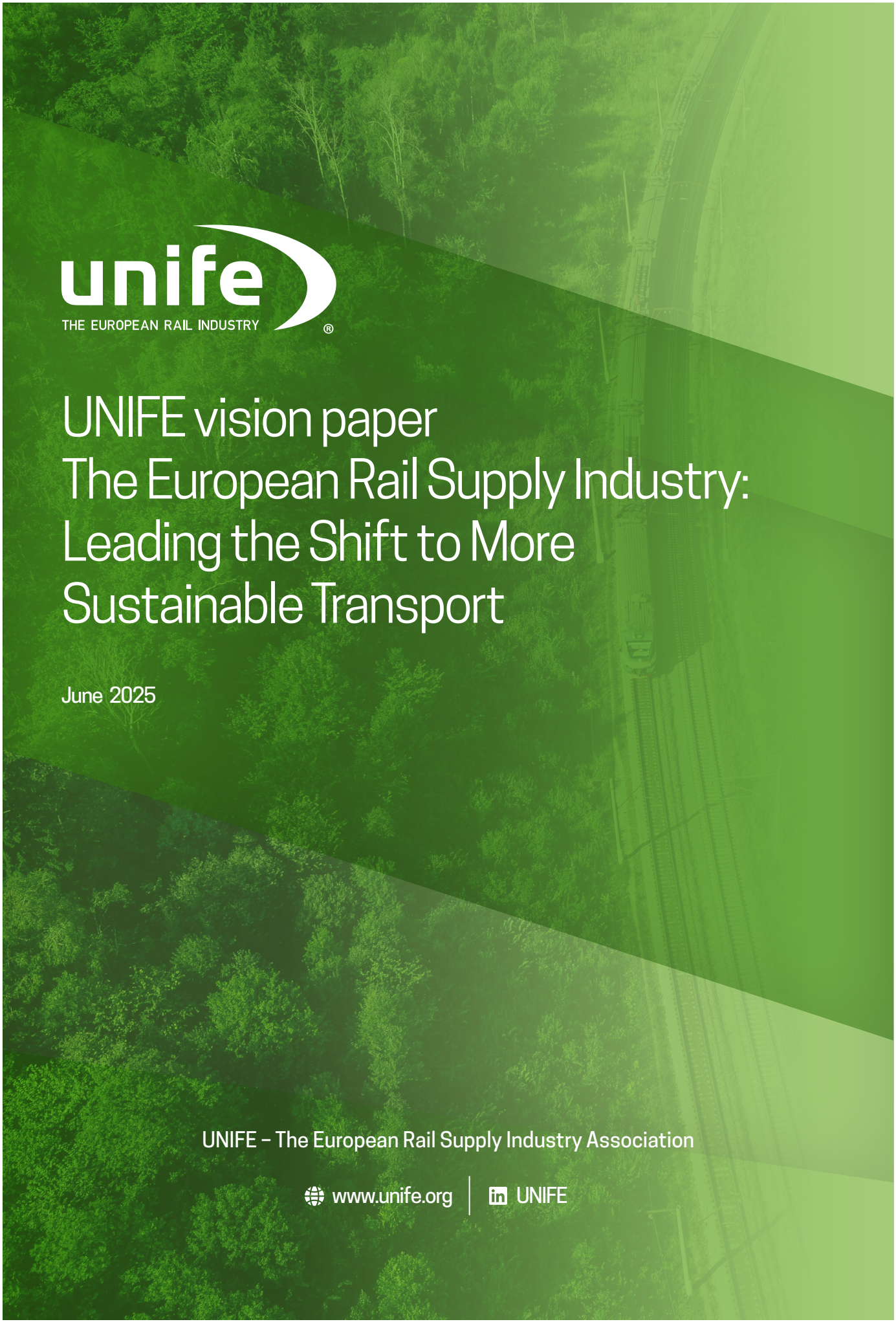

unife
THE EUROPEAN RAIL INDUSTRY

UNIFE vision paper
The European Rail Supply Industry: Leading the Shift to More Sustainable Transport

June 2025

UNIFE – The European Rail Supply Industry Association

www.unife.org | UNIFE

EXECUTIVE SUMMARY

The rail sector is the most environmentally sustainable mode of mass transportation and represents the solution to decarbonising the transport sector. The European Union (EU) should support the European rail supply industry in further developing railways and benefiting from their positive outcomes.

The challenges confronting the EU transport sector are immense. There is an urgent need to decarbonise it. Amidst economic and geopolitical uncertainty, it is vital to preserve and enhance the competitiveness of the transport industries.

