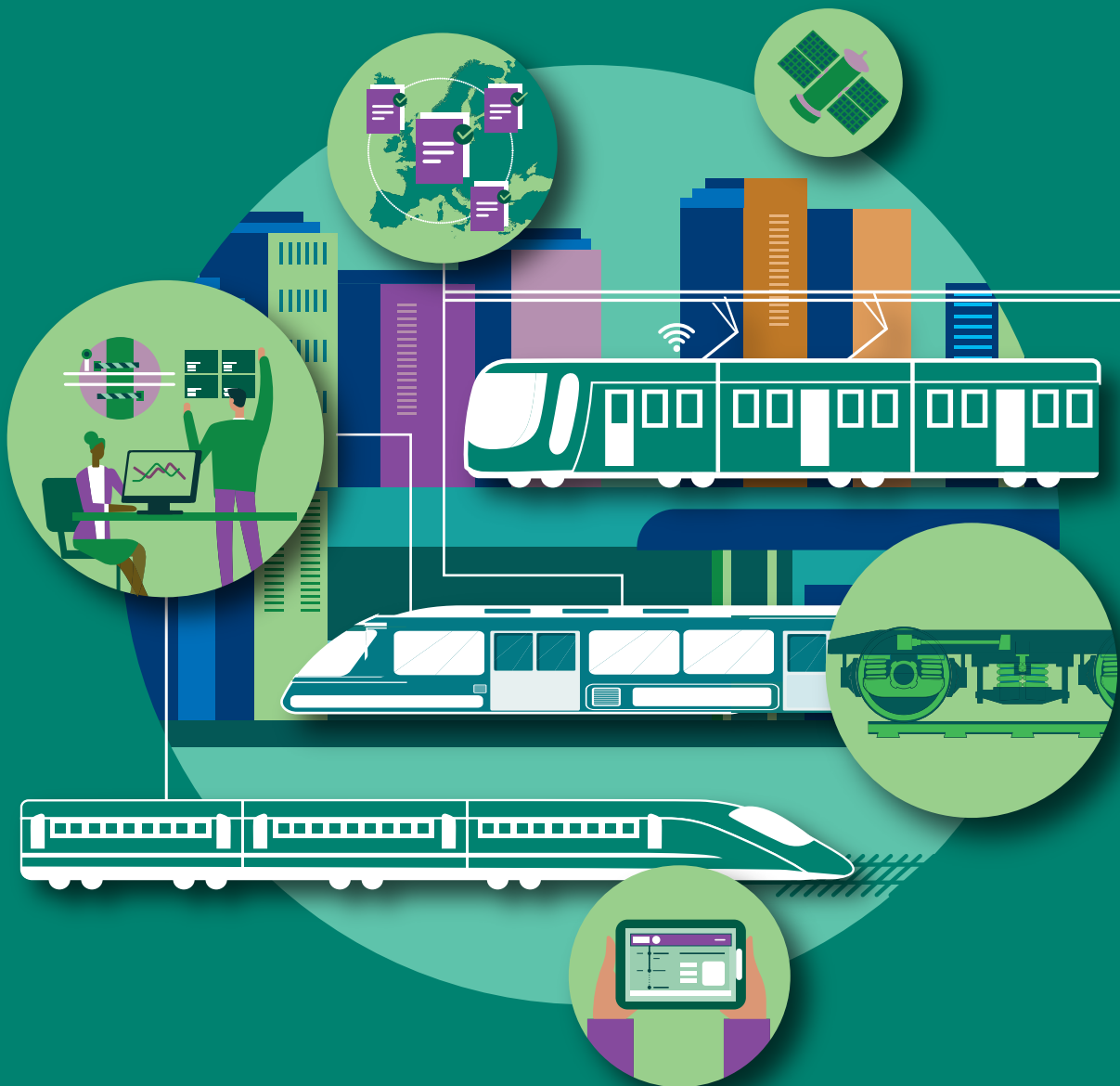


The European Rail Supply Industry Association

ANNUAL REPORT 2019



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Message from UNIFE Chair



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*When I was elected UNIFE Chair around two years ago, I outlined **three strategic focus areas for our collaboration with EU institutions: promoting innovation, improving business conditions and stimulating investment.** I am especially pleased and gratified that I could rely on the reputation and weight of our association, and on the support of all our members, to push our interests in these key areas. The recently adopted EU Expert Group Report on Competitiveness of the Rail Supply Industry is a true milestone in this regard.*

2019 was a remarkable year for our industry. Rail remains the most environment-friendly way to travel; and as over the course of the year the Fridays For Future movement gained momentum, the role of our industry as a partner for those seeking to implement green transport solutions continued to increase. In Germany, for instance, the federal government responded by setting the goal of doubling the number of rail passengers by 2030.

It is now up to us to make the most of the momentum we are experiencing. First, the shifting perception of our industry will help us attract more talent, and I find it exciting that several UNIFE members are launching a concerted communication campaign titled 'Hop On for our Planet' to attract young graduates and skilled people to our exciting and thriving sector.

Second, we need to continue to push innovation and to develop and implement technologies that increase the attractiveness of rail – with better availability, enhanced passenger experience, greater capacity, and increased sustainability. The successes of the past year point the way to the future of rail, such as with battery or hydrogen fuel cell powered trains, the implementation of digital interlocking technology for an entire country's rail network, or the success of overnight trains.

Third, we must continue being a strong advocate of sustainable travel solutions with our partners in politics – in particular, as the new European Commission takes up its work. Promising initiatives are on the horizon, such as Vice President Frans Timmermans' European Green New Deal. And we are all looking forward to starting the dialogue with the new Commissioner for Transport, Adina Valean.

One persisting concern remains the lack of a level playing field in the global rail industry. While CRRC continues to press into the European market, in more segments and with larger orders, market accessibility for our sector in China is currently still only 19 percent – compared to 76 percent accessibility rate for CRRC in the European market.

I am confident that we can count again in 2020 on the great team at UNIFE to ensure that the needs of our sector are heard by EU politicians and policy-makers. We need your strong and ongoing support and passion for rail to drive the European Rail Industry forward in 2020 – together!

I look forward to seeing you all in Berlin this June for the UNIFE General Assembly and for InnoTrans 2020.

A handwritten signature in blue ink, which appears to read 'Sabrina Soussan'.

Sabrina Soussan,
UNIFE Chair

Message from UNIFE Director General



”

2019 has proven to be an important year for both the European Union and UNIFE. As Europe looked forward to a new decade and its accompanying challenges, we engaged the EU institutions, Member states, rail sector stakeholders and others to advance a vision of the European rail supply industry as an engine for the new Commission's ambitions for sustainable European economy (i.e. the European Green Deal) that works for all.

Our advocacy concerning Research & Innovation (R&I) initiatives, international procurement market fairness, skills training efforts and streamlined rail regulations are aligned with the newly announced “European Green Deal” that will be the cornerstone of this new Commission. This undertaking will require a whole-of-society effort and heavily rely on an industrial pivot towards sustainable practices, technologies and mobility solutions. During this 2019-2024 mandate, UNIFE and its members are committed to helping create this much needed change.

One of the highlights of the past year has been our collaborative exchanges with the Romanian and Finnish Presidencies of the European Council. In 2019, UNIFE played a leading role in the Industry4Europe coalition, a group of 153 European industrial associations. As the coalition's Coordinator, we were very pleased to work with the Romanian Presidency on a high-level event about the need for a long-term vision for the EU's industrial future. This initiative aims to ensure that the EU develops, adopts and implements an ambitious industrial strategy for the next five years, as successful industries are vital for Europe's economic well-being and future prosperity.

Similarly, UNIFE and its members were instrumental in crafting the very important “Report of the European Commission Expert Group on the Competitiveness of the EU Rail Supply Industry”, which was adopted and endorsed by the European Commission's in December 2019. Considering insights from both the private and public sector, the report presents 89 jointly agreed recommendations to help maintain our industry's strength despite rising protectionism the world over. In 2020, UNIFE will work to have many of these suggestions are implemented at both the EU and Member State levels.

One of the key elements to the European rail supply industry's competitiveness is the existence of transparent and reciprocal market access indicative of a truly level playing field for all participants. UNIFE has continued to call attention to the presence of state assistance and other discriminatory, protectionist practices used by certain countries to benefit locally based, and often state-owned, suppliers. These practices give an unfair advantage over ‘foreign’ competitors, while also giving them an edge in European procurement markets. This year, we have urged European institutions and Member States to pursue a formidable International Procurement Instrument and assess bids using the Most Economically Advantageous Tender (MEAT) principle. On this topic, we were able to craft a Memorandum of Understanding with CER and EIM. To that end, we participated in EU bi-lateral rail meetings in Japan and India as a representative of our members and this industry. →

→ Concurrently, we have maintained our cooperative relationship with the EU Agency for Railways (ERA), led by Director Josef Doppelbauer, to advance progress on matters pertaining to standardisation and interoperability. For example, UNIFE spent 2019 continuing to urge for greater urgency in the full transposition of the Technical Pillar of the Fourth Railway Package across all member states and a continuous deployment of ERTMS, currently being pursued by ERTMS Coordinator Matthias Ruete. Completing these objectives, two examples of a myriad of regulatory and technological topics, will be significant milestones in establishing a truly Single European Rail Area.

These projects will require an ambitious 2021-2027 EU budget, known as the Multiannual Financial Framework (MFF). In 2019, UNIFE, its Members and partner organisations worked to remind EU institutions of this crucial fact. We welcomed the adoption of the “European Green Deal”, headed by European Commission President Ursula von der Leyen, as an understanding that a meaningful shift of current traffic from unsustainable modes of transport to cleaner, more efficient rail is a core priority for this mandate. This will require extensive investments in infrastructure and rolling stock for passenger, freight, regional and urban rail, as well as expanded ERTMS deployment. This association will continue to champion substantial provisions for the Structural Funds and the Connecting Europe Facility (CEF), which are still under negotiation. In 2019, UNIFE continued to advise European institutions and Member States to sustain and expand their current financial support for rail research projects through the Horizon Europe programme, still being negotiated and slated to commence in 2021.

The Shift2Rail Joint Undertaking (S2R JU), led by Executive Director Carlo Borghini, has been a major R&I private-public partnership that has benefitted from these funds, and with

whom we have enjoyed a strong working relationship. We will continue to promote their extension, “Shift2Rail 2”, during the 2021-2027 period. Doing so will help craft innovative new digital rail solutions that make use of cutting-edge technologies such as Artificial Intelligence, the Internet of Things and telecommunications, like 5G, while improving Europe’s railway cybersecurity and the regulatory framework that allows our industry to profit from emerging opportunities.

Continuing on our 2018 work with other rail organisations, UNIFE remains committed to presenting the Rail Supply Industry’s utility in fighting climate change and addressing urban mobility challenges. The two go hand-in-hand. The challenges presented by this existential “emergency” necessitates that our societies rethink our transportation systems. Our ongoing advocacy on the need for a positioning of rail as a central node in a new sustainable multimodal European transport network is in line with Dublin Declaration, signed in June 2019 at the UNIFE General Assembly by Sabrina Soussan, UNIFE Chair, and her Presiding Board colleagues. Members of the Board voiced their support of raising awareness amongst EU and national decision-makers on our industry’s crucial importance for the sustainable development of our continent and the whole planet.

This year, UNIFE has helped ensure that the quality that allows the European rail supply industry to remain innovative through its work with IRIS and the International Rail Quality Board (IRQB), which was launched in September 2018.

In this annual report, you can learn more about these topics and our achievements during the last year. As a new European Commission sets out to achieve their ambitious agenda, we will further present our industry’s stance through high-level activities such as the eighth edition of the World Rail Market Study (WRMS) and InnoTrans 2020. Thank you to our Members, and new ones who joined UNIFE in 2019, for their participation and commitment to building a stronger European rail supply industry, we look forward to continuing to work side-by-side in 2020 and beyond.

Sincerely,



Philippe Citroën,
UNIFE Director General

01

UNIFE IN 2019



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UNIFE Mission



Promoting Rail Market Growth for Sustainable Mobility

The four priorities to achieve our mission:

- ➔ Promoting European policies and programmes favourable to rail
- ➔ Ensuring European rail supply industry leadership through advanced research, innovation and quality
- ➔ Working towards an interoperable and efficient European railway system
- ➔ Providing UNIFE Members with strategic and operational knowledge

I. Public Affairs

- Advocating policies that increase the global competitiveness of the European Rail Supply Industry
- Supporting modal shift policies that give priority to rail
- Encouraging investment in rail projects
- Promoting rail transport as the best solution to meet social challenges of the future

III. European Rail Research

- Coordinating EU-funded research projects
- Playing an active role in ERRAC - the European Rail Research Advisory Council
- Cooperating with the Shift2Rail Joint Undertaking and contributing to the follow-up of its activities
- Shaping the future of rail research & innovation in Europe

II. EU Standardisation & Harmonisation

- Collaborating with the European Union Agency for Railways on the definition of rail regulations (including the Technical Pillar of the Fourth Railway Package) and Technical Specifications for Interoperability (TSIs)
- Supplying expertise for European and International Standardisation Bodies (e.g. CEN/CENELEC, ISO)
- Contributing to the development of the Single European Rail Area

IV. IRIS Certification™

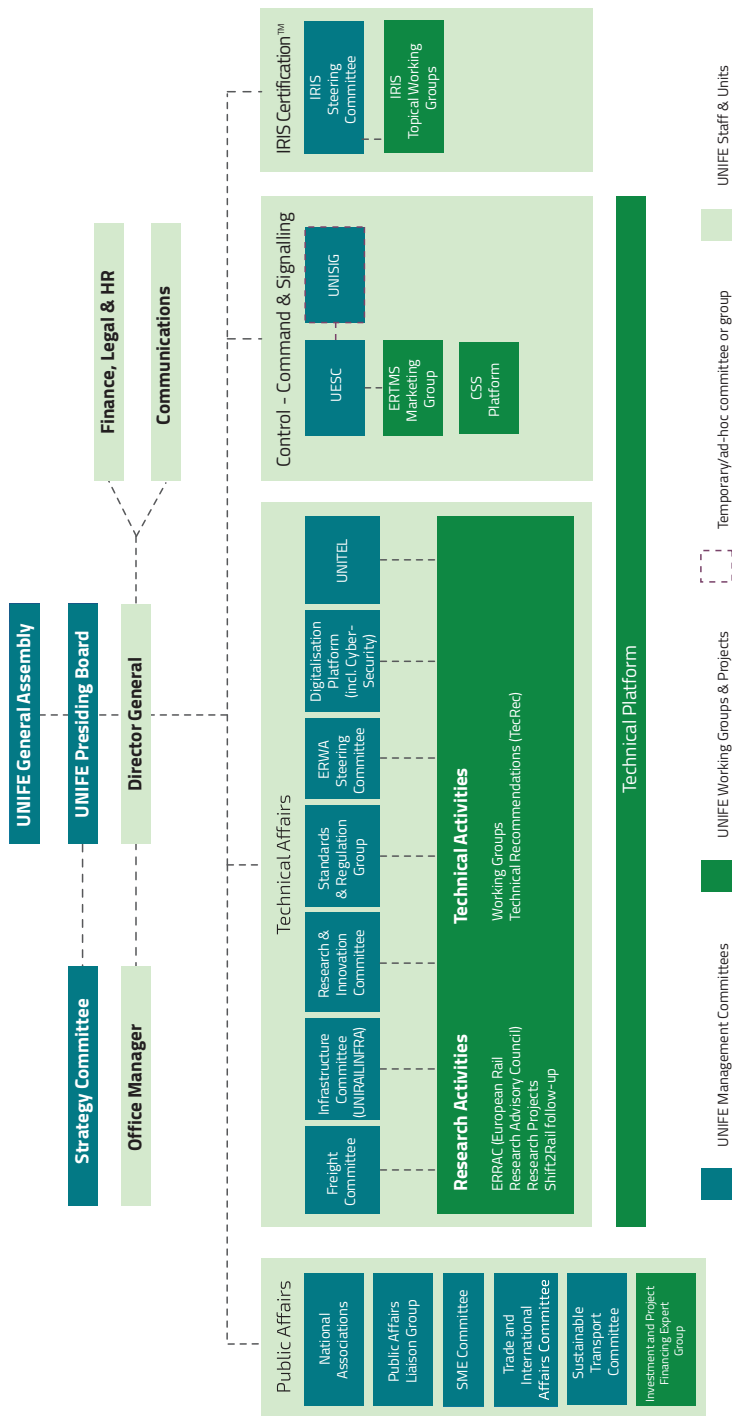
- The globally recognised rail quality management system
- Enables efficient business processes and leads to substantial quality improvements and cost reduction throughout the supply-chain
- More than 1900 IRIS Certification™ certificates issued worldwide

European Rail
Supply Industry



European Union

UNIFE Organisational Structure



UNIFE Presiding Board 2019



Sabrina Soussan
UNIFE Chair
CEO, Siemens Mobility



Henri Poupart-Lafarge
Member of the Presiding Board
Chairman and CEO, Alstom



Danny Di Perna
Member of the Presiding Board
President, Bombardier
Transportation



Andrés Arizkorreta García
Member of the Presiding Board
Chairman, CAF Group



Lilian Leroux
Member of the Presiding Board
CEO, Faiveley Transport



Roger Dirksmeier
Member of the Presiding Board
Managing Director, FOGTEC
(representing the UNIFE SME
Committee)



Jurgen Wilder
Member of the Presiding Board
Member of the Executive Board and
Responsible for the Rail Vehicle
Systems division Knorr-Bremse AG



Augusto Mensi
Member of the Presiding Board
CEO, Lucchini RS



Aike Schoots
Member of the Presiding Board
CEO, Strukton Rail



Millar Crawford
Member of the Presiding Board
Executive Vice President, Ground
Transportation Systems, Thales
Group

