



*The Voice  
of European  
Railways*



# **POSITION PAPER**

## **A 2030 Framework for Climate and Energy Policies**

20 June 2014

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## EXECUTIVE SUMMARY

The Commission Communication on the 2030 Framework for Climate and Energy Policies lists three key goals: a reduction in total domestic greenhouse gas emissions of 40% on the 1990 level by 2030; an EU-level binding target for renewable energy of at least 27% in total energy consumption; and energy efficiency goals yet to be defined. Furthermore, the Union's energy import dependence challenge may be partly alleviated by the pursuit of those three overarching targets.

Transport is a key sector for all of these questions. It is a major consumer of imported fossil fuels and a major emitter of greenhouse gases. The European Union cannot achieve its energy and climate goals without taking measures to decarbonise transport and to make it less reliant on imported fossil fuels.

Therefore a 'Transport Pillar' is essential within the 2030 Framework for Climate and Energy Policies. In that context, rail transport can make significant contributions thanks to its higher performance in terms of higher energy efficiency, lower GHG emissions, and lower use of imported fossil fuels.

The 'Transport Pillar' that is proposed would have the following key elements:

1. **A formal confirmation in legislation of the 60% reduction of transport emissions by 2050 compared to 1990 levels (Transport White Paper, 2011) with an additional binding target for 2030.** Furthermore, the development of a reporting mechanism system for Member States in order to facilitate their progress to the Commission with guidelines on periodical review
2. **A comprehensive study and a dedicated Impact Assessment on policy options to include transport fossil fuels into the EU ETS, and on policy options that would have an equivalent effect**
3. **Building on existing provisions in EU ETS legislation, a binding commitment on all Member States based on a minimum percentage of the use of revenues from the auctioning of EU ETS allowances in order to fund rail transport**
4. **The new legislation on Energy Efficiency should ensure that Member States do not have the possibility to exclude transport from energy savings schemes**
5. **Incentivise a shift to less polluting modes of transport and less polluting vehicles within modes, in particular with new support measures for the electrification of surface transport based on an expansion of electrified rail transport in combination with optimised inter-modal connections with private electric road vehicles and their recharging infrastructure at appropriate locations**

## 1. INTRODUCTION

On 22 January 2014 the European Commission adopted a Communication announcing the development of a new EU Framework for climate and energy policies for the 2030 horizon. With the exception of a legislative proposal for the introduction of a Market Stability Reserve for the EU Emissions Trading System (EU ETS), the Framework does not yet contain concrete legislative proposals. Instead, the Communication lists **three key goals**: a reduction in total domestic greenhouse gas emissions of 40% on the 1990 level by 2030; an EU-level binding target for renewable energy of at least 27% in total energy consumption; and energy efficiency goals yet to be defined.

The Framework was the subject of important discussions at the European Council meeting of 21 March 2014. Due to the Ukraine crisis, energy security was added as a key topic. Nevertheless, the pre-existing goals and constraints were not put in question, and so the Council is effectively tasking the Commission with an ambitious list of goals, namely:

- Reduce greenhouse gas emissions
- Promote renewable energy
- Promote energy efficiency
- Ensure fair effort-sharing between the Member States, and also respect the freedom of each Member State to determine its energy mix
- Develop measures to prevent carbon leakage <sup>(1)</sup> - support energy-intensive industries
- Develop, by June 2014, a comprehensive plan for the reduction of EU energy dependence

The European Council shall discuss these points again in June 2014, with a view to taking a final decision on the new policy framework no later than October 2014.

This should enable the European Union to participate in the UNFCCC climate change conference in Lima (Peru) from 1 to 12 December 2014 with a clearly defined common position, and therefore to actively contribute to the conclusion of a global climate agreement during the UNFCCC Climate Change Conference in Paris in December 2015.

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<sup>1</sup> Carbon leakage is the term used to describe the situation where, for reasons of costs related to climate policies, businesses transfer production to other countries which have laxer constraints on greenhouse gas emissions.

