

# Mind the gap!

## Europe's Rail Operators: A Comparative Ranking.

# Transport & Environment

Published: 9th December 2024, updated 20th December 2024

Authors: Victor Thévenet, Thomas Enriquez

Analysis: Thomas Enriquez

Visualisation: Thomas Enriquez, Cristina Pita

Expert group: Juliette Egal, Barbara Stoll, Jens Müller, Thomas Earl, Martin Baierl, Paul Bell, Diane Vitry, Gonzalo Cachero

Editeur responsable: William Todts, Executive Director

© 2024 European Federation for Transport and Environment AISBL

## To cite this report

Transport & Environment (2024). Mind the Gap! European Rail Operators Services Ranked

## Further information

Gonzalo Cachero

Communications Officer

Transport & Environment

[gonzalo.cachero@transportenvironment.org](mailto:gonzalo.cachero@transportenvironment.org)

[www.transportenvironment.org](http://www.transportenvironment.org) | [@transenv](https://twitter.com/transenv) | fb: Transport & Environment

## Acknowledgements

The findings and views put forward in this publication are the sole responsibility of the authors listed above.

We would like to thank the five rail operators and the French *Autorité de Régulation des Transports (ART)* that have given us feedback on the data collected. Two additional rail operators have acknowledged receiving our data but did not communicate further.

# Table of contents

<b>Executive summary</b>	<b>4</b>
<b>1. Context and aim of the ranking</b>	<b>6</b>
1.1 Rail is one of the cornerstones of zero emission mobility and its potential should be maximised	6
1.2 Change will only happen if we create the right conditions	6
1.3 Aim of the ranking	6
<b>2. Our methodology</b>	<b>7</b>
2.1 Guiding principles of the analysis	7
2.2 Ranking 27 rail operator services	7
2.3 Eight criteria selected to rank rail operators	9
<b>3. Trenitalia, RegioJet and ÖBB ranked best overall performers</b>	<b>10</b>
3.1 Germany's new rail entrant, Flixtrain, is the most cost-competitive operator in Europe	14
3.2 Special fares and reduction: key to provide affordable services to travellers	18
3.3 SBB wins the medal of reliability	20
3.4 SBB, ÖBB and Flixtrain provide consumers with the best booking experience in Europe	21
3.5 SNCB, GWR, CP and Avanti have the most generous compensation policies in Europe	23
3.6 SNCF, Trenitalia and Deutsche Bahn are providing the best traveller experience	25
3.7 Half of the rail operators run night train services	27
3.8 SNCB and SBB provide the best services to cyclists	28
<b>Key actions for improving rail services</b>	<b>29</b>
<b>Methodological annex</b>	<b>30</b>

## Executive summary

A high performing rail system is one of the cornerstones of the zero emission mobility system, yet rail services in Europe fall short of expectations. According to the EU, only 59% of Europeans are satisfied with rail punctuality and reliability.<sup>1</sup>

To drive improvements in the sector and inform policy changes at both national and European levels, T&E has developed the most comprehensive ranking of European rail operator services to date. The ranking evaluates 27 operators across eight key criteria, including ticket prices, punctuality, and onboard amenities. The analysis focuses on medium and long-distance domestic connections, except for the assessment of night trains and companies operating primarily on international routes.

The main findings of the ranking are the following:

- **Expensive rail tickets don't guarantee high quality**

Our analysis shows that ticket prices do not correlate with higher service quality. While ÖBB and Trenitalia offer a strong price-to-quality ratio, operators like Eurostar charge nearly twice the European average price per kilometre, yet fail to deliver better services.

- **European Rail Operators struggle with reliability**

The reliability of major rail operators in Europe remains disappointing. Of the 25 operators with punctuality data, only 8 (32%) achieve a rate above 80% using a threshold of five minutes to define delays. Furthermore, one-third of operators do not publicly share their train cancellation data.

Italy's primary rail operator, Trenitalia, ranks highest in our overall assessment, while Eurostar is at the bottom. Trenitalia scores well in several major criteria except for cycling specifically. In contrast, Eurostar faces challenges with ticket pricing and reliability, which are the most heavily weighted factors in the overall score.

T&E's ranking comes amid growing consensus about the necessity of improving rail services in Europe<sup>2</sup>. **The potential of rail as one of the most sustainable**

---

<sup>1</sup> Eurobarometer (2018). *Survey on passenger satisfaction with rail services*. Accessed: [link](#)

<sup>2</sup> Enrico Letta (2024). *Much More Than a Market*. Accessed: [link](#)

modes of transport can be maximised if train operators implement best practices and policy-makers make targeted regulatory changes:

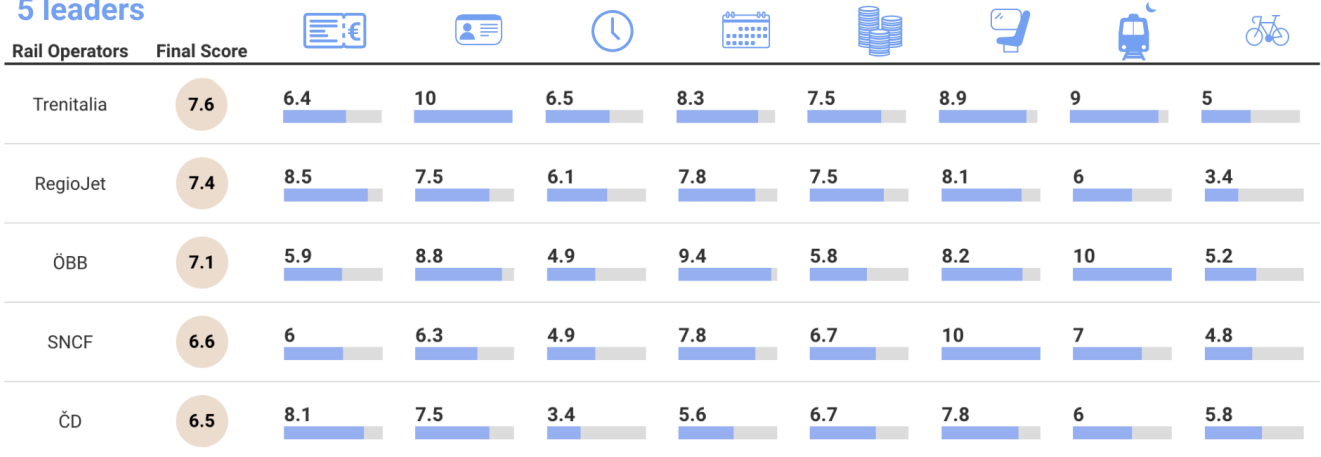
- Rail operators should provide better compensation in case of delays, offer attractive special fares, sell their tickets at least six months in advance and put in place a flexible booking system.
- The EU and Member States should ensure fair competition, enact Single Ticketing regulation, reduce excessive rail tolls, lower VAT and invest in the maintenance and digitalisation of the network.

## Top leaders and laggards of the ranking

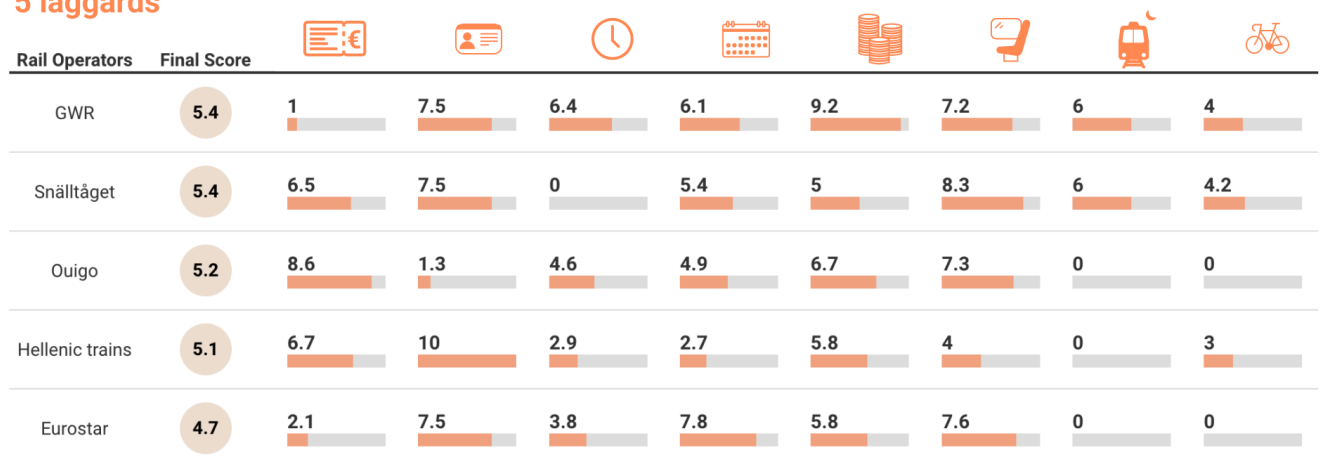
Legend

- Ticket Price 
 Special fares and reductions 
 Reliability 
 Booking experience 
 Compensation policies 
 Traveller experience 
 Night trains 
 Cycling policy

### 5 leaders



### 5 laggards



Source: T&E



# 1. Context and aim of the ranking

## 1.1 Rail is one of the cornerstones of zero emission mobility and its potential should be maximised

Decarbonising transport is urgent. While emissions in other sectors have declined since 1990, transport emissions in Europe have continued to grow, making it the largest source of greenhouse gases in the EU. In 2022, rail emissions accounted for 0.4% of transport emissions despite representing 7% of the EU's passenger traffic<sup>3</sup>. Between 1990 and 2023, overall transport emissions rose by 27%, with aviation emissions nearly doubling. In contrast, rail emissions decreased by 70% during the same period<sup>4</sup>.

A performant rail system is one of the cornerstones of the zero emission mobility system, alongside electric vehicles, buses and clean fuels for aviation and shipping. Already, millions of Europeans rely on rail for zero emissions journeys to go to work or to travel. We advocate for policy change that will help European rail maximise its climate potential.

## 1.2 Change will only happen if we create the right conditions

Rail services in Europe fall short of expectations. According to the EU, only 59% of Europeans are satisfied with rail punctuality and reliability<sup>5</sup>. Based on the evidence of what rail passengers prioritise, we define quality services as those that:

- connect cities with frequent and reliable services;
- offer modern, comfortable trains that support productivity, relaxation and rest;
- provide affordable fares aligned with the cost of living;
- provide easy online booking and uphold strong passenger rights in case of delays or cancellations;
- connect with other transport modes (e.g. buses or bicycles rental) to reach an end destination.

## 1.3 Aim of the ranking

Our report, *Mind the gap! Europe's Rail Operators: A Comparative Ranking*, evaluates the services of European rail operators. It compares 27 operators and provides a pan-European overview of rail service quality.

Our goals are twofold:

- Encourage rail operators to improve their services by learning from each other and highlighting sector best practices

---

<sup>3</sup> European Council (2024). *Rail Transport Policy*. Accessed: [link](#)

<sup>4</sup> Transport & Environment (2024) *The State of European Transport 2024*. Accessed: [link](#)

<sup>5</sup> Eurobarometer (2018). *Survey on passenger satisfaction with rail services*. Accessed: [link](#)

- Urge the EU and national authorities to support rail operators to improve their services through regulation

We developed the most comprehensive ranking of European rail operator services to date. Previous rankings have relied on self reporting by the operators or focused on rail networks. For instance, in 2018, the search and booking platform Loco2 published *Great Train Comparison Report*<sup>6</sup>, which involved sending a 100 points survey to 12 operators. In 2024, the European consumers organisation BEUC compared 11 national rail systems in its *Railway to (consumers) heaven report*<sup>7</sup>.