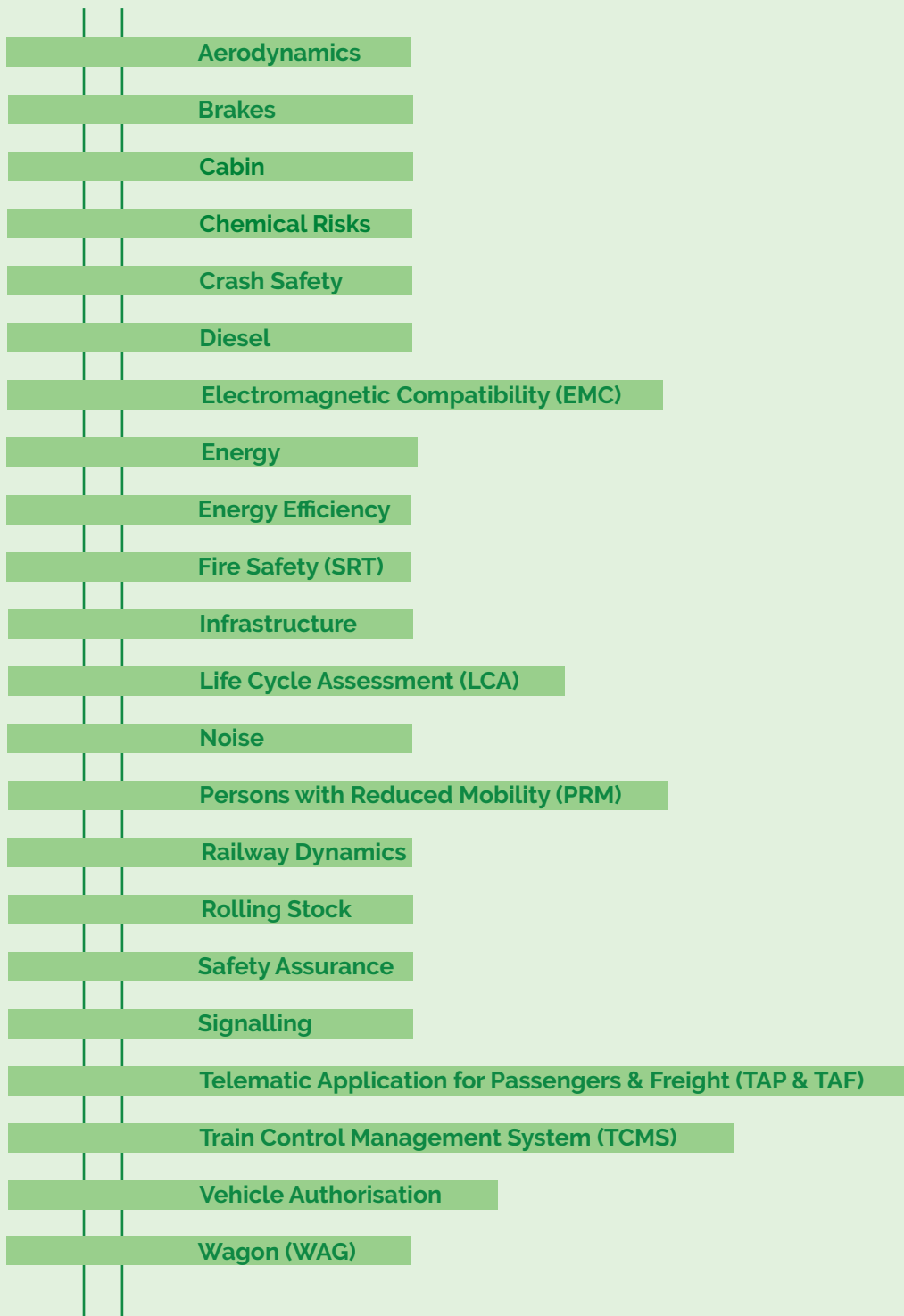
UNIFE Committees and Working Groups

- ➔ The **Presiding Board** is the highest UNIFE Committee and is responsible for the management of the association. It takes any measure or action required to achieve the objectives and general policies of the association. It reviews applications for membership before they are submitted to the General Assembly for ratification. The Presiding Board is composed of 10 members elected by the General Assembly every three years. One seat on the Presiding Board is reserved for the Chairman of the UNIFE SME Committee.
- ➔ The **Strategy Committee** steers UNIFE activities and advises the Presiding Board on all strategic and political issues. The members of this committee are high-level managers from the most prominent UNIFE Members.
- ➔ The **Technical Platform** is responsible for dealing with all EU research, regulation and standardisation matters. In addition to sharing knowledge on relevant topics, this committee enables UNIFE Members to have a better understanding of issues relating to research, regulation and standardisation, as well as their background and implications for the rail industry across Europe and beyond. The Technical Platform provides proposals and recommendations to the various UNIFE technical committees and liaises directly with UNISIG regarding research, standardisation and regulation topics related to ERTMS.
- ➔ The **Freight Committee** gathers companies active in the rail freight business and seeks to strengthen the position of the industry in the policy framework of the EU. The committee provides its members with information and support on EU funding opportunities for R&I projects, EU policies dedicated to rail freight, as well as opportunities to lobby the EU institutions on rail freight issues and participate in discussions on relevant TSIs/Standards.
- ➔ The **Infrastructure Committee (UNIRAILINFRA)** brings together suppliers, contractors, and integrators active in the fields of engineering, production, installation, etc., in order to discuss and promote the development of the rail infrastructure and energy sector. The committee provides a platform for consensus-building on infrastructure and energy topics at a pre-competitive stage, with the aim of promoting investment and innovation in the railway infrastructure sector.
- ➔ The **Research & Innovation Committee** steers UNIFE's technical activities in the field of research, technology and innovation. The committee manages the preparation of Shift2Rail 2 alongside the follow-up of projects and activities in the framework of Shift2Rail, Horizon 2020, and ERRAC. This committee is composed of technical directors from the main UNIFE system integrators and subsystem suppliers.
- ➔ The **Standards and Regulation Group (SRG)** steers UNIFE's technical activities in the fields of the European regulatory framework (Railway Directives, TSIs, and other relevant regulations) and standardisation. The SRG is composed of technical directors from the main UNIFE system integrators and subsystem suppliers.

- The **ERWA Steering Committee** deals with issues related to the use, life cycle cost and standardisation of railway wheels and wheelsets. This committee brings together the CEOs of the European wheels and wheelsets manufacturers and is supported by the ERWA Development Committee and the ERWA Technical Committee.
- The **Digitalisation Platform** aims to address the ongoing challenges and changes in rail transport linked to the rapid evolution of digital technologies. The platform brings together UNIFE Members providing digital solutions for smart and intelligent mobility. It closely monitors developments at European level related to the application of digital technologies in the rail sector (e.g. rolling stock, infrastructure, signalling).
- The **Cyber-Security Working Group** brings together UNIFE Members with expertise in cyber-security, in order to discuss and identify opportunities for cooperation on cyber-security issues in the rail sector, with the aim of ensuring that the European rail supply industry can continue to lead in this area.
- The **ETCS Steering Committee (UESC)** is in charge of coordinating UNIFE activities in relation to the European Train Control System (ETCS), which is a vital part of the European Rail Traffic Management System (ERTMS).
- The **ERTMS Marketing Group (UEMG)** is in charge of coordinating marketing activities related to ERTMS, in particular deployment data, events, common publications and the ERTMS website.
- The **Control Command and Signalling Systems Platform** provides expertise in the field of signalling and telecommunications to UNIFE. It is a platform for building consensus on signalling-related issues, in order to promote investment and innovation in the railway signalling sector. The committee is composed of representatives of UNIFE Members who are experts in signalling.
- The **UNITEL Committee** focuses on the development and implementation of the future interoperable railway communication system (FRMCS/Next Generation), which will eventually replace GSM-R in the framework of ERTMS. UNITEL brings together the major railway telecommunications products suppliers and companies that have significant expertise in relation to the use of ERTMS. The committee members aim to ensure that the communication system for railways fulfils existing and future requirements in relation to signalling, train control and traffic management, and to support European railway research initiatives.
- The **National Associations Committee** gathers 12 National Associations representing more than 1,000 large and medium-sized rail supply companies from all over Europe. As Associate Members of UNIFE, they engage in an important exchange, promoting UNIFE positions nationally while bringing national issues to the European level. The committee brings together the Directors of 12 National Associations from 11 different countries.
- The **Public Affairs Liaison Group** aims to provide a platform for sharing information and ideas on EU policy dossiers, reflecting on lobbying strategies and identifying potential synergies between the advocacy activities of UNIFE and its Members. The group is composed of relevant experts nominated by UNIFE Members.

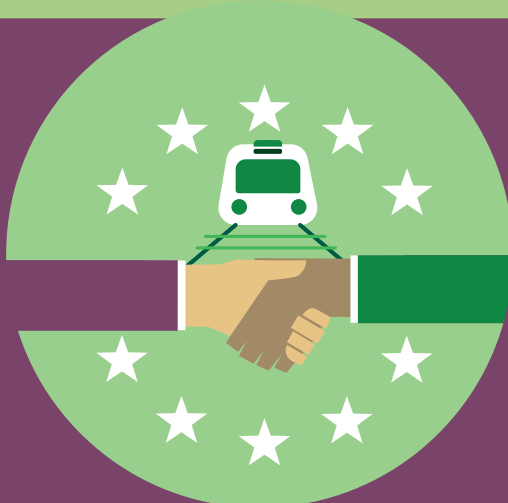
- The **SME Committee** brings together the small and medium-sized companies that are members of UNIFE. The purpose of this committee is to provide the SMEs of our sector with information on EU policies and funds intended for SMEs, support them in accessing these funds and facilitate a direct and fruitful dialogue between SMEs in the rail-supply industry and the EU institutions.
- The **Trade & International Affairs Committee (TIAC)** is in charge of monitoring EU trade negotiations with important stakes for the European rail industry and coordinating UNIFE's positions in relation to trade. The TIAC is also a platform for exchanging and disseminating information on bilateral cooperation activities undertaken by UNIFE on international markets.
- The **Sustainable Transport Committee (STC)** is the platform for sharing knowledge and defining common positions on environmental sustainability topics. The STC provides UNIFE members with timely information on EU policy changes and develops targeted outreach actions. It also addresses questions related to the environmental performance of products and growing stakeholder demands for more eco-efficient products and service solutions. The STC is supported by several Topical Groups, which investigate specific issues and provide regular reports to the STC.
- The **Investment and Project Financing Expert Group** brings together high-level executives responsible for the long-term financing of infrastructure and industrial projects (including PPPs) and in charge of their companies' relationships with multilateral development banks (such as the European Investment Bank and the European Bank for Reconstruction and Development).
- The **IRIS Steering Committee** coordinates activities relevant to the promotion and development of IRIS Certification™, the globally recognised method for the assessment of business management systems that is tailored to the specific requirements of the rail sector. The committee brings together senior representatives of System Integrators and Equipment Manufacturers within UNIFE's membership.
- The **Communications Committee** contributes to developing and implementing the UNIFE Communication Strategy. It is composed of Communications Directors from UNIFE Members.

UNIFE Technical Groups



02

EUROPEAN AFFAIRS



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Relations with the Presidencies of the Council

The Presidency of the Council of the European Union rotates among the Member States every six months. The Presidency's function is essential as the responsible Member State determines the political agenda and sets the work programme for the semester

It is also essential in facilitating dialogue at **European Council** (EUCO) meetings and with other EU institutions. For this reason, UNIFE strives to establish close contacts with each EU Presidency well in advance of the start of its mandate. Achieving this goal allows the rail supply industry to effectively convey our stances.



Philippe Citroën with the Croatian State Secretary for European Affairs, Nikolina Brnjac / July, 2019



Philippe Citroën with Romanian Research and Innovation Minister, Nicolae Hurduc / March, 2019

- ➔ In 2019, Romania and Finland held the Presidency of the EU Council during the first and second halves of the year, respectively. UNIFE Director General Philippe Citroën therefore met with high-level government officials in Bucharest and Helsinki to present them with special briefings that our organisation publishes for each Presidency. Philippe Citroën notably met with Nicolae Hurduc, Romania's former research minister, Ilie Bodea, Romania Secretary of State for Economic Affairs, and Anne Berner, the former Finnish transport minister.
- ➔ As it is extremely important to meet as early as possible with officials from the relevant ministries to influence their work programmes, UNIFE also held several meetings with high-level representatives from Croatia and Germany; these two Member States will helm the EUCO in 2020.

Relations with the new European Parliament (EP) and the new European Commission (EC)

2019 has been a very important year, politically speaking, as a new EP was elected in May, a new EC President, Ursula von der Leyen, was selected in July and a new portfolio of commissioners was proposed in September

→ UNIFE staff participated in every EP Plenary Session in Strasbourg to meet newly-elected Members of the European Parliament (MEPs) and present them our industry and the challenges it faces.

→ To this end, UNIFE released a new publication entitled *'Challenges and expectations of the European Rail Supply Industry for the next institutional cycle 2019-2024'*.

In December, President Ursula von der Leyen and her Commission finally took office. Before the new Commission could begin their tenure, the EP organised hearings with all of the proposed candidates and examined whether their skills and qualifications matched the posts for which they were nominated. Each Commissioner-designate was invited to a three-hour-long hearing in front of the parliamentary committee responsible for their potential portfolio.



Ursula von der Leyen, European Commission President



Adina-Ioana Vălean, European Commissioner for Transport

Challenges & expectations

OF THE EUROPEAN RAIL SUPPLY INDUSTRY
FOR THE NEXT INSTITUTIONAL CYCLE

2019-2024

1

Promoting innovation and industrial excellence

2

Ensuring the best business environment in the EU and worldwide

3

Boosting investment for a sustainable & interoperable network

Industrial Policy

Rail supply industry leadership and competitiveness

The EC Expert Group on the Competitiveness of the EU Rail Supply Industry officially endorsed its final Report in October 2019 after 2 years of discussions and negotiations between the competent Departments of the European Commission



EC Expert Group on the Competitiveness of the EU Rail Supply Industry meeting in Brussels, Belgium / October, 2019

Experts from the industry, transport, trade, research and skills offices took part in these exchanges. The Expert Group also discussed rail supply competitiveness with the ministries for economic affairs from 10 Member States including France, Germany, Spain and Italy, associations and individual companies. The Community of European Railways and Infrastructure Managers (CER) and European Rail Infrastructure Managers (EIM), representing the railway operating community, and IndustriALL, on behalf of the trade unions, were also included in the process that resulted in this report.

Three years after the EP's adoption of its *Resolution on the Competitiveness of the EU Rail Supply Industry*, initiated by former MEP Martina Werner, the endorsement of this substantial Report is a major achievement for our industry. However, it now needs to be put into practice as swiftly as possible.

- The report lists 89 jointly agreed upon recommendations designed to the EU rail supply industry retain its global leadership despite mounting international competition from Asian suppliers.
- These concrete recommendations cover a total of 10 strategic policy areas: Digitalisation; Innovation; Skills and training; Internal market; Standardisation; EU public procurement market; EU supporting mechanisms; Access to markets and finance for SMEs; Access to international procurement market; Intellectual property rights.

At the request of UNIFE, the EC accepted to extend the mandate to 2020. Keeping the Expert Group operational will ensure an organisation is monitoring the follow-up on the report, maintaining dialogue between the Commission, Member States and industry stakeholders on the shifting landscape of global competition and ensuring that all parties remain highly committed to implementing the recommendations of the report.



Report of the expert group on competitiveness of the European rail supply industry



The Industry4Europe campaign

Let's put industry at the core of EU's future!

In early 2017, UNIFE initiated and coordinated Industry4Europe, a large and unprecedented coalition of 154 European industrial federations from all manufacturing sectors. The bloc calls on the EU to implement a long-term strategy for safeguarding European manufacturers's world leadership and the industrial jobs they create in Europe

This past year, the coalition launched a major campaign with the publication of two joint calls entitled 'Let's put industry at the core of the EU's future!'. One of them was addressed to the future MEPs; the other was directed to heads of state and government. Our common objective has been to ensure that industry would be at the very top of both the EP and the EC's political agendas during the 2019-2024 institutional cycle. Within this campaign, the coalition co-organised two important events in 2019:

- The first, entitled 'EU Industrial Policy: Results and prospects for the next institutional cycle', was held in March in conjunction with the European Economic and Social Committee (EESC).



- This line of thought was further pursued in April when Industry4Europe met with Romanian Presidency to discuss industrial policy at our jointly organised 'Setting the scene for an industrial vision for 2030 and beyond' event.

The coalition published a substantial and comprehensive joint paper in November. The publication proposed a series of concrete recommendations as the EC prepares to formulate a long-term strategy for Europe's industrial future, as directed by President von der Leyen and Commissioner Thierry Breton.



A LONG-TERM STRATEGY FOR EUROPE'S INDUSTRIAL FUTURE



Skills Policy

The Commission's 2019 Study on the Competitiveness of the Rail Supply Industry identifies the “promotion of the development of skills and safeguard of access to skilled labour” as a crucial actions for maintaining a formative European rail sector

According to this study, “the supply of technical engineers may become a bottleneck in maintaining the competitive position of the EU rail supply industry”. It even states that there exists a need to act without further delay as “a decreasing workforce due to ageing, perception of an unattractive sector, and changing skill requirements due to the digital transformation, it is expected that this skills shortage could increase in the near future”.

Therefore, at the request of UNIFE and following discussions held within the EC Expert Group on the Competitiveness of the EU Rail Supply Industry, the EC announced its readiness to financially support a large project on skills, vocational education and training in our industry. The rail supply and transport industries have been designated, among five other sectors, as eligible for the creation of an Erasmus+ Blueprint for Sectoral Cooperation on Skills. The Blueprint is a EU-funded framework for strategic cooperation between key business, trade union, education and training institution stakeholders and public authorities. The aim is to support an overall sectoral strategy and develop concrete actions to address short- and medium-term skills needs. For instance, a projects that could fall under this scheme would be the creation or adaptation of training curricula to better suit employer expectations.



UNIFE in a panel discussion during the Digital Transport Days in Helsinki, Finland / October, 2019

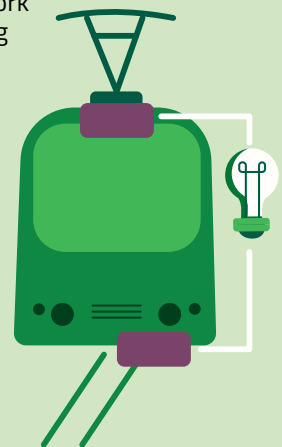
Research & Innovation (R&I) Policy

If Europe wants to maintain its industrial leadership in the face of intensifying foreign (particularly Asian) competition, it must stay at the forefront of research and innovation

The Shift2Rail Joint Undertaking (S2R JU), a public-private partnership (PPP) and collaborative-research instrument supported by the EU through its Horizon 2020 Framework Programme, plays a key role in helping Europe retain a technological and innovative advantage.

Since it became fully operational in early 2016, Shift2Rail has provided financial support to numerous R&I projects. UNIFE actively advocates for the continuation of its activities during the upcoming programming period. UNIFE believes it is paramount that Shift2Rail is financed beyond 2020 through inclusion in Horizon Europe's 2021-2027 Framework Programme.

UNIFE considers it essential that S2R JU's successor is implemented under an Institutionalised European Partnership, pursuant →



- to Article 187 of the Treaty on the Functioning of the EU (TFEU). Shift2Rail's long-term vision, broad stakeholders involvement and central management of R&I efforts can only be sustained under this form of stringent implementation model.
- To this end, our association has prepared and disseminated policy notes among decision-makers. These educational documents focus on the numerous benefits that come from supporting the continuation of a collaborative-research instrument for rail under a institutionalised European partnership.
- UNIFE has also drafted, and replied to, with the cooperation of its Members, several Horizon Europe's public consultations on inception impact assessments and those of future partnership instruments. Additionally, we have prepared a formal proposal template for the future rail partnership.
- UNIFE also actively cooperated with like-minded organisations such as BusinessEurope and the European Association of Research and Technology Organisations (EARTO). Our work has also seen us join forces with other associations directly involved in R&I PPPs operating under the Joint Technology Initiatives (JTIs) Task Force.
- Last, but not least, UNIFE has committed to organising several field trips for key decision-makers from several Member States and has participated in workshops on the key importance of the Shift2Rail JU. These consultations were often held in cooperation with the rotating Presidency of the Council of the EU. A decision concerning the extension of Shift2Rail will be reached by the Council in 2020.

Public procurement in Europe

Building on our previously established cooperative relationship, UNIFE, CER and EIM finalised a 'Recommendation to apply the Most Economically Advantageous Tender (MEAT) and good practices in the domain of railway procurement' in July 2019

This strategic document focuses in particular on three potential award criteria: technical or technological value; life-cycle costing; environmental and social impact. It also sets out several recommendations for rail contracting authorities. Actions will be taken to continue to promote this sustainable approach to rail procurement in Europe. The modernisation of the EU public procurement framework in 2014 marked a positive step forward as it made the MEAT principle the basis for the awarding of contracts. However, the MEAT principle can be assessed in different ways and awarding contracts purely on price-based criteria is still a possibility.

In July 2019, the EC published a Guidance on the Participation of Third Country Bidders in the EU Public Procurement Market. The guidance is directed at public buyers and addresses crucial issues like abnormally low tenders and quality-based procurement. Most importantly, the guidance clarifies for the first time that bidders from third countries which do not have any procurement agreement with the EU are not entitled to secured access to EU procurement and may be excluded by contracting authorities. →

”

UNIFE is fully committed to promoting the principles of the Most Economical Advantageous Tender (MEAT)

→ The EC also convened an Infrastructure Forum in December to give public authorities across Europe the opportunity to discuss new innovative solutions for procurement needs. While UNIFE welcomed this as a step in the right direction, further work is needed to ensure a level playing field within the EU procurement market.

- In parallel, UNIFE has driven the AEGIS Europe alliance's activities on public procurement. This operation has benefitted from the support of the groups 22 European upstream and downstream manufacturing federations. In September 2019, the alliance formalised a position paper calling for reforms of the European public procurement framework. It pays particular attention to abnormally low tenders and calls for a streaming of its definition at the European level and strengthening of existing provisions related to their evaluation and treatment.



EU Investment Policy and Financing for Rail

As the European Institutions continued their work on the Multiannual Financial Framework (MFF) for the 2021-2027 period, UNIFE spent much of 2019 advocating for greater EU investment in mainline, regional and urban rail projects



Shaping the future Investment Policy: the 2021-2027 Multiannual Financial Framework (MFF)

With regard to the MFF, UNIFE has been actively calling for continued EU funding support of rail projects. Europe needs increased investment in its rail infrastructure, rolling stock being utilised on it and the signalling systems, like ERTMS, that allow it to run smoothly and safely. As the greenest mode of land transport, rail needs to be at the core of the European Green Deal being pursued by EC President Ursula von der Leyen. As a potential cornerstone of that monumental undertaking, it should be provided adequate funding.

- While urging EU institutions to agree to ambitious budget allocations for rail projects, UNIFE has consistently insisted that grants should remain the main EU funding tool for these initiatives – be it through the Connecting Europe Facility (CEF) or the Structural Funds.
- UNIFE has also voiced its Members' concerns that there is a the need for a better overview of planned investments to ensure more consistent business planning. The industry needs to know how much, and where, EU money will be invested.

