European Rail Industry

A driver for EU competitiveness and sustainable mobility worldwide

Prepared by UNIFE, the European Rail Industry Association
## Table of Contents

1. What is the rail supply industry?  
2. A showcase industry for Europe – at home and abroad  
3. A flagship for European industry  
4. Case Study: ERTMS – A key EU rail export  
5. An important European employer  
6. Growing the investment in R&D  
7. An innovative industry  
8. The leader in eco-friendly transport  
9. Looking ahead: a need to sustain momentum  
10. A game changer for EU transport  
11. Paris to Frankfurt: A comparison  
12. A promising future
What is the rail supply industry?

The sector is broadly structured around operators, infrastructure managers and manufacturers.

Who we are

Manufacturers of rail supplies

- Infrastructure (tracks & electrification) (e.g. Strukton Rail, Voestalpine)
- Signalling systems and components (e.g. Thales, Ansaldo STS)
- Rolling stock (trains, locomotives) and their subcomponents (axles, wheels, interiors, HVAC, energy systems, brakes, doors, bogies, etc.)
- Services (engineering, consulting, etc.)

System integrators

Companies that take all the above subcomponents and produce and sell the finalised train set, such as Alstom, Bombardier, CAF, Talgo, Siemens and Skoda.

Our customers

Passenger and Freight Rail operators

Cross-border, regional and urban operators such as Eurostar, SNCF, Deutsche Bahn, STIB and Transport for London. Rail operators drive trains, manage passengers, collect fares and handle goods.

Operators pay infrastructure managers track access charges to run passenger and freight trains on their tracks.

Infrastructure managers

These companies own the tracks, energy systems and stations, and are responsible for their maintenance. They are also our customers. Some examples of these companies include Network Rail, Infrabel, and RFF.
The rail supply industry today accounts for nearly half of the world market for rail products* and a market share of 84% in Europe.

According to the UNIFE World Rail Market Study 2014, the EU represents the biggest absolute market for rail products and services, with the rolling stock segment representing the largest part of this market.

Also, 84% of the EU market for rail supplies and services are met by the European rail supply industry.

*About 68% of the global rail supply market is accessible to European companies. The accessible market is expected to grow with a compound annual growth rate of 2.8%, with major growth markets in NAFTA (3.7%), Asia Pacific (4.2%) and Latin America (5.7%).
The European Rail Supply Industry is a top exporter for the EU in a competitive market with major investments being made by the rail supply industry in other regions.

Global export growth 2002-2010
(totop export volume) in the RSI

EU €8,602m ↑219%
US €4,534m ↑155%
China €3,303m ↑597%
Korea €950m ↑387%
Japan €4,244m ↑182%

EU exports of rail products grossly outnumber other regions, despite fierce competition.

Source: DG ENTR
ERTMS – A Key EU Rail Export

The European Rail Traffic Management System

Case Study:

ERTMS is a major EU export and is becoming the train control system of choice for countries outside of the EU such as...

The ERTMS, as a universal and EU-compatible signalling system, is an innovative technical solution designed to deal with a growing transport demand and also to improve the capacity on railway lines.

With more than 76,000 km of contracted railway tracks, out of which nearly 50% outside of Europe, ERTMS has now established itself as a global standard.

ERTMS Trackside Contracts by region

Source: UNIFE

Latin America 1%
Oceania 2%
Asia 29%
Africa & Middle East 14%
Europe 54%

ERTMS Trackside Contracts in tracks KM

76,000 km

Sept 2010 Apr 2012
An important European employer

The European rail industry employs nearly 400,000 people. Rail suppliers diversify their manufacturing, R&D, sales, administrative facilities across Europe while generating jobs all over the EU.

The rail supply industry accounts for nearly a quarter of the overall rail sector in the EU, which, including the workforce of the rail operators and infrastructure managers, employs approximately 1.8 million Europeans.

An estimated 355,000 households depend on the industry in Europe, and some 817,000 dependent individuals.

Employees in EU rail supply industry:
- Rolling stock
- Infrastructure
- Rail control
- Other rail supply
- Services

Total EU: 1.8 million

Employees across 4 countries:
- Manufacturing and R&D, sales, admin and other facilities

Employees across 7 countries:
- Sales, admin and other facilities
The rail supply industry is taking some major steps to increase investment in R&D.

Currently, the industry invests 2.7% of its annual turnover (the EU average for R&D programmes) amounting to some €780m a year, predominantly in the rolling stock and rail control.