The European rail supply industry, represented by its Association UNIFE, has much to offer in this respect. Its members, ranging from small and medium-sized enterprises (SMEs) to world leaders, represent €45.8 billion in global yearly sales, and the rail supply industry at large accounts for 650,000 jobs across Europe. Every day, they deliver a wide range of climate-compatible solutions, ranging from train building to infrastructure or signalling equipment provision, to millions of citizens in Europe and beyond.

Railways account for **just 0.4% of greenhouse gas emissions in the European transport sector,** while the rail modal split was 11.9% for freight and 6.8% for passengers in 2021. Rail plays a **crucial role in achieving the EU's 2050 climate neutrality goal,** primarily through a modal shift from polluting transport to rail. However, rail still has an environmental footprint, including energy consumption and noise pollution, that must be reduced.

UNIFE, its members, and its committees have **developed crucial environmental initiatives for the railway sector**, including the creation of a common lifecycle eco-design approach and the implementation of chemical regulations in the supply chain through the Railway Industry Substance List (RISL). In collaboration with Europe's Rail Joint Undertaking

(ERJU), UNIFE and its members are actively engaged in **research and development** programs aimed at improving the sustainability performance of rail by reducing energy consumption, noise emissions, and the use of substances of concern, as well as increasing recyclability and circularity. Additionally, UNIFE is in contact with European institutions to provide feedback on enhancing the efficiency of its initiatives, such as the EU Taxonomy.

Rail is the cleanest mode of mass transportation, and climate neutrality can only be achieved with a strong European rail supply industry. To make this vision a reality, the EU needs to acknowledge, in the upcoming legislation, **the vital role of the rail supply as a net-zero industry enabler.** It will be essential for rail to be included as **part of strategic industries** within the upcoming investment and European funding plans.

Access to more EU funds will be vital for accelerating **research and innovation in rail** and **the deployment of the rail technologies** outlined in this vision paper. Furthermore, the European rail supply industry calls on the European institutions to boost the competitiveness of European rail suppliers by **providing regulatory stability, cutting red tape and reducing the administrative burden** for companies, particularly SMEs, mainly through clarification of reporting and administration work.

UNIFE, the European Rail Supply Industry Association, has operated in Brussels since 1992. It represents European train builders and rail equipment suppliers. The association advocates for 121 of Europe's leading rail supply companies – from SMEs to major industrial champions – active in designing, manufacturing, maintaining, and refurbishing rail transport systems (trains, metros, trams, freight wagons), subsystems, and related equipment. UNIFE also brings together national rail industry associations from 12 European countries.

RAIL, THE MOST ENVIRONMENTALLY FRIENDLY MASS TRANSPORT MODE

As defined in 1987 by the United Nations Brundtland Commission, sustainability means meeting *"the needs of the present without compromising the ability of future generations to meet their own needs."* The **rail sector** fulfils this definition, as it has been the most environmentally friendly mass transport mode for almost two centuries.

As mentioned in the European Union Agency for Railways (ERA) ***2024 Rail Environmental Report***, greenhouse gas (GHG) emissions per kilometre travelled by each rail passenger are a fraction of those of other transport modes, especially for longer distances. Freight trains (as well as ships and barges) also produce far lower emissions per tonne/km compared with road transport. This report proves that rail has *"the **lowest external costs,** the **highest degree of energy independence** […], the **highest efficiency in land-take** and the most durable assets."*

Indeed, **rail generates minimal environmental and societal burdens** compared to other transport modes. External costs, which include climate change, resource use, air pollution, accidents, noise, and congestion, are significantly lower for rail due to its **energy efficiency** and structured network. While road transport dominates external costs, accounting for 83% of the total €716 billion in the EU-28, rail's share is only 0.3%. Unlike road transport, which covers only 45% of its societal costs, **rail's reliance on electrification and renewable energy** further reduces its carbon footprint. With fewer emissions, lower accident rates, and minimal congestion, rail remains the most environmentally sustainable transport mode.

Beyond its environmental advantages, rail is also the **most affordable transport mode,** as the initial investment is spread over time. Railway infrastructure is built to last for decades, if not centuries, while rolling stock can remain on track for at least 40 years.

The EU institutions have recognised the **rail sector's best-in-class environmental performance,** establishing it as **the backbone of the *Sustainable and Smart Mobility Strategy*** adopted in 2020. This strategy aims to address EU transport emissions, which constitute approximately 25% of the EU's total greenhouse gas emissions. The Commission intends to increase rail freight traffic by 50% by 2030 and to double it by 2050. It also aims to double high-speed rail passenger traffic by 2030 and triple it by 2050, while decreasing reliance on aviation and road transport. Through this modal shift, the rail sector is a key enabler of the EU's

climate neutrality target and aims to reduce transport emissions by 90% by 2050.