Investments co-financed by EU Funds are crucial to both accelerating TEN-T Core Network Corridors implementation and helping cities develop urban rail systems essential to improving the daily mobility of their citizens. They also support the sustainable growth of Europe's rail →

→ supply industry, enabling it to continue providing and creating industrial jobs in Europe. This is why UNIFE believes that the next MFF should also be used as an opportunity to incentivise the Member States receiving support from EU Funds to swiftly implement the 2014 EU public procurement framework. That includes adhering to the MEAT principle and 'best quality/price ratio' approach, as well as to raise awareness about Articles 85 and 86 of Directive 2014/25/EU*. This has been one of the key messages conveyed by UNIFE on various occasions and at several public events, such as the Investmet Summit organised by Club Feroviar on 8-9 October 2019 in Bucharest.

These crucial points should be also considered when using EU investments to develop greater connectivity in the accession countries and throughout the EU neighbourhood. Given the increased presence of non-EU financing in the enlargement countries and the EU neighbourhood, notably Chinese financing channelled through the Belt and Road Initiative, it is important to increase the total amount of grants being provided for the renovation and modernisation of existing railway lines, the building of new lines and the acquisition of suitable and modern rolling stock.

→ **During numerous meetings with the key decision-makers in Brussels and in the capitals across Europe, UNIFE expressed the industry's concern that negotiations on the next MFF should be concluded as early as possible to ensure that the EU funding would be available from the commencement of the next programming period in January 2021. Failure to do so could result in project implementation delays.**

* Directive 2014/25/EU of the European Parliament and of the Council of 26 February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors



Keynote speech of EC Commissioner for Transport, Violeta Bulc during the TEN-T & CEF Conference in Bucharest, Romania /March, 2019

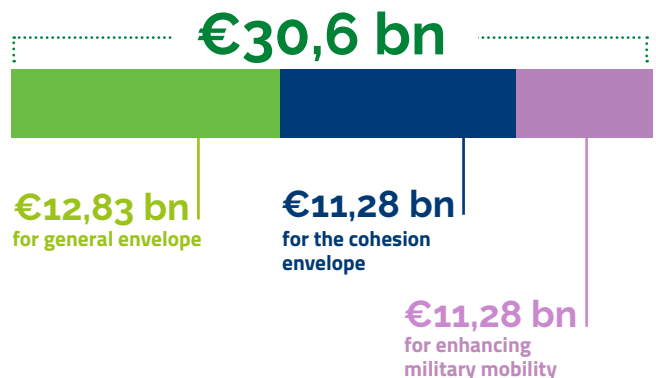
B

TEN-T Policy and Connecting Europe Facility (CEF)

UNIFE has expressed its strong support for the continuation of the CEF during the 2021-2027 period. Doing so will bolster efforts the implementation of the Trans-European Transport Network (TEN-T) Policy and its core network corridors.

However, leaving aside the military mobility envelope, the proposed total CEF Transport budget is merely a nominal increase from the 2014-2020 period's budget of €24,1bn.

The European Commission proposed budget for CEF Transport



→ Therefore, UNIFE has fully backed the EP's strong request to increase the transport infrastructure budget to €33,5bn over the next seven-year period. To reinforce the industry's position on this key topic, UNIFE continued to participate in a cross-sectoral 'More EU budget for transport' campaign to bring together most of the European transport associations.

→ UNIFE held numerous meetings in 2019 with the EC and participated in several high-level events, such as the Romanian Presidency of the Council of the EU's 28 March 2019 TEN-T & CEF Conference in Bucharest. This was an opportunity for Philippe Citroën and the UNIFE delegation to discuss the budget negotiations' state of play and preparations at the EU and national level for the new period with the key decision-makers.

→ We also fully support the important role of the European Coordinators appointed for each of the nine TEN-T Core Network Corridors. In particular, UNIFE and its member companies continued to actively support the activities of Matthias Ruete, the new European Coordinator for the deployment of ERTMS.



More EU budget for transport | The best Investment Plan for Europe

EUROPE NEEDS TRANSPORT

Transport helps people move, keeps business and trade up and running, enables the completion of the internal market, enhances tourism and bridges the gap between the different regions of Europe. Imagine a life without transport... If transport stops, the economy stops.



20 MILLION EUROPEANS WORK IN TRANSPORT

1 in 10 Europeans works in the transport sector. On its own, completing the TEN-T network will create 10 million extra jobs by 2030. Better transport infrastructure is also an investment in long term growth and jobs. Investing € 750 billion can generate € 4,551 billion additional GDP. Every billion invested in the core network will create close to 20,000 new jobs.

INVEST IN BETTER TRANSPORT

Europe faces enormous challenges to remain a competitive, mobile and attractive place to live and invest in for the years to come. Moving towards a greener, truly integrated, digital, accessible-to-all, safer, more secure transport system which is socially sustainable requires investments and funding now!



DECARBONISATION OF TRANSPORT IS THE ONLY WAY FORWARD

The decarbonisation targets can only be met if all transport modes continue to invest in greener technologies and in a more efficient and smart logistic chain.

EUROPE'S TRANSPORT INVESTMENT PLAN

The Trans European Transport Network (TEN-T) as defined in 2013 sets the right priorities in terms of sustainability, cohesion and can contribute in facing the current transport challenges. This plan comes with a corresponding investment programme, the Connecting Europe Facility (CEF). The core network must be completed by 2030, which requires more than €750 billion.



GRANTS ESSENTIAL TO COMPLETE NETWORK

Transport projects with a high societal return do not generate the necessary return on investment. Grants thus remain a vital component. After three years, the current CEF Transport Budget has been fully used. Demand for CEF funds exceed on average 2.5 times the available resources. The completion of the core network is at risk due to insufficient budget.

A STRONGER CONNECTING EUROPE FACILITY

CEF support is the best guarantee to deliver EU high added value. A strong CEF with responsible grant management is essential to complete the Trans-European Networks (TEN-T).





Cohesion Policy and Rail Investments in Central and Eastern Europe

Through the Cohesion Fund and the European Regional Development Fund (ERDF), the EU provides significant support for rail projects across Europe. Unfortunately, some Central and Eastern European (CEE) Member States still find it challenging to make full use of the funds that would enable them to rebuild their respective railway infrastructures. By facilitating cooperation and exchange of information between all rail stakeholders, as well as meetings with CEE decision-makers, UNIFE has continued to promote an efficient absorption of EU funds available for rail by these Member States. This will, of course, remain a critical task for railway companies and public authorities in the coming years.



UNIFE participating during the EIB event in Paris / May, 2019



Looking forward to the 2021-2027 programme period, UNIFE has insisted that the EU Member States, and particularly countries receiving Cohesion Funds, should continue to benefit from Structural Funds support for rail projects as many countries still need to bridge a significant investment gap.

In view of the above-mentioned absorption problems, capacity-building measures should be prioritised to ensure that available resources are spent efficiently and produce the maximum impact. These issues have been discussed in several meetings with the Commission, members of the European Parliament Committee on Regional Development, and responsible officials in various Member States. UNIFE has expressed

its disappointment following the EC's proposal to significantly reduce the Cohesion Fund's budget as it has been an important source of investment in rail projects for many cohesion countries.



Mobilising Private Investment for Rail

Since public grants will remain of vital importance to the financing of rail projects, UNIFE has cooperated closely with EU Institutions and with the European Investment Bank (EIB) to ensure that EU initiatives aimed at mobilising private investment for strategic projects also benefit the rail sector.

- ➔ **The UNIFE High-Level Expert Group on Investment and Project Financing has been particularly engaged throughout 2019 in devising ways to mobilise more investment for rail projects.**
- ➔ **UNIFE took an active part in the wider Green and Sustainable Finance debate held at the EU level through the work on EU taxonomy done by the UNIFE Sustainable Transport Committee.**



Croatian Transport Minister, Oleg Butković speech during the EIB seminar in Zagreb, Croatia / October, 2019

→ **Concurrently, we continued to insist that, given the limited rail sector results of the European Fund for Strategic Investments (EFSI), the so-called 'blending' of grants with the EFSI and with the proposed InvestEU programme in the coming 2021-2027 period should only be used as an additional approach.**

Under the previous legislature, UNIFE was one of the official partner organisations of the EP's Long-Term Investment and Reindustrialisation Intergroup that was chaired by MEP Dominique Riquet. Following its May 2019 elections, UNIFE expressed its full support of the initiative to re-establish the Intergroup which had been aptly renamed the "Long Term & Sustainable Investment Intergroup" as it pivoted even more towards issues pertaining to an ecological and social transition.

E

Boosting Investments in Urban Rail Projects

Given the great potential of rail, including tram and metro lines, to contribute to sustainable urban mobility and the EU's wider climate policy goals, UNIFE has initiated advocacy actions aimed at boosting investments in urban rail projects.

On 11 September, we co-organised a conference on 'Urban rail investments in the next MFF' with the International Association of Public Transport (UITP) and the European Committee of the Regions (CoR). Bringing together more than 130 representatives from both the municipal and regional levels, public transport operators, EU decision-makers and rail supply industry representatives, the conference was opened by Karl-Heinz Lambertz, President of the CoR, who stressed that urban rail systems are the best alternative to cars for sustainable mobility in cities.

The conference was an excellent occasion to exchange views on how the EU can increase urban rail investment, be it through its own funds or alternative financing schemes. Philippe Citroën underlined in his keynote speech the importance of continuous EU support for such investments and the need to promote rail as the backbone of sustainable mobility, be it urban, suburban or medium-/long-distance transport.



Philippe Citroën speaking during the 'Urban rail investments in the next MFF' event in Brussels, Belgium / September, 2019

Transport decarbonisation and EU climate policies

The transport sector accounts for around a quarter of the EU's greenhouse gas (GHG) emissions, making it the second-biggest sectoral emitter, after energy. However, not only does rail rely very little on imported fossil fuels, it clearly stands out for its high energy efficiency, low emissions of CO₂ and growing use of renewable energy sources such as solar and wind. UNIFE has continued to be very vocal in promoting the essential role of rail in meeting EU targets for decarbonising the transport sector

The decarbonisation of the transport sector is becoming ever more important as civil society puts pressure on decision-makers to fight climate change. A sustainable, climate-neutral policy will be at the heart of the upcoming Commission's initiatives for 2019-2024.

The "European Green Deal" plans to be a holistic approach to climate action that will involve all sectors in an over-arching climate strategy. Commission President von der Leyen announced the Green Deal and its key objective of making Europe the first climate-neutral continent by mid-century as the hallmark of her mandate. Executive Vice-President Frans Timmermans will be in charge of the ambitious strategy. The new mandate has promised that the first EU Climate Law will be signed within the first 100 days of its tenure. Furthermore, Frans Timmermans' "Mission Letter" explicitly tasked him with reducing the transport sector's carbon footprint.

UNIFE believes that the Green Deal can be a game changer and provide the framework for the EU to achieve net zero emissions by moving towards a low-carbon economy while also reaching high efficiency standards. The decarbonisation of the transport sector should mean, above all, more rail-based public transportation solutions and further electrification of the system, as envisioned in the 2011-Transport White Paper.



In December 2019, UNIFE took part in the 'Transport Day' side event at the UN Climate Change Conference (COP25) in Madrid, promoting rail solutions as the key to achieving transport decarbonisation and sustainable urban mobility. Our association is a major supporter of the international climate agreement reached during the 21st Conference of Parties (COP21) in Paris. The "Paris Agreement", named after the December 2015 summit, committed signatories to limit the increase in the global average temperature to 1,5°C above pre-industrial levels.

Through the work of the Sustainable Transport Committee (STC), UNIFE has undertaken several sustainability-related activities in 2019. Major fields of work have involved sustainable finance, especially the EU taxonomy initiative, and the preparation of a new position paper on the role of urban rail in urban mobility strategy.

Urban Mobility

The global population has tripled over the last 100 years, with over €7 bn people today and it will continue to grow in the coming years. Urbanisation, coupled with population growth, represents one of the most staggering mega-trends over the next decades, all over the world. Such drastic urbanisation will not be without medium- and long-term consequences.

”

Cities, on the one hand, produce the majority of economic activities and output, yet on the other hand, they also consume most of resources and energy supplies. As mobility plays a decisive role in ensuring growth, economic dynamism and social cohesion in cities and their suburban areas, the objective becomes ensuring a fundamental rite of urban living: getting around rapidly and safely

Today's cities face challenges like increased traffic, diminished air quality, population growth, lack of available space, lowered liveability, tenuous social inclusion, continued health concerns and the incessant need to create economic development. Against this backdrop, citizens require the creation of new mobility paradigms capable of delivering high-quality, accessible-for-all urban and suburban services.

This year, we have continued our active involvement in ongoing debates on urban mobility and strengthened our partnerships with associations such as POLIS, EUROCITIES and UITP. Notably, UNIFE participated in June's Sustainable Urban Mobility Plans (SUMP) Conference, held in Groningen.

In 2019, UNIFE prepared its first vision paper on the role of urban rail solutions like metros, tramways and suburban trains, in the future urban mobility framework. The 'Urban Rail for the future of cities and metropolitan areas' publication presents the European rail supply industry's views on a strategy for urban mobility and outlines for local authorities the reasons to invest in rail-based public transport solutions. The strengths of metros, tramways and suburban trains are presented from different perspectives to illustrate why urban rail is the most efficient instrument for answering challenges created by the urbanisation mega-trend.

The paper is divided into four parts:



The first chapter highlights the crucial contribution rail makes to a sustainability-based model for urban transport, especially as its widespread adoption leads to significant air quality improvements.



Next, it explains significance of urban rail projects for the social and economic regeneration of cities. This chapter also details the urban development opportunities created by shifting to rail.



Subsequently, UNIFE explores how urban rail projects are key components of a shifting urban mobility mix. The vision paper emphasises how rail is essential to the digital and physical integration of new business models and transport services



Finally, the publication explains available financing options for these projects. This includes a detailed description of different funding programmes and tools, as well as financing actors to engage with.



UNIFE Vision Paper on Urban Mobility



Freight Transport

Over the course of 2019, UNIFE has continued to advocate for sustainable freight transport, convinced that the revitalisation of rail freight is closely linked to interoperability (notably through ERTMS deployment), innovation and streamlined authorisation processes

Decisive support for modal shift objectives will come from the S2R Joint Undertaking. Its Innovation Programme 5 (IP5) should be the backbone of a European strategy to make rail freight more sustainable and attractive.

- UNIFE has continued to play an active part, alongside other rail stakeholders, in the Sector Statement Group (SSG). The group is working to follow up on the joint declaration signed during the 2016 TEN-T Days in Rotterdam. The rail sector has committed itself to the aim of enhancing the competitiveness of the Rail Freight Corridors for the benefit of all customers while improving the quality, reliability and efficiency of transporting goods by rail across Europe.
- UNIFE is supporting the Commission's efforts to make rail freight more competitive and attractive through its Freight Committee. We have continued to promote our 2018 'European Rail Industry Freight Agenda' (ERIFA) during interactions with decision-makers.

This important document focuses on innovation and technology for rail freight, highlighting the work carried out by the rail supply industry and its commitment to making

rail freight more competitive. To this end, UNIFE notably traveled to Budapest in April to participate in the first Urban Nodes Forum. The conference hoped to facilitate the exchange of knowledge and the collection of good practices related to sustainable freight transport in urban areas.

- Last but not least, we have closely followed the ongoing discussions on the Combined Transport Directive review. The review works to simplify existing rules and make combined transport more attractive by means of economic incentives. The EP adopted a resolution on 27 March 2019 and negotiations are due to resume during the new parliamentary term.



Rail Forum Europe

In 2019, UNIFE continued to successfully manage the secretariat of Rail Forum Europe (RFE). The organisation was established in 2011 to facilitate dialogue between MEPs, the EC, Member States and key stakeholders on policy issues relevant for Europe's rail sector. The Forum's role is very well-perceived by stakeholders and decision-makers. RFE events are widely recognised as providing a valuable platform for fruitful exchanges on rail's current state of play

RFE was chaired during the first half of 2019 by MEP Michael Cramer, with support by Vice-Chairs MEPs Gesine Meissner and Georges Bach. Their stewardship concluded with the 23-26 May EP elections, which they decided not to stand in. After these elections, only 8 out of 20 MEPs Full Members remain: Ismail Ertug; Dominique Riquet; Andreas Schwab; Karima Delli; Boguslav Liberadzki; Tomasz Poreba; Massimiliano Salini and Istvan Ujhelyi. →



It was of the uttermost importance to get a fresh new start for the association, with new MEP Full Members and a new Managing Board -the RFE governing body) which now needed a new Chair and Vice-Chairs. During autumn 2019, 10 new MEPs joined RFE as Full Members: Anna Deparnay-Grunenberg, Isabel Garcia Munoz, Jens Gieseke, Brice Hortefeux, Ondrej Kovarjk, Cesar Luena, Alessandra Moretti; Andrey Novakov; Jan-Christoph Oetjen

and Barbara Thaler. Following an open consultation among MEPs, Andrey Novakov was designated Chairman of the RFE association for the 2019-2024 period. Anna Deparnay-Grunenberg and Istvan Ujhelyi will serve as his Vice-Chairs.

The 39 companies and associations that serve as the forum's associate members also reorganised themselves. A new Advisory Committee, its a second governing body, was appointed for this new period and Alstom was confirmed as it Chair, holding the office until 2021.

➔ Looking forward to the organisation's 2020 activities, Rail Forum Europe organised the following events in the first four months of 2019 to discuss the EU institutions' new agendas:

 **30 January 2019**

Global Competitiveness Perspectives for the European Rail Supply Industry (sponsored by UNIFE)

 **1 April 2019**

Rail Baltica - Bridging a European, missing link (sponsored by CER)



www.rail-forum.eu / @RailForum_EU

03

INTERNATIONAL AFFAIRS



→ Trade relations between the EU and China / **p29**

→ The International Procurement Instrument (IPI) / **p30**

→ EU-Japan Economic Partnership Agreement / **p31**

→ Brexit / **p31**

→ Cooperation with India / **p32**

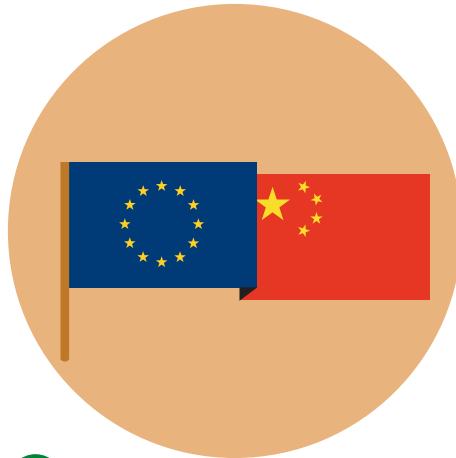
→ Cooperation with Gulf Countries (GCC-SG) / **p32**

→ Cooperation with the US (APTA) / **p33**

→ Cooperation with Russia (NP UIRE) / **p33**

Trade relations between the EU and China

Over the past few years, UNIFE members have encountered increasing difficulties as they attempt to engage with the Chinese rail market. During the 2015-2017 period, accessibility to China has tumbled to only 18%



Not only are some market segments now effectively closed to foreign suppliers, but additional constraints like non-transparent public procurement procedures and expanding localisation requirements are regularly imposed by contracting authorities on European entrants in the few areas that remain accessible. At the same time, Chinese state-owned enterprises (SOEs) have become increasingly powerful players in all product segments and on all continents, often profiting from unfair competition.

Against this background, UNIFE has closely monitored this situation through several initiatives and illustrated the shifting landscape in numerous dossiers throughout 2019.



Access to China's rail market

In November 2013, the EU and China officially opened negotiations in pursuit of an investment agreement. After agreeing on the prospective deal's scope in 2016, both parties confirmed that the future agreement should improve market access opportunities for investors by establishing a genuine right to invest and guaranteeing that there would be no discrimination against foreign companies. After the EU deemed the initial Chinese offer on market access insufficient, UNIFE has kept insisting for China to significantly improve manufacturing sectors accessibility, not only services access – a key point for industries such as rail supply in the 'Made in China 2025' strategy.



UNIFE has also continued to monitor China's ongoing efforts to join the WTO Agreement on Government Procurement (GPA). This association supports China's accession to the GPA on the condition that it respects reciprocity as outlined in the EU's offer and that strong enforcement provisions are foreseen.

B

Cooperation and competition with China

In September 2015, a Memorandum of Understanding (MoU) was signed on the 'EU-China Connectivity Platform' to enhance synergies between China's 'Belt and Road Initiative' (BRI) and the EU's connectivity initiatives, including the TEN-T policy.