## 2. THE ENERGY SECURITY - TRANSPORT POLICY NEXUS

In 2012, the EU sourced 86% of its gross inland consumption of oil and oil products, and 66% of its natural gas, from net imports from the rest of the world. All major energy-economy scenario projections (e.g. IEA, PRIMES) predict steep increases in net import dependence for the European Union due to unchecked demand and declining domestic production, even if one factors in unconventional oil and gas. This import dependence makes the EU highly vulnerable to energy supply shocks, which is demonstrated by the Spring 2014 crisis between the Russian Federation and Ukraine. CER and UNIFE welcome the European Commission's May 2014 Communication on a 'European Energy Security Strategy' which rightly identifies these vulnerabilities. We wish to contribute to the discussion by highlighting the key role of transport. According to Eurostat energy statistics, in 2011 the transport sector accounted for around **three quarters** of the EU's total final consumption of oil and oil products. Road transport alone is responsible for 64% of final consumption, whereas the share of rail is just 0.6%. In sum, **road transport constitutes Europe's dominant vulnerability with respect to oil price shocks**. Europe needs to reduce its import dependence for all fossil fuels. Transforming the transport system can play a key role in this respect, based on greater use of rail transport as well as greater use of low-fossil fuel vehicles in every mode.

The analysis of how such a system may come into being has partly been done: the European Commission's "Roadmaps to 2050" in the fields of energy, transport, and climate change outline important goals for Europe that need to be kept. The difference now is the growing realisation that work towards these goals needs a considerable acceleration, aiming for substantial structural change by 2025 at the latest, and that economic security and energy security considerations need to be at the top of Europe's agenda. In this respect, CER and UNIFE would like to underscore the supporting role railway transport could play in the achievement of the EU's energy targets for 2030. Rail has a much lower reliance on fossil fuels, and hence a much lower reliance on imported fossil fuels.

As a result, CER and UNIFE believe that **both transport policy and energy security policy need to be given key structural roles within the 2030 Framework**. In addition to the goals already announced, CER and UNIFE would support additional policy goals focusing on energy security and transport. On the one hand, incentivising a shift towards more energy-efficient forms of transport both within and between modes shall enable a reduction in total use of imported fossil fuels for a given transport volume. On the other hand, a goal of reducing the EU's total fossil fuel imports can be achieved by boosting more energy-efficient forms of transport. One should therefore consider formulating new policies for both goals, with clear objectives for transport as well as for energy imports. For energy imports this could take the form of a quantitative target of reducing the EU's total net fossil fuel imports, say by x % of the 2010 level by 2030. Careful impact studies would be carried out to determine feasible targets.

In parallel, a '**transport pillar**' should be added into the 2030 Framework, with policy proposals aiming at the facilitation of shifts in transport patterns that ensure a lower use of imported fossil fuels per passenger-kilometre or per tonne-kilometre. In that respect CER and UNIFE wish to highlight the role of the forthcoming Directive on the deployment of alternative fuels infrastructure and the need for inter-modal connections in order to support a strongly increased electrification of all surface transport.

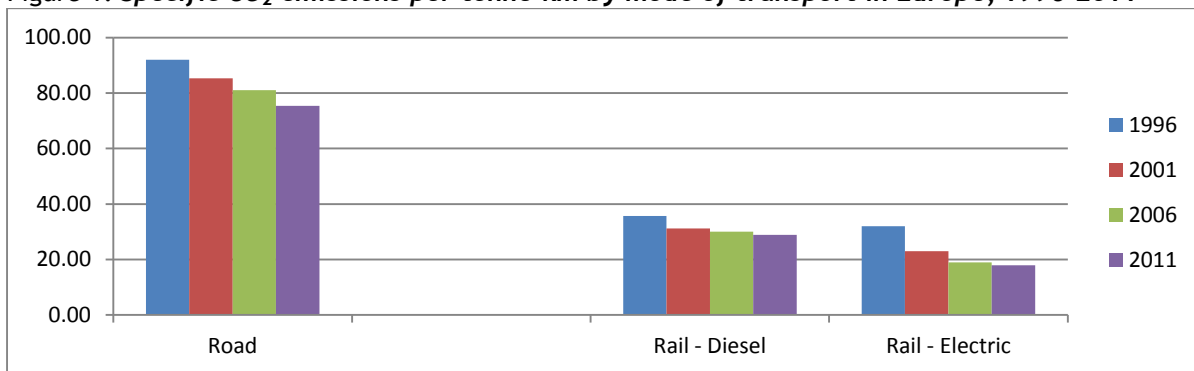
**New financial support measures shall be necessary in order to ensure that this vision becomes a reality.**

### 3. ENERGY AND ENVIRONMENTAL PERFORMANCE OF RAIL TRANSPORT

Besides a low use of imported fossil fuels, rail's performance stands out in terms of high energy efficiency, low specific emissions of CO<sub>2</sub>, and a growing use of renewables.

