus also reducing traffic.

Lithuania was the only country where freight train numbers were higher compared to the same month in 2019, from June 2020 onwards. Strike action in France in December 2019 and January 2020 affected freight train numbers, leading to a large increase in December 2020 compared with December 2019.

Figure 17 – Change in freight train departures, monthly comparison



# 06

## Punctuality



### 2019 ► 2020 comparison

**17/20** countries recorded annual improvement of punctuality **for passenger trains**

**16/17** countries recorded annual improvement of punctuality **for freight trains**



The % of trains arriving on-time increased by

**>4 pp** for 3 countries for passenger trains

**>9 pp** for 2 countries for freight trains

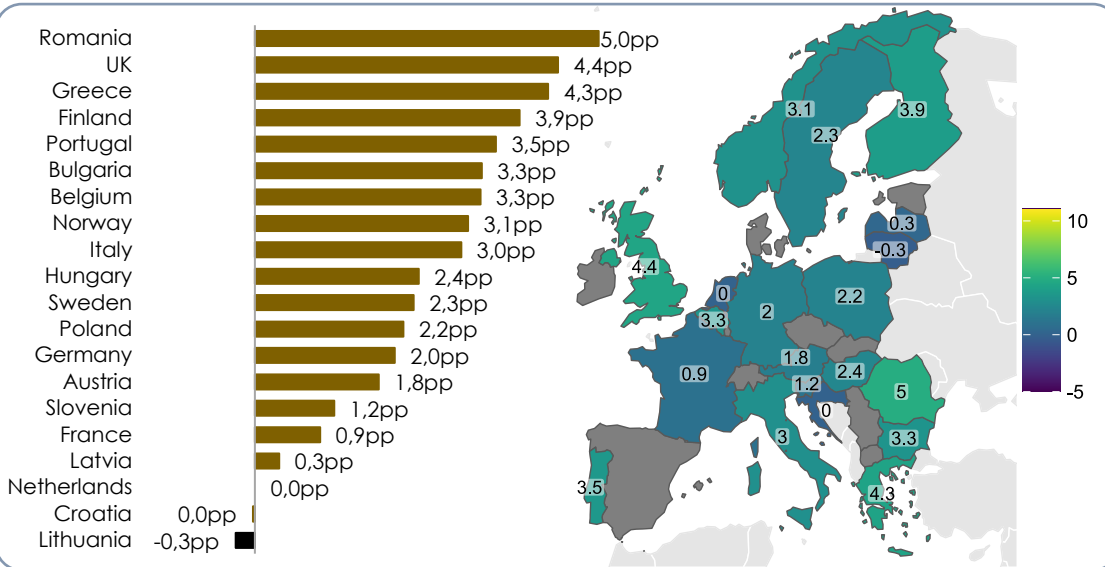
The sample used to calculate these figures is specified in the following pages.



## The punctuality of passenger services improved in almost all countries in 2020

This measure looks at the percentage of passenger trains that arrived on time/within schedule. In most countries this is measured by the number of services that arrive within 5 minutes 0 seconds of the scheduled arrival time, however some countries adopt different punctuality thresholds (e.g. within 3 minutes). This difference in thresholds should not affect the data, as the same 'on-time' measure was used consistently by a country in both 2019 and 2020.

**Figure 18** – Change in percentage points (pp) of passenger trains arriving on time\*, comparison 2020/2019



Looking at data for the full year in 2020, 17 of the 20 countries that submitted data reported an improvement in the punctuality of their services compared with the previous year. The largest increase was in Romania where punctuality improved from 77% in 2019 to 82% in 2020 (up 5.0 percentage points). There was also notable improvements in the United Kingdom (up 4.4pp) and Greece (up 4.3pp). The punctuality rates in the Netherlands, Croatia and Lithuania were largely unchanged compared with the previous year.

\* Threshold used by country: 5min29s for Austria; 5min59s for Belgium, Poland and Sweden; 5min00s or 10min00s for Spain (different between services); 5min00s for all other countries

Figure 19 shows how punctuality rates changed over the course of 2020 (compared to 2019). This highlights the overall improvements in punctuality since the start of the pandemic. Increases in January and February cannot be attributed to the pandemic as they preceded the introduction of restrictive measures in most cases.