- ➔ UNIFE has been actively supporting the joint commitment to promote transparency and a level playing field based on market rules and international norms. It has defended this position throughout 2019. In particular, we participated in the 5th Expert Group meeting on 'Investment and Financing Case Studies of Infrastructure Projects and Discussion of Multimodal Transportation Projects' in July and a technical seminar between the EU and China in November. However, it would appear that discussions are progressing very slowly and no further market opening in China or in the China-funded BRI has been witnessed by European rail suppliers.

The International Procurement Instrument (IPI)

For the first time since the European Commission's (EC) original proposal in 2012, 2019 witnessed renewed IPI discussions among EU Member States. As the world experiences closing world procurement markets and increasing unfair competition, a changing mindset has been noted across Europe. However, much remains to be done to reach an agreement within both the Council of the European Union and the European Parliament.

Throughout the year, UNIFE has engaged on this topic with AEGIS Europe, an alliance of 22 European upstream and downstream manufacturing federations. AEGIS Europe affirmed its strong support to a regulation that would be ambitious and efficient enough to achieve a truly level playing field in world markets. Furthermore, concrete proposals have been made to improve the revised one made by the EC in 2016, responding to some concerns voiced by Member States.

More than ever, the support of Member States will be crucial for reaching an agreement at the EU level in the near future.



Ms. Inès Van Lierde, Chair of AEGIS Europe during the UNIFE General Assembly in Dublin / June, 2019



European Council of the European Union meeting / March, 2019

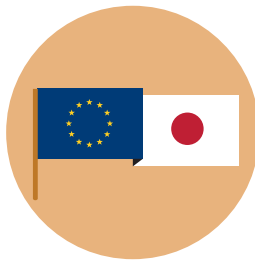
EU-Japan Economic Partnership Agreement

After years of negotiations, the EU and Japan's Economic Partnership Agreement (EPA) entered into force on 1 February 2019. UNIFE welcomed this agreement as it provides European rail suppliers satisfactory guarantees on public procurement

In particular, it includes a commitment to remove the Operational Safety Clause (OSC), a major non-tariff barrier impacting the rail supply industry, within the 12 months following the agreement going into force.

Nevertheless, UNIFE has insisted in various fora on the importance of monitoring the agreement's implementation to ensure tangible benefits and achieve equitable market access. For the time being, such changes have not been noticed.

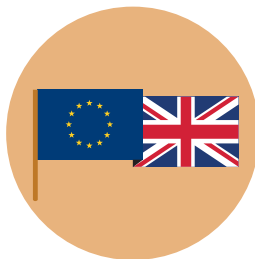
→ In terms of concrete activities, the eighth EU-Japan Railway Industrial Dialogue was held on 25 November in Tokyo. The event provided another opportunity for UNIFE Members to present their solutions to a wide range of Japanese rail operators. Additionally, we actively contributed to a seminar on public procurement organised by the European Union Delegation to Japan the following day. The event strove to highlight the new opportunities provided by the EPA and challenges to its implementation.



The EU Japan summit today provides an opportunity to take stock of the implementation of the EU-Japan EPA. #UNIFE hopes that Japan will deliver concrete changes on the #railway market to achieve true level-playing field with EU suppliers.



Brexit



On 29 March 2017, the UK notified the European Council of its intention to leave the EU, in accordance with Article 50 of the Treaty on European Union. Over the past year, UNIFE continued to call on EU institutions and the UK government to swiftly reach an agreement that minimises any disruptions of trade flows while allowing for continued EU-UK cooperation on technical topics, skills and innovation. Without such an

outcome, Brexit could present major challenges for both seamless mobility and a more competitive European rail supply industry.

Following the acceptance of the Withdrawal Agreement Bill in late January 2019, the United Kingdom left the European Union on 31 January, 2020. Having entered the transition phase, subsequent negotiations on the future relationship between the two partners during this consequential period will be key to maintaining frictionless trade with the UK.

Cooperation with India



India is a priority country for UNIFE members as important rolling stock, infrastructure and signalling developments are expected.

→ During InnoTrans 2018, a meeting between the EC and the Indian Ministry of Railway confirmed a joint technical seminar in 2019. The seminar was held in New Delhi on 19 November. UNIFE and a delegation of its members actively participated in the event, giving presentations on innovation, digitalisation and ERTMS

Cooperation with Gulf Countries (GCC-SG)



The Gulf region remains a priority market for the European rail supply industry, especially as the 2018 World Rail Market Study predicted it to see considerable rail investments in the coming years. The study infers that there will be particular interest for metro systems like those anticipated in the Saudi Arabian cities of Medina and Dammam.

Since 2014, UNIFE has built a solid relationship with the Gulf Cooperation Council Secretariat General (GCC-SG), which oversees economic developments in the region. The organisations codified their cooperative intentions by signing a MoU in December 2017.

In January, the third EU-GCC Seminar on Railways was organised in Muscat, the Sultanate of Oman, by the European Railway Agency and the GCC Secretariat-General. UNIFE presented ERTMS and latest developments in research and innovation. UNIFE also attended the Middle East Rail Conference in February, providing a keynote speech and participation on a panel discussing digitalisation.



Philippe Citroën during the Middle East Rail Conference in Dubai / February, 2019

Cooperation with the US (APTA)



The US rail market remains key for many European rail suppliers wishing to export their products worldwide.

The 2018 World Rail Market Study stated that the North American rail market, composed of the US, Canada and Mexico, is forecasted to experience 3% year-over-year growth until 2023. Significant investments in America's freight locomotives and wagons, as well as its very high speed rail and urban public transport services, are expected to characterise this period. Throughout 2019, we have reinforced our existing cooperation with the American Public Transportation Association (APTA).

→ In June, UNIFE travelled to Toronto to participate in the APTA Rail Conference. This past October, we attended their Annual Meeting, "TRANSform", in New York City. At this flagship event, Philippe Citroën presented the views of the European rail supply industry in a panel on 'Cybersecurity in transit'.

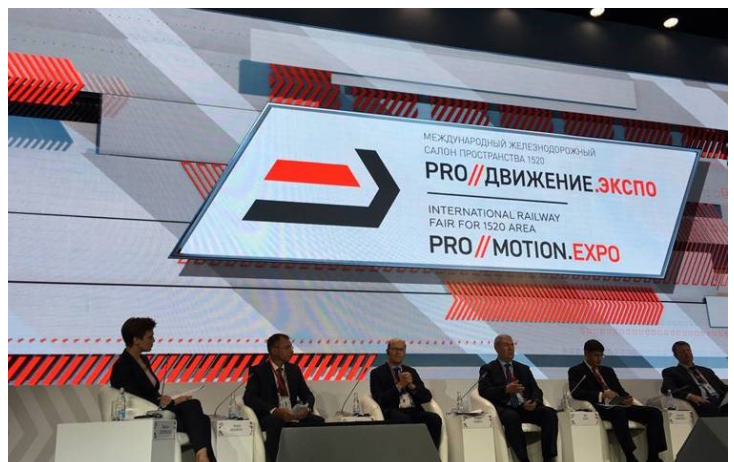
Cooperation with Russia (NP UIRE)



Russia continues to be an important and attractive market for the European rail industry.

According to the 2018 World Rail Market Study, rolling stock demand is expected to grow over the 2021-2023 period due to investments in the mainline and freight segments, while significant new urban rail projects are also foreseen in the coming years.

→ In 2019, UNIFE maintained solid cooperation with the Union of Industries of Railway Equipment (UIRE), its Russian counterpart. In August, our association participated in Moscow's EXPO 1520 and made presentations during the 'Strategic Session, railway machinery: rolling stock of the future' and 'Round table, Evolution of ISO/TS 22163 (IRIS) in Russia: results and outlooks'. NP UIRE also confirmed that Russia is interested in the European experience as a roadmap to simplify regulatory framework and processes, as seen under the Fourth Railway Package. In collaboration with NP UIRE, we hope to jointly release a booklet ahead of InnoTrans 2020.



UNIFE attending the EXPO 1520 in Moscow / August, 2019

04

STANDARDS & REGULATIONS



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→ **2019 Key Highlights / p35**

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→ **DG CONNECT / DG MOVE Digitisation initiative / p47**

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Overview

As the official representative body for the European rail supply industry, we continue to coordinate the contributions and positions of our members towards the development of regulations, decisions, guidelines and other documents drafted by the European Union Agency for Railways (ERA) and the European Commission (EC). The UNIFE Standards and Regulation Group (SRG) and supporting technical working groups are platforms for members to influence technical regulations that relate to the interoperability and safety of the European railway system.

UNIFE has actively participated in numerous working groups and workshops organised by the European institutions to support the drafting of the aforementioned regulations and documents. The SRG plays a pivotal role in coordinating UNIFE's technical positions for all activities relating to the implementation of the EU's 2016 Fourth Railway Package (4RP). The UNIFE SRG also interacts with other stakeholders in the European rail sector (CER, EIM, UIP, NB-Rail etc.) via the Group of Representative Bodies (GRB), and with the European Standardisation Organisations (ESO), particularly CEN and CENELEC, through the Sector Forum Rail (SFR).

As an observer on both the ERA Management Board and ERA Executive Board, Philippe Citroën, regularly attends these meetings and, when relevant, provides input in line with the association's position on important topics such as ERA's annual work programme and ongoing activities supporting 4RP's implementation.

2019 Key Highlights

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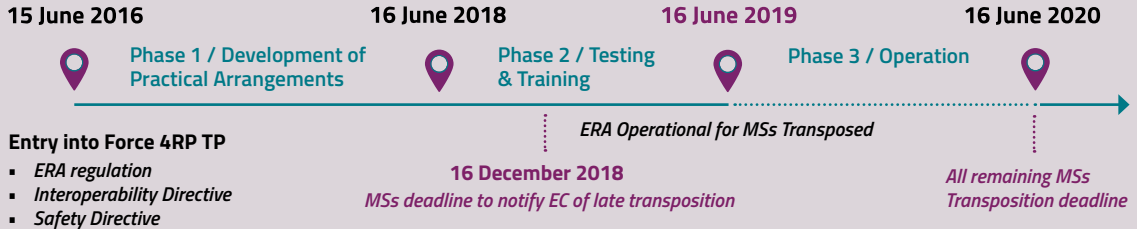
Implementation of the Technical Pillar of the Fourth Railway Package

2019 was a key year for the implementation of 4RP's Technical Pillar. This past year saw the new regime go operational and the ERA transform into the European authorising entity on 16 June 2019. The Technical Pillar, comprised of the redefined Interoperability and Safety Directives and the ERA Regulation, entered into force on 15 June 2016 and provided a three-year transposition period, with a possible a one-year extension upon request by Member States. On 16 June 2019, the new regime entered into operation with ERA and eight Member States, laudably Bulgaria, Finland, France, Greece, Italy, Netherlands, Romania and Slovenia. The remaining Member States have informed the EC that they will make use of the extension and are due to transpose the directives by 16 June 2020.



UNIFE has worked intensively throughout 2019 to support the ERA and the EC as they finalise the drafting and adoption of necessary implementing regulations, including the revised Technical Specifications for Interoperability (TSIs) and development of the IT Tools that were required under the reformed Interoperability and Safety Directives and necessary for the new regime to be completed by 16 June 2019. Following its full implementation by the first adopters, the main focus has shifted to examining first experiences and collecting feedback in an attempt to improve the new system and ensure lessons learnt are shared prior to the remaining Member States completing the 4RP by June 2020.

Timeline of the Fourth Railway Package



→ Additionally, UNIFE continues to raise awareness and greater understanding of these changes within the rail supply industry that are currently being implemented under this new framework.

UNIFE strongly supported the adoption of the Technical Pillar, which we see of paramount importance for the competitiveness of the rail industry as it removes the remaining technical barriers to the creation of a Single European Rail Area (SERA). A harmonised European authorisation process run by the newly fortified ERA should result in a convergence and certainty of requirements. It will also result in less duplication of checks and testing, and a more consistent, quicker and cheaper process.

This is a key regulation as it amends the Technical Specifications for Interoperability (TSIs) LOC&PAS, CCS,



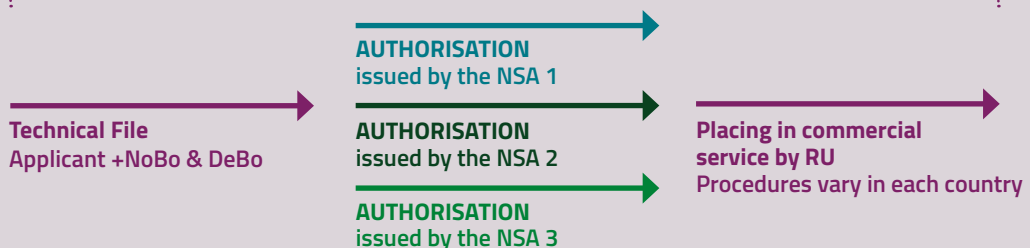
A major milestone in the Technical Pillar implementation process this past year was the affirmative vote by the Railway Interoperability and Safety Committee (RISC) in January 2019 and the subsequent publication in May 2019 of Implementing Regulation (EU) 2019/776, or the '2019 TSI Revision Package'

WAG, INF, ENE, SRT and NOI with regards to Directive (EU) 2016/797 and the practical arrangements for the railway vehicle authorisation (EU) 2018/545, required before the entry into operation of the new vehicle authorisation regime starting in June 2019.

Fourth Railway Package - The impact of Vehicle Authorisation



Previous Vehicle Authorisation Process



2

European Commission Expert Group on the Technical Pillar of the Fourth Railway Package

UNIFE is a permanent member of the European Commission's Expert Group on the Technical Pillar of the Fourth Railway Package, alongside Member States representatives and other official representative bodies. This group is intended to fully consult on the legal acts to be voted on, give recommendations on draft texts and help prepare the discussions and votes to be held in the Railway Interoperability and Safety Committee (RISC).

In 2019, the Expert Group played a fundamental role in the consultation, drafting and adoption of the legal acts arising from the Technical Pillar of

the Fourth Railway package. In particular, it made consequential contributions towards the Implementing Regulations revising the Technical Specifications for Interoperability (TSIs) and the Entities in Charge of Maintenance (ECM) Regulation. The Expert Group also provided the opportunity for regular status updates and consultations on the implementation of the 4RP by Member States and the clean-up of Notified National Technical Rules. UNIFE attended all meetings of the expert group to speak for the rail supply industry at the forum and with EC representatives on the various topics discussed. It is important to note that this Expert Group is intended to complement but not replace the RISC, which only allows Member State representatives to attend and vote on the final Implementing Acts.



To learn more, please contact Nicholas Shrimpton, UNIFE Technical Affairs Manager, at nicholas.shrimpton@unife.org

3

Cooperation with the Group of Representative Bodies (GRB)

As an official representative body for the European railway sector, UNIFE is a member of the Group of Representative Bodies (GRB). The GRB is a grouping of railway associations in Europe tasked with supporting the railway sector's consultations with the ERA as it composes its work programme and its activities on railway safety and interoperability.

The GRB has continued to be highly active throughout 2019. The sector has worked as a whole to monitor and establish common positions on the implementation for the Fourth Railway Package. Several joint position papers relating to regulation

and standardisation have been adopted by the GRB and submitted to the EC and ERA. The GRB also continues to closely follow all ERA activities.



In January 2019, Bombardier Transport's Christian Rausch, Chairman of UNIFE's Standards and Regulation Group (SRG), has also taken on the chairmanship of the GRB, with a mandate of two years. Strong leadership and cooperation among all stakeholders will be vital during the final stages of Technical Pillar's implementation.



Please contact UNIFE Technical Managers Nicholas Shrimpton and David Kupfer to learn more. They are reachable at nicholas.shrimpton@unife.org or david.kupfer@unife.org, respectively.



www.grbrail.eu

Cleaning-up of Notified National Technical Rules



The ERA has continued to actively pursue its goal of reducing the number of Notified National Technical Rules (NNTRs). After several years of intensive work, the ERA evaluation report on remaining national rules and the latest TSIs on rolling stock and onboard CCS subsystems was published in June 2019 and confirms the significant progress made. The report demonstrates the vast reduction since beginning the clean-up project with the number of NNTRs relevant for vehicle authorisation being reduced from 14312 to approximately 1026, at

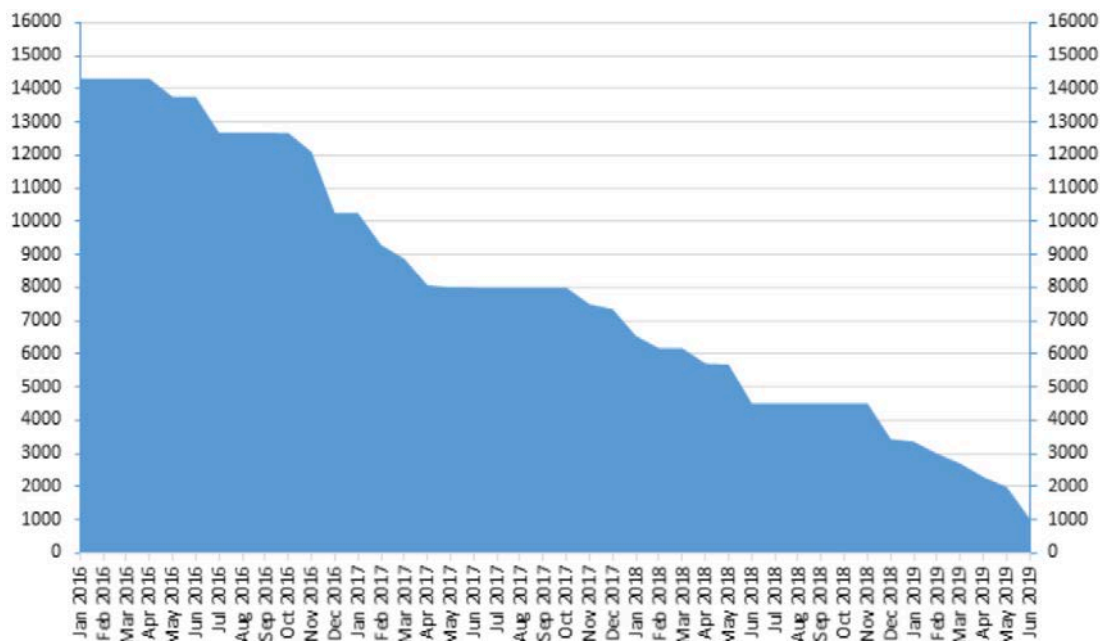
time of publication. However, the finalisation of the clean-up rules by all Member States based on ERA's assessment remains to be completed. The final number is expected to be even lower once they ratify a final version.

➔ UNIFE continues to carefully monitor the finalisation of this activity and aims, with assistance from its network of experts, to facilitate the authorisation process and establishment of a clear and comprehensive set of TSIs and necessary NNTRs.



To learn more, please contact Nicholas Shrimpton, UNIFE Technical Affairs Manager, at nicholas.shrimpton@unife.org

Evolution of NRs for Vehicle Autorisation in addition to latest TSIs



Source : ERA 'Evaluation Report – National rules RST&CCS- ERA-PRG-006-REP-RST'

5

Cooperation with the Intergovernmental Organisation for International Carriage by Rail (OTIF)



The OTIF is a truly international body with membership that includes most European countries, several across the Middle Eastern and former Soviet republics.

Its objective is to facilitate international railway traffic. It has developed legislation regarding contracts for the international carriage of passengers and goods (CIV and CIM), as well as dangerous products (RID).

UNIFE tracks OTIF activity to avoid any clashes between EU Directives and TSIs requirements, which are law throughout the EU, and those stemming from OTIF agreements. This is particularly relevant for the validation of technical standards and the adoption of uniform technical prescriptions for railway material (APTU).

This monitoring is also pertinent for the technical admission of railway vehicles and other railway material used in international traffic (ATMF), as well as their updates under the 4RP.

→ UNIFE has also supported the transferral of European TSIs into OTIF documents, and extending their scope as required. Whereas in the majority of cases OTIF transposes TSI requirements into its own documents without modifications of the technical content, some initiatives might clash with the European legal framework. Therefore, UNIFE's cooperation with OTIF is necessary in order to ensure a sound legislative framework in Europe and beyond.



For more information, please contact Nicolas Furio, UNIFE's Head of Technical Affairs, or Nicolas Shrimpton, Technical Affairs Manager via email at nicolas.furio@unife.org or nicholas.shrimpton@unife.org

6

UNIFE involvement in Standardisation



Standardisation is extremely important for our industry, leading many UNIFE members to be involved in both European and global standardisation proceedings via their respective National Standardisation Bodies. UNIFE provides a platform for its members to coordinate their standardisation advocacy and to agree on the standardisation industry's priorities. UNIFE SRG is responsible for monitoring developments in both regulation and standardisation, the complete technical framework of which is represented in the pyramid below.