Improving rail services across Europe must be a collective effort from the rail operators, infrastructure managers, national authorities and the EU. This shared responsibility is reflected in our policy recommendations, which target these actors.

## 2. Our methodology

### 2.1 Guiding principles of the analysis

Our report primarily relies on information gathered from the websites of the rail operators, national authorities, relevant stakeholders (such as the European Cyclist Federation and Back on Track EU), ticket vendors, and, in some cases, independent rail blogs. When information was missing, we contacted rail operators online or by email. Subsequently, all 27 rail operators were provided with the raw data in September 2024 and the opportunity to correct or supplement it. Seven operators acknowledged receipt of our data, and five of these provided updates on specific points.

### 2.2 Ranking 27 rail operator services

We selected 27 rail operators representing services in 21 European countries. To ensure geographical balance, our ranking includes both large and smaller operators from across the continent. We included several new rail entrants (e.g. Italo, RegioJet) as well as low-cost operators (e.g. Flixbus, Ouigo) to provide a comparison with established rail operators. This analysis focuses primarily on medium and long distance domestic connections, with exceptions for operators focusing on international routes and for operators with a smaller network.

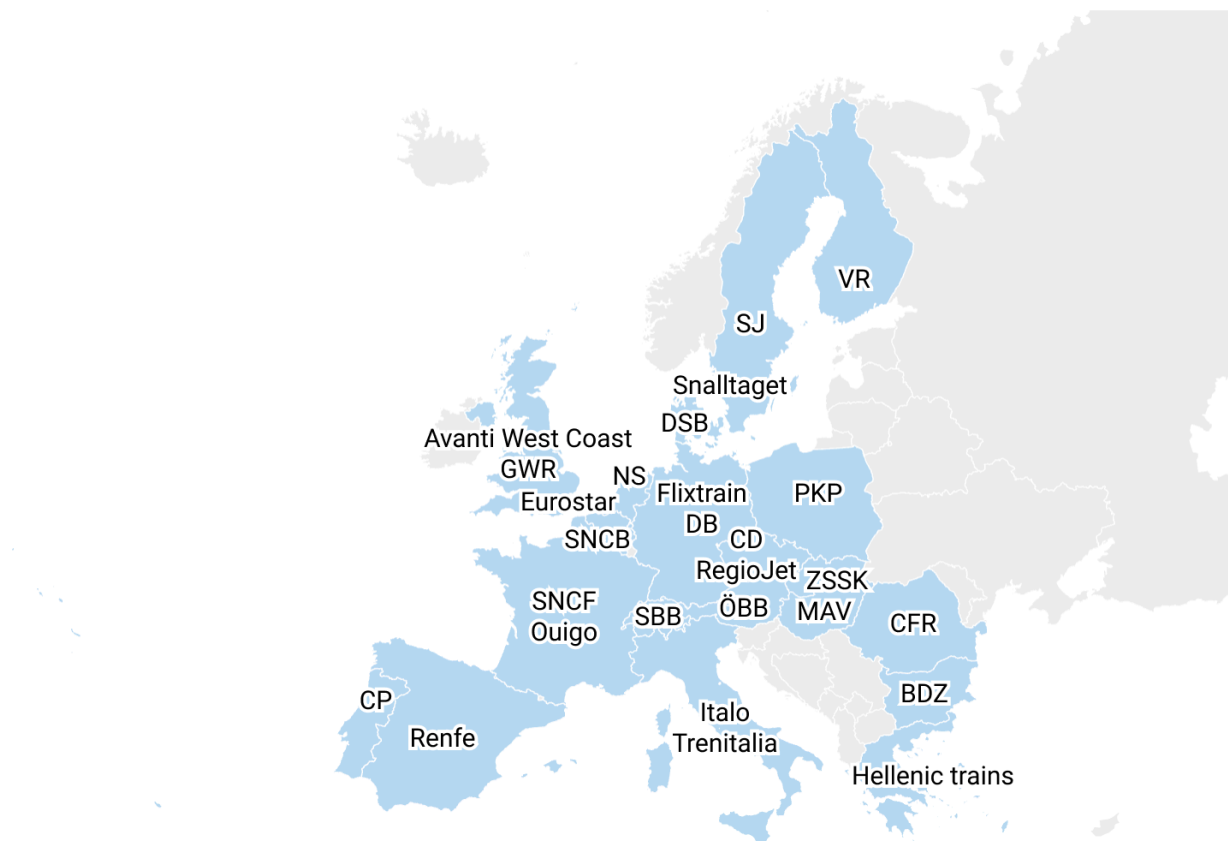
The map below displays the 27 rail operators included in this report and the countries in which they primarily operate.

---

<sup>6</sup> Loco2 (2018) *The Great Rail Comparison*. Original report is not accessible anymore. Information accessed [here](#)

<sup>7</sup> BEUC (2024) *Railway to (consumer) heaven*. Accessed: [link](#)

## Geographic distribution of rail operators included in T&E's ranking



Source: T&E



### Shared responsibility: The role of National context and infrastructure

We assessed rail operators based on eight criteria, finding that rail services in Europe are not satisfactory. However, differences between operators indicate that substantial improvements are possible. The sector has not managed to resolve these issues independently, highlighting the need for policy and regulatory intervention.

Nevertheless, we recognize that rail operators may not always have full control over their performance across each criteria.

For instance, reliability and ticket prices are shared responsibility among operators, the rail infrastructure managers on whose networks they use, and national regulatory authorities. Ticket prices are directly affected by each Member State's VAT rate and the track access charges (rail tolls) set by infrastructure managers, while reliability depends on both operator performance and the quality of rail tracks.



However, certain criteria fall essentially within the operators control, such as special fares or discounts for specific groups, ticket availability on booking platforms, and the ease of bringing bikes on board.

Given this shared responsibility, our policy recommendations are directed not only to rail operators but also to EU and national authorities.

## 2.3 Eight criteria selected to rank rail operators

### Criteria that make up T&E's rail ranking



Ticket Price

25%



Special Fares  
and Reductions

15%



Reliability

15%



Booking  
Experience

15%



Traveller  
Experience

10%



Compensation  
Policy

10%



Night  
Trains

5%



Cycling  
Policy

5%

Percentages represent the weight of each criteria in the final score



The 27 rail operators are ranked based on eight criteria (see the infographic above). We selected and weighed these criteria according to their importance to consumers and the number of sub-criteria included. The weighting reflects insights from McKinsey<sup>8</sup>, Europe on Rail<sup>9</sup>, ING<sup>10</sup> surveys, and our own analysis:

<sup>8</sup> McKinsey (2022) *Boosting passenger preference for rail*. Accessed: [link](#)

<sup>9</sup> Europe On Rail / Germanwatch (2021) *European public opinion poll shows support for shifting flights to rail*. Accessed: [link](#)

<sup>10</sup> ING (2022). *From plane to train: Europe is pushing climate-friendly travel*. Accessed: [link](#)

- **Ticket prices (25%):** Multiple opinion polls show this is the primary factor in consumer decisions. McKinsey found that 49% of the respondents in Europe cited price as the primary factor in choosing a transport mode. In addition, Europe on Rail also found that 73 percent of respondents think that rail travel on the same route should generally be cheaper than air travel.
- **Special fares and reductions (15%):** As noted, affordability is key. Special fares make rail accessible to those unable to afford regular tickets, while also helping operators maximise utilisation.
- **Reliability (15%):** Reliability is an important consumer priority. McKinsey found that reliability ranks as the second most important factor for selecting a transport mode.
- **Booking experience (15%):** Many consumers can be deterred from choosing rail due to poor booking experiences, both before and after ticket purchase. ING research shows that booking an international train journey in Europe has a dropout rate ten times higher than booking a flight.<sup>11</sup>
- **Compensation policies (10%):** T&E estimates this reflects the importance of strong compensation policies for price-sensitive passengers.
- **Traveller experience (10%):** Journey speed and comfort are among the top factors for McKinsey survey respondents.
- **Night train development and cycling policies (5% each):** These criteria assess specific service aspects relevant to a smaller share of passengers.

Our analysis could have included additional criteria, such as train frequency, geographic coverage and accessibility for people with disabilities. While valuable, these factors were not included due to challenges in isolating data for specific operators rather than the network as a whole. The lack of available data on accessibility in itself is a sign that more needs to be done on this topic. Although not exhaustive, our eight criteria offer a well-rounded assessment of European rail services, providing insights into both the top performing and underperforming operators.

Section 2 provides a snapshot of the report's methodology. For further details, please refer to the **methodological annex** at the end of this report.

### 3. Trenitalia, RegioJet and ÖBB ranked best overall performers

Our analysis reveals that among the 27 rail operators selected **Trenitalia, RegioJet and ÖBB** are providing the best rail services in Europe while **Ouigo, Hellenic Trains** and **Eurostar** offer the least to travellers.

---

<sup>11</sup> ibid

# T&E's European Rail Operator Ranking

## Legend

- Ticket Price
- Special fares and reductions
- Reliability
- Booking experience
- Compensation policies
- Traveller experience
- Night trains
- Cycling policy