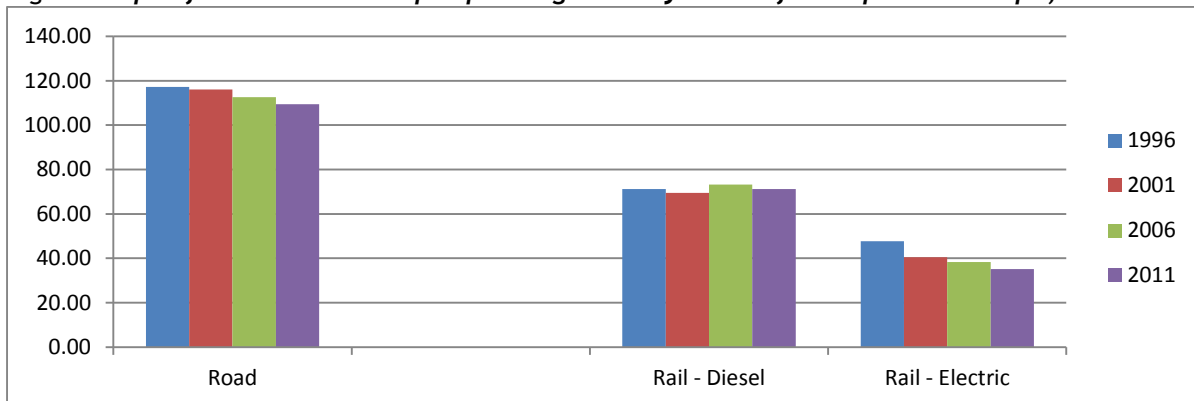
The performance of rail transport in terms of GHG emissions is well-documented and is illustrated for freight and passenger transport respectively in Figures 1 and 2.

Figure 1: *Specific CO<sub>2</sub> emissions per tonne-km by mode of transport in Europe, 1996-2011*



Source: *Energy efficiency and specific CO<sub>2</sub> emissions (TERM 27), EEA*

Figure 2: *Specific CO<sub>2</sub> emissions per passenger-km by mode of transport in Europe, 1996-2011*



Source: *Energy efficiency and specific CO<sub>2</sub> emissions (TERM 27), EEA*

## Higher energy efficiency

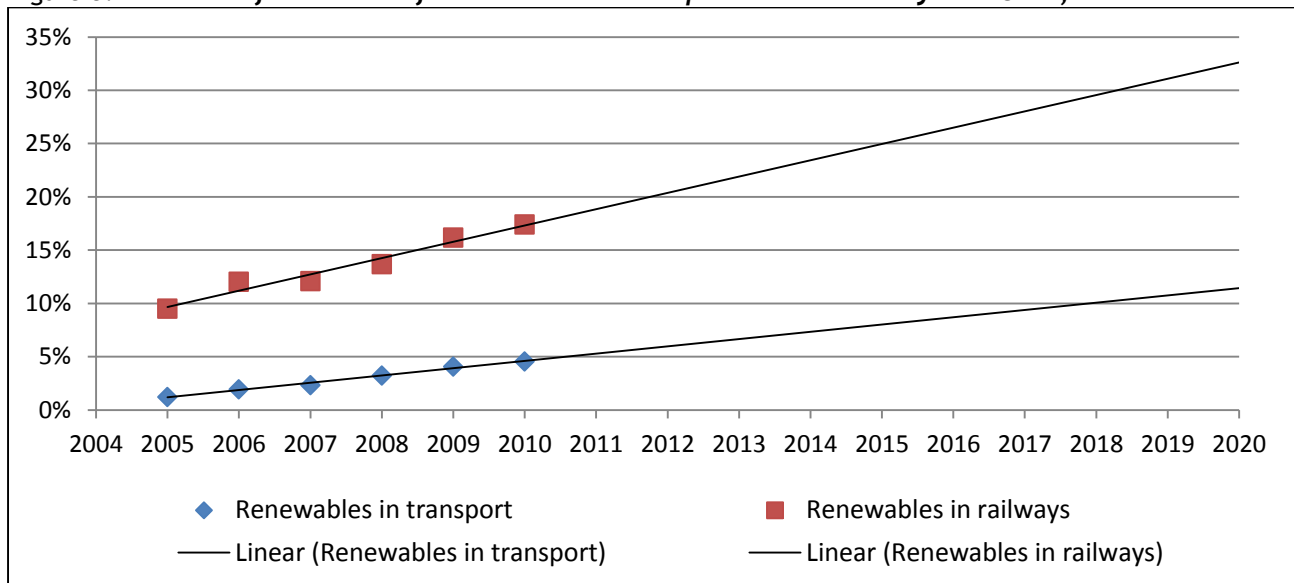
Rail transport is less energy-intensive than other modes. According to the Eurostat data, the specific energy consumption of rail transport is indeed 5 times lower than road <sup>(2)</sup>.