The careful coordination of activities in both areas is required to ensure that the work carried out by EU institutions and ESOs is complementary and improves the

rail sector's functioning and competitiveness.

To support the work done by its members at the national level, UNIFE has established close links with the relevant ESOs, namely CEN and CENELEC. The association works closely with the EC, who sets the policy framework for European level standardisation, and the CEN-CENELEC Management Centre, which coordinates the activities of both organisations.

UNIFE is also part of the SFR, formerly known as the Joint Programming Committee Rail (JPC-R). The SFR facilitates discussions between the CEN-CENELEC Management Centre and representative bodies on the sector's standardisation priorities.

At the global level, UNIFE holds A-Liaison status for the ISO Rail Technical Committee 269 (ISO TC 269). This enables us to take part in the regular meetings of this committee. →

→ In 2019, UNIFE started to increase its efforts on international standardisation by outlining its first strategy on this matter. It has provided recommendations that underline the strategic importance of international standardisation for the European stakeholders during its engagement with the EC Expert Group on the Competitiveness of the European rail supply industry. CEN-CENELEC was also an active participant in the Expert Group. UNIFE is also a member of the Rail Standardisation Coordination Platform for Europe (RASCOP). Initiated by the EC in 2016, the platform brings together parties involved in the planning and development of railway-related legislation, standards and technical documents in Europe. It also works to coordinate all activities related to the development of European standards and other related technical documents that are relevant to the railway sector. The platform is chaired by DG MOVE and is supported by the ERA.

UNIFE continues to take part in the RASCOP Steering Group and carries out various actions linked to the 'Joint Initiative on Standardisation'. Signed by UNIFE in 2016, this initiative brings together the EC, ESOs and the cross-industry standardisation community. The joint initiative sets out a shared vision for modernising the European standardisation system and lays out a series of proposed actions to achieve it. This year, the initiative came to its conclusion and UNIFE supported its final statement calling for its renewal under the new EC mandate.

Furthermore, we have continued our cooperation with urban transport operators on standardisation through Urban Rail Platform, a forum driven by UNIFE and the International Association of Public Transport (UITP). The Urban Rail Platform aims to support standardisation in urban rail following a mandate issued

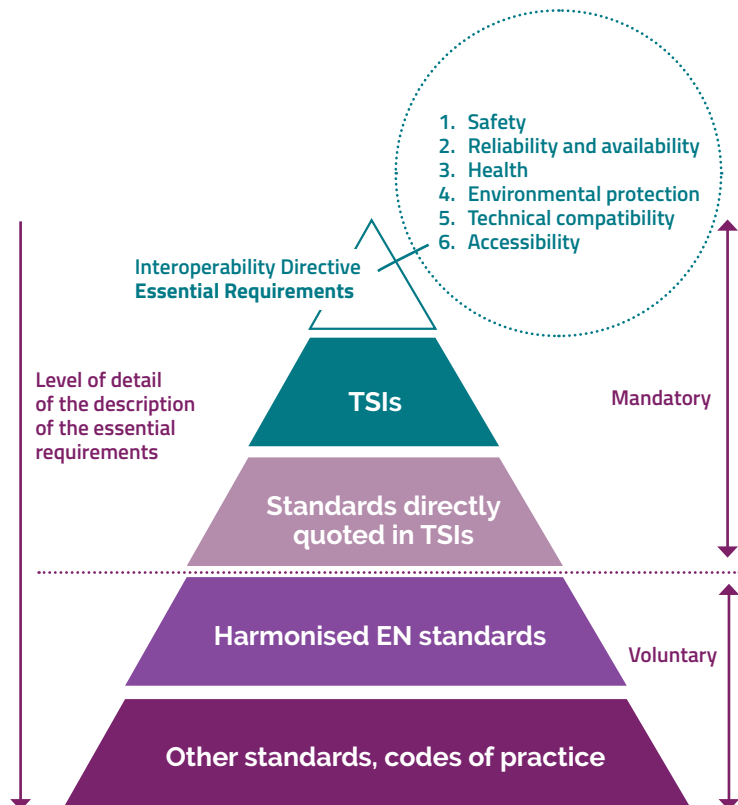
by the Commission, and it also provides its members with a forum for discussing matters related to regulation and R&I.

In parallel with its involvement in standardisation, UNIFE also served as a partner of the EuroSpec initiative. EuroSpec is a consortium of several large European railway operators who work together to develop joint technical specifications that can be used in their tender documents and aims to complement the work of the ESOs. As part of a Memorandum of Understanding, the initiative shares draft documents with UNIFE prior to publication, to obtain feedback from the manufacturing industry on the content and proposed requirements. This consultation improves the quality, clarity and applicability of its specifications.

EuroSpec



For more information, please contact UNIFE's Head of Technical Affairs Nicolas Furio and David Kupfer, Technical Affairs Manager, at nicolas.furio@unife.org or david.kupfer@unife.org.



UNIFE Technical Working Groups

UNIFE Technical Working Groups support the association's work on standardisation, regulation and research. The overall coordination is done by the responsible UNIFE committees. There are two types of Technical Working Groups in UNIFE:

UNIFE Mirror Groups (MG)

are temporary groups which are active during the drafting and revision of regulations and TSIs. They mirror the ERA's working groups where UNIFE delegates participate as official representatives of the European rail supply industry.

UNIFE Topical Groups (TG)

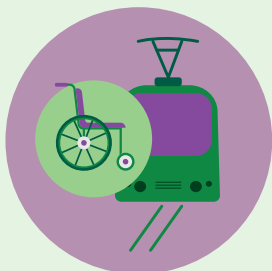
follow specific topics, mainly related to standardisation and research activities.

The SRG supervises the UNIFE Technical Working Groups and periodically reviews their activities to ensure that they operate in line with UNIFE's overall standards and regulation objectives.

UNIFE Mirror Groups (MG)

1 Person with Reduced Mobility Working Group (PMR MG)

The PRM TSI defines common priorities and criteria to further improve accessibility for persons with reduced mobility and provides clear requirements for manual and electric wheelchairs that allows their users to safely access passenger trains. UNIFE experts continue to provide input to the relevant ERA Working Parties dedicated to the revision of the guide for the PRM TSI application. This document provides information on the application of Commission Regulation (EU) No 1300/2014 of 18 November 2014 on the technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility.



To learn more about the PMR MG, please contact Marta Andreoni, UNIFE Technical Affairs Manager, by email at marta.andreoni@unife.org



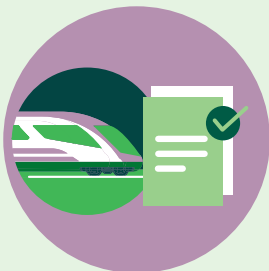
2 Rolling Stock Working Group (RS MG)

Following the adoption of the Commission Delegated Decision (EU) 2017/1474 on the TSIs, at the end of 2017, ERA reopened the TSI LOC&PAS/WAG Working Parties to begin the necessary TSI amendments under the 4RP. The main activity for the UNIFE Rolling Stock Working Group (RS MG) in 2019 was to finalise the UNIFE's contribution to the two separate ERA subgroups revising the LOC&PAS TSI. The first subgroup developed the concept of route compatibility and the parameters to be checked before use of an authorised vehicle. The other subgroup explored basic design characteristics and vehicle modifications which would require an application for a new authorisation. The subgroups final findings were introduced in the 2019 OPE and LOC&PAS TSI amendments respectively. Following the TSIs' publication, UNIFE experts continued to provide input for their application guides.



For more information, please contact Nicholas Shrimpton, Technical Affairs Managers at UNIFE, by email at nicholas.shrimpton@unife.org

3 Safety Assurance Working Group (SA MG)



The Safety Assurance Working Group (SA MG) supports the ERA's work on the Railway Safety Directive. It also assists the SRG and other working groups with expertise on risk assessment and the application of the Common Safety Method (CSM) Regulation (EU) 402/2013. In 2019, the SA MG has continued to aid the SRG with the Implementing Regulation on practical arrangements for the railway vehicle authorisation process (C(2018)1866/954626) and the introduction of CSM requirements.

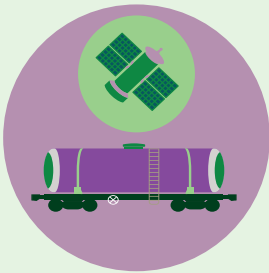
This year, it has continued to provide the rail industry's position on the revision of the Entities in charge of maintenance (ECM) Regulation (EU) 445/2011 to the Commission, especially with regards to the development of the Safety Critical Components concept as introduced by the revised Safety Directive. Following the adoption and publication of the revised regulation, (EU) 2019/779, the group is now focused on continuing to contribute towards further guidance being developed by the ERA on this topic.

The working group continued to follow and provide industry insights through consultations with the ERA's Common Occurrence Reporting (COR) project. SA MG has now moved on, and in 2020 will be developing the Common Safety Methods for the Assessment of Safety Levels and Safety Performance of operators at National and Union Level (CSM ASLP). It also coordinates UNIFE's position pertaining to the ERA's activities on Human and Organisational Factors and Safety Culture.



For more information, please contact Nicholas Shrimpton, Technical Affairs Managers at UNIFE, by email at nicholas.shrimpton@unife.org

4 Telematic Application for Passengers and Freight Working Group (TAP/TAF TSI MG)



From 2018 to 2019, UNIFE members were involved in several EU activities on interoperability. The work focused on freight and passenger subsystems TSIs. Launched in July 2017, the TAP TSI revision process has been ongoing and is now almost finalised. Members finalised their analysis of the NeTeX data exchange format used in public transport and prepared a common position with other rail stakeholders, addressed to the EC and ERA. The discussion about minimum connecting time and the role of “station manager” was also concluded, after UNIFE’s necessary modifications, allowing it to be introduced into the TAF TSI on “terminal managers”. Activities on the extension of interoperability for passengers and freight into non-EU countries continued with a discussion about the change of primary location codes from 4-digits numeric to 4-digits alphanumeric.

UNIFE was even more involved in this process than it was in 2018. The focus of this work was firmly on the TAF TSI Revision, change management and monitoring Technical Specification for Interoperability relating to Telematics Applications for Freight Services (TAF TSI) implementation.

UNIFE also contributed to the RNE TrainID Pilot project, where it is a member of the Steering Group and co-chaired the Impact Assessment working group. On change management, individual change requests related to technical annexes of each TSI were negotiated. The RNE/JSG TrainID Pilot project is reaching its final phase and UNIFE is involved in preparation and evaluation of the impact assessment questionnaire.

The implementation process has been successfully developed and UNIFE members continued their work establishing TAF TSI in CEF projects or through their engagement as suppliers of individual projects submitted by railway undertakings (RUs) or infrastructure managers (IMs). These activities require constant familiarity with the implementation process as requests for changes to TSIs technical annexes are generated during this period. Therefore, the active involvement of UNIFE members is also required in the Technical Specification for Interoperability relating to Telematics Applications for Freight/Passenger Services executive bodies (TAF/TAP TSI) and the TAP TSI Services Governance Association (TSGA).

The working group has also been dealing with the finalisation of the TAP revision and the preparation of some very significant changes in the TAF TSI Regulation, the legal text revision of which got underway in October 2018. The main focus of the latter is to remarkably change the Estimated Time of Interchange/Arrival (ETI/ETA) messages, forming a transparent compliance process that includes changes in the system architecture which will make it truly state-of-the-art. This undertaking also prepares the TAF TSI for the inevitable automation of train operation. Cybersecurity was also addressed during the TAF and TAP TSI Revision, especially with regards to analysing the implementation of the network and information systems (NIS) Directive. UNIFE members are considered significant actors in the TAF and TAP TSI sector community and contribute to preparing the rail sector for increasing competition in the coming years.



To more about the Telematic Application for Passengers and Freight Working Group, please contact Stefanos Gogos, UNIFE Technical Affairs Manager, at stefanos.gogos@unife.org

5 Vehicle Authorisation Mirror Group (VA MG)



The UNIFE Vehicle Authorisation Mirror Group was established to track the development of the Implementing Regulation (EU) 2018/545 establishing practical arrangements for the railway vehicle authorisation and railway vehicle type authorisation process pursuant to Directive (EU) 2016/797. Following publication of the regulation and its guidelines in 2018, the group continued to follow all aspects of implementation of the Technical Pillar of the Fourth Railway Package. This included sharing observations on related regulations such as the templates for EC declarations and certificates, the revision of the TSIs and regulation on the classification of national rules for vehicle authorisation. The group also followed the development of the One-Stop Shop IT tool and other registers or databases relevant for the vehicle authorisation process at the ERA.

The group also provided a forum for UNIFE members and the ERA to exchange knowledge prior to and following the new vehicle authorisation process entering into operation. This allowed industry stakeholders and EU institutions to answer any practical questions or challenges as they prepared for and applied the new 4RP processes.



For more information, please contact Nicholas Shrimpton, Technical Affairs Managers at UNIFE, by email at nicholas.shrimpton@unife.org

UNIFE Topical Groups (TG)

1 Cabin Working Group (TG)



The Cabin Working Group has continued its work harmonising driver's cabin standardisation at the European level. The group's main purpose is to identify possible synergies, differences, inconsistencies and overlaps in current cabin specifications. The outcome of this work was the establishment of recommendations to relevant standardisation bodies in a bid to develop more consistent specifications. The recommendations for modification of the ERTMS specification has been generated and sent via Change Request (C.R) to follow the ERTMS Control Change Management procedure (CCM).



For more information, please contact Jose Bertolin, UNIFE Technical Affairs Manager, via email at jose.bertolin@unife.org

2 Diesel Working Group (TG)



The non-road mobile machinery (NRMM) Regulation (EU) 2016/1628 was published in September 2016, setting out more stringent emission limits for internal combustion engines installed in non-road mobile machinery and repealing the previous NRMM Directive. The UNIFE Diesel Topical Group provides a forum for UNIFE members to monitor and discuss the implementation of the regulation and development of →

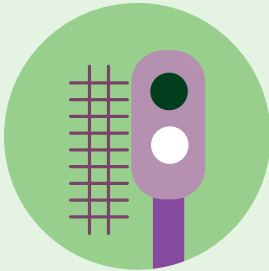
- supplementary ones detailing test methods, EU type-approval procedures and in-service monitoring of future NRMM engines.

In 2019, the UNIFE Diesel TG has monitored the implementation of the new NRMM Regulation and worked with EUROMOT and UIC to develop a Guide to Regulation 2016/1628 specific to rail vehicle applications. The working group is also following the proposed introduction of in-service monitoring on Stage V rail vehicle engines and has informed the European Commission's 'Group of Experts on Machinery Emissions under the Non-Road Mobile Machinery Directive' (chaired by DG GROW), where the texts are being prepared for publication in 2020, of the rail supply industry's position.



Contact Nicholas Shrimpton, Technical Affairs Managers at UNIFE, at nicholas.shrimpton@unife.org to hear more about the Diesel Working Group.

3 Electromagnetic Compatibility Working Group (EMC TG)



UNIFE experts are working in close cooperation with EIM and CER experts within the Train Detection Compatibility Working Group, coordinated by the ERA. This working group is critiquing updates to the mandatory ERA/ERTMS/033281 specification, describing interfaces between CCS track-side and other subsystems.

EMC Working Group members have collaborated with the ERA CCS TSI Working Party on the revision of the TSI on Control-command and Signalling (CCS) and its application guide. Monitoring the standardisation has also been an important activity in 2019. The revised TSI includes an analysis of a proposed new standard on electromagnetic compatibility (EMC) testing of vehicles with track circuits and the update of previous standards, such as EN50617-1 and EN-50592.



Want more information about electromagnetic compatibility, please write Jose Bertolín, UNIFE Technical Affairs Manager, at jose.bertolin@unife.org

4 Fire Safety Working Group (TG)



The Fire Safety Working Group has closely followed and contributed to the progressive implementation of European Standards relating to fire protection on railway vehicles (EN 45545 series) and continues to monitor the revision of this series of standards. The Working Group also contributes to related activities such as the development of a new standard for non-physical fire barriers, officially known as the Fire Containment and Control Systems (FCCS). Furthermore, the group has developed a fire certificate inventory list template. UNIFE experts continue to contribute to the ERA Working Parties on the development of the fire safety requirements within the TSI on safety in railway tunnels (SRT).



Contact David Kupfer, Technical Affairs Manager, at david.kupfer@unife.org to stay in the loop as these regulations heat up!

UNIFE Digitalisation Platform Activities

The UNIFE Digitalisation Platform brings together around 30 UNIFE members, representing the entire value chain of the European rail supply industry. It serves as an open, dynamic forum for members seeking to drive their digital priorities and initiatives. These efforts are critical to shaping the rail industry's vision for its future

UNIFE aims to bring the European rail supply industry's views and objectives to the centre of the digital debate, decisively contribute to these discussions and effectively engage in a fruitful dialogue with decision-makers and other key stakeholders. To those ends, in April 2019, the UNIFE Digitalisation Platform released a new vision paper. The document, titled 'Digital Trends in the Rail Sector', outlines the views, priorities and ambitions of the European rail supply industry on the digital technologies that are shaping the sector's future. Specifically, it focuses on five major areas:

- **Big Data**
- **Cybersecurity**
- **Artificial Intelligence**
- **New Mobility Services and**
- **Digitalisation of the Freight Logistics Chain**

UNIFE has identified these domains as those most significantly driving rail's current digital transformation.

UNIFE believes it is vital for the whole sector to maintain its commitment to making digitalisation not merely an objective in and of itself, but rather a means to achieving more ambitious and overriding goals. The activities of the digitalisation platform are directed towards this end goal and aim to bring the European rail supply industry's views and objectives into the centre of the digital debate.



Want a status update about rail's digital transformation? Contact UNIFE Public Affairs Manager Tommaso Spanevello and UNIFE Technical Affairs Manager Marta Andreoni by email at tommaso.spanevello@unife.org or marta.andreoni@unife.org, respectively.

Cybersecurity

Securing European network and information systems is essential to keeping the economy running and ensuring prosperity, as repeatedly declared by the Commission. UNIFE is fully aligned with the EU's assessment and has taken on a number of initiatives to position itself at the forefront of Europe's cybersecurity.

UNIFE has formed a dedicated working group dedicated to tackling cybersecurity. This team operates in the wider UNIFE Digitalisation Platform established in May 2016. Its main goal is to develop a clear and coherent cybersecurity roadmap to address the clear threats facing the EU.

Working closely and coordinating its activities with the UNIFE Digitalisation Platform, the association's Cybersecurity Sub-Group provides members with an assembly to discuss and identify opportunities for cooperation on cybersecurity issues in the European rail sector, strengthening the position of the European rail industry against its foreign competitors and stakeholders.



In 2019, the sub-group worked on and released a position paper on rail's cybersecurity-centric transformation. The paper was presented at the "Dialogue Forum on Digitalisation" during the UNIFE General Assembly in Warsaw, and again at InnoTrans 2018. It sets out priorities and targets for the short- and long-term as a basis for further interactions with EU institutions and other rail stakeholders. The paper is currently under revision and will be updated with the latest cybersecurity activities going on at the EU level.

- UNIFE is very aware of its members' interest in cybersecurity, which will become increasingly crucial in an increasingly digitalised world. We are actively involved in various efforts at the European level aimed at developing targeted cybersecurity-related skills and knowledge, as well as increasing the cyber awareness regarding cyber threats within companies and organisations.



Find out how you can improve European cybersecurity by contacting Marta Andreoni, UNIFE Technical Affairs Manager, by email at marta.andreoni@unife.org

DG CONNECT/ DG MOVE Digitisation initiative

In 2019, a Digitisation Rail Roundtable has been set up jointly by DG CONNECT and DG MOVE to discuss the rail sector's digitalisation priorities. During its March kick-off meeting, participants tasked the Digitising Railway Steering Group with working on five topics: Connectivity; Spectrum; Cybersecurity; High-performance computing and Blockchain

The Digitising Steering Group agreed to organise the work around three work streams:

- **5G Connectivity and spectrum**
- **Cybersecurity**
- **Blockchain and high-performance computing**

Each workstream received a mandate to prepare a roadmap that will contain a mapping of ongoing initiatives, the identification of current shortcomings and recommendations to be addressed to the Commission. The work performed by the three workstreams and the recommendations they formulated will be officially presented to the European Commission at the beginning of 2020.