Despite its high sustainability, particularly in comparison to other modes of transport, **the railway sector must continue to reduce its environmental impacts.** Rail transport emits greenhouse gases, but at a negligible level compared to other transport modes, accounting for **only 0.4% of the greenhouse gas emissions within the European transport sector, for a 6.8% modal share of passenger transport and 11.9% of freight transport** in 2021.

Launched in 2021, the European Commission's ***Zero Pollution Action Plan*** seeks to reduce the share of people chronically disturbed by transport noise by 30% by 2030. While road traffic remains the primary source of noise pollution in urban and rural areas, railway noise affects 22 million Europeans. According to the European Environment Agency's ***Zero Pollution Monitoring and Outlook 2024***, released in March 2025, this goal is off track. Projections indicate that the number of individuals highly annoyed by transportation noise could decrease by 2% to 23% by 2030 in conservative and optimistic scenarios. This implies that without further measures, such as regulatory or legislative changes, achieving at least a 30% reduction in the number of people chronically disturbed by transport noise levels by 2030 will not be feasible.

Furthermore, land is utilised to construct infrastructure, resulting in long-term effects on nature conservation and biodiversity. Yet, rail is also less land-use intensive: **rail requires, on average, only 7 m² per passenger, compared to the 100 m² needed for car transport**.

Lastly, like other mobility solutions, the production, maintenance, and end-of-life stages of rolling stock and infrastructure continue to cause environmental harm, including greenhouse gas emissions, potential chemical pollution, and the depletion of natural resources. Nevertheless, **rail is less intensive in material resource use than other modes due to its design, longevity, and potential for high capacity.**

From another perspective, natural disasters driven by the climate crisis, such as extreme heatwaves and fires, heavy rainfall and flooding, and thunderstorms, severely test the rail's resilience. These events can become even more challenging when combined with the expected increase in rail transport demand and the rail network's capacity shortage.

The rail supply industry acknowledges that the rail sector must achieve greater levels of sustainability and resilience to fit in a world within the nine planetary boundaries and should continue to persist in its efforts in this environmental field.

WHAT MAKES THE EUROPEAN RAIL SUPPLY INDUSTRY MORE SUSTAINABLE?

The European rail supply industry, represented by its sectoral association UNIFE, addresses environmental issues through its working groups, which gather experts well-versed in the technical aspects of product sustainability. Since the establishment of the UNIFE Sustainable Transport Committee (STC) in 1999, UNIFE has been dedicated to environmental efforts, as this subject is crucial for the future of the rail supply industry. The STC convenes the **leading experts in sustainability-related topics within the rail supply industry** and outlines the strategy in that area. It advocates for European initiatives and emerging global standards adopted by the entire rail supply industry.

1) At the forefront of the lifecycle eco-design approach

Eco-design is essential for the European rail supply industry, which is committed to optimising its products across their lifecycles and minimising their environmental impacts, from production to operation and end-of-life. This includes reducing GHG emissions, enhancing energy efficiency, facilitating more circular material flows, and improving performance related to noise and vibration, among other aspects. When effectively implemented, most eco-design measures are likely to improve economic performance, allowing for more trains on tracks and promoting a modal transport shift.

The **UNIFE Life-Cycle Assessment Topical Group (LCA TG)** focuses on life-cycle-based assessments of railway systems, ecolabel, sustainable procurement, and ecodesign and has worked on a number of initiatives to be at the forefront of sustainability:

a) Product Category Rules (PCR) and Environmental Product Declarations (EPD)

There is a growing customer demand for information on the environmental performance of railway vehicles. Since 2009, UNIFE has developed the **Product Category Rules (PCR)** for rail rolling stock, with a standardised method to apply environmental life-cycle assessments transparently and reliably, known as **Environmental Product Declarations (EPD).** EPDs provide voluntary, quality-assured, and comparable information regarding the environmental performance of products in accordance with the ISO 14025 standard. The PCR defines common and harmonised calculation rules for a specific product category, ensuring similar procedures are used when preparing an EPD. To develop a uniform life-cycle assessment methodology for **communication of environmental performance,** UNIFE has supported the development of PCR 2009:05 Rolling Stock and the c-PCR-023 Railway Infrastructure.

b) Circular economy: recyclability and recoverability

The **circular economy,** defined as a model of resource production and consumption that involves reusing, repairing, refurbishing, and recycling existing materials and products for as long as possible, is a priority on the European Union's environmental agenda. **Recyclability** means that components, once disassembled, can be sent to the recycling industry and technically recycled for a new life in the same or other products. This ensures **the establishment of a circular economy and reduces the consumption of virgin raw materials and energy usage.**