By April, all 13 countries reported improvements in punctuality rates compared with the previous year. These improvements continued in June and July as many countries eased restrictions.

By August, there was increased variation between countries. Some countries continued to show substantial improvements compared to the previous year. These include Norway (+6.6pp), Portugal (+5.8pp) and the United Kingdom (+5.4pp). However, these improvements were not universal, with Lithuania, France, Italy and Slovenia all reporting a deterioration in punctuality rates compared to the previous year.

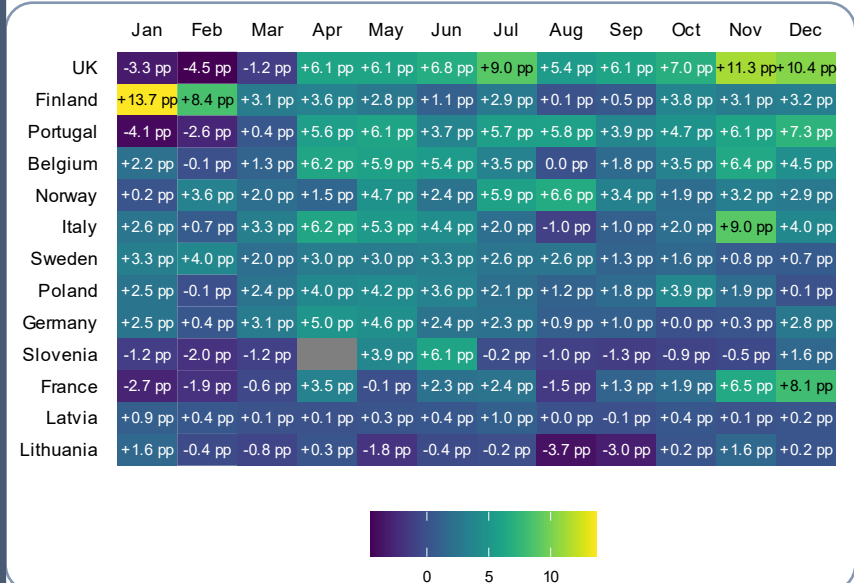
In most cases, this reflected already high levels of performance in 2019 (for example, Lithuania reported a punctuality rate of 96.9% in August 2019).

By the end of 2020, punctuality had improved in all countries. This is likely to reflect the tightening of restrictions in many countries and the fact that punctuality rates are typically lower in winter months as weather conditions worsen.

This pattern of improvements in punctuality can be attributed to multiple factors. The reduction in passenger numbers resulted in less crowding and subsequently a fall in the time trains spent at stations (dwell time). This meant trains were able to run according to the

timetable and depart stations on time. With fewer trains running, there was less wear and tear on the network and less congestion. This reduced the likelihood of knock-on impacts on other services when incidents occurred.

**Figure 19** – Change in percentage points (pp) of passenger trains arriving on-time, monthly comparison



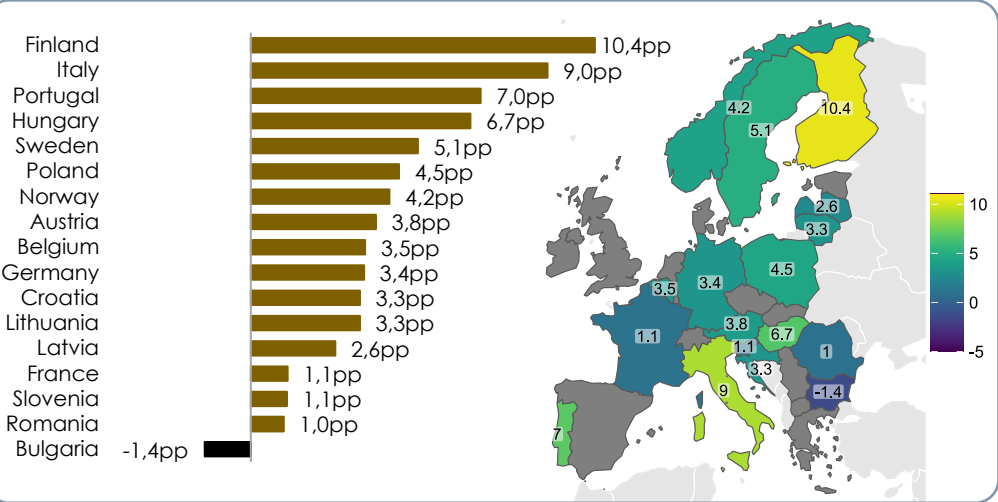


## The punctuality of freight services increased by more than 5 pp in five countries

This section looks at the punctuality of freight services in 2020 compared to the previous year. Countries use different punctuality thresholds, ranging from within five minutes to within 60 minutes of scheduled arrival time. Similar to passenger services punctuality, these differences should not affect the analysis as the same thresholds were used in both years.