- UNIFE and its members actively took part in the activities of the three workstreams as they worked towards fulfilling their mandates. Specifically, we coordinated the workstream on cybersecurity, where after setting up a group of experts representative of the entire rail sector, a number of meetings were organized between July and October 2019. After conducting analyses of the running the EU and national level legislative initiatives on rail sector cybersecurity, the current standardisation and regulation environment, and ongoing R&I activities, in the working group made four key recommendations to the EC.



For further information, please contact Nicolas Furio, Head of Technical Affairs at UNIFE, and Marta Andreoni, UNIFE Technical Affairs Manager, at nicolas.furio@unife.org or marta.andreoni@unife.org.

UNITEL

Established in 2018, the new UNITEL Committee brings together UNIFE members with significant telecommunications experience to plan the interoperable European rail network of tomorrow

This group focuses on building consensus for the development and implementation of the Future Railway Mobile Communication System (FRMCS), the inherent successor of GSM-R within the next iterations of ERTMS. This committee succeeds the Railway Operational Communications Industry Group (ROC-IG), which was formally discontinued in 2019, and has adopted its activities. All former ROC-IG members are now participating in UNITEL.

”

This year, UNITEL became widely acknowledged as the voice of the European railway telecom supply industry after UNIFE formally communicated its creation to the European institutions and sector partners

UNITEL is now active in all ERA working groups responsible for the development of future Control Command and Signalling Technical Specification for Interoperability (CCS TSI) pertaining to railway telecommunications. UNITEL members are also involved in the DG CONNECT-DG MOVE Rail Digitisation initiative.

➔ **UNITEL presented the railway telecom supply industry's positions on the development and migration of FRMCS at both UIC Global FRMCS Conference 2019 in Paris and ERA CCRCC 2019. In 2019, the committee prompted further discussions with European bodies on this topic by publishing a position paper on the need for 'EU-funded and -coordinated FRMCS pilot projects'.**



Furthermore, committee members remain active in the international standardisation organisations responsible for the development of the railway telecommunications system.



For more information, please contact Nicholas Shrimpton, Technical Affair Manager at UNIFE, via email at nicholas.shrimpton@unife.org.

05

RESEARCH AND INNOVATION



→ **HORIZON 2020 / p51**

→ **Preparation of Shift2Rail 2 /
Horizon Europe / p62**

→ **ERRAC / p62**

HORIZON 2020

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Shift2Rail



After years of intense work by the European rail industry, with UNIFE's coordination, Shift2Rail (S2R) was established in July 2014 as a Joint Undertaking supported by the European Union's 'Horizon 2020' programme. S2R's mission is to promote the competitiveness of the European rail industry by accelerating the integration of new and advanced technologies into innovative rail product solutions.

FOUNDING MEMBERS



ASSOCIATED MEMBERS



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This initiative is the first large-scale European Joint Undertaking (JU) dedicated to supporting Research and Innovation (R&I) activities that will boost the sector's competitiveness and meet changing transport needs. Funded by the EU's Horizon 2020 programme, S2R projects contribute to creating technologies needed to complete the Single European Railway Area (SERA), increase the European rail system's capacity and improve the reliability and quality of rail services. These actions also help significantly reduce costs

To meet these ambitious goals, S2R has a robust framework and a multiannual budget of €920mn. It is jointly funded by the private sector, contributing €470mn, and the EU, investing €450mn. S2R is managed by Carlo Borghini, the Executive Director of the Joint Undertaking.

Main activities of the Shift2Rail Joint Undertaking in 2019

1 Support for Research and Innovation projects

Following the announcement of calls for proposals in early 2019, 17 grants totalling €148,6mn have been awarded. This includes €74,8mn dispersed through S2R.

The 27 S2R Joint Undertaking members, excluding the EU, have submitted project proposals to 6 call topics reserved for them. These proposals hold a total value of €130,9mn, including €57,6mn from S2R.

The S2R open calls covered 11 topics. The combined budgets of these projects have a total value of €17,7mn, over 97% of which will be funded by the European Union's Horizon 2020.

2 Launch of the Shift2Rail Annual Work Plan 2020

The S2R Joint Undertaking published its Annual Work Plan 2020 (AWP 2020) in December 2019. The AWP 2020 contains descriptions of the 2020 calls for proposals from both S2R members (Calls For Members) and non-members (Open Calls). The calls for members are reserved only for the 27 S2R Joint Undertaking members, including both Founding Members and Associated Members. The open calls are addressed to any non-member of the S2R Joint Undertaking and cover all S2R Innovation Programmes and cross-cutting activities.

→ As it did for previous S2R Open Calls, UNIFE organised a dedicated workshop for S2R non-members at the UNIFE Technical Plenary in December 2019. The participants learned about the 2020 Open Call topics and how to submit a successful bid. UNIFE will coordinate project proposals based on the feedback received from its members and try to ensure the highest possible participation of its members in the consortia to be created for the proposed projects.

3 Shift2Rail User Requirements Implementation and Deployment working group

The S2R User Requirements/Implementation and Deployment working group met twice in 2019. UNIFE attended both gatherings. The role of this working group is to assist the S2R Joint Undertaking in ensuring the market uptake of the technical solutions developed through S2R activities and facilitate information exchange on initiatives, projects and partnerships dealing with the thematic areas of each of the Innovation Programmes and Cross-Cutting Activities.



4 Shift2Rail Catalogue of Solutions

In October, S2R Joint Undertaking published its first Catalogue of Solutions highlighting 54 innovative products and methods. The solutions described in this document have been developed in its different Innovation Programmes.



For further information, please contact Nicolas Furio, Head of Technical Affairs at UNIFE, by email at nicolas.furio@unife.org



www.shift2rail.org

Shift2Rail projects

Run2Rail



Run2Rail, Innovative Running gear solutions for new dependable, sustainable, intelligent and comfortable rail vehicles, is a two-year project within S2R's 1st Innovation Programme (IP1) that started in September 2017

The project explored an ensemble of technical developments for future running gear and looked into ways to design trains that are more reliable, lighter, less damaging to the track, more comfortable and less noisy. These innovations are exhibited as case studies supported by the methods and tools elaborated in the project.

- ➔ The project developed across four thematic workstreams (WS) addressing:
 - innovative sensors and condition monitoring (WS1)
 - optimised materials and manufacturing technologies (WS2)
 - active suspensions and mechatronics (WS3)
 - and noise and vibration (WS4)
- ➔ Within these four workstreams, the project also performed a preliminary evaluation of the related regulatory and standardisation issues, together with a careful assessment of the impacts of the new proposed solutions.



For more information on the project contact UNIFE Technical Affairs Manager Marta Andreoni by email at marta.andreoni@unife.org



www.run2rail.eu



ETALON



ETALON envisages the specification and development of energy harvesting solutions that support onboard train integrity and Smart Radio-connected wayside objects that are economically viable and suitable. It takes into consideration onboard and offboard radio communication solutions, and safety critical aspects, as well as reliability and availability in difficult rail environments.

In 2019, the ETALON project has integrated the individual prototypes of the onboard energy harvester and the onboard communication solution into the On-Train Integrity (OTI) prototype. This prototype has been tested in different environments and different conditions to demonstrate the efficiency of the proposed technical approach. ➔

RESEARCH AND INNOVATION

ETALON, or Energy harvesting for signalling and communication systems, is a project within S2R's 2nd Innovation Programme (IP2). The project started in September 2017 and is due to reach its terminus in February 2020. The main objective of the project is the adaptation of energy harvesting methodologies for trackside and on-board signalling and communication

→ The results of preliminary OTI lab tests in Southampton validated the capability of the energy harvester to autonomously generate the required power for the onboard radio transmission platforms. Final tests on relevant environment are planned to take place in Greece before the end of the year. This will be an opportunity for the OTI to be tested under real operational conditions. Components will be installed on freight wagons and manoeuvres will be performed in a marshalling yard or freight terminal. A realistic test will be also performed using a long freight train traveling a large distance on the main line.



To learn more, write Jose Bertolín, Technical Affairs Manager, at jose.bertolin@unife.org



www.etalon-project.eu

IN2DREAMS

IN2DREAMS

The predicted growth of transport, especially in European railway infrastructures, is expected to introduce a dramatic increase in freight and passenger services by the end of 2050. To support the sustainable development of these infrastructures, novel data-driven ICT solutions are required. These will enable monitoring, analysis and exploitation of energy and asset information for the entire railway system including power grid, rolling stock and infrastructure.

IN2DREAMS, or Intelligent solutions toward the Development of Railway Energy and Asset Management Systems in Europe, addressed these challenges through two distinct workstreams (WS): energy-related data management (WS1) and asset-related data management (WS2). IN2DREAMS developed and demonstrated a modular cloud-based open data management (ODM) platform facilitating ubiquitous support of both energy and asset services.

WS1 provided energy metering services through a dynamically reconfigurable platform that offers improved reliability, ease of monitoring and on-the-fly optimisation for the entire railway system. This includes a heterogeneous secure and resilient telecommunication platform comprising of both wireless and wireline technologies that converge with energy and telecom services. This infrastructure interconnects a plethora of monitoring devices and end-users to the railway control centre and includes an ODM platform for data collection, aggregation and analysis. It is also able to scale with the railway operators' needs. This platform is non-intrusive, exploiting advanced signal processing and intelligent learning algorithms.

Within WS2, IN2DREAMS concentrated on defining IT solutions and methodologies for business-secure decision support in the field of data processing and analytics for railway asset management. The general aim was to study and prove the application of smart contracts in the railway ecosystems. This was done by addressing legal and regulatory implications, and advanced visual and rule-based data analytics, including metrics for performance assessment.

→ IN2DREAMS was a 26-month project that brought together 14 partners and was coordinated by UNIFE. Having begun on 1 September 2017, the project had its final conference on 2 October 2019 in Milan.



For more information on IN2DREAMS, contact UNIFE Technical Affairs Manager Stefanos Gogos at stefanos.gogos@unife.org



www.in2dreams.eu

ASTRail



ASTRail was a S2R IP2 project focusing on satellite-based signalling and automation systems on railways, as the accompanying formal method and moving block validation. The project started in September 2017 and concluded in October 2019

The project aimed to improve technologies for signalling and automation by investigating new applications and solutions that must be carefully analysed in terms of safety and performance. The ASTRail rationale and aims were split into four main technical workstreams (WS) addressing: GNSS technology into the ERTMS signalling system (WS1), Hazard analysis of the railway system with a focus on 'moving block signalling' (WS2), Automatic driving technologies for Automatic Train Operations (WS3) and a formal language and method to be applied in the railway field (WS4).

ASTRail was concluded in October 2019 with the final conference taking place in Vienna.



For more information on ASTRail, reach out to Marta Andreoni, Technical Affairs Manager at UNIFE, via email at marta.andreoni@unife.org



www.astrail.eu

SMaRTE



SMaRTE (Smart Maintenance and the Rail Traveller Experience) is a project that fits into the 'Cross-Cutting Activities' category of S2R. The project started in September 2017 and finished in October 2019

The project developed across two thematic workstreams:

- **Smart Maintenance:** SMaRTE aimed to improve current train maintenance systems, through the integration of predictive data analysis algorithms and online optimization tools within an improved Condition Based Maintenance (CBM) strategy
- **Human Factors:** SMaRTE aimed to understand the current and future needs of rail passengers characterised by rapid advances in technology and demographic changes. The project developed a human-centred design system by identifying the most relevant aspects of the travellers' experience which could be improved and simplified through information and mobility support

These two workstreams culminated in a joint impact assessment activity that ensured a full system approach.



For more information on SMaRTE, reach out to Marta Andreoni, Technical Affairs Manager at UNIFE, via email at marta.andreoni@unife.org



www.smar-te-rail.eu

INNOWAG



INNOWAG (Innovative monitoring and predictive maintenance solutions on lightweight Wagon) is a project under S2R IP5. The project started in November 2016

The aim of INNOWAG has been to develop intelligent cargo monitoring and predictive maintenance solutions that would be integrated on the novel concept of a lightweight wagon. This creation would respond to major challenges in rail freight competitiveness, such as increased capacity, improved logistical capability, better reliability, availability, maintainability and safety (RAMS), as well as lower life cycle costs (LCC). The INNOWAG project intended to also effectively integrate innovative technologies for cargo condition monitoring into the new high performance, lightweight freight wagon. This would be supported by effective health monitoring technologies and predictive maintenance models for sustainable and attractive European rail freight.

In June 2019, INNOWAG came to its conclusion in Munich at a joint final event with other IP5 projects.



Contact UNIFE Technical Affairs Manager Marta Andreoni at marta.andreoni@unife.org to learn more about INNOWAG.



www.newrail.org/innowag

SPRINT



SPRINT, short for Semantics for PerfoRmant and scalable Interoperability of multimodal Transport, is a project directly linked with S2R IP4. The project has reached its halfway point in December 2019

SPRINT's objectives are to improve the performance and scalability of the Interoperability Framework being developed by IP4 as a whole, sustain a large deployment and to simplify and/or automate all the steps needed to integrate new services and sub-systems into the IP4 ecosystem. Moreover, SPRINT contributes to the realisation of the Interoperability Framework by masking the complexity of interoperability to travel applications by publishing in the Interoperability Framework's Assets Manager uniform abstractions of services enabling travel applications to know how to communicate with them (e.g., web service or API interfaces and communication protocols).

Lastly, SPRINT will provide additional technical means to operate on the "web of transportation data". For example, the Interoperability Framework will enhance its ability to act as a distributed broker and communicate with different services as a means to dynamically discover, bind and inject data and services. This will include the Mobility Service Providers identification on the basis of their geographical area and offered service capabilities.



For more information email Stefanos Gogos, UNIFE Technical Affairs Manager, at stefanos.gogos@unife.org.



www.sprint-transport.eu

GATE4RAIL



GATE4RAIL, a stylisation of GNSS Automated Virtualized Test Environment for Rail, is a S2R IP2 project. It begun in December 2018 and is due to end in November 2020

The main objective of the project is to implement a geo-distributed simulation and verification platform that connects GNSS centres of excellence and ERTMS/ETCS laboratories. This platform will be used to evaluate GNSS performances in the railway environment with agreed methodologies and tools. The entire process will be evaluated by an independent notified body already engaged in GNSS assessment for rail applications. A demonstration of a representative railway line will be deployed in Italy and Spain to present the functionalities and tools in operational conditions. During 2019, GATE4RAIL has identified the GNSS use requirements for railway and defined test cases for the performance. The project partners use the outputs of previous projects on GNSS application in the railways as basis to identify future use cases. Those instances are mainly linked to expected environments like stations, tunnels, rural or urban areas that highlight the GNSS signal reception constraints that could occur according to common railway operations and procedures.



For more information, contact Jose Bertolin, Technical Affairs Manager, at jose.bertolin@unife.org.



www.gate4rail.eu

Additionally, GATE4Rail also tackled the definition of the methodology, guidelines and tools that will ensure the modularity and versatility of the simulation infrastructure. The Model Based System Engineering (MSBE) approach has been used as a basis to ensure a platform that can be easily modified and accept new functionalities. It also strives to be easily maintained, simple to update, and interoperable with other solutions. The project's consortium proposed implementing a methodology named "Architecture Analysis and Design Integrated Approach" that focuses on functional analysis, system design, justification of architectural choices and verification steps rather than the usual process of requirements definition and allocation of requirements to system component.

TER4RAIL



Transversal Exploratory Research Activities for Railway (TER4RAIL) is a Shift2Rail project associated with ERRAC. In 2019, the project mapped rail innovative research and identified non-rail actors that could be valued collaborators in the future

The project has monitored new opportunities for innovative research and facilitated the cross-fertilisation of knowledge with other disciplines.

The project will determine and assess the existing roadmaps that drive the future of railways and compare them with the interpretations obtained from the experts involved in a research observatory to be set up by the project. Finally, the work performed under TER4RAIL will be communicated to the transport community.



For more information, please contact David Kupfer, UNIFE Technical Affairs Manager, at david.kupfer@unife.org

Shift2Rail projects launched in 2019

NEXTGEAR

NEXTGEAR, also known as NEXT generation methods, concepts and solutions for the design of robust and sustainable running GEAR, is a two-year-long S2R IP1 project. Bringing together a variety of rail actors in a synergic consortium, it will contribute to the development of a new generation of running gear and the ambitious goals set by Shift2Rail for future European trains

These include a substantial reduction of life cycle costs, improved reliability, greater energy efficiency, reduction of noise emissions and other externalities and the achievement of full rolling stock interoperability.

NEXTGEAR will develop across three technical work packages (WP):

- WP1 will develop an updated Universal Cost Model based on the one devised by Roll2Rail. This will make it possible to judge the economic impact of the innovation suggested for an operator using the vehicle
- Lower bogie weight would reduce wheel-rail forces and allow for higher payload. In WP2, the project will suggest ideas that are based on the use of both new materials and new manufacturing methods. Simulation techniques will be explored to allow design optimisation
- The wheelset is another extremely important and safety-critical component in a rail vehicle. Since it represents a so-called "unsuspended mass", there is a desire to minimize the wheelset weight. The main objective of WP3 will be a feasibility study on the use of composite materials for the construction of railway wheelsets. Technology concepts for a lightweight wheelset will be defined



For more information, please contact Marta Andreoni, UNIFE Technical Affairs Manager, at marta.andreoni@unife.org

OPTIMA

OPTIMA, or Communication Platform for Traffic Management Demonstrator, is a part of S2R IP2. OPTIMA project will address the design and development of a communication platform to manage links with different services, or multimodal operational systems, supporting traffic management system (TMS) applications

It will connect TMS applications with traffic management, traffic control, maintenance/energy management and signalling field infrastructure systems.

The main objectives of OPTIMA are:

1. Use of Integration Layer to integrate real-time data from the rail business service, external sources and services running in the Application Framework and operator workstations
2. Development, validation and verification of:
 - Integration Layer middleware
 - software clients for connecting several rail business services and external services
 - Application Framework constituents and its interfaces
 - enhanced integration of the standardized operator work stations
 - definition of detailed data structure, according to the Conceptual Data Model
 - first level support for testing prototypes of complementary projects
3. Provision of a fully available and documented communication platform for installing and testing complementary projects prototypes.



For more information, please contact Jose Bertolin, Technical Affairs Manager, at jose.bertolin@unife.org

TRANSIT

TRAIn pass-by Noise Source characterisation and separation Tools for cost-effective vehicle certification (TRANSIT) is a project that fits into the 'Cross-Cutting Activities' category of S2R. TRANSIT aims at providing the railway community with a proven set of innovative tools and methodologies that reduce the environmental impact of rail and improve the interior acoustic comfort of vehicles

Currently, vehicle certification and homologation requires extensive measurement campaigns on dedicated test tracks that leads to high costs and time expenses. In the future, virtual certification of railway vehicles and improved homologation procedures should reduce these expenses.

Major steps will be taken towards virtual testing, enhanced flexibility and compatibility in homologation procedures. This will be achieved by developing accurate and robust source characterisation, separation methods and techniques, and exterior noise simulation tools that will facilitate virtual testing, more cost-effective vehicle certification and homologation methods. Regarding interior acoustic comfort, innovative material designs geared towards decreased sound transmission and increased absorption will be developed, leading to improved interior sound quality within the weight constraints.



For more information, please contact Marta Andreoni, UNIFE Technical Affairs Manager, at marta.andreoni@unife.org

RIDE2RAIL

RIDE2RAIL is the latest open call project for S2R IP4. RIDE2RAIL aims to integrate multiple public, private and social data sets and sources into existing transport platforms to promote an effective ride-sharing model for citizens. If successful, this will create a complementary transport mode that extends public transport and rail networks

The RIDE2RAIL framework for intelligent mobility will integrate and harmonise diverse, real time information about rail, public transport, ride-sharing and crowdsourcing in a social ecosystem to allow users to compare and choose between multiple options or services classified by a set of criteria. According to passenger preferences like environmental impact, travel time, comfort and cost, travel experience will be more positive for individuals and more sustainable for the world.

This framework, consisting of a combined suite of travel offer classifications and software components, will be natively integrated into existing collective and on-demand transport services. It will connect and reinforce existing mobility offerings, especially in rural and low-demand areas, to promote access to high-capacity services likes rail, bus and other public transport services. This is made possible by easy-to-use multimodal and integrated travel planning, booking and payment features.



For more information on RIDE2RAIL, please email Stefanos Gogos, UNIFE Technical Affairs Manager, at stefanos.gogos@unife.org

RIDE2RAIL will design, develop and test, in real demonstrators, a set of software components for the IP4 ecosystem, including advanced travel companion features and a crowd-based Transport Service Provider. This will foster the combination of flexible and regular multimodal mobility through easy personalisation across diverse, existing environments and facilitate market uptake.