The rail sector actively works on improving vehicle energy efficiency through considerable investment in research and innovation. The **SHIFT<sup>2</sup>RAIL Joint Undertaking**, a major EUR 920 mn public-private partnership embedded in the Horizon 2020 Framework programme, will feature Innovation Programmes targeted at increasing rolling stock and infrastructure energy efficiency, but also at improving the overall energy efficiency of the railway system via integrated traffic management systems.

## Greater use of renewable energy

The railway sector uses electricity for around 80% of its traffic and the share of renewable energy in power generation is growing. Rail transport increased its share of renewables from 9.5% to 17.4% from 2005 to 2010 (See Figure 3).

Figure 3: *Forecast of the share of renewables in transport and in railways in EU-27, 2005-2020*



Source: *Railway Handbook 2013, IEA and UIC*

Thanks to an increasing share of electrification, much of rail transport may thus become increasingly both zero carbon and renewables-based, to the extent that renewable sources of power generation become increasingly available.

<sup>2</sup> Total final energy consumption in road divided by transport volume in road as compared to total final energy consumption in rail divided by transport volume in rail. For simplicity transport volume for both modes is taken as the sum of freight and passenger volumes (tonne-kilometres + passenger-kilometres, so-called 'transport units'). Source: Eurostat - date of extraction: 22 May 2014.

#### 4. THE RAIL SECTOR AND THE EU EMISSIONS TRADING SYSTEM (ETS)

CER and UNIFE support a strong and credible EU ETS. As major consumers of electricity, rail transport may in future be significantly affected by (probably) high allowance prices as a result of a policy of internalisation of external costs. CER and UNIFE accept that this will be the result of a policy of internalisation of external costs that they have always advocated. Nevertheless, fair treatment between modes of transport must become a reality: internalisation of external costs must apply in a fair and balanced manner across all transport modes.

The EU legislation on the EU ETS (Directive 2009/29/EC) established the goal of completely phasing out free allocation by 2027. From 2013, **auctioning** is the main method of allocating allowances for the power generation sector; however certain sectors are still benefiting from free allocation. The energy intensive industry sectors for example received 80% of their allowances free of charge in 2013. Auctioning will increase to 70% for the manufacturing sector by 2020. In the aviation sector, however, only 15% of allowances will be auctioned over the 2013-2020 period. After 2020, a global market-based mechanism is planned to govern international aviation emissions, but no clear strategy has been outlined yet. **This stop-go approach to aviation emissions is a concern for the rail sector** given direct competition between high-speed rail and short-haul aviation.

In general the railways are and will be paying for the extra costs of the ETS that are passed on by the power generation sector. Road transport, the most CO<sub>2</sub> emitting mode, is not included in the ETS. Competition between road and rail is correspondingly distorted. CER and UNIFE believe that **road transport fuels need to be included, subject to auctioning like the other sectors, or subject to measures of an equivalent effect.**

#### Possible inclusion of transport fuels into the EU ETS

CER and UNIFE note that transport fuel production is an identifiable sector (e.g. refineries in the case of petroleum products), and computing the CO<sub>2</sub> emissions embedded in one litre of fuel is relatively straightforward. Fuel producers could be covered by the EU ETS, not just for the emissions they generate through their production activities, but also for the emissions embedded in the fuels they sell. This would then lead them to shift the price of emissions allowances onto the wholesale price of fuels, thus achieving the internalisation effect.