The railway industry needed a common approach to ensure the efficient **end-of-life treatment of its products** and **waste reduction,** especially when recycling rolling stock and equipment. It also required a common basis for calculating and reporting rail product recyclability and recoverability rates. In 2013, UNIFE developed a common calculation method for the specific needs of the railway industry. Based on ISO

21106:2019, "Railway applications – Recyclability and recoverability calculation method for rolling stock", the UNIFE LCA TG prepared guidelines and a template for the recyclability and recoverability calculation methodology. This approach encourages suppliers to design railway products that minimise the use of non-recyclable and non-recoverable materials. This methodology will continue to evolve, particularly in light of new legislation and standards.

c) Alternative fuels for the rail sector to be even more sustainable

The primary contribution of rail to climate objectives is its enhanced use to meet modal shift goals. Although the railway sector's GHG emissions are already low, it aspires to assist the transport sector in achieving a 90% reduction by 2050. By then, if the TEN-T rail network is completed and fully electrified, 70,000 km of lines in the EU will remain unelectrified, excluding private railway networks (such as industrial networks, some shunting yards, and harbours). Regarding rolling stock, it is estimated that around 6,000 diesel trains and an equal number of diesel locomotives are still in service today.

Solutions exist to **decarbonise the sector with alternative fuels.** The rail supply industry has developed trains powered by alternative technologies to **eliminate the remaining diesel operations** in the industry. Where direct electrification is too difficult, using **battery-powered trains** or fuels with zero direct emissions, such as **hydrogen fuel cells** and **hydrogen combustion engines,** is a viable option.

UNIFE collaborates with European railway operators and infrastructure managers to facilitate the implementation of the Alternative Fuels Infrastructure Regulation (AFIR). UNIFE supported and suggested amendments before the AFIR was approved in 2023. Rail operators and infrastructure managers should continue to **increase the rail network's electrification and utilise renewable energy sources** to generate the necessary electricity. UNIFE will continue to support their efforts by providing expertise and advice on the most efficient way to decarbonise the fleet.

2) Working with the EU to improve chemical regulations

At the European level, the health and environmental risks posed by chemical substances are a high priority, and there is increasing pressure to restrict the use of hazardous materials. Although railways are not the primary focus of these concerns, **the sector is dedicated to proactively phasing out substances of concern and strictly complying with European legislation,** including REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals).

The **UNIFE Chemical Risks Topical Group (CR TG)** leads UNIFE's policy on chemicals and hazardous substances management at the global and European levels, including activities related to the European Chemicals Agency (ECHA).

a) Two crucial documents for the global rail industry: the Railway Industry Substance List (RISL) and the UNIFE Material and Substance Declaration Template (MSDT)

Since 2011, the UNIFE CR TG has developed a shared understanding and harmonised rules for the REACH application in the rail industry. It also supports railway system integrators and their suppliers in understanding their legal obligations. The **Railway Industry Substance List (RISL)** and the **UNIFE Material and Substance Declaration Template (MSDT)**, launched in 2012, respond to this need. The RISL provides a comprehensive and accurate list of the prohibited and declarable chemicals used specifically by the railway industry. The MSDT aims to harmonise the information requested by system integrators and develop a common form that all of them recognise.

UNIFE CR TG also updates the **Product-Related Chemicals Regulations**. These factsheets are vital for rail suppliers as they give a common understanding of European legal texts that are not rail-specific. They focus on batteries, F-gases (fluorinated gases), RoHS (Restriction of Hazardous Substances), SCIP (substances of concern in products), and WEEE (waste electrical and electronic equipment).

b) Per- and poly-fluoroalkyl substances (PFAS): a key concern for the rail sector

UNIFE is also closely monitoring the debate on Per- and poly-fluoroalkyl substances (PFAS), a group of artificial chemicals with about 12,000 different substances. PFAS have various valuable properties, such as durability under extreme conditions (temperature, pressure, radiation, chemicals). However, they are also qualified as "forever chemicals" due to their persistence in the environment and human bodies, leading to serious global health issues. Therefore, ECHA is currently assessing **the restriction proposal** to ban, with few derogations, manufacturing, using and placing products containing PFAS on the EU market. **PFAS are critical for the rail industry** and its entire value chain through various applications, such as electronic components, lubricants, and sealings.

The rail industry recognises and understands the challenges presented by PFAS pollution, thereby acknowledging the need to substitute these materials in the sector. UNIFE also encourages its members and suppliers to map all the PFAS they might use and use viable alternatives whenever possible. Additionally, UNIFE shares information and leads discussions about PFAS and the restriction proposal with its partners from the rail sector. A **common position from the European Rail Stakeholder Associations** was sent to the European Commission in February 2024, summarising the key concerns for the European rail sector with the PFAS restriction proposal. UNIFE has also included PFAS in the RISL. This family of chemicals is now declarable, simplifying the rail sector's awareness of where PFAS is utilised.