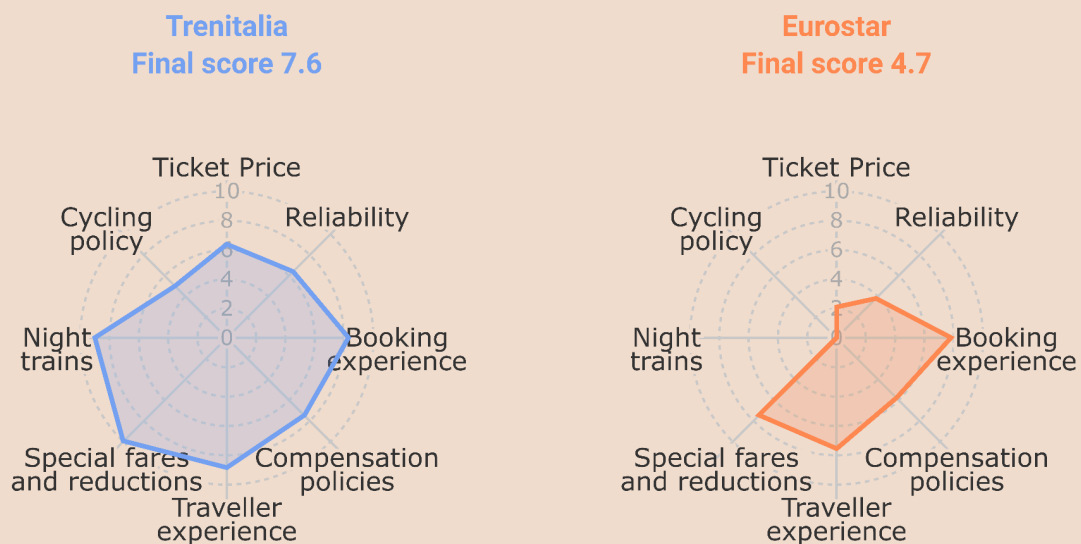
Rail Operators	Final Score								
Trenitalia	7.6	6.4	10	6.5	8.3	7.5	8.9	9	5
RegioJet	7.4	8.5	7.5	6.1	7.8	7.5	8.1	6	3.4
ÖBB	7.1	5.9	8.8	4.9	9.4	5.8	8.2	10	5.2
SNCF	6.6	6	6.3	4.9	7.8	6.7	10	7	4.8
ČD	6.5	8.1	7.5	3.4	5.6	6.7	7.8	6	5.8
PKP	6.5	7.1	10	4.5	3.7	5.8	8.1	8	3.6
Renfe	6.4	6.8	8.8	7.4	4.8	7.5	8.4	0	0
Italo	6.4	6.8	10	3.7	8	6.7	7.6	0	0
VR	6.4	7.8	5	6	5.5	5.8	8.3	6	4.8
SJ	6.3	6.9	10	4	4.8	5.8	8.5	7	0
SBB	6.3	2.9	7.5	7.8	9.7	5	8	3.5	7.6
CFR	6.1	7.4	7.5	5.3	4.3	5	6.3	10	1.6
DSB	6.1	7.7	6.3	3.1	8.6	7.5	5.7	0	3.6
SNCB	6.1	5.6	8.8	7.4	4.8	9.2	2.7	0	7.6
ZSSK	6.1	7.6	7.5	5.7	3.3	4.2	8	6	3.8
MÁV	5.9	8.1	7.5	0	5.4	5.8	6.4	8	6.8
DB	5.8	6.2	6.3	2.5	7.7	5.8	8.7	0	6.6
CP	5.7	5.4	10	0.4	6.3	9.2	6.9	0	4.4
Avanti West Coast	5.7	4.5	7.5	3.8	6.4	9.2	7.5	0	4.6
Flixbus	5.5	9	0	3.9	8.7	5.8	6.2	0	2.6
NS	5.5	5.1	3.8	7.8	6.1	8.3	4.1	0	6
BDZ	5.4	8.4	10	0	2.7	5	5	7	1.8
GWR	5.4	1	7.5	6.4	6.1	9.2	7.2	6	4
Snälltåget	5.4	6.5	7.5	0	5.4	5	8.3	6	4.2
Ouigo	5.2	8.6	1.3	4.6	4.9	6.7	7.3	0	0
Hellenic trains	5.1	6.7	10	2.9	2.7	5.8	4	0	3
Eurostar	4.7	2.1	7.5	3.8	7.8	5.8	7.6	0	0

## Best and worst: a comparison

Italy's primary rail operator, Trenitalia, ranks highest in our assessment, while Eurostar is at the bottom. As shown in this graph, Trenitalia scores well in several major criteria except for cycling specifically. In contrast, Eurostar faces challenges with ticket pricing and reliability, which are the most heavily weighted factors in the overall score. Eurostar's performance in other areas is either average (booking experience, compensation) or poor (night trains and cycling policies).

### Trenitalia takes the lead, while Eurostar lags behind

Scores comparison between the first and the last operators from T&E's ranking



Source: T&E • Scores are based on publicly available data from the operators. This figure was updated on the December, 20, 2024



Eurostar could improve its score by implementing some quick changes, but it would also require support from public authorities, including the EU, the UK government and Member States in which it operates. Eurostar serves as a clear example of how improving rail services in Europe is a shared responsibility between industry and public authorities.

Below we outline specific actions Eurostar and public authorities can take. Most of those actions apply to all rail operators and national authorities.

	<b>Eurostar actions</b>	<b>Public authority actions</b>
<b>Pricing (2.1/10)</b>	<ul style="list-style-type: none"> <li>- <b>Offer more affordable fares</b>, such as relaunching Thalys IZY trains. The new Snap service is a positive step</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Facilitate rail competition</b> to encourage Eurostar to reduce prices</li> <li>- <b>Lower rail tolls</b>, particularly for the channel tunnel</li> <li>- <b>Reduce VAT</b> on international train tickets</li> </ul>
<b>Reliability (3.8/10)</b>	<ul style="list-style-type: none"> <li>- <b>Increase transparency</b>, for instance by publicising cancellation data and defining a delayed train as from 5 min of scheduled time</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Invest in the maintenance, digitalisation and key upgrades</b> to the infrastructure used by Eurostar, such as the Dutch network</li> <li>- <b>Simplify UK/EU border checks</b></li> </ul>
<b>Compensation policies (5.8/10)</b>	<ul style="list-style-type: none"> <li>- <b>Provide more generous compensation policies</b>, going above the minimum EU requirements</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Mandate all rail operators to provide compensation for delays above 15 min</b></li> </ul>
<b>Night trains (0/10)</b>	<ul style="list-style-type: none"> <li>- <b>Reconsider once-planned “Nightstar” services</b></li> </ul>	<ul style="list-style-type: none"> <li>- <b>Lower rail tolls</b> for night train services</li> </ul>
<b>Cycling policy (0/10)</b>	<ul style="list-style-type: none"> <li>- <b>Include more bicycles spaces</b> in the next generation trains and for all Eurostar lines</li> </ul>	<ul style="list-style-type: none"> <li>- <b>Mandate rail operators to provide spaces for fully assembled bicycles</b></li> </ul>

Trenitalia has a margin of improvement when it comes to reliability and specifically on how it monitors the punctuality of its trains. Trenitalia only brands a train as “delayed” if it arrives at destination within one hour of scheduled time. Eurostar on their side uses a 15 min threshold for trains travelling outside of the UK. Most operators in Europe consider a threshold around 5 minutes to define a train as delayed. Consequently, both Trenitalia and Eurostar were given a penalty on their reliability score, proportionally to their delay threshold.

To evaluate Trenitalia punctuality we used the information found in their [annual report](#) for

2023. Nevertheless, it is worth mentioning that [another source](#) in the press suggests that Trenitalia punctuality may be lower than shown in their annual report. Unfortunately this article does not explicitly disclose the origin of the data.

We strongly encourage Trenitalia to enhance its transparency on the methodology used to calculate their punctuality and cancellation figures, especially in the context of the recent decrease of reliability at the second semester 2024.

### 3.1 Germany's new rail entrant, Flixtrain, is the most cost-competitive operator in Europe

The high cost of rail travel is the main barrier preventing consumers from choosing trains over planes or cars. Rail can be prohibitively expensive, especially for families. Greenpeace's report *Ticket prices of planes vs trains - A Europe-wide analysis*<sup>12</sup> found that rail trips are twice as expensive as flights on average.

Our analysis highlights that **Flixtrain**, **Ouigo** and **RegioJet** offer the most affordable fares while **SBB**, **Eurostar** and **GWR** rank as the most costly rail operators, as illustrated in the figure below. For routes of comparable lengths, Eurostar is almost two times more expensive than other European operators.

We compared prices of operators based on whether the operators provide public services obligations (PSO), or if it runs open access services (non PSO), and found no significant differences. See the [methodological annex](#) for further details.

Ticket prices were calculated by examining average ticket costs on weekdays, both seven and 28 days in advance. We collected only standard fares, simulating one-way trips for a middle aged individual travelling in 2<sup>nd</sup> class, without optional seat reservation or subscription. To ensure comparability, we adjusted prices using comparative price levels indexes<sup>13</sup>, resulting in a price index in euros per kilometre (€/km).

Special fares and reductions were analysed separately to compare rail operators on an equal basis. Nevertheless, in some countries, like in Switzerland, there is a very high share of travellers that have discount cards. A relevant follow-up analysis would be to do a pan-European comparison of the share of travellers having discount cards and how this impacts the final price paid by consumers.

We recognise that the rail operators do not have the full control of ticket price. Ticket prices also reflect VAT and rail tolls set by national authorities and the infrastructure manager. However, operators remain a primary entity responsible for setting ticket prices, and limited

---

<sup>12</sup> Greenpeace (2023) *Ticket prices of planes vs trains - A Europe-wide analysis*. Accessed: [link](#)

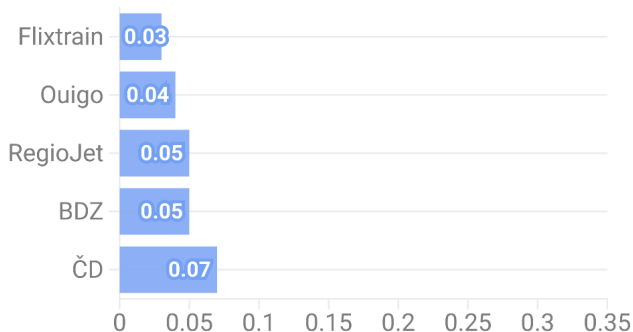
<sup>13</sup> Eurostat (2024) *Comparative price levels*. Accessed: [link](#)

transparency exists regarding the breakdown of ticket prices. Operators are often responsible for offering special fares and discounts to passengers.

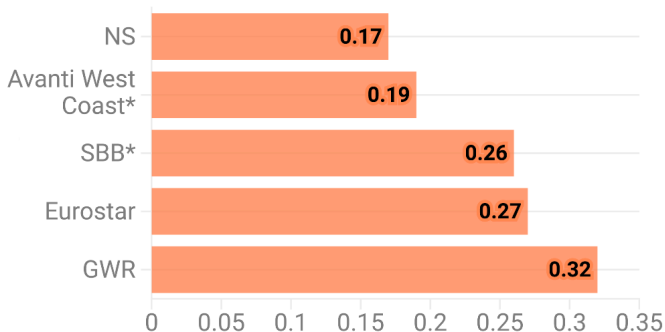
## SBB, Eurostar and GWR are the most expensive operators in Europe

Price index (€/km) per operator

### Leaders (the 5 most affordable operators)



### Laggards (the 5 most expensive operators)



### Key Figures

- **Flixtrain** is four times cheaper than **DB**, the main rail operator it competes with in Germany
- Travelling by rail in the UK and Switzerland is particularly costly, with **Avanti** fares being one and half times more expensive than the average EU operator and **GWR** two and a half times higher
- **Eurostar** tickets are in average almost twice the price of other operators in Europe
- **Eurostar** are noticeably expensive compared with other international operators, costing five times as much as **RegioJet**

Source: T&E • Data were collected from each operator's respective website. Prices were adjusted for the comparative price levels of the operator's country