With Shift²Rail, the first European joint undertaking for rail research amounting to €920m of which nearly half coming from the EU’s Horizon2020 budget framework, the sector and the EU set up a research and innovation track to integrate new and advanced technologies into innovative rail product solutions.
The rail supply industry has been the source of major past innovations – important steps towards an integrated European rail market.

- Automatic systems for obstacle detection
- Medium frequency traction transformers
- Energy storage technologies
- Improved regenerative braking
- Track-friendly, low-cost and silent bogies for freight wagons
- Satellite-based positioning systems
- Hybrid and diesel electric technologies
- Light weight materials
The leader in eco-friendly transport

The rail industry has the lowest share of EU transport CO₂ emissions with only 1.8%.

And the rail supply industry is further improving its emissions per km.

Share of EU CO₂ emissions from transport

- Rail: 1.8%
- Aviation: 12.3%
- Other transport: 0.4%
- Shipping: 14.5%
- Road: 71%

Source: UIC

Development of relative EU rail CO₂ emissions

- g/pkm: 1995 - 2011
  - 1995: 53.9 g/pkm
  - 2000: 45.9 g/pkm
  - 2005: 44.7 g/pkm
  - 2010: 41.3 g/pkm
  - 2011: 40.8 g/pkm
  - Decrease: 24%

- g/km: 1995 - 2011
  - 1995: 35.1 g/km
  - 2000: 26.6 g/km
  - 2005: 23.0 g/km
  - 2010: 21.2 g/km
  - 2011: 21.0 g/km
  - Decrease: 40%

Source: EEA

The environmental and mobility benefits of using rail in the context of urban transport are evident.

1 train (8 carriages)

15 buses

250 to 1000 cars

Number of people transported per hour in urban environment

- Car: 2,100
- Bus: 9,000
- Tram: 22,000
- Train: 50,000

Source: UIC
Sustaining eco-friendly transport is critical with both passenger-km and tonne-km due to grow.

Looking ahead
A NEED TO SUSTAIN MOMENTUM

Passenger-km

Tonne-km

+40%
High speed trains

High speed trains have led to a greater modal share of rail travel due to shorter travel times for European passengers.

Travel times

More and more, flights are only favourable on very long distance continental services, as a result of the necessary travel time getting to and from airports, as well as security checks, check-in and baggage collection time.

Connections

As witnessed in several examples across the EU, connecting high speed trains to airports and local public transport will further boost the competitiveness of rail transport. With the introduction of high-speed rail systems, a fundamental shift in passenger volumes to more eco-friendly rail services has been witnessed.

Paris – Brussels
Percentage share before and after introduction of high-speed trains

Before
- 24% Rail
- 7% Car
- 5% Air

After
- 69% Rail
- 7% Car
- 4% Air

Madrid – Seville
Percentage share before and after introduction of high-speed trains

Before
- 33% Rail
- 67% Car

After
- 84% Rail
- 16% Car
Paris to Frankfurt: a comparison

Environmental impact

- Paris - Frankfurt CO2 emissions per passenger:
  - Rail: 16kg
  - Car: 63kg
  - Plane: 83kg

High-speed services

- Travel time: 3.49 hours
- The introduction of the high-speed Paris-Frankfurt line increased the competitiveness of railways by cutting the total travel time from 6.15 to 3.49 hours.

Cross border cooperation

- The services are not only operated by the French TGVs but also by ICEs of Deutsche Bahn. The project is therefore a well suited example of cross border cooperation in transport.

Cost competitiveness

- Average cost (booking at least 1 week in advance, car cost includes fuel only):
  - €39 - €123
  - €83 - €399

Frequency of service

- Every 3-4 hours (plane), Every hour (rail)

Total travel time

- 3.49 hours (rail)
- 3.37 hours (plane)
- 4.59 hours (car)

Rail is by far the most environmentally friendly mode of travelling and only insignificantly slower than a plane on certain routes.

With travel times dropping dramatically over the last two decades, rail has never been more attractive.
A promising future

The European Rail Supply industry plays a key role in mobility in the EU and for the European economy in general: the modal share for rail is expected to grow and the industry provides many jobs throughout the EU.

The industry provides the most environmentally friendly transport mode and is intently focused on innovation to allow the European rail supply industry, which is currently the leader of the global market for rail products, to maintain their position.

Put simply, the European Rail Supply industry is a key enabler for European mobility and EU competitiveness and as such is a primary industry in Europe.

The European Rail Supply Industry should be considered as a primary industry by the European Commission, alongside the supply industry in the other transport modes (automobile, airplane, and ship manufacturers).

The European Rail Supply Industry would like to work with the European institutions to build a policy roadmap for the industry over the next 5 years.
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