**Figure 20** – Change in percentage points (pp) of freight trains arriving on-time\*, comparison 2020/2019

Looking at data for 2020, most countries reported improvements in the punctuality of freight services compared with 2019. The largest increase was in Finland where punctuality increased from 71.7% in 2019 to 82.2% in 2020 (up 10.4 pp). It should be noted that Finland reported a substantial increase in freight punctuality in January and February, therefore these year-on-year improvements cannot solely be attributed to the effects of the pandemic. There were also notable improvements in Italy (up 9.0 pp), Portugal (up 7.0 pp) and Hungary (up 5.1 pp). The only country where punctuality worsened was in Bulgaria (down 1.4 pp).



\* Threshold used by country: 5min59s for Sweden; 15min00s for Germany and Portugal; 15min59s for Poland; 30min00s for Austria and Belgium; 60min00s for Romania and Spain; 5min00s for all other countries

Like passenger trains, the reduction in freight services led to improvements in punctuality. As the number of trains on the network was reduced, there was less network congestion and conflicts between train paths. With fewer passengers travelling, freight services were prioritised in some countries. This meant that freight trains were given priority in slot

allocation with less passenger trains. There were greater improvements in freight punctuality compared to passenger services. Of the 17 countries that submitted data on both freight and passenger punctuality, 14 showed greater improvements in freight punctuality than for passenger services.

**Figure 21** – Change in percentage points (pp) of freight trains arriving on-time, comparison 2020/2019

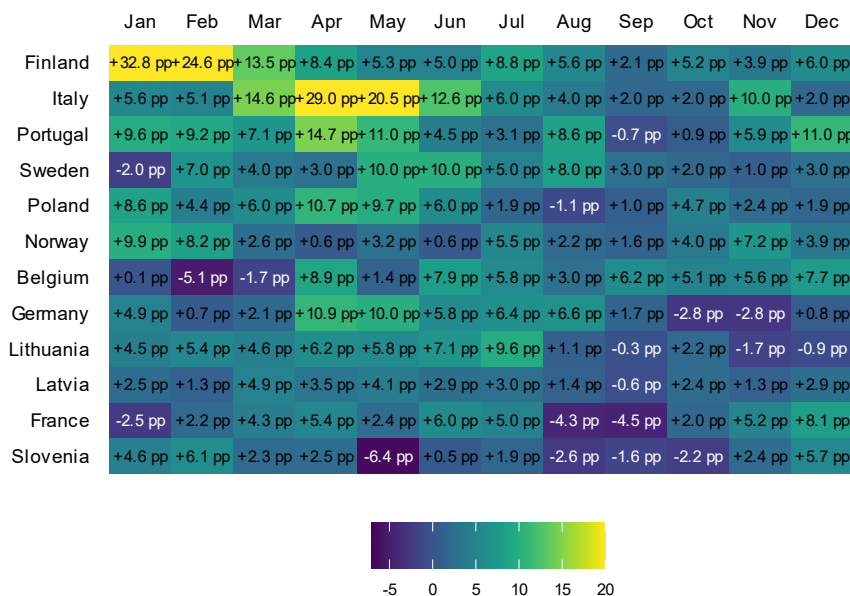


Figure 21 shows how freight punctuality rates have changed over the course of 2020 (compared to the previous year). This highlights the overall improvements in freight punctuality since the start of the pandemic. As with passenger services, despite some countries showing improvements in punctuality in January to March, these increases cannot be attributed to the pandemic as they preceded the introduction of restrictive measures in most cases.

From April to July, 11 countries reported improvements in punctuality rates compared to the previous year. These improvements were greater than those reported for passenger services, and punctuality in Italy increased by 29 percentage points. From August onwards, the improvements were smaller. This reflects increased network activity with a rise in freight and passenger train numbers compared to earlier in the year.