\* Data were updated on December 20, 2024

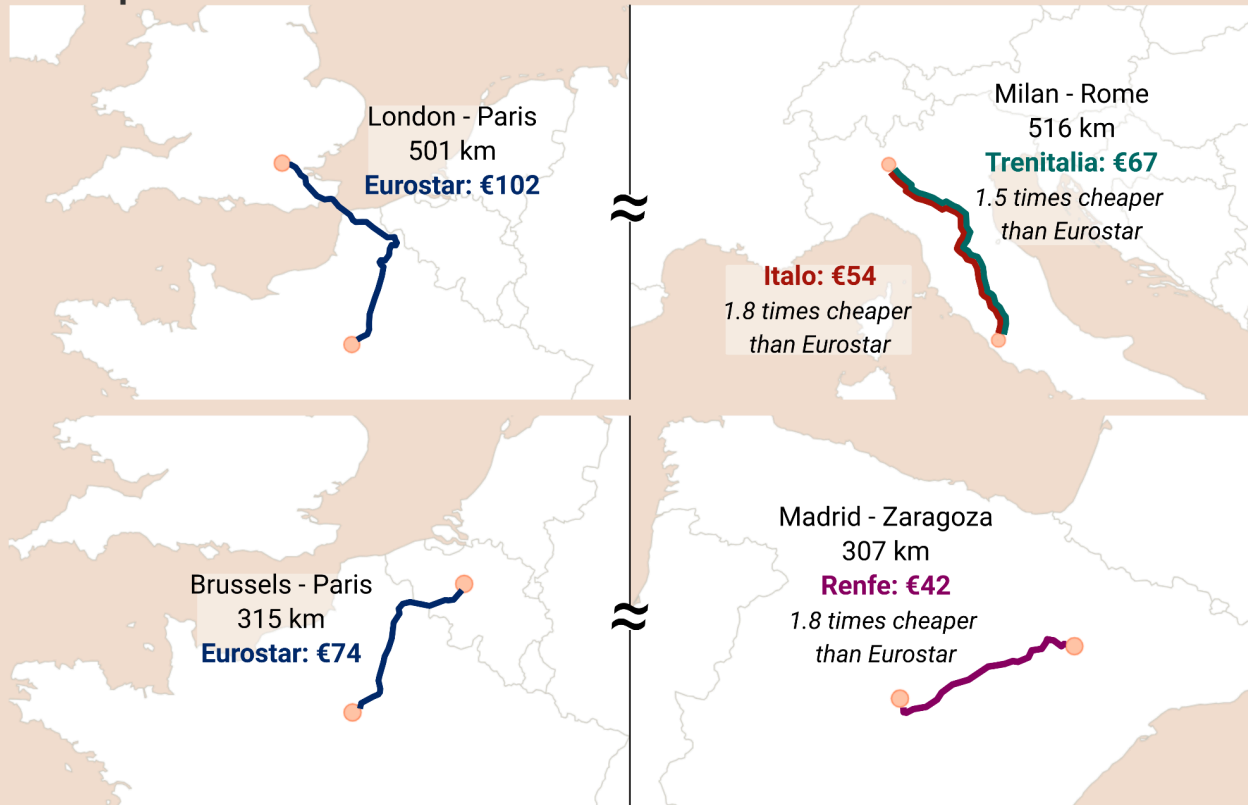


Despite external factors, comparing ticket prices for the same routes shows price differences. For instance, on the Milan to Rome route, Italo offers fares 1.2 times lower than Trenitalia. Similarly, Flixtrain's fares for Berlin to Hamburg are 5.5 times lower than DB. This illustrates that a portion of the ticket pricing is set by the operator. Additional components of the ticket price include the staff and energy costs, as well as the company's profit margin.

## A focus on Eurostar and UK ticket prices

Eurostar tickets are nearly double the price of other European operators offering long-distance high-speed journeys of similar length. As illustrated in the comparisons below, these elevated fares cannot be attributed solely to costs associated with the channel tunnel.

### Eurostar tickets are more expensive compared to similar-length routes from other operators



Source: T&E, Google Maps. Prices collected from operators' websites. Prices were adjusted for the comparative price levels of the operator's country



In our analysis the most expensive rail operators are the ones operating in Switzerland and totally or partially in the UK (Aventi West Coast, GWR and Eurostar). While further research would be required, it is possible to suggest that the UK rail system (high infrastructure costs and private monopolies) has a responsibility in this result.



## Expensive tickets do not guarantee high quality

Our analysis shows that price indexes do not correlate with scores for criteria other than pricing. The figure below demonstrates significant price variability among operators with similar average scores. This suggests that higher prices do not guarantee higher service quality.

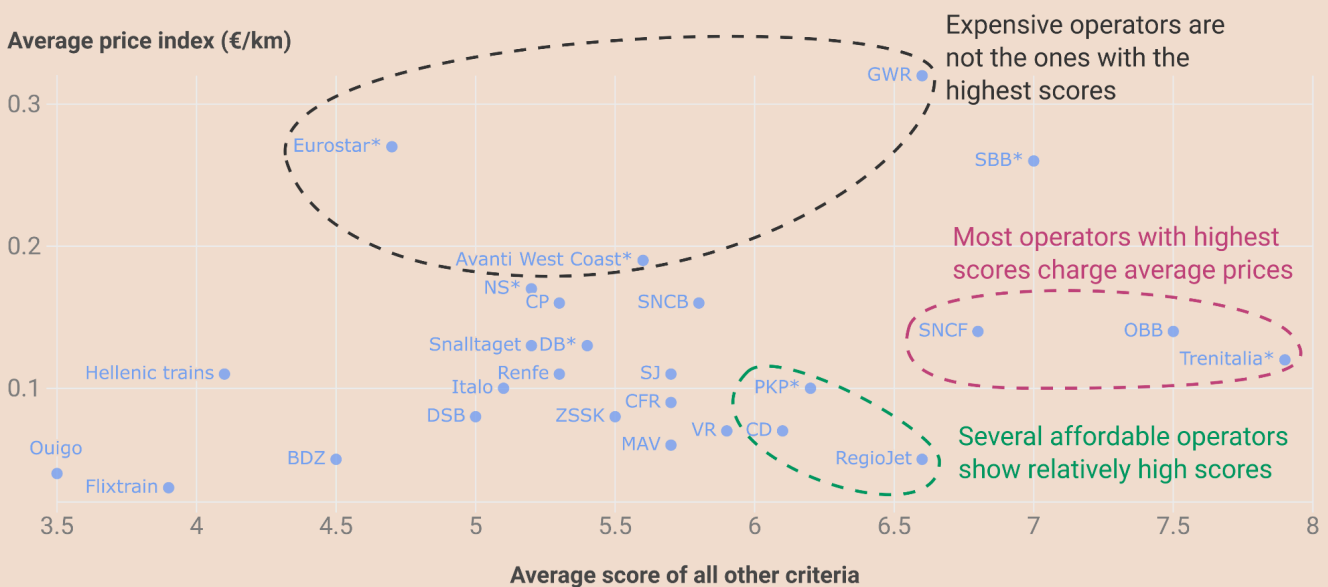
For example, despite charging high prices, **Eurostar** only scored 4.7 for non pricing criteria. Meanwhile, **GWR** and **RegioJet** have comparable scores of 6.6 on non-pricing factors, yet **GWR's** prices are 6 times higher than **RegioJet's**.

Based on our ranking criteria, **RegioJet**, **SNCF**, **ÖBB** and **Trenitalia** offer a strong price-quality ratio.

Further details are available in the methodological annex.

### Higher prices do not guarantee higher quality of services

There is no correlation between price indexes and other criteria scores



Source: T&E • Data were collected from each operator's respective website. Average scores were calculated using all criteria, excluding scores from the pricing criteria

\* Data were updated on the December 20, 2024



# Recommendations to improve ticket affordability

T&E calls on the EU to:



**Reduce rail tolls for all cross-border trains and night trains** and advise Member States to implement similar reductions for domestic journeys<sup>14</sup>.

---



**Lower VAT for cross-border trains.** Member States should also consider reducing VAT or exempting domestic journeys from it.

---

**Incentivising rail through reducing rail tolls and VAT would be beneficial as it will:**

- Lower the price, making rail travel more accessible to a broader range of citizens.
- Reduce operating cost for both incumbent and new rail operators, fostering greater competition, which should lead to a higher service quality. Track Access Charges are notably high in the Channel Tunnel or for the high-speed connection between France and Spain.

## 3.2 Special fares and reduction: key to provide affordable services to travellers

Rail travel can be expensive, prompting regular passengers to seek discounts for more affordable fares. Rail operators offer special fares tailored to different passenger profiles, often targeted at those who travel outside peak times to attract more passengers. However, there is variation across Europe in the special fares and reduction offered.

Our analysis considers several sub-criteria, including subscription plans, geographical fares, and discounts for specific passenger groups such as by age, for families, and for passengers with reduced mobility.

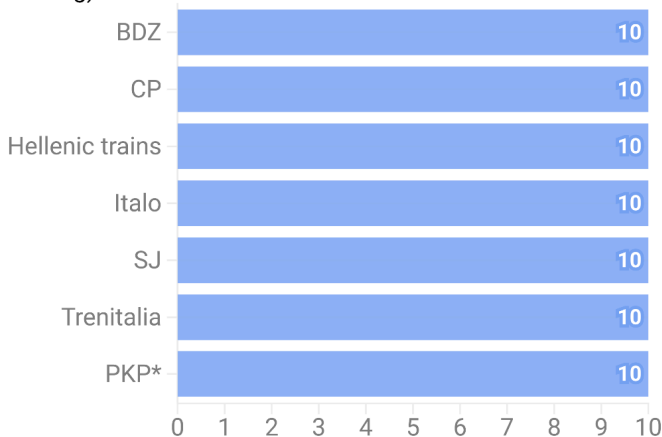
We found that seven operators - **BDZ, CP, Hellenic Trains, Italo, PKP, Trenitalia and SJ** - lead the way in offering the most attractive special fares and reductions. In contrast, low-cost rail operators **Flixbus** and **Ouigo** have the least appealing special fares, which aligns with their low-cost business model and is not necessarily a drawback.

---

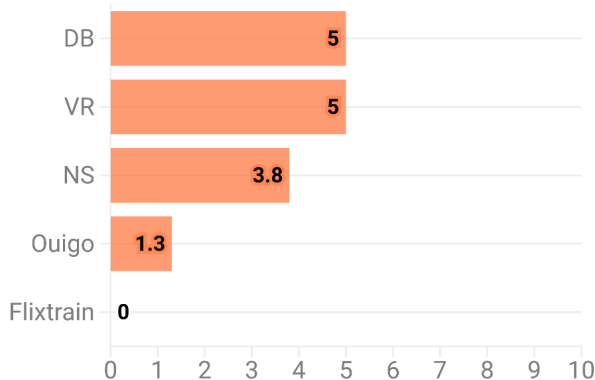
<sup>14</sup>T&E and Back-on-Track (2023). *All aboard - travelling Europe by night*. Accessed: [link](#).

## BDZ, CP, Hellenic trains, Italo, Trenitalia, PKP and SJ offer generous reduction plans in contrast to Ouigo and Flixtrain

**Leaders** (7 operators are on top of the special fares ranking)



**Laggards** (Last 5 of the special fares ranking)



### Key Figures

- **16 out of 27** rail operators provide family fares
- **More than 70%** of rail operators offer reductions for person with reduced mobility
- Special fares or reduction plans vary widely among the most affordable operators. While **Flixtrain** and **Ouigo** offer little or no discount, **BDZ** and **RegioJet** (score : 7.5/10) provide a broader range of options
- **Flixtrain** is the only operator that does not offer elders or students discounts

Source: T&E • Scores are based on publicly available data from operators  
\* Data were updated on the December 20, 2024



## Recommendations to improve special fares and reductions

T&E calls on rail operators to:



Offer **affordable family and youth fares** to encourage the use of rail over private cars, as train tickets for a group can be significantly more costly than travelling in a full car.