An alternative approach that has occasionally been discussed would be to align fossil fuel taxation with the price generated by the EU ETS, but without including fossil fuels in the EU ETS. However a closer analysis proves that this second approach is not equivalent to the first and would create a number of problems. In brief, there is no way of knowing how the price signal from the EU ETS would affect behaviour and investment in sectors that are external to the EU ETS, and there is no way of knowing how much abatement would actually occur. In a sense, transport fossil fuels would benefit from a kind of free-rider effect, as no emissions cap would apply to them. The only way of ensuring a given future level of total emissions (so the total from existing ETS sectors and a relevant non-ETS sector, in this case road transport) is to include the relevant non-



ETS sector into the ETS, based on a re-computed emissions cap that takes the new sector's presence into account.

**In conclusion, CER and UNIFE consider that a possible inclusion of surface transport fuels into the EU ETS is a valid policy idea which should be studied by the European Commission.**

## Use of the revenues from auctioning

Concordantly with structural reforms to the EU ETS, CER and UNIFE wish to highlight the role that the EU ETS can play as a funding instrument based on the revenues from auctioning of allowances. Article 10 (3) of Directive 2009/29/EC stipulates that a minimum share of those revenues should be used for one or more of a set of 9 possible measures. One of these measures is *“to encourage a shift to low-emission and public forms of transport”*:

Member States shall determine the use of revenues generated from the auctioning of allowances. At least 50% of the revenues generated from the auctioning of allowances referred to in paragraph 2, including all revenues from the auctioning referred to in paragraph 2, points (b) and (c), or the equivalent in financial value of these revenues, should be used for one or more of the following:

1. To reduce greenhouse gas emissions, to adapt to the impacts of climate change and to fund research and development;
2. To develop renewable energies to meet the 2020 renewable energy target, to develop other technologies contributing to the transition to a safe and sustainable low carbon economy and to help meet the 2020 energy efficiency target;
3. Measures to avoid deforestation and increase afforestation and reforestation in developing countries that have ratified the international agreement on climate change;
4. Forestry sequestration in the EU;
5. The environmentally safe capture and geological storage of CO<sub>2</sub>;
- 6. *To encourage a shift to low-emission and public forms of transport;***
7. To finance research and development in energy efficiency and clean technologies in the sectors covered by the EU ETS;
8. Measures intended to increase energy efficiency and insulation;
9. To cover administrative expenses of the management of the Community scheme.

As can be seen, a binding arrangement for the use of EU ETS revenues does not yet exist. As a result, only a few Member States actually earmark EU ETS revenues.

CER and UNIFE would propose a strengthening of this provision, offering a **binding commitment on all Member States at least on low-emission transport such as rail**, for example based on a minimum percentage of revenues allocated for low-emission transport, so referring to point 6 of Article 10 (3). One area of application could include co-financing for more energy-efficient railway rolling stock.

## 5. ENERGY EFFICIENCY AND TRANSPORT

With a 2011 energy consumption of 1583 Mtoe, the EU27 was positioned far from its overall 20% energy efficiency objective for 2020 which corresponds to a primary energy consumption of 1483 Mtoe <sup>(3)</sup>. CER and UNIFE note the Commission's ongoing review of the Energy Efficiency targets as an opportunity to accelerating progress in energy efficiency.

Within the 2030 Framework, each Member State should commit to achieving improvements of energy efficiency at national level, and those national commitments should be congruent with an overall EU target. There should be a macro-level target to reduce by X% the energy intensity of real GDP (MJ/€ real GDP).

Article 7(1) of the Energy Efficiency Directive (2012/27/EU) refers to the obligation period for the Member States to achieve a certain amount of final energy savings from 1 January 2014 - 31 December 2020 by using energy efficiency obligation schemes or other targeted policy measures. This covers households, industries and transport sectors however the sales of energy, by volume, used in transport may be partially or fully excluded from the calculations. CER and UNIFE believe that **new legislation on energy efficiency should ensure that Member States do not have the possibility to exclude transport from energy savings schemes.**

Progress of the energy efficiency in Member States will be evaluated based on the National Energy Efficiency Action Plans, which take Commission Implementing Decision (2013/242/EU) and the Staff Working Document (SWD(2013) 180 final) as a reference. CER and UNIFE support the recommendations made in SWD (2013) 180 final, Guidance 40.