Given the complexity of the rail sector, UNIFE requests the adoption of **a risk exposure approach to eliminate PFAS** in areas where the pollution risk is highest. Furthermore, considering the long lifespan of products, **sufficient time should be allocated** for the rail sector to implement this ban.

c) How to unlock a sustainable finance future for rail

The European institutions have adopted a green finance rulebook, known as the EU Taxonomy Regulation 2020/852. The EU Taxonomy is a European initiative aimed at classifying economic activities and directing public and private funding towards sustainable investments.

UNIFE supports the implementation of the **EU Taxonomy,** as it is essential to achieve the ambitious climate targets of 2030 and 2050 set by the *European Green Deal and the Sustainable and Smart Mobility Strategy*. It will **inform investors about sustainable activities and guide decisions towards green investments.** Consequently, over the coming years, the sustainability level of each economic activity will influence its access to private and public funding, including investment, interest rates, loans, and grants. It will also **impact the price of all trains and rail components.**

As the EU Taxonomy establishes a legal framework for classifying environmentally sustainable economic activities, it also sets out the criteria for determining whether an economic activity qualifies as "environmentally sustainable". However, its implementation is complex, and despite the rail sector's high sustainability level, the **rail supply industry continues to struggle for recognition.** Therefore, UNIFE assists its members in finding a common sectoral approach and engaging with EU decision-makers to outline the sector's specifics and needs. The goal is to ensure that all activities related to the rail sector, throughout the entire infrastructure and rolling stock lifecycle, are categorised as environmentally sustainable activities.

The issue is similar to the *Corporate Sustainability Reporting Directive (CSRD).* Despite good intentions and a high level of sustainability, UNIFE members still struggle to be fully recognised as a key industry for a more environmentally friendly future. Despite some progress with the *Omnibus Simplification Package Proposal on CSRD*, **the scope and data audit requirements for EU and non-EU companies should be identical.** The current situation is unacceptable regarding the scope as it contradicts the concept of level playing field. EU companies with an annual turnover of over €50 million would be required to report, whereas the threshold for non-EU companies is set at €450 million. This is unfortunate because UNIFE recognises the significance of a sustainability reporting framework that standardises Environmental, social and governance (ESG) reporting, ensuring transparency, comparability, and accountability. CSRD could enable the recognition of the rail sector as being more sustainable than other modes of transport.

The EU Taxonomy and CSRD should be straightforward to implement for the rail sector, create a level playing field with other transport modes and make investing easier in the most sustainable sectors. UNIFE continues to help the European Commission improve its regulatory frameworks by providing feedback to ensure the successful implementation of sustainable financing legislation in the rail sector. On topics such as the EU Taxonomy and CSRD, the current cooperation with the ***Community of European Railway and Infrastructure Companies*** (CER) is key in amplifying the voice of the rail sector on these regulations.

Many UNIFE members are also active with ***Railsponsible***, an industry initiative focused on sustainable procurement. The aim is to continuously improve sustainability practices throughout the railway sector's supply chain. This exchange platform is open to all railway operators and companies across the railway sector value chain.

WITHOUT SKILLS, THERE IS NO SUSTAINABLE TRANSITION

Skills boost the rail supply industry's environmental performance, with knowledgeable workers being essential for managing complex components required for sustainable rolling stock and rail infrastructure. A skilled workforce is vital for advancing technologies, fostering innovation, and minimising the sector's environmental impact. This, in turn, improves the sector's competitiveness compared to other transport modes and contributes to long-term economic sustainability and modal shifts: key priorities in achieving Europe's climate and mobility goals.

STAFFER, the Erasmus+ Sector Skills Alliance for Rail, exemplifies a strategic approach to preparing the workforce for the green and digital transition in rail. It comprises 31 full partners and 15 associated partners from 13 EU countries, including UNIFE, representing diverse sectors such as infrastructure managers, operators, suppliers, educational institutions, and associations. Officially launched on 1 November 2020 for a four-year period, STAFFER aims to identify and address current and future skills needs across the rail system, facilitating the creation of a Single European Rail Area.

STAFFER has significantly improved employability, career development, and workforce adaptability in the rail sector by designing and developing suitable educational pathways, training programmes, and updated curricula. The initiative has also provided long-term, sustainable strategies to close the skills gap between supply and demand, ensuring that rail professionals possess the competencies necessary to drive innovation and enhance environmental performance. UNIFE played a central role in drafting and disseminating policy recommendations, ensuring that the outcomes of STAFFER can be scaled and replicated across the EU.