Introduce **frequent traveller cards** that incentivise regular commuters to opt for rail for their regular journeys

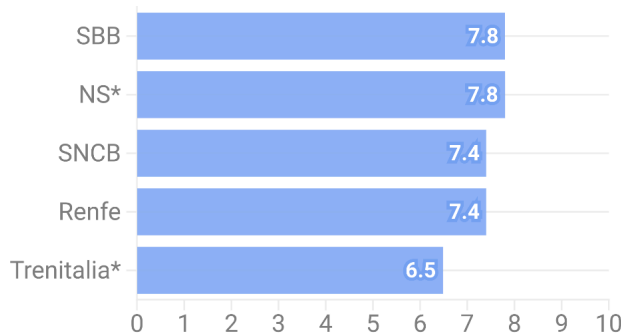
### 3.3 SBB wins the medal of reliability

After ticket affordability, reliability is often the main factor influencing consumers to choose rail over private cars or air. In this analysis, reliability covers both punctuality and cancellations, though the causes of these were not examined. Delays and cancellations can be outside of the control of the operator due to extreme weather or lack of maintenance of the infrastructure.

Our findings indicate that Switzerland’s **SBB** is the most reliable rail operator with the Netherlands **NS** ranking second and the Belgium rail operator **SNCB** taking third place. In contrast, passengers are experiencing frequent delays and cancellations with Germany’s **Deutsche Bahn**, Portugal’s **CP** and **Snälltåget**, a new rail entrant in Sweden. Bulgaria’s **BDZ** and Hungary’s **MÁV** did not provide any delay data, and therefore received 0 points for reliability. The figure below provides an overview of the reliability ranking.

#### SBB runs like clockwork, while CP and Snälltåget miss the train

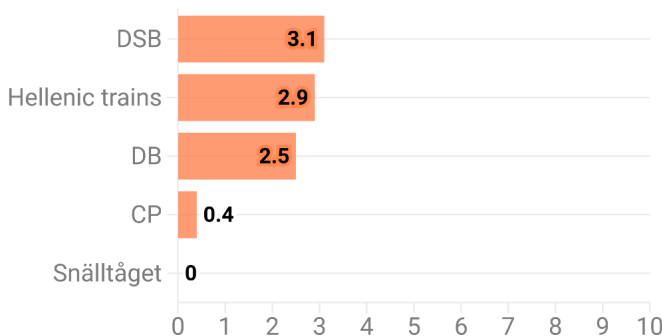
##### Leaders (5 most reliable operators)



##### Key Figures

- For operators considering punctuality within 5 minutes of arrival time, **only 8** achieve a punctuality rate of over **80%**
- **CFR** does not disclose the threshold used to categorise a train as delayed. **Flixtain** and **Eurostar** consider trains delayed if they arrive more than 15 minutes late, and **Trenitalia** more than **one hour late**, while all other operators use a threshold of five minutes or less

##### Laggards (5 least reliable operators)



##### Lack of transparency

- **Eight rail operators** do not publicly share their data on train cancellations and **two** do not disclose any information about reliability

Source: T&E • Scores are based on publicly available data from operators. MAV and BDZ are not included in this plot as their punctuality data were not available

\* Data were updated on the December 20, 2024



## Recommendations to improve reliability

T&E calls on the EU and its Member States to:



**Invest in maintenance and upgrade** of rail infrastructure, including digital signalling systems like ERTMS, to enhance the reliability of existing rail services.

---



Provide incentives for rail operators to **invest in new, modern rolling stock**. This could include expanding the Connecting Europe Facility to co-fund interoperable rolling stock acquisition.

---

T&E calls on rail operators to:



**Standardise and improve data transparency** on reliability, ensuring it is accessible to all. Many operators do not publicly share data on cancellations or offer detailed punctuality metrics, and definitions of delays vary across operators (e.g., 5 minutes vs. 15 minutes).

---

### 3.4 SBB, ÖBB and Flixtrain provide consumers with the best booking experience in Europe

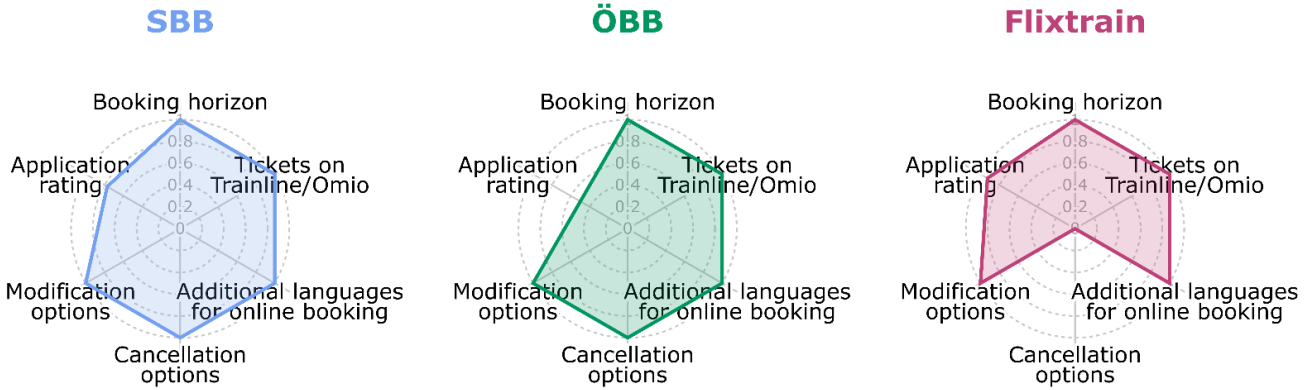
We found that **SBB, ÖBB and Flixtrain** provide the best booking experience overall while **ZSSK, Hellenic Trains** and **BDZ** are falling short in delivering a seamless experience. The details for these six operators are shown in the figure below.

Travelling by rail should be as convenient as driving a car or booking a flight. To attract more passengers to rail, the booking experience must be efficient, flexible and user friendly.

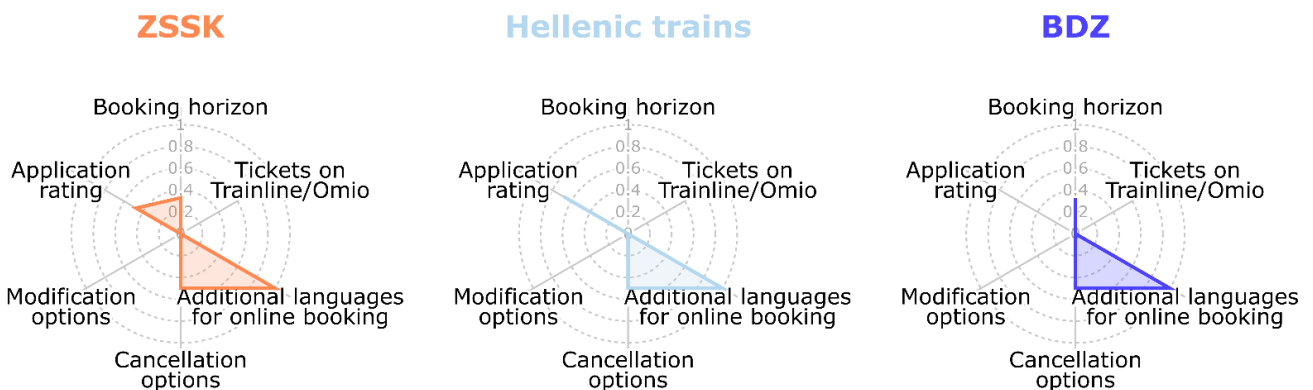
The booking experience grade is based on six sub-criteria: booking horizon, ticket cancellation policy, ticket modification policy, availability of tickets on third-party platforms, languages for online booking and mobile application ratings.

# SBB, ÖBB and Flixtrain lead in booking services while ZSSK, Hellenic trains and BDZ lag behind

**Leaders** (booking experience ranking top 3)



**Laggards** (last 3 operators form the booking experience ranking)



## Key figures

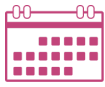
- Six rail operators, including **Flixtrain**, open ticket sales six months in advance. **Eurostar** sometimes sells tickets 11 months in advance, and **DB** up to 12 months. Conversely, five operators release tickets less than two months in advance
- **13 out of the 27** rail operators make their tickets available through independent booking platforms Trainline and Omio
- Romania's **CFR** provides the best mobile app for ticket booking, while **BDZ** and **Snälltåget** do not offer an app

Source: T&E • Scores are based on publicly available data from the operators. Subcriteria were scaled to a maximum grade of 1. See the methodology for further details on scoring  
This figure was updated on the December 20, 2024



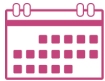
## Recommendations to improve booking experience

T&E calls on rail operators to:



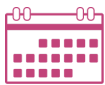
Allow **all ticket vendors to resell their tickets** under the FRAND terms (fair, reasonable and non-discriminatory).

---



**Open ticket sales at least six months in advance** to enable travellers to plan ahead.

---



Provide consumers the ability to **easily modify or cancel their journey** for free until the day of departure.

---

T&E calls on the EU and Member States to push rail operators to implement these measures by tabling the necessary legislation in 2025, including the **Single Digital Booking and Ticketing Regulation** and a revision of the **Regulation on rail passengers' rights and obligations**.

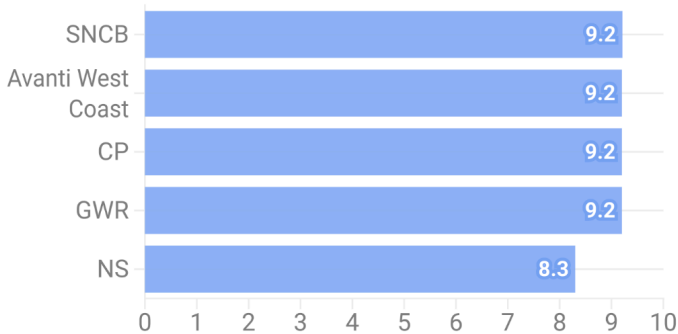
### 3.5 SNCB, GWR, CP and Avanti have the most generous compensation policies in Europe

Delays can impact the journey of a passenger and when they happen, passengers should be properly compensated. For this criterion, we considered five sub-criteria: automated reimbursement after a delay, compensation policy in English and online availability, the time it takes to request a refund, and the generosity of the refund.

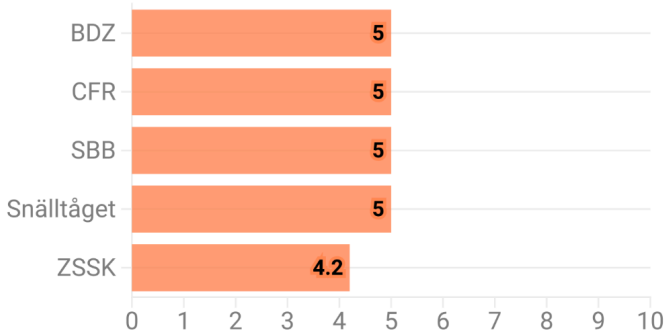
Our analysis found that **SNCB, GWR, CP** and **Avanti** offer the best compensation policies in Europe while **BDZ, CFR, SBB, Snälltåget** and **ZSSK** have the least favourable policies.

## SNCB, Avanti, GWR and CP offer the most generous compensation policies in Europe, while ZSSK proposes the least protection to customers

### Leaders (compensation policies ranking top 5)



### Laggards (compensation policies ranking last 5)



### Key Figures

- The EU has compensation rules in EU Regulation 1371/2007 on Rail Passenger Rights. **Only ten companies** exceed these minimum requirements. **Avanti, CP, GWR, NS** and **SNCB** fully reimburse for delays over 60 minutes
- **Avanti** and **GWR** offer partial refunds for delays of 15 minutes, while **DSB, NS, SNCF** and **Trentitalia** do so for delays over 30 minutes
- All operators, except **NS**, provide adequate information on compensation policies for delayed trains in English or another foreign language

Source: T&E • Scores are based on publicly available data from operators.