### Guidance 40

The Energy Efficiency Directive requires the Member State to provide details on all measures that help implement the main elements of the Directive. If the Member State chooses to organise the descriptions of measures in this manner, this section may be used to describe measures that address energy efficiency in transport. The following questions could serve as a guideline:

- Are there measures in place to improve energy efficiency in public transport?
- Are there measures in place to increase the attractiveness of public transport?
- Are there designated low-traffic or low-emission zones established, or congestion charging in place?
- Are there programmes in place promoting eco-driving?
- Is there financial support available for sustainable transport measures?
- Are there tax incentives in place to improve the fuel efficiency of passenger vehicles and/or freight vehicles?

The Commission should consider the inclusion of similar concrete policy options in future energy efficiency legislation or revisions thereof.

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<sup>3</sup> EU's 2020 energy consumption is updated with Directive 2013/12/EU adapting Directive 2012/27/EU following the accession of Croatia to the EU.

## 6. POLICY RECOMMENDATION: A TRANSPORT PILLAR FOR THE 2030 FRAMEWORK

With respect to the 2030 Framework for Climate and Energy Policies, CER and UNIFE urge EU institutions to adopt an ambitious binding target for CO<sub>2</sub> emissions reduction, with a solid Emissions Trading System at its core. Setting a target for 2030 will indeed provide a much needed medium-term predictability to investors and businesses.

CER and UNIFE would like to recall the **commitments of the Transport White Paper 2011 to achieve a competitive and resource efficient transport system**. Railways are the backbone of the European sustainable transport system thanks to higher energy efficiency, lower reliance on imported fossil fuels, lower specific emissions of greenhouse gases, and good prospects for an increasing use of renewable energy. CER and UNIFE in particular stress the goal of shifting 30% of road freight over 300 kilometres to rail and waterborne transport services by 2030 and by 2050 increasing to 50%. By 2050, the goal is to have the majority of medium-distance passenger transport go by rail.

The 2030 Framework for Climate and Energy Policies is a good opportunity for policy makers to **encourage the emergence of the level playing field between transport modes**. Railway transport has an important contribution to make. Policy makers should therefore ensure that measures within the Framework are conducive to growth in these sectors while avoiding the creation of new costs or barriers to such growth.

A set of essential framework conditions should be put in place by political decision makers at European and national level. The policy measures should contribute ensuring a level playing field between transport modes. The Commission action is required especially in the area of transport infrastructure charging in order to ensure that all modes pay a fair share of their infrastructure and external costs.

Furthermore, CER and UNIFE advocate the creation of a **'Transport Pillar' within the Framework**, aiming at guaranteeing strong reductions in both greenhouse gas emissions and fossil fuel imports for the transport sector. CER and UNIFE reiterate the fact that rail uses very low amounts of fossil fuel and generates very low levels of CO<sub>2</sub> per passenger-kilometre or per tonne-kilometre. Further incentives for modal shift are therefore the only way forward if the EU is to meet its climate and energy ambitions.

CER and UNIFE propose the following key points for a ‘Transport Pillar’ within the 2030 Framework:

1. **A formal confirmation in legislation of the 60% reduction of transport emissions by 2050 compared to 1990 levels (Transport White Paper, 2011) with an additional binding target for 2030.** Furthermore, the development of a reporting mechanism system for Member States in order to facilitate their progress to the Commission with guidelines on periodical review
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## **CER**

The Community of European Railway and Infrastructure Companies (CER) brings together more than 70 members - European railway undertakings, their national associations as well as infrastructure companies. The membership is made up of long-established bodies, new entrants and both private and public enterprises. CER members represent about 61% of the rail network length, more than 84% of the rail freight business and about 99% of rail passenger operations in EU, EFTA and EU accession countries.

## **UNIFE**

UNIFE is a European association that represents the interests of the railway supply industry in Europe at the level of both European and international institutions. Its membership comprises manufacturers and integrators of railway rolling stock, subsystems, components, signalling equipment and infrastructure. Its mission is to pro-actively develop an environment in which UNIFE members can promote rail market growth for sustainable mobility.

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