The rail industry's rapid transformation, driven by decarbonisation objectives, technological innovations, and evolving societal expectations, requires swift knowledge acquisition and continuous skill development among workers. Every profession within the rail system must adapt, as cross-functional skills in ecodesign, circular economy, environmental regulations, and digital technologies are becoming essential across all positions. There is a **pressing need for consistency in skill development across Europe,** particularly in key areas such as battery cells, hydrogen technologies, and fuel cell systems, to enable the rail supply industry to scale sustainable solutions quickly.

More than digital advancements, the **ecological transition significantly disrupts traditional production and work organisation.** Regulatory developments drive these changes and necessitate integrated workforce strategies for readiness and resilience. Structural shifts will create new sustainable jobs, substitute roles across sectors, and redefine existing tasks. The European Commission's Union of Skills Communication (March 2025) emphasises the need for EU Skills Academies, such as the Net-Zero Industry and Cybersecurity Skills Academies, to provide the necessary expertise for strategic sectors like transport. With forward-looking skill strategies and education, the rail sector is positioned to lead this transformation.

RESEARCH AND INNOVATION ARE RAIL'S FUTURE

UNIFE has extensive and rich experience in European research and innovation (R&I), serving for decades as both an advocate for increased EU funding for rail research and as a coordinator and partner of dozens of projects dealing with various railway subsystems (e.g., rolling stock, infrastructure, signalling, energy, etc.). The association is active in the secretariat of the *European Rail Research Advisory Council* (ERRAC), the European technology platform dedicated to rail, and is a trusted partner of the European Commission.

a) Tackle noise reduction, the most critical challenge for the rail sector

The noise issue has been identified as one of the most critical obstacles to gaining public acceptance for new lines or increased traffic on existing lines, especially for freight traffic. It generally generates more noise than other types of traffic and often operates at night.

UNIFE members dedicate their efforts to standardising separation techniques for vehicle and infrastructure noise, and they have participated in *Europe's Rail Joint Undertaking* (ERJU) for rail research. For instance, UNIFE is the project coordinator of the ***QuieterRail Exploratory Project,*** which will lead to a quieter railway. *QuieterRail* seeks to introduce a step change in predicting and mapping railway noise and vibration, as well as promoting cost-effective noise mitigation, particularly for curve noise.

b) Digital automatic coupling (DAC), the future of freight

UNIFE and its members participate in projects to develop full digital freight train operations based on **Digital Automatic Coupling** (DAC). DAC is one of the most promising initiatives to improve the efficiency of European rail freight, offering a substantial capacity increase, for instance, through higher loads and longer trains. DAC technology enables rapid (dis)connection of wagons and locos, facilitates digital communication, and provides energy supply throughout the train. This new digital solution will significantly enhance worker safety and efficiency by automating manual processes.

Currently, one freight train can replace up to 52 trucks and reduce emissions by 80% compared to road traffic. This positions **rail freight transport as a key driver of decarbonisation in logistics.** Thanks to DAC, trains can be longer and heavier, enabling them to run at higher speeds on existing infrastructure. This approach can yield approximately 10-15% additional capacity. DAC-equipped trains will also enhance the reliability, efficiency, and competitiveness of rail freight. DAC will facilitate the modal shift from polluting road freight to low-carbon emission rail freight.

c) European Rail Traffic Management System (ERTMS), key to enhancing rail efficiency and sustainability

The European Rail Traffic Management System (ERTMS) is essential for enhancing the efficiency and sustainability of rail transport. By optimising train operations, **ERTMS reduces energy consumption, lowers emissions, and increases the capacity of existing tracks, allowing more trains to operate safely and smoothly.** Additionally, ERTMS makes rail travel more competitive by enabling faster journeys over longer distances, encouraging more people to choose trains over less sustainable alternatives.

Image credit: Siemens

UNIFE, through its Committee UNISIG, which is responsible for maintaining and updating the ERTMS, Control Command and Signalling (CCS), and Traffic Management System (TMS) specifications, represents the voice of the European Rail Supply Industry in these efforts. UNIFE remains firmly committed to the ongoing success and development of ERTMS.

ANNEX

WHAT DOES THE RAIL SUPPLY INDUSTRY REQUIRE TO ACHIEVE ITS FULL ENVIRONMENTAL PERFORMANCE POTENTIAL?

The rail sector has experienced a positive trend in recent years, but has not yet fully realised its potential. For instance, in 2023, 429 billion passenger-kilometres (pkm) were recorded via rail, the highest number reported by major rail undertakings since data collection began in 2004. **The push for developing the rail sector and its decarbonisation requires political will. Supporting the modal shift and the sustainability of the rail sector should extend beyond mere words.**

1) Acknowledging the uniqueness of the rail supply industry

The rail sector's specificities, such as the business-to-business (B2B) model based on public procurement and the long life cycle of its products (typically 40 years or longer), create challenges for several environmental regulations.