### EU can learn from the UK on rail passengers' rights

The regulation (EC) No 1371/2007 on rail passengers' rights and obligations offers basic protection to passengers.

This text states that if a train arrives at the final destination at least 1 hour late and the cause of the delay is within the rail carrier's control, passengers are entitled to the following compensation: 25% of the fare for delays of 60-119 minutes, 50% of the fare for delays of more than 120 minutes<sup>15</sup>.

In the UK, all rail operators have to legally reimburse 50% of the fare to the consumers if the train has a final delay between 30min and 59min and to fully reimburse the ticket if the delay is above one hour. Some operators in the UK such as Avanti and GWR also start compensating passengers for delays above 15 minutes.

<sup>15</sup> Regulation (EC) No 1371/2007 of the European Parliament and of the Council of 23 October 2007 on rail passengers' rights and obligations. Accessed: [link](#).



## Recommendations to improve compensation policies

T&E calls on rail operators to:



**Compensate travellers for delays longer than 15 minutes**

---



**Provide a full refund to travellers for delay from 60 minutes onwards**

---

T&E calls on the EU to revise the Regulation (EC) No 1371/2007 on passengers' rights and obligation to mandate these changes from rail operators.

### 3.6 SNCF, Trenitalia and Deutsche Bahn are providing the best traveller experience

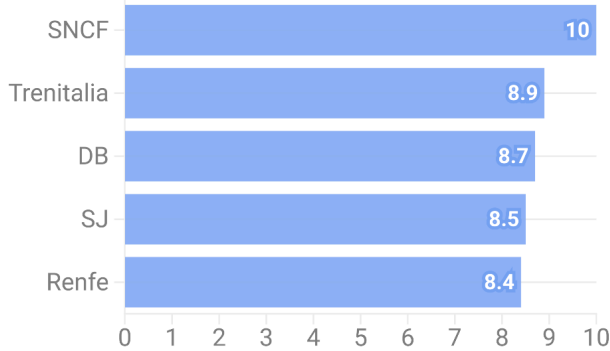
Rail is often seen as a more relaxed way of travelling than using a plane or a car. However, rail operators should continue to strive to provide consumers with the best possible travel experience, enabling passengers to optimise their time onboard.

Our report evaluates the traveller experience based on five sub-criteria: the availability of Wi-Fi, catering options for passengers, the presence of power sockets, and the average speed of trains on studied journeys. While factors such as comfort and cleanliness are important we could not find sufficient data to assess these aspects.

We found that the main European rail operators **SNCF**, **Trenitalia** and **Deutsche Bahn** provide the best traveller experience, while **NS**, **Hellenic Trains** and **SNCFB** receive the lowest score in this category.

## SNCF provides the best traveller experience among the 27 operators

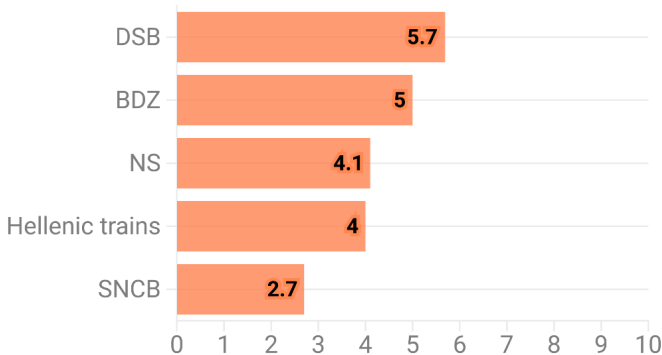
### Leaders (top 5 operators for traveler experience)



### Key Figures

- All rail operators evaluated provide Wi-Fi onboard, except the Belgium train operator **SNCB** and the Greek operator **Hellenic Trains**
- **23 out of 27** rail operators provide electricity sockets in all of their trains. Others only propose sockets in some of their trains

### Laggards (last 5 operators for traveler experience)



- **13 out of 27** provide meals, **ten out of 27** provide snacks, and **four** provided no food option at all

Source: T&E • Scores are based on publicly available data from operators. This figure was updated on the December 20, 2024



## Recommendations to improve travelling experience

T&E calls on rail operators to:



Provide **on-board catering** to enhance the travel experience.



Ensure **high quality Wi-Fi** for passengers to stay connected.



Offer **comfortable seats equipped with electric plugs** to support in-journey work and relaxation.



Ensure **fast connections** to make rail a viable mode for business travel.

### 3.7 Half of the rail operators run night train services

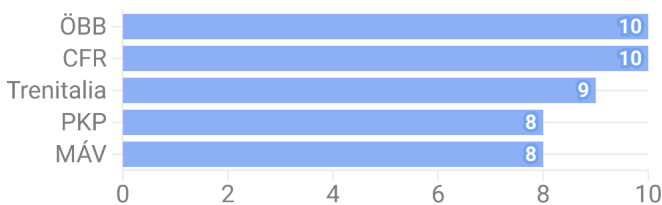
Night trains in Europe have been making their comeback over recent years<sup>16</sup>. Once a common mode of travel, the number of night trains declined sharply, and in some countries, such as Spain, they have disappeared entirely. This limits the ability to travel long distances by night, such as from France to Portugal.

Our analysis shows that the Austrian operator **ÖBB** and the Romania operator **CFR** are leading the revival, with 29 and 21 lines respectively.

#### ÖBB and CFR propose the most night train routes in Europe

Leaders (top 5 operators for night trains)

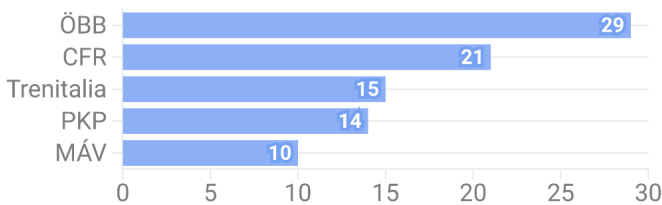
##### Night train score



##### Key Figures

- Out of 27 operators, **15** are proposing night train routes, totaling **136 night routes**
- **12** rail operators do not run any rail services at all

##### Number of night train routes operated



Source: T&E, Back-on-Track • Scores are based on publicly available data from operators.



## Recommendations to enhance night train services

T&E calls on the EU and Member States to:



**Create Incentives for rail operators** to invest in new night train rolling stock, supporting the expansion of services.



Establish a supportive regulatory framework, including **reducing rail tolls and VAT exemptions**, to make the night train business model more viable.

<sup>16</sup> BBC (2023). *Why sleeper trains are being revived across Europe?*. [link](#)

### 3.8 SNCB and SBB provide the best services to cyclists

Combining rail and cycling is an effective way to address the ‘last kilometre’ issue as, unlike cars, trains do not always bring you directly to your final destination.

The European Cyclists Federation (ECF) highlighted in its 2021 report *Cyclists Love trains*<sup>17</sup> report that **SNCB** and **SBB lead in** bike-friendly rail services. In contrast, it is difficult to travel with a bike on **SJ, Renfe, Ouigo, Italo** and **Eurostar**, which have the least comprehensive rail and cycling policies.

The ECF assessed six sub-criteria to grade the companies, including bike spaces on train, bicycle hiring scheme, cost of bike ticket or reservation, booking channels, website languages, and site functionality.

## Recommendations to improve bicycles policies

T&E calls on rail operators to:



Allow **non-foldable and non-dismantled bicycles on all trains.**

---



Provide more than **the mandated four dedicated bicycle spaces per train**, as set by the EU Rail Passenger’s Rights and obligations legislation.

---

<sup>17</sup> European Cyclists Federation (2021) *Cyclists love trains*. [link](#)

## Key actions for improving rail services

This analysis reveals that some rail operators perform better than others, but even the highest-scoring operator only achieved a rating of 7.6/10. Leading operators are still far from providing the optimal service conditions essential for attracting more passengers. Therefore, the recommendations in this report apply to all rail operators, their respective national governments and the EU. Rail operators can improve their services by learning from best practices, while authorities encourage improvements through regulation.

- 1** The EU must mandate all rail operators to allow ticket vendors to resell tickets under fair, reasonable and non-discriminatory terms.

---

- 2** Rail operators should offer tickets for sale at least six months in advance

---

- 3** Rail operators should provide attractive special fares and reductions for specific passenger groups, including families

---

- 4** The EU and Member States should reduce rail tolls to lower operating costs to support new rail services and competition

---

- 5** The EU and Member States should reduce VAT on train tickets to reduce ticket prices for consumers

---

- 6** The EU and Member States should invest in maintaining, upgrading, and digitising the rail network to improve reliability.

---

- 7** The EU and Member States should incentivise rail operators to refurbish existing rolling stock and purchase new trains, particularly for night services.

---

- 8** Rail operators should compensate travellers for delays of more than 15 minutes and fully reimburse tickets when delays exceed 60 minutes.

# Methodological annex

## Structure of the ranking and scoring methods

As outlined in section 2, our scoring methodology is based on eight criteria, selected and weighted to reflect their relative importance from a user's perspective. For example, price and reliability are commonly cited as important factors criteria for rail passengers<sup>18</sup>, as are compensation policies for delays and cancellations<sup>19</sup>. Additionally, the convenience of booking services is an important factor, aligning with the European Commission's efforts to improve and simplify rail travel across the EU<sup>20</sup>.

Each criteria is further divided into sub-criteria, totalling 25, that were scored consistently across all rail operators, based on a benchmark described in the table available on the next page. Each criteria was scored using a grade out of ten. Then, these scores were weighted to compose the final ranking score.

For quantitative metrics, we employed the following approaches:

**Absolute Benchmark:** Where a clear benchmark was available, for example, with punctuality (which is included in the reliability criteria).

**Best in Class:** To determine performance between operators, for example, with speed

**Modified Best in Class:** For instances where there is potential for improvements, for example, with ticket price.





In the section *Methodology for each criteria*, we further explain the rationale behind the scoring methodology, as well as details of the data collection process.