RIDE2RAIL will deliver a set of validated proof of concepts and business cases envisaging future mobility scenarios where advanced transport solutions will be seamlessly integrated into existing collective transport services in four diverse European cities: Padua, Athens, Brno and Helsinki.

B

Horizon 2020 project proposal

UNIFE participated in the preparation of a project proposal named 5G RAIL, 5G for Future RAILway Mobile Communication System, responding to Horizon 2020's ICT-53-2020 5G PPP – 5G for Connected and Automated Mobility (CAM) Call

The Future Railway Mobile Communication System (FRMCS) will be the 5G worldwide standard for railway operational communications, conforming to European regulation and responding to the needs and obligations of rail organizations outside of Europe.

The main objective of 5G RAIL is to verify the first set of FRMCS specifications by developing and testing prototypes of the FRMCS ecosystem, for both trackside and on-board infrastructure. Regarding onboard systems, 5G RAIL aims to reduce specific equipment costs and installation engineering time by combining all train-to-ground communications in a single device, called Telecom On-Board Architecture (TOBA), in alignment with the sector's technical vision.

5G RAIL outcomes are viewed by the railway sector as a key milestone in the plan for Europe to lead global FRMCS market readiness. The results of the evaluation will be released by mid-2020.



For more on 5G RAIL, please contact please contact Nicolas Furio, Head of UNIFE's Technical Affairs unit, at nicolas.furio@unife.org

C

European GNSS Agency activities



European
Global Navigation
Satellite Systems
Agency

Satellite-based technologies are very important for various next generation train control solutions such as train positioning, telecommunications and precise time synchronisation. The European GNSS Agency, situated in Prague, plays a central role in promoting and enabling new or improved services that properly respond to user needs

UNIFE, which is recognised by the Agency as representing the rail supply industry, has been consulted throughout the year on several topics and contributed to the definition of the future of European satellite-based services, most significantly Galileo and EGNOS. We also attended several workshops and events in 2019 to discuss the usage of satellite positioning for modern signalling.



For more information, please contact Jose Bertolín, UNIFE Technical Affairs Manager, at jose.bertolin@unife.org

Project ERSAT GCC



ERTMS on Satellite Galileo Game Changer (ERSAT GGC) is a two-year research project that launched in December 2019 with support from the EU's Horizon 2020 programme



For more information, contact Jose Bertolin, Technical Affairs Manager at UNIFE, at jose.bertolin@unife.org



www.ersat-ggc.eu



The primary goals of this project are to launch an operational line using satellite technology into ERTMS by 2020 and to accelerate the standardisation process for the inclusion of satellite requirements into the new ERTMS specifications at the European level.

The project ended in November 2019 with a final event in Prague at the GSA premises. Key stakeholders from the rail and aerospace sectors, as well as research centres, were invited to participate. The occasion provided an opportunity to discuss the results of the ERSAT GGC project and how these results could be followed up on in future projects.

During 2019, the main activity of ERSAT GGC has been building up the Toolset for surveying and classification of track areas. Over the past year, the toolset has been specified, developed and tested with very successful results. Two measurement campaigns took place on selected Italian and Spanish lines to collect data on GNSS quality used to perform post-processing. The results on the toolset's functionality for track surveying and classification was presented during a demonstration event that in Sardinia.

ERRAC



At the end of 2017, European Rail Research Advisory Council (ERRAC) set out a progressive view of what a fully technically transformed railway could look like when it published 'Rail 2050 Vision'. It also described the much wider role it could play in meeting the needs of European citizens and businesses

To make this vision a reality and set down the foundations for the solutions that will address highlighted global trends, ERRAC published 'ERRAC Rail 2030 – Research and innovation priorities' in September 2019, as a successor to the earlier publication. This document contains a set of time-focused, concrete plans based on the identification of the right questions to answer in a ten-year time period ranging from 2020 to 2030. It also intends to set meaningful and influential milestones in a logical, coherent chain. This paper is based on UNIFE's nine Key Enablers and is a key document from the rail sector.

1. Automated rail transport
2. Mobility as a seamless service
3. Digitalisation
4. Towards an efficient Zero Emission Railway
5. Maintenance of the future
6. Enhancing the security and the protection of the rail system
7. Optimized infrastructure
8. Digitization of the supply chain (Industry 4.0)
9. New certification framework

→ During the ERRAC Plenary events that took place in March and November 2019 in Brussels, representatives from the EC's DG MOVE and DG Research reported on the progress of Horizon Europe discussions and the preparation of the future rail research public private partnership. Carlo Borghini, Shift2Rail's Executive Director, also reported on his organisation's ongoing activities and 2019 Open Calls.

→ The ERRAC plenary events also offered an excellent opportunity to present the S2R-funded project TER4RAIL, that enjoys UNIFE participation.



For more information contact Nicolas Furio, Head of UNIFE's Technical Affairs unit, at nicolas.furio@unife.org



www.errac.org

Preparation of Shift2Rail 2 / Horizon Europe

A Research and Innovation Committee and UNIFE workshop

In 2019, the UNIFE research and Innovation Committee has been consulted for defining the association's position on Horizon Europe and the preparation of Shift2Rail 2 (S2R2). UNIFE also organized a S2R2 workshop for its members to exchange with them on preparations pertaining to the proposed future rail R&I public private partnership. It was an opportunity to report on Horizon Europe's status, present the UNIFE Key Enablers, introduce the ERRAC 2030 R&I priorities and share feedback on Shift2Rail. Thanks to the participation of many UNIFE members, we have collected suggestions and new ideas that have been used in consultations on Horizon Europe and S2R2 that were launched in 2019.

B

Events organised by the European Commission

In 2019, UNIFE attended the European Research and Innovation Days, the first annual policy event of the European Commission. The event brought together stakeholders to debate and shape the research and innovation landscape of the future. A debate on the "Railways of the future" was organized to give participants the opportunity to share their views on the next Horizon Europe rail partnership, named "Transforming Europe's rail system". UNIFE attended this event and reiterated its support for an extension of Shift2Rail Joint Undertaking within Horizon Europe. We also used this time to promote the new ERRAC 2030 vision and its suggested R&I priorities for the potential Horizon Europe rail partnership.

UNIFE also partook in the 2019 Digital Transport Days in Helsinki, Finland chaired by Sanna Marin, current Finnish Prime Minister and then Transport Minister, on 7-9 October. This conference brought together actors involved in smart transport solutions to discuss the future of our industry. Discussions focused on topics such as digitalisation of transport, cross-border rail journey ticketing and much more. A Shift2Rail dialogue, attended by more than 250 participants from 31 countries, was organised at the Digital Transport Days. During this event, Philippe Citroën, Director General at UNIFE, expressed the association's support of S2R2's establishment within Horizon Europe as an institutionalised public-private partnership. He also explained the importance of such a rail research and innovation instrument for increasing the EU rail supply industry's competitiveness.



Sanna Marin, former Minister of Transport and Communications and current Prime Minister of Finland presenting during the European Research & Innovations days / September, 2019



For more information, please contact Nicolas Furio, Head of UNIFE's Technical Affairs unit, at nicolas.furio@unife.org

06

SIGNALLING AND ERTMS



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Introduction



“Railway is the backbone of multimodal system and the European Rail Traffic Management System (ERTMS) represents the real engine of the digital future in the railway sector”, explained Violeta Bulc, then-European Commissioner for Transport, during her opening speech at the CCRCC ERA Conference 2019 in Valenciennes. Her statement highlighted once again that ERTMS is at the core of the Digital Railway evolution and remains a political priority for the European Commission

It also stresses that there is a particular focus on the implementation of the European Deployment Plan (EDP). In recent years, significant progress has been made in winning the commitment of various stakeholders. This has been proved by the members of the Deployment Management Team which supports the Directorate-General for Mobility and Transport (DG MOVE), in tracking the implementation of ERTMS at the Members State level and along the Core Network Corridors (CNC).

Matthias Ruete, the new European ERTMS Coordinator since January 2019, has demonstrated his strong support for ERTMS deployment since the very beginning of his tenure. He recalled many times that “ERTMS has progressed a lot and finally got mature. Therefore, nobody is questioning the rationale for ERTMS deployment any longer.” The focus now seems to have shifted more on ‘when’ and ‘how’ this will entirely become a reality all over Europe, considering the future challenges faced by the rail sector.

Indeed, in parallel with the European deployment of ERTMS, notably Level 2 in a context of strong promotion for the digitalisation of rail, a number of initiatives from the railways have been recently launched. These projects aim to address the main challenges currently, or soon to be, facing the railway business.

UNISIG members fully recognise the main issues affecting the rail sector at the moment. However, suppliers want future rail sector evolution to be in line with the following pillars:

- ➔ Any new initiative has to support and accelerate the progress of the ERTMS deployment towards 2023 and 2030 targets set in the European Deployment Plan (EDP).
- ➔ The focus should be put on the timely delivery of the necessary inputs to prepare the next version of the CCS TSI (2022) and achieving game changers such as Automatic Train Operation (ATO), Hybrid L3 and the Future Railway Mobile Communication System (FRMCS).
- ➔ A common vision for the Single European Railway Area (SERA) based on efficient operation and cost-effective technical solutions must be shared by all stakeholders and be clearly defined by splitting roles and responsibilities between the different actors involved.



ERTMS - Main Political highlights and communication activities in 2019



UNIFE General Assembly / Dublin 11-13 June 2019



Presentation during the Dialogue Forum on interoperability & harmonisation in Dublin / June, 2019



CEO breakfast co-chaired by Sabrina Soussan and Henrik Hololei in Dublin / June, 2019

1. Dialogue forum on interoperability & harmonisation

During the last UNIFE General Assembly in Dublin, UNISIG was invited to present its structure and way of working to other UNIFE members as part of the Dialogue Forum on interoperability and harmonisation.

It was a unique opportunity for UNISIG to highlight the successful contributions of its participating companies to the latest ERTMS developments. The presentation also illuminated future challenges UNISIG experts will face in the upcoming months as they work to keep proving that ERTMS is the real backbone of digital railways

2. High level CEO breakfast brings UNISIG CEOs together with Matthias Ruete and Henrik Hololei

On 13th June, Matthias Ruete, new ERTMS EU Coordinator, and Henrik Hololei, DG Move General Director, met with CEOs and signalling directors from UNISIG companies to discuss

the current status of ERTMS deployment, the state of play of ERTMS game changers, the future role of Shift2Rail (S2R JU) and recent Railway initiatives pertaining to the coming CCS architecture.

EC representatives confirmed that ERTMS is the backbone of rail digitalisation and that the system remains a priority for their organisation. The significant progress made in ERTMS' deployment over the past two decades was acknowledged. However, they urged industry representatives to contribute to the acceleration of ERTMS deployment all over Europe, especially with regard to the targets set in the European Deployment Plan. It was pointed out that infrastructure managers (IMs) will benefit from the ERTMS deployment in the long term, especially as class B systems trackside are decommissioned - for which a common transition strategy is still needed.

The EC made clear that rail sector actors involved in S2R activities must ensure rapid progress on delivering on the initiatives established game changers for the next revision of the TSI (2022). Furthermore, it must be ensured via a strong business case and deployment plan that they will be able to rapidly put it into action.

Finally, the EC expressed its willingness to push for the future CCS system to be more flexible and responsive. It is also committed to allowing rail to take full advantage of digitalisation, with ERTMS being the basis for that future digital rail. Overall, future CCS system architecture should rely on a strong business case that permits suppliers to develop and for customers to deploy while delivering significant performance benefits for rail.



CCRCC ERA Conference /Valenciennes, 15-17 October 2019



Former Commissioner for Transport Violeta Bulc during the CCRCC ERA Conference in Valenciennes / October, 2019

From 15-17 October 2019, the Control Command and Railway Communication Conference (CCRCC2019), organised by the European Union Agency for Railways (ERA) , took place in Valenciennes. UNIFE and UNISIG actively contributed to the conference's organisation.

Hundreds of Europe's leading ERTMS experts, from both European institutions and the private sector, had the opportunity to discuss different topics related to ERTMS, from the status of the its significantly intensifying roll out across Europe following the release of the EC's action plan, to recent emerging challenges like digitalisation and the advent of big data that the industry is facing.

For the very first time, in an attempt to evolve more participants and foster dialogue amongst the community, the ERA gave attendees the opportunity to engage in dynamic workshops whose main conclusions were to be reported by moderators over the course of the conference's remaining two days of sessions.

The ERA Conference was built around five main topics:

- ERTMS deployment: What can be expected for the TSI CCS 2022/2023 release?
- Vehicle upgrade and authorisation: Experience and challenges from current projects
- ERTMS regulatory and funding framework > Status quo, first experience and outlook
- Communication > The Future Railway Mobile Communication System (FRMCS) and GSM-R migration
- Future transport system – Rail and CCS evolution > Digitalisation and big data shaping the future rail system

1. Day 1 / Workshops day

On the first day of the conference, Michel van Liefferinge, UNISIG General Manager, moderated workshops focused on ERTMS deployment. Participants were given the opportunity to share their experiences in an attempt to identify pressing issues and propose concrete measures to speed up ERTMS deployment. Main challenges voiced by attendees related to the following thematic areas:

- ERTMS projects, including both trackside and train-borne phases;
- ERTMS technical issues and benefits
- Planning of resources, such as human resources and time
- Deployment and funding of ERTMS
- CCS TSI evolutions



Workshop in action during the CCRCC ERA Conference / October, 2019

2. Day 2 / Sessions day

On the second day, UNISIG kicked off the ERA Conference by moderating the first session on ERTMS Deployment.

Experts from Denmark, Belgium, Italy and Spain took turns on stage to demonstrate their ERTMS deployment performance and their plans for the upcoming years.

DG MOVE representatives were also invited to report on the status of European ERTMS deployment plan.

Day 2 participants reaffirmed that rail is the backbone of any multimodal system and that ERTMS represents the engine of the sector's digital future. Despite some deployment delays over the past few years, it was acknowledged that many European Member States, such as the aforementioned ones, have recently announced several ambitious, nationwide ERTMS deployment plans.

3. Day 2 / ERTMS Stakeholders Platform Board Meeting

The ERA and DG MOVE organised another ERTMS Stakeholder Platform Board meeting, one year after last year's in Naples. Representatives from DG MOVE presented the progress made on main points of the Board Declaration signed in Naples.

The ERA proposed the creation of a new ERTMS Stakeholder Platform subgroup, entirely dedicated to tackling the "Game Changers".

➔ **The main objective of this group is to ensure that most of the game changers are included in the coming 2022 CCS TSI revision. The Game Changers subgroup was finally endorsed by the Board members at the Valenciennes meeting.**



ERTMS Stakeholder Platform Board Meeting / October, 2019



Panel discussion on 'Innovating the Railway Sector' during the CCRCC ERA Conference / October, 2019

4. Day 3 / Political Day

On day 3, UNIFE Director General Philippe Citroën moderated a panel on "Innovating the Railways sector" in which moderators from the conference's other sessions were asked to examine the main conclusions drawn from their respective discussions.

Participants were also asked to present their associations' views for the future of railways, especially in the fragmented context of many different initiatives aiming to design the future Control-Command Signalling (CCS) architecture.

5. Day 3 / High Level Lunch event with Matthias Ruete and Henrik Hololei and UNISIG Signalling Directors

On 17 October, UNISIG companies Signalling Directors companies had the chance to meet again with DG MOVE's Henrik Hololei and Matthias Ruete to take stock of the progress made on the agreed upon actions from the last meeting held in Dublin last June.

It was noted that the priority for the upcoming years will be the simplification of the EU's rail framework, in terms of both reduced costs and complexity. This will be based on a number of pillars such as reducing national rules, removing Class B systems, simplifying testing and validation processes and developing a strategic vision for ERTMS-only networks.

DG MOVE representatives pointed out that the near-future CCS system is to be open to improvements and ready to deliver the game changers by 2022. The aim is to do so in a way that permits operators the flexibility needed to add those technologies without being affected by any retrofitting and upgrading issues, as is sometimes happening now with ERTMS implementation efforts.

Suppliers called for a managed evolution of the CCS system, focusing first on the stabilisation of baseline 3.6.0. - for which significant investments have been made in the recent years.

It was also concluded that there is consensus on continuing a smooth ERTMS roll out, pushing for further standardisation, working together to lower unit costs and aiming for greater simplification of the process and operational rules.

B

Control Command and Signalling (CCS) Platform

In 2018, the EULYNX initiative was launched by 12 European IMs in an attempt to standardise interfaces and other elements of trackside signalling systems. Members of EULYNX Consortium asked rail industry representatives to give feedback on proposed specifications and the project as a whole hoping to better tailor the resulting products and systems to their intended potential users.

→ In response to this request, a dedicated task force within UNIFE was created to discuss the industry's future involvement in EULYNX activities. The Task Force members drafted a position paper pointing out rail's views and concerns on the current status of EULYNX. They also proposed some concrete solutions for the way forward. One of the UNIFE position paper's central recommendations was the need to clearly define each contributor's level of involvement and responsibility to this project. The establishment of the task force soon became a reactivation of the UNIFE CCS- Platform.

In 2019, the EULYNX Consortium submitted a proposal for future collaboration between UNIFE and their organisation. Such a partnership had been discussed earlier and led to an amendment of CCS Platform's framework over the past months.

As a result, the UNIFE Strategy Committee has endorsed this proposal for future collaboration. The partnership is to be re-evaluated after one year.

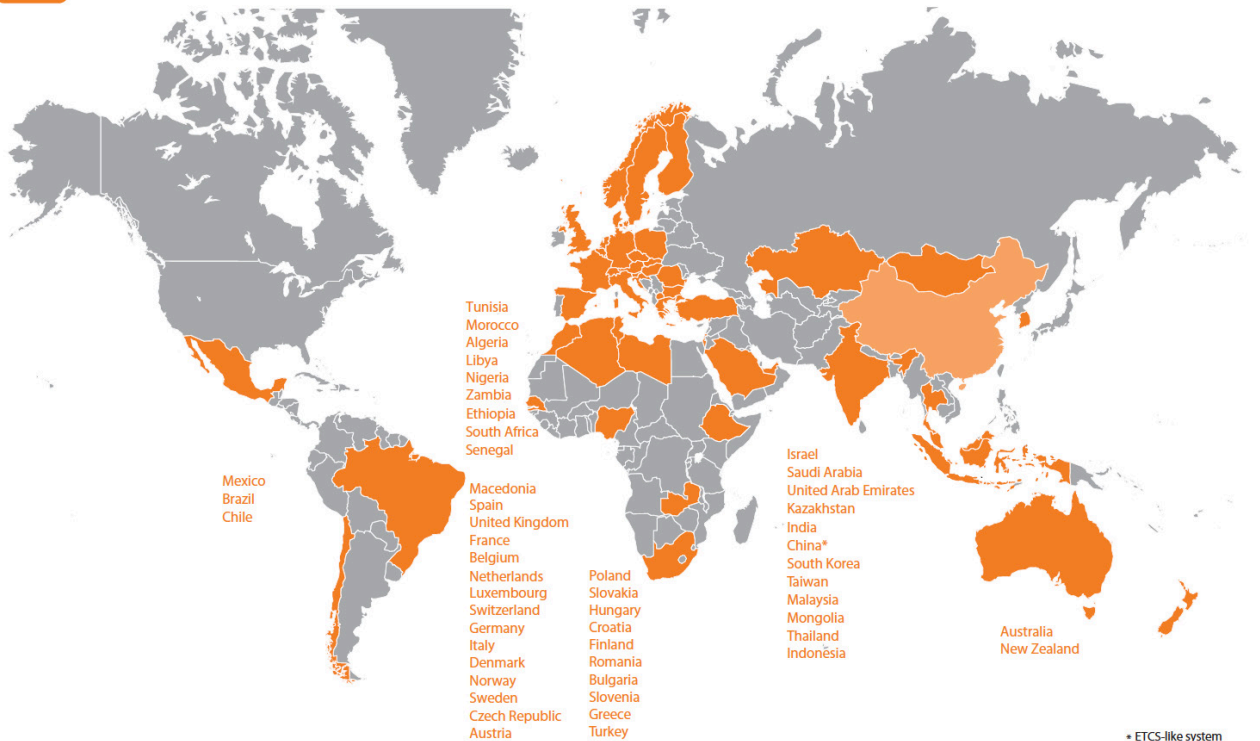


ERTMS deployment statistics



Global ERTMS Deployment by Country

Source: UNIFE December 2019



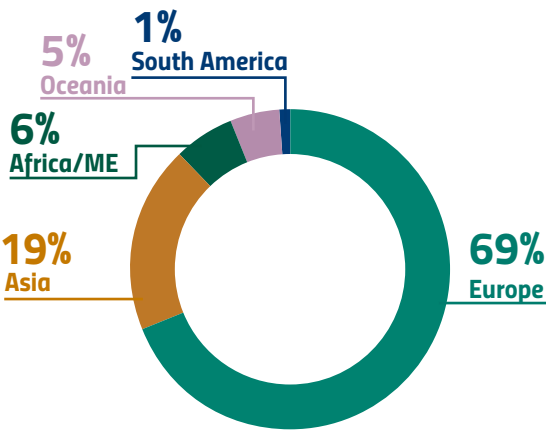
51
countries

+100,000 km
of ERTMS tracks contracted

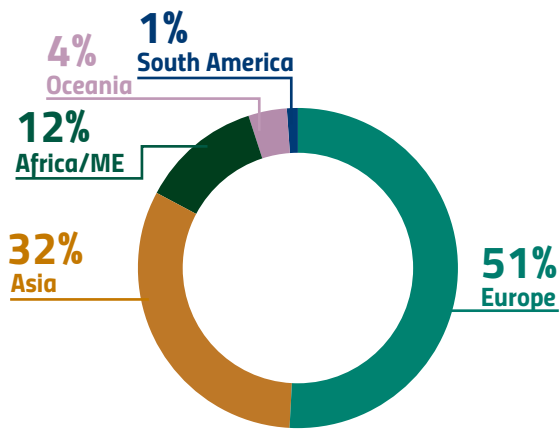
+20,000
OBUs contracted

Visit the ERTMS website for an interactive map with the latest updates on deployment projects contracted by UNIFE members.