Consistency and predictability of environmental regulatory frameworks are crucial for the rail supply industry, as railway projects can take years, if not decades, to finalise and become fully operational. Decision-makers should consider the complexity of rail products, their lifecycle, and related supply chain management.

For instance, it is crucial for the rail sector that the **REACH revision provides clarity on hazardous chemical regulations.** UNIFE supports **a risk-based approach to restricting the use of dangerous chemicals such as**

PFAS. Adequate time must be allocated since viable alternatives for specific uses still need to be developed, tested, approved, and certified for rail applications. These processes can take up to a decade. As PFAS are utilised in most climate-friendly and decarbonisation technologies, the PFAS restriction should align fully with the key objective of achieving the ambitious goals of the Sustainable and Smart Mobility Strategy and the EU Climate Law.

The purpose of reporting regulations and the expectations for companies should be clarified to enable a level playing field for the rail sector regarding sustainable finance. UNIFE members welcome the European Commission's Omnibus Simplification Package Proposals released in March 2025. Going forward, UNIFE members will continue to support efforts to clarify and streamline the EU Taxonomy and CSRD reporting phases.

2) Ambitious climate targets for a fundamental modal shift

Although the EU aims to achieve climate neutrality by establishing a climate-resilient economy by 2050, European strategies, regulations, and budgets must remain consistent and commit to its 2040 climate target of a minimum 90% reduction in greenhouse gas (GHG) emissions.

Supporting the rail sector is essential to achieve this goal. From economic and environmental perspectives, rail is a low-carbon and energy-efficient mode of transport. Robust, resilient, and reliable, rail is fundamental for ensuring the welfare and fair access to mobility for Europeans. Optimising passenger mobility is becoming an increasingly urgent concern, as transportation plays a crucial role in the EU's efforts to decarbonise its economy. It is estimated that transferring 10% of air traffic from air to rail in Europe could prevent approximately 10 million tons of CO2 equivalent annually.[1]

UNIFE, therefore, fully supports the rail objectives of the Sustainable and Smart Mobility Strategy. However, it is essential to ensure that sufficient EU funding is allocated to these objectives.

3) More EU funding and better use of ETS revenues

Sustainability efforts, particularly those aimed at shifting from polluting modes of transport to rail or replacing existing rolling stock with newer, cleaner alternatives (e.g., alternative fuels, lighter materials, increased energy efficiency), will require **adequate financing options.**

Substantial investments are essential to scale up both services and infrastructure to meet the European sustainability ambitions. For instance, a key initiative for increasing rail traffic is the completion of the **Trans-European Transport Network** (TEN-T). TEN-T is a flagship initiative to establish an intermodal and technologically standardised network to enable better cross-border transport of passengers and freight. The new TEN-T Regulation sets ambitious objectives to complete the TEN-T core, extended core, and comprehensive rail networks by 2030, 2040, and 2050, respectively. The **Letta report highlights** that "the investment needs associated with realising the TEN-T core network by 2030 are estimated at around €500 billion, with a significant portion still lacking sufficient financial resources." The **Draghi report estimates** that completing TEN-T is projected to bring an annual GDP increase of €467 billion in 2050.

1 "Optimising passenger mobility is becoming an increasingly urgent concern, with transportation playing a pivotal role in the EU's efforts to decarbonise its economy. This thesis explores the feasibility of transferring 10% of air traffic to rail in Europe and presents a model for estimating potential avoided emissions based on empirical research and public data. The result is an annual saving of approximately 10 MtCO2 equivalent (calculated based on the values in France)."
Alessandra Lorenzo's professional thesis: *"10% Modal Shift from Air Traffic to High-Speed Rail: Feasibility and Potential Emission Savings"* – Paris, ENPC, November 2024, 55 pages, 6 annexes, 50 figures, bibliography.

The **Connecting Europe Facility** (CEF), the backbone of the EU transport infrastructure investment policy, the **Cohesion Fund,** and the **European Regional Development Fund** (ERDF) financially support the completion of the TEN-T. However, according to the initial discussions for the **EU Multi-Financial Framework** (MFF) 2028-2034, the EU is far from this ambition. Concretely, the new CEF to be proposed by mid-2025 **needs co-funding of at least EUR 100 billion**.