---

<sup>18</sup> McKinsey (2022). *Boosting passenger preference for rail*. Accessed: [link](#)

<sup>19</sup> Oliveira et al (2019). *Transportation Research Interdisciplinary Perspectives*. Accessed: [link](#)

<sup>20</sup> European commission (2024). *Transforming rail: more convenient and sustainable train travel in the EU*. Accessed: [link](#)

Criteria		Criteria share of final score	Sub-criteria	Scoring method	Sub-criteria share of final score
	<b>Ticket Price</b>	25%		Metric: average price per kilometre	
			Price at seven days	Upper threshold: Modified best in class	15%
			Price at 28 days	Lower threshold: Modified worst in class	10%
	<b>Special fares and reductions</b>	15%	Age specific reduction	Automatic reduction: full points, Subscription to a card needed: half points, Nothing: no points	3.8%
			Other reductions (season tickets...)	Yes: full points No: no points	3.8%
			Reduction for person with reduced mobility	Automatic reduction : full points, Subscription to a card needed : half points, Nothing : no points	3.8%
			Family reduction	Yes: full points No: no points	3.8%
	<b>Reliability</b>	15%	We calculated the reliability score as the punctuality score minus cancellation rate	Metric: Punctuality score minus cancellation rate Upper threshold: 100% Lower threshold: 50%	15%
	<b>Booking experience</b>	15%	Booking horizon	Metric: Number of months in booking horizon Upper threshold ≥ six months Lower threshold < two months	3.8%
			Tickets on other sale platforms	On Omio + Trainline : full points; On one of the two : half points; None : no points	3.8%
			Additional language on website	Yes: full points No: no points	1.9%
			Cancellation conditions	Free to cancel at least 24h in advance: full points;. At least seven days in advance: half points; If refund not free: no points	1.9%
			Modification conditions	Free to modify at least 24h in advance: full points; At least seven days in advance: half points; If refund not free: no points	1.9%
			Mobile application rating	Metric: Ratings from App and Google stores. Upper threshold: 5/5 rating Lower threshold: 0/5 rating	1.9%

	<b>Compensation policies</b>	10%	Automated reimbursement after delay	Yes: full points No: no points	0.8%
			Compensation policy and process explain in English	Yes: full points No: no points	0.8%
			Compensation procedure available online	Yes: full points No: no points	0.8%
			Time window to ask for a refund	> three months: full points < three months: no points	0.8%
			Reimbursement criteria	Less than the EU legislation: no points; Align with EU legislation: half points; Less than 100% refund after 1h delay: three quarters of a point; More than 100% refund after 1h delay: full points	6.7%
	<b>Traveller experience</b>	10%	Catering offer onboard	Proper meals available: full points; Snacks or sandwiches: half points; Nothing: no points	2.5%
			Power outlets at seat	Yes: full points No: no points	2.5%
			Wi-Fi onboard	Yes: full points No: no points	2.5%
			Speed of trip	Metric: speed of the trip Upper threshold: best in class based on average speed of the journey Lower threshold: worst in class	2.5%
	<b>Night trains</b>	5%	Night train offer	Yes: full points No: no points	2.5%
			Number of night train routes	Metric: number of night train routes (including international routes) Upper threshold: best in class Lower threshold: no points	2.5%
	<b>Cycling policy</b>	5%	Rate from ECF <sup>21</sup> report	ECF rates	5.0%

The criteria weights shown in this table were used to compose our ranking. We also tested how alternative weighting methods would affect our results. This sensitivity analysis is presented in the [supplementary material annex](#).

<sup>21</sup> European Cyclists Federation (2021). *Cyclists love trains*. Accessed: [link](#)



## List of operators

The aim of this report was not to provide an exhaustive evaluation of all rail operators in Europe. Instead, we selected 27 operators to represent a broad picture of the European rail landscape. This includes major national railway companies, a selection of newer entrants competing with established players, and operators specialised in cross-border journeys. The list of operators is provided in the table below:

Operator	Scope country	Operator	Scope country	Operator	Scope country
<b>Avanti West Coast</b>	United Kingdom	<b>GWR</b>	United Kingdom	<b>Renfe</b>	Spain
<b>BDZ</b>	Bulgaria	<b>Italo</b>	Italy	<b>SBB</b>	Switzerland
<b>ČD</b>	Czech	<b>MÁV</b>	Hungary	<b>SJ</b>	Sweden
<b>CFR</b>	Romania	<b>NS</b>	Netherlands	<b>Snälltåget</b>	Sweden, Denmark, Germany
<b>CP</b>	Portugal	<b>ÖBB</b>	Austria	<b>SNCB</b>	Belgium
<b>DB</b>	Germany	<b>Hellenic trains</b>	Greece	<b>SNCF</b>	France
<b>DSB</b>	Denmark	<b>Ouigo</b>	France	<b>Trenitalia</b>	Italy
<b>Eurostar</b>	United Kingdom, France, Belgium, Netherlands, Germany	<b>PKP</b>	Poland	<b>VR</b>	Finland
<b>Flixbus</b>	Germany	<b>RegioJet</b>	Slovakia, Czechia, Austria	<b>ZSSK</b>	Slovakia

## Methodology for each criteria

### Note on data sources

The majority of data were collected from governmental organisations, operators' internal reports, websites, chatbots, or direct communication with the operators. All data collected are available on our [supplementary material annex](#).

All rail operators were contacted by email, primarily through their press and media services, to correct raw data or send us additional information. SBB, Renfe, SJ, Flixbus and ZSSK have provided updates on specific data points, which have been incorporated into our analysis. Additionally, we received some punctuality data from SNCF InOui trains, and Ouigo trains from the 'Autorité de Régularisation des Transports' (The French public transport authority). Eurostar and Ouigo acknowledged receipt, but did not provide further information.

## Ticket prices

### Choice of routes

To evaluate prices, we selected approximately ten routes per operator, **totaling 259 routes**. We focused on direct routes, for medium and long distance services. For some operators, fewer than ten routes met all criteria, resulting in a slightly smaller sample or selection of shorter distance routes. Route distance (in km) was obtained using Google Maps' Distance Matrix API, which allows to calculate rail distance between two points.

### Ticket search

Ticket prices were manually collected from each operator website for all selected routes, focusing on direct journeys for medium and long distance services. The type of service targeted for each operator is listed in the table below. With the exception of Eurostar, RegioJet and Snälltåget, international journeys were excluded. We collected the most basic available fares for a single middle aged traveller, purchasing a one-way second class ticket without any subscriptions or optional seat reservations. Prices were collected for trains departing from 00:00 to 23:59 on weekdays, seven and 28 days after the search date. Data collection took place between August 26 and 29 2024.

On December 20, we updated our pricing data for the London Euston - Milton Keynes route from Avanti, where an error occurred during the initial data collection in August, and ticket prices from SBB that were initially collected at half price fares due to the default application of a year train subscription on the SBB booking platform.

Operator	Service	Operator	Service	Operator	Service
<b>Avanti West Coast</b>	All trains	<b>GWR</b>	All trains	<b>Renfe</b>	AVE, Alvia, Intercity, Euromed
<b>BDZ</b>	Fast trains, Intercity, Express	<b>Italo</b>	EVO and AGV	<b>SBB</b>	IC
<b>ČD</b>	R, IC, SC	<b>MÁV</b>	Intercity, Gyorsvonat, Expresszvonat	<b>SJ</b>	High speed trains, Intercity
<b>CFR</b>	RE, IC, IR	<b>NS</b>	Intercity and Intercity direct	<b>Snälltåget</b>	All trains
<b>CP</b>	Intercity, Alfa Pendular	<b>ÖBB</b>	RJ, RJX and IC	<b>SNCB</b>	IC
<b>DB</b>	IC and ICE	<b>Hellenic trains</b>	All trains	<b>SNCF</b>	TGV, TGV Inoui
<b>DSB</b>	IC-Lyntog, and InterCity-tog	<b>Ouigo</b>	Train Classique and TGV	<b>Trenitalia</b>	Frecce and Intercity
<b>Eurostar</b>	All trains	<b>PKP</b>	EIC, EIP, TLK, IC	<b>VR</b>	Intercity, Pendolino
<b>Flixbus</b>	All trains	<b>RegioJet</b>	All trains	<b>ZSSK</b>	Intercity, Express

## Price index calculation

Each ticket price was converted to Euros when necessary and adjusted for the cost of living in the operator's country using Comparative Price Levels (CPL)<sup>22</sup>. The corrected price was calculated as follow:

$$\text{Corrected Price} = \text{Price (€)} \times \frac{\text{CPL of reference} = \text{EU27} = 100}{\text{Country CPL}}$$

For international operators, we used the average CPL of the countries from which ticket prices were collected. The corrected price was then divided by the route length to produce the price index, expressed in euros per kilometre.

Once the price indexes were calculated, we assigned scores for both seven day and 28-day prices. The seven day prices were scored on a six point scale, while the 28-day prices were scored on a four point scale, for a total score of ten points. Instead of evaluating operators on yield management versus fixed pricing, we allocated six points to the seven day prices and four to the 28-day prices to reward the flexibility.

Scores were assigned proportionally using the "modified best in class" approach: the lowest index received the lowest score, while the highest index earned the maximum score. To ensure that no price was deemed "perfect" or the "worst possible", we set the minimum final score was set to one and the maximum to nine.

## Absence of correlation between price indexes and average scores of all criteria except price

To assess whether a relationship existed between prices and the quality of service, we performed a linear regression analysis using the average price indexes from seven day and 28-day tickets, alongside the average scores of all criteria excluding pricing. Additionally, we conducted a Pearson correlation test.

Our results indicate a regression coefficient of 0.026, a R<sup>2</sup> value of 0.14 and a p-value of 0.08, indicating no significant correlation between price indexes and average scores.

We applied the same methodology to explore any relationship between price indexes and journey speed, or with any other criteria, and found no statistically significant correlation.

## Comparison of ticket prices between PSO and non-PSO operators

We analysed ticket prices by categorising operators based on their public services obligations (PSO) status - whether they operate under PSO contracts, or as open access services (non PSO). We determined each operators status by reviewing the IRG-rail website<sup>23</sup> and operators' websites. A summary is provided in the table below.

---

<sup>22</sup> Eurostat - Comparative price levels. Accessed: [link](#)

<sup>23</sup> <https://irg-rail.eu/>

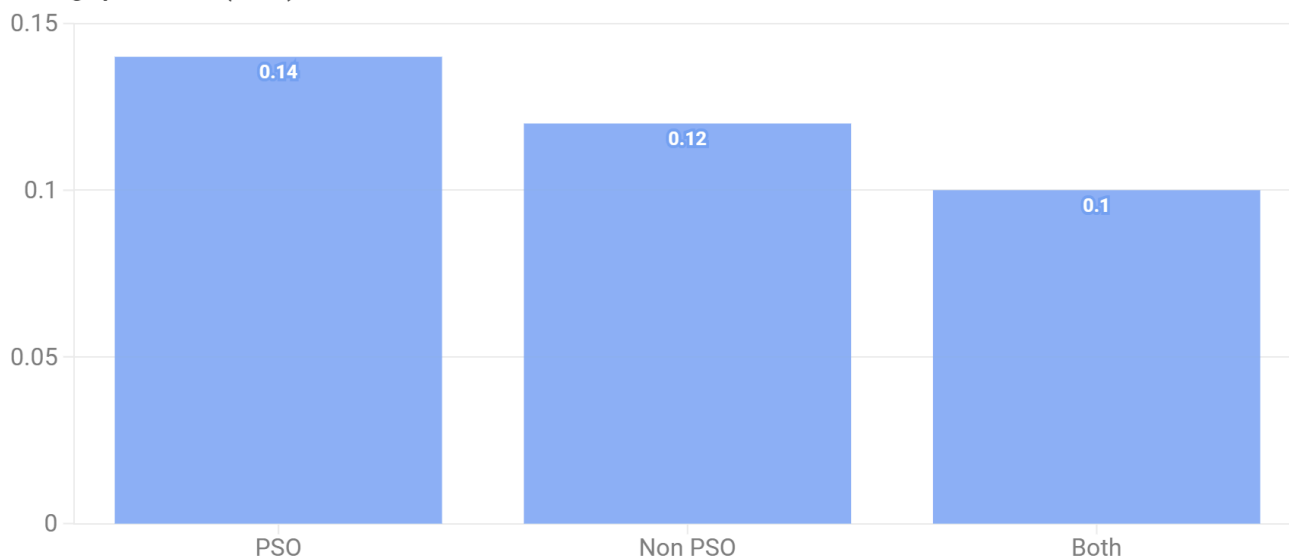
Operator	PSO?	Operator	PSO?	Operator	PSO?
Trenitalia	Non PSO	VR	PSO	Flixbus	Non PSO
SBB	PSO	ZSSK	Both	BDZ	PSO
Regiojet	Non PSO	SNCF	PSO	GWR	PSO
OBB	Both	PKP	PSO	Avanti	PSO
SNCF	Non PSO	DB	Non PSO	NS	PSO
CD	Both	DSB	PSO	OSE	PSO
RENFE	Non PSO	MAV	PSO	Ouigo	Non PSO
Italo	Non PSO	CFR	PSO	Snälltåg	Non PSO
SJ	Both	CP	PSO	Eurostar	Non PSO

As seen in the plot below, the difference in prices between PSO and non-PSO operators is minimal.