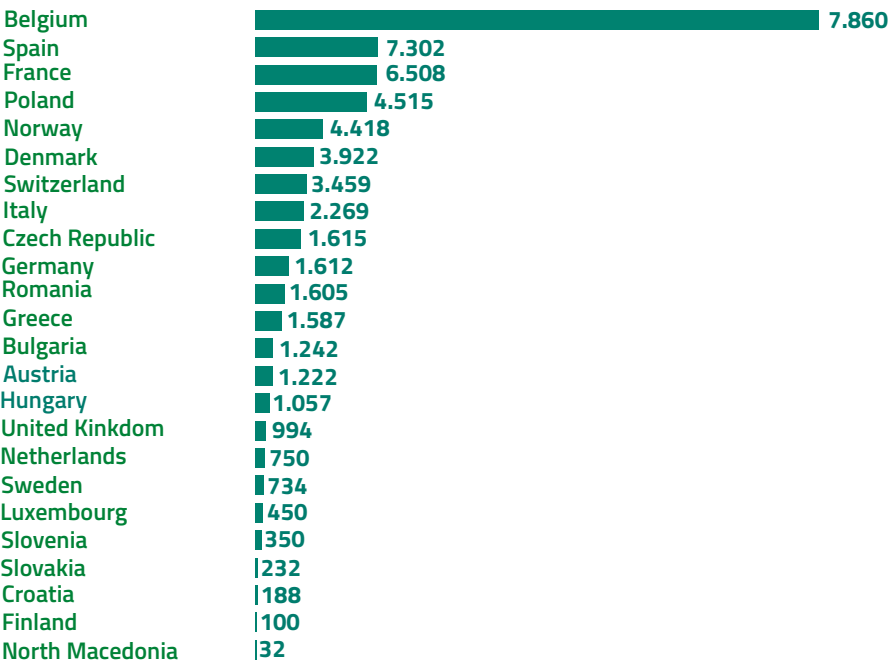
ERTMS vehicles, contracted /in percentage, by region



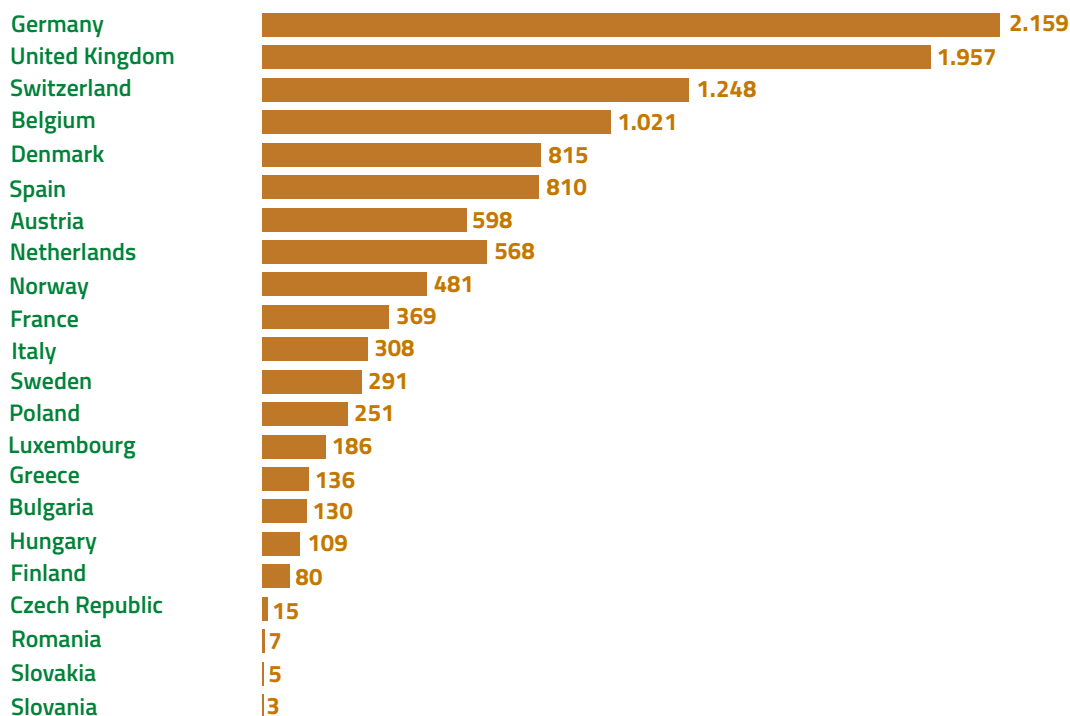
ERTMS trackside contracts /in percentage, by region



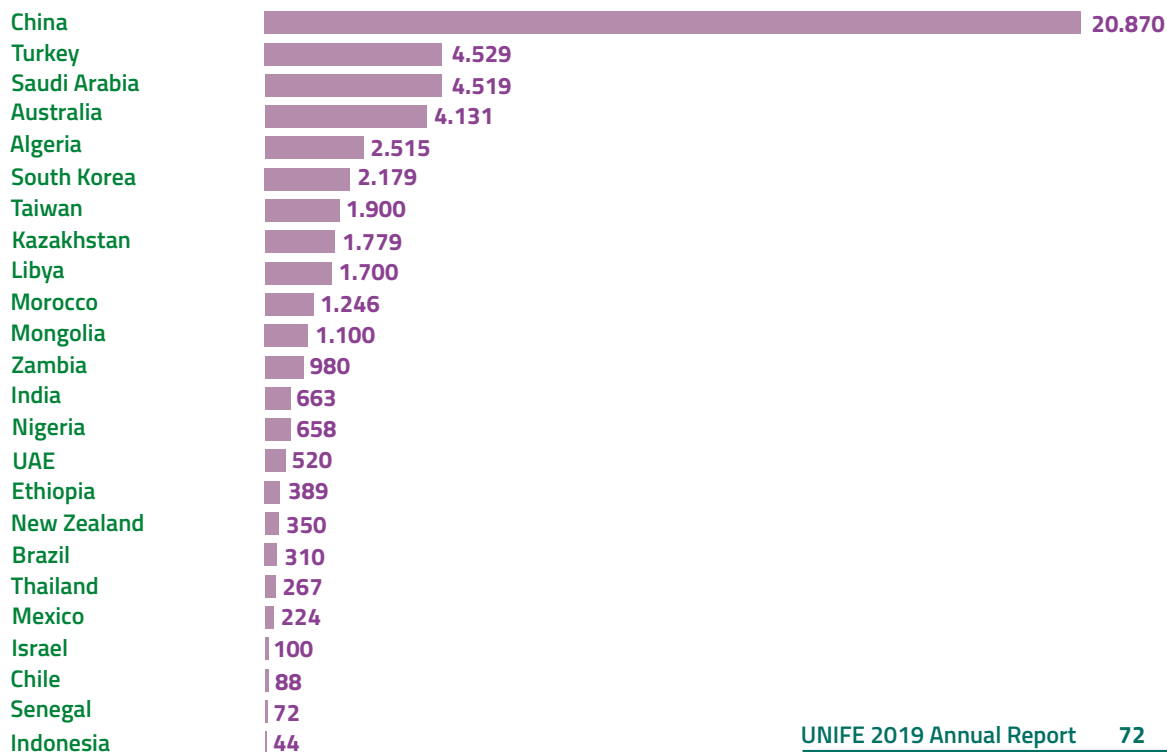
Global ERTMS contracted tracks/ by km, in Europe



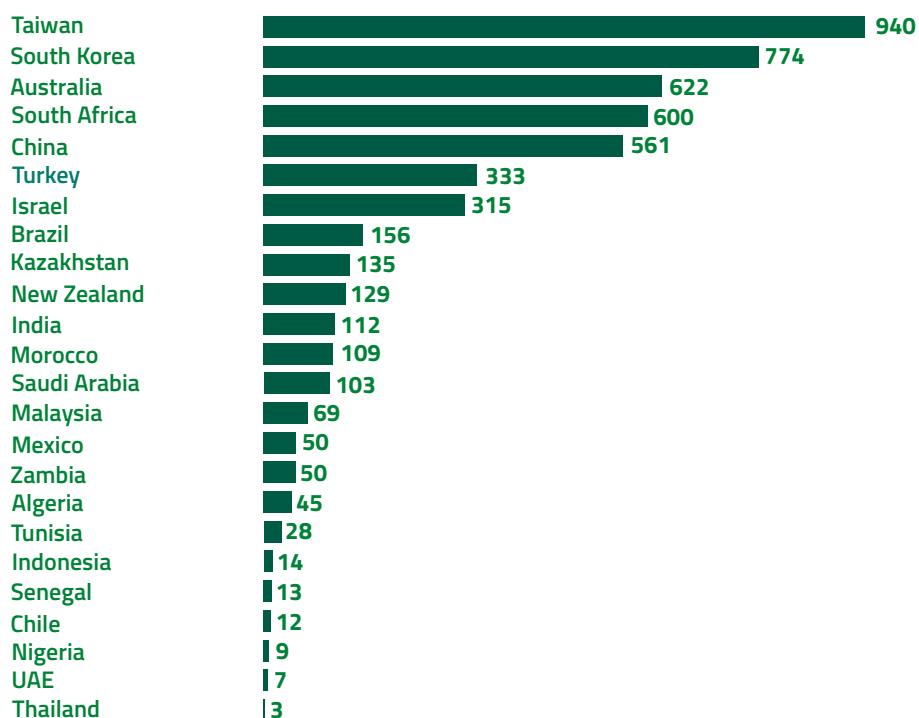
Global ERTMS vehicles contracted in Europe/ by country



Global ERTMS contracted tracks/ by km, in non-European countries



Global ERTMS vehicles contracted in non-European countries



For more information on ERTMS, please contact Jonathan Cutuli, UNIFE Technical Affairs Manager, via email at jonathan.cutuli@unife.org



www.ertms.net

07

ERWA - THE UNIFE RAILWAY WHEELS COMMITTEE





European Railway Wheels Association

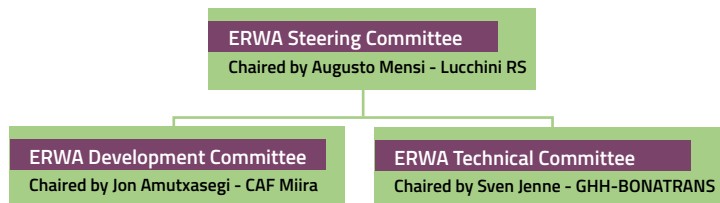
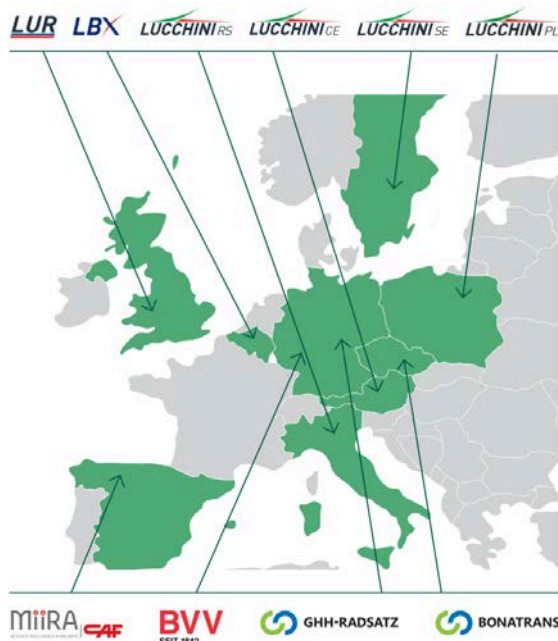
The UNIFE Railway Wheels Committee (ERWA) is tasked with contributing to the development of standards, promoting innovation in safety and environmental friendliness, inspiring quality and leading to the adoption of best practices in the European market

The ERWA members employ over 4300 people across Europe and are geographically distributed as depicted in the image on the right:

In 2019, ERWA carried out numerous activities focused on:

- Contributing to Standardisation and Regulation
- Developing close links with EU Agency for Railways and standardisation bodies like CEN/CENELEC
- Generating ERWA Public Relations activities and publications
- Evaluating market trends and compiling ERWA statistics
- Composing the ERWA coating guideline document
- Engaging with the International Wheelset Congress (IWC)

Those activities were carried out by the ERWA Technical and Development Committees, under the coordination of the ERWA Steering Committee. The updated chairmanships following the 2019 ERWA General Assembly, organised by BVV in Ilsenburg, are shown in the diagram on the right.



One of ERWA's objectives for 2019 was the finalisation of the coating guideline document, aimed at improving the quality of axle coatings. ERWA believes that the assurance of a durable corrosion protection of wheelsets represents a fundamental step towards a safer, more efficient and competitive railway operation. To this end, ERWA presented the axle coating guideline between 16-20 June at the 19th IWC in Venice. To receive a copy of this guideline document, please send a request to erwa@unife.org.

The 19th edition of the IWC, organised by Lucchini RS, under the guidance of UNIFE and ERWA, focused on the wheelset as a system. The congress has been a success, with 114 abstracts submitted and a big attendance coming from all over the world.

The next edition of the IWC will take place in the US, with the exact date and location to be announced soon. For more information about the 19th IWC, please visit <https://www.iwc2019.com/>



For further information about ERWA, please contact Stefanos Gogos, UNIFE Technical Affairs Manager, at stefanos.gogos@unife.org

08

IRIS - THE INTERNATIONAL INDUSTRY STANDARD



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→ IRIS Certification™: Launch of
Addendum 2019 / **p77**

→ Control of the scheme / **p78**

→ Promotion / **p78**

→ Development of the future ISO
22163 / **p79**

→ One year of International Rail
Quality Board (IRQB) / **p79**

→ First IRQB presence at DB Rail
Forum / **p81**

Introduction



The International Railway Industry Standard (IRIS) is a globally recognised system for the evaluation of business management systems unique to the rail sector. Promoted by UNIFE and supported by operators, system integrators and equipment manufacturers, IRIS complements the internationally recognised ISO 9001 quality management standard, introducing rail specific requirements. IRIS boosts customer satisfaction and implements a culture of quality in the rail sector by promoting quality-focused methods and behaviours



IRIS Certification™: Launch of Addendum 2019

The IRIS Certification™ system rev.03 was published on 1 June 2017. It set in motion a transition phase for all certified companies which lasted until the end of 2018. A substantial effort was necessary for all stakeholders to reach the new level requested in the two reference documents of the system:

- The ISO/TS 22163 standard
- The IRIS certification™ rules

Regarding the standard, the challenges were linked with the understanding and implementation of the basic ISO 9001 evolutions coupled with specific rail requirements. These strengthen the organisations by addressing a more precise set of risky aspects of the business management systems within the sector's companies.

The certification rules introduced a new approach to audit methodology with a focus on performance measurement, requesting companies to review their documentation and preparation of the audit phases.

These rules also created an additional rewarding document, the quality performance level statement, aimed at highlighting performance improvements in customer satisfaction. In 2017, only "Bronze" level defined a starting point for participating companies and allowed them to smoothly endorse this new mindset, built on confidence.



The success of the transition phase was demonstrable as 94% of certified companies transferred existing certificates from rev. 02 to the new rev. 03. In 2019, this trend was confirmed by 300 additional certificates, clearly confirming that IRIS Certification™ has become a trusted tool in the global rail sector

The performance levels will be extended to "Silver" and "Gold". After two years of adaptation work towards this major evolution in the certification process, we are sure that mature organisations are ready to jump to a new level. To that end, in July 2019, UNIFE launched IRIS Addendum 2019, which defines the new "Silver" level. The key word of this level is: transparency.

After implementing the new elements of the certification methodology for two years, IRIS-certified organisations are required to have stabilized their processes. This will allow auditing to become a "normal" part of their quality management. A systematic process approach within organisations guarantees good application on all projects for all customers in the certified process landscape. Thus, this will ease communication with the auditors and allow data to be shared →

→ at least 60 days in advance of scheduled audits. Communication with the customers will also be standardised, this way "customer perception" adds value to the certification. A matrix was developed to structure of the auditors' assessment of this element.

Last but not least, the processes performance is now systematically measured and assessed with a dedicated matrix.

”

This system will inspire confidence in stakeholders while taking into account the variety and difficulties of each project, customer or organisational set-up

Information sharing and training on these changes took place during the second half of 2019. Within two months, during August and September, all active IRIS auditors were re-trained and re-examined. 6% of the auditor pool did not pass the hurdles designed to enhance their competence. Other trainings were given, and/or are planned, to compensate the decrease in assessors. From September on, the IRIS Management Centre (IMC) has organised 10 sessions for the companies through a one-hour-long webinar. Around 250 people have attended them and are now well-prepared to develop their organisation into a performance-oriented site.

The application of the amended rules began on 1 September 2019 on. All audits performed from this date on, are audited according to the 2019 Addendum's criteria. After a few months, we have started a feedback analysis to ensure the accuracy of the new requirements and be prepared to begin awarding "Silver" performance level from 1 May 2020 onwards. If needed, adjustments will be made in early 2020.

B

Control of the scheme

IRIS Certification™ has aimed to create trustful partnerships within the rail sector since its creation and has not deviated from that goal. Several actions were reinforced in 2019 to maintain that commitment. First, the software used by auditors and companies, the IRIS Audit-tool, has been updated to support the updated certification process and assessment methodology evolutions. The Audit-tool contains all maturity levels which give organisations detailed guidance for developing their processes and activities in line with the rail sector's cutting edge. Matrixes and SWOT templates are complementing the transparency approach and the tool's educational aim.

Second, in 2019, IRIS has continued to develop and create professional translations of its rules and assessment sheet. These materials, where national standard organisations have already translated the ISO/TS 22163 standard, are already published with, or under intense work to achieve, a high level of compatibility towards the master English version. This work is time consuming and too slow for our customers' needs. We are still doing our best to provide this as soon as possible.

The third trigger of control is the key to developing trust: witnessing the application of the rules. In 2019, IMC has reinforced this by hiring and training Witness Auditors, namely experts from our Steering Committee members. Basic trainings, supplemented by calibration sessions, were organised before they were set to attend official audits. This activity is set to be continued and managed throughout the coming years. By the end of 2019, the witness auditor pool has reached 30 experts covering 8 languages. As it is a cornerstone of IRIS Certification™, we will continue to monitor this control across all stakeholders and invest additional efforts to secure our assets.

C

Promotion

In 2019, we took advantage of several opportunities to inform and connect with markets where the IRIS knowledge has yet to be confirmed. In March, we operated a booth in the FOGTEC stand at São Paulo's NT Expo. We educated South American players and establish contacts with other rail associations - as a means to increase our regional proliferation.

→

In June, IMC published the 12th issue of the Rail Quality Journal. This edition focused on messages from Sabrina Soussan, UNIFE Chair and CEO of Siemens Mobility, Philippe Citroën, Director General of UNIFE, Stefan Siegler, IRIS Chairman and Head of Business Excellence at Siemens Mobility, and Bernard Kaufmann, General Manager on IRIS Certification™

- In