Furthermore, despite the ambitious objectives of the *Sustainable and Smart Mobility Strategy*, rail still has a very low modal share. Several initiatives have been proposed – some of which have already been implemented – to reverse the trend and level the playing field between transport modes. However, more ambitious legislation is needed, particularly in the context of the **Energy Taxation Directive.** An ambitious revision of the Energy Taxation Directive is required, as the last one was in 2003. The revision of the Energy Tax Directive should end the mandatory exemption of kerosene taxation for passenger and freight aviation. It should also provide a tax incentive for renewable fuels while removing the exemptions currently allowed for fossil fuels, thereby internalising external environmental costs and establishing fiscal and social equity in access to transport modes. **The rail sector will never be as competitive as its potential for environmental contribution without an accurate level playing field.**

The **Emissions Trading System (ETS)** and the **Carbon Border Adjustment Mechanism (CBAM)** are two tools that should be used to ensure an appropriate signal through carbon pricing. The provision of climate finance should be further strengthened at the EU level, and leveraging carbon credits to fund the implementation of rail projects should be promoted.

UNIFE strongly advocates for the enactment of an ambitious EU budget for rail. Boosting research and innovation in rail programmes is also vital, with an adequately funded successor to Europe's Rail Joint Undertaking (ERJU). Primarily through the CEF and

increased private financing during the upcoming Multi-Focal Financial Framework (MFF), UNIFE aims to secure the essential deployment of major rail technologies (ERTMS, DAC) and finance new rolling stock. Additionally, the European Investment Bank (EIB), European Bank for Reconstruction and Development (EBRD), and European Company for the Financing of Railroad Rolling Stock (EUROFIMA) should continue to provide loans, leasing, and advisory services for rail projects.

Similarly, UNIFE fully **supports the upcoming plan for an ambitious European high-speed rail network** aimed at connecting EU capitals. However, this plan must receive adequate funding to ensure visibility for businesses.

4) Public procurement, a vital topic for the rail supply industry

Public procurement represents a significant portion of the EU economy, approximately 20% of its GDP. It is also regarded as a crucial factor in promoting the European economy while pursuing strategic goals, such as sustainability objectives. **In the rail sector, public procurement is the most common process for**

European projects, whether involving infrastructure, rolling stock, or rail control. Indeed, most rail and urban transport operators and infrastructure managers are public authorities. Therefore, public procurement holds strategic value for the European Rail Supply Industry.

The EU public procurement framework was revised in 2014, with three directives entering into force in 2016 (2014/24/EU, 2014/25/EU, and 2014/23/EU). In particular, it is essential to underline the contract award criteria described in Article 82 of Directive 2014/25/EU and Article 67 of Directive 2014/24/EU. While contracting entities must base the awarding of contracts on the **Most Economically Advantageous Tender (MEAT),** the MEAT may be identified in various ways. Ultimately, awarding contracts solely based on price remains a possibility that the contracting entity can determine. An approach centred on the best price-quality ratio over the product lifecycle offers benefits such as reduced obsolescence, extended lifespan, and efficient, reliable equipment. Furthermore, products must be manufactured under fair and ethical conditions, from both social and environmental perspectives. Public procurement should also incorporate all of these non-financial criteria.

In 2019, the Community of European Railway and Infrastructure Companies (CER), the *European Rail Infrastructure Managers* (EIM) and UNIFE jointly established **a list of potential criteria that contracting authorities could consider in tendering procedures and contract awarding for railway-related projects.** This list does not constitute an exhaustive set of criteria but rather a compilation of topics that could be prioritised, providing contracting authorities with non-binding guidance and concrete ideas. The list included environmental and social criteria, such as environmental performance factors and sustainability evaluation. Several sectoral events followed this joint recommendation to discuss the challenges related to the concrete implementation of MEAT across rail procurement.

In the upcoming revision of the EU public procurement directives, strengthening the provisions on MEAT by excluding the price-only award in certain cases is crucial.

Furthermore, it should be acknowledged that **private procurement** is not addressed except for very specific cases of special and exclusive rights in the current EU directives. However, in the rail sector, freight and passenger transport feature privately-owned operators and companies or banks buying and leasing rolling stock. This situation creates risks of circumvention of the rules applied to public entities in the framework of the EU directives, as well as issues related to the fair competition of bidders. Yet, no matter the nature of the rail operator, rail is critical infrastructure and has strong links with Military Mobility. Therefore, crucial aspects such as MEAT should also be considered for private procurement, especially when private operators have public shareholders.

For more information, refer to the UNIFE statement on the evaluation of EU public procurement directives released in March 2025.

UNIFE – The European Rail Supply Industry Association
Avenue Louise 221
B-1050 Brussels, Belgium

+32 2 626 12 60
general@unife.org

UNIFE – The European Rail Supply Industry Association

www.unife.org | UNIFE