### Operators under public service obligation charge similar prices than open access operators

Price differences between PSO and non-PSO operators are negligible

Average price index (€/km)



Source: T&E • Prices were collected from operators' websites



## Special fares and reductions

This criteria evaluates each operators discount policies, considering four sub-criteria, with scores summed and then scaled to a final grade out of ten:

**Availability of age-specific reductions:** Operators offering automatic age-based discounts received one point. If a discount card subscription was needed, they received half a point. Operators without age-specific reductions received zero points.

**Availability of season tickets** or general reduction plans: Operators providing discount plans through subscriptions received one point, while those without received zero points.

**Reduction for persons with reduced mobility:** Operators with automatic discounts were awarded one point. Those requiring a subscription to a discount card received half a point, while no discount options led to zero points.

**Availability of family reductions:** Operators offering family discounts were awarded one point, and those without received zero points.

## Reliability

Each operator's punctuality was scored using an absolute benchmark, starting from a score of zero for 50% punctuality. The maximum score of ten was for 100% punctuality, with intermediate rates scored proportionally between these two benchmarks. Most operators define punctuality as within five minutes of the scheduled arrival time, or even using a lower threshold. However, some operators use wider thresholds to classify a train as delayed. We considered that thresholds superior to five minutes were insufficient for assessing acceptable punctuality and therefore applied a penalty to the reliability score of operators using such a definition of punctuality. The penalty applied was of half a point by slot of 10 minutes interval increase of the threshold. Typically, **Eurostar** and **Flixbus** use a 15 minutes threshold for train delays, and received half a point of penalty. **Trenitalia** uses a 60 minutes threshold for delays and therefore received three points of penalty (equivalent to penalties for six 10-minutes intervals).

Punctuality data for **BDZ** and **MÁV** was unavailable, in their annual reports, websites, or press articles. We contacted both operators and received no response. With no data available, both were allocated zero points for punctuality.

We then subtracted cancellation rates from punctuality scores to calculate a reliability score for each operator. Each percentage point of cancellations led to a 0.1 score deduction, so for example, an operator with a 5% cancellation rate received a half point deduction. Over 30% of rail operators in our analysis did not provide data on cancellations. For those operators, we applied the maximum penalty of 1.2 points, corresponding to the highest cancellation rate found in our analysis.

The table below outlines the types of services included in the punctuality and cancellation rates and the operators' definitions of punctuality.

Operator	Service	Definition of punctuality	Cancellations rates available
Avanti West Coast	All	< 5 min	Yes
BDZ	No data	No data	No data
ČD	Long distance	< 5 min	Yes
CFR	All transport	no information	No data
CP	Long distance	< 5 min	Yes
DB	Long distance	< 6min	Yes
DSB	Long distance and regional	< 3 min	No data
Eurostar	Global	< 15 min	No data
Flixbus	All	< 15 min	No data
GWR	All	< 5min	Yes
Italo	Intercity	< 5 min	Yes
MÁV	All	No data	No data
NS	No data	< 5 min	Yes
ÖBB	Intercity/intercity Direct	< 5min	No data
Hellenic trains	Long distance services	< 5 min	Yes
Ouigo	TGV Ouigo	< 5 mn	Yes
PKP	PKP intercity	< 6 min	Yes
RegioJet	All	< 5 min	No data
Renfe	Ave	< 5 min	Yes
SBB	Long distance	< 3 min	Yes
SJ	Long-distance trains	< 5min	Yes
Snälltåget	All	< 5 min	Yes
SNCB	All	< 6min	Yes
SNCF	TGV InOui	< 5 min	Yes
Trenitalia	Medium and long distances	< 60 min*	Yes*
VR	Long distance	< 5 min	No data
ZSSK	All	< 5 min	Yes

\* Information updated on the 20<sup>th</sup> of December 2024

## Booking experience

The aim of this criteria was to assess the convenience of ticket booking for each operator. The booking experience was evaluated based on six sub-criteria, with scores summed and then scaled to a final grade out of ten:

**Booking horizon:** The booking horizon, or the advance booking period available on the operator's website, was scored proportionally based on a best-in-class method. Operators received one point for allowing bookings more than six months ahead and zero points for bookings available for less than two months in advance.

**Tickets on other sale platforms:** Ticket availability was checked on Trainline and Omio, the two main journey planning websites. Operators earned one point if tickets were available on both sites, half a point if available on only one site, and no points if tickets were unavailable on both<sup>24</sup>. Our analysis doesn't assess whether Omio and Trainline sell tickets under fair, reasonable and non-discriminatory terms (FRANDs), as this information is confidential.

**Additional language on website:** The availability of a language other than the operator's native language during the booking process was scored using an all-or-nothing scoring method. Operators received half a point if an additional language was available or no points if only the native language was offered.

**Cancellation and modification conditions:** Operators received half a point if they allowed free cancellation at least 24 hours in advance or the day before the trip. A quarter point was awarded for free cancellation allowed at least seven days in advance or if a reasonable fee applied but cancellation were permitted on the day of the travel, or 24 hours prior. If an add-on fee was required for a refundable booking, the operator received no points.

Modification options were scored similarly, but if changes weren't free at least 24 hours in advance but cancellations were allowed free of charge, operators received half a point as we considered this as a two-step modification process. This applied to only three operators.

**Mobile application rating:** For each operator, we assessed the availability of a mobile application for booking tickets. The app ratings were collected from the Google Play Store and the Apple App Store based on the operator's country of origin. The scores were then averaged using a weighted approach, considering the number of evaluations from both stores. We scored this subcriteria using an absolute benchmark, by dividing the evaluations by ten to convert them into a score out of five. Operators with no mobile application for booking received no points. App ratings were collected in June 2024 and double checked in November 2024.

---

<sup>24</sup> We were not able to check whether the rail operator is allowing Trainline and Omio resell its ticket under fair, reasonable and non-discriminatory terms as this is confidential information.

## Compensation policies

This criteria evaluated the conditions for qualifying for compensation and the convenience of the compensation process. Compensation policies were assessed based on five sub-criteria with scores summed and then scaled to a final grade out of ten:

### Automated reimbursement after a delay

**Compensation policies available in English** (or another language for UK operators)

**Compensation procedure available online**

**Possibility to request a refund up to three months after a trip**

For these four sub-criteria, scores were assigned using an all-or-nothing approach, where the operator received a quarter point if the criteria was met and zero points otherwise.

**Conditions for obtaining reimbursement rights:** EU Regulation 1371/2007 on Rail Passenger Rights sets the compensation framework. If a train arrives at its final destination at least one hour late due to reasons within the rail carrier's control, passengers are entitled to compensation as follows: 25% of the fare for delays between 60 and 119 minutes, and 50% of the fare for delays exceeding 120 minutes. Operators complying with this regulation were awarded one point. Operators offering compensation exceeding the regulation, but less than 100% for delays over 60 minutes, were awarded one and a half points. Operators offering 100% compensation for delays over 60 minutes were awarded two points.

## Traveller experience

This criteria aimed to evaluate the quality of onboard services offered by each operator. Traveller experience was assessed based on the following four sub-criteria with scores summed and then scaled to a final grade out of ten.

**Onboard catering offer:** Operators offering a selection of full meals were awarded one point. While those providing snacks or sandwiches received half a point. Operators with no food offerings were given zero points.

**Availability of power outlets:** Operators providing power outlets at seats were awarded one point. If power outlets were only available in some trains, or if a fee was required, half a point was awarded. Operators without any power outlets received zero points.

**Availability of Wi-Fi:** Operators offering onboard Wi-Fi were awarded one point, while those without were given zero points.

**Average speed of the journey:** During ticket price data collection, departure and arrival times were recorded for each route to calculate trip duration. The journey speed was then determined



using route distances from Google Maps API. Scoring followed a best-in-class approach based on average speed, with the fastest operator receiving half a point and the slowest zero points.

## Night trains

The aim of this criteria is to evaluate the night train offers of each operator, based on two sub-criteria:

**The presence of a night train service:** operators were allocated five points if they provided night trains routes, or two and a half points if they offered routes in cooperation with partner operators.

**The number of night train routes available:** points were allocated proportionally to the number of routes offered as follows: one point for one to four routes; two points for five to nine routes; three points for ten to 14 routes; four points for 15 to 19 routes; and five points for 20 routes and more.

Data for night trains routes was collected from the Back on Track night train database<sup>25</sup>.

## Cycling policy

The cycling policy scoring was collected from the European Cyclists' Federation (ECF) "Cyclists Love Trains" from 2021<sup>26</sup>. This report is assessing the 'bicycle friendliness' of train operators across Europe. It is the most comprehensive and up-to-date analysis available on the state of travel conditions for cyclists across Europe, providing a broad overview of the conditions and policies supporting bike travel on trains. Their analysis is based on 6 criteria: Space available for bikes, bicycle hiring scheme, cost of bicycle ticket or reservation, languages available for bicycle related information online, and website functionality. Based on these criteria, ECF allocates a final percentage score, and rated operators as follow:

- Excellent conditions for cyclists: 80 - 100%
- Good conditions: 60 - 80%
- Moderate conditions: 40 - 60%
- Poor conditions: 20 - 40%
- Very poor conditions: below 20%

We converted each operator's percentage to a score out of ten. This report was published in 2021, so any changes in cycling policies since then have not been considered.

---

<sup>25</sup> Back-on-Track.eu. Accessed: [link](#)

<sup>26</sup> European Cyclists' Federation (2021) *Cyclists love trains - An analysis of the bicycle friendliness of European railway operators*. Accessed: [link](#)

## Data updates on the 20<sup>th</sup> of December

The ranking of rail operators was updated on the 20th of December to address a small number of inaccuracies in the data.

Corrections include:

- Ticket prices with discount cards were originally used for SBB. SBB has moved from 2nd position to 11th position.
- A PKP special fare for people with reduced mobility has now been included. PKP has moved from 13th to 6th.
- The NS reliability score has been increased following the identification of a new and more precise data source. NS's final score has moved from 23th to 21th.
- The Trenitalia reliability score was updated and consequently slightly decreased. This has not affected Trenitalia's position in the ranking.
- Some prices for the London-Milton Keynes route, which was one of the ten routes considered for Avanti West Coast, were corrected. This has not affected Avanti's position in the ranking.

Other minor data points were corrected. All details are available on our open data annex. Overall, these modifications affected 1.6% of our dataset.

T&E is grateful for feedback received after publication of the ranking on the 9th of December 2024 and has updated affected data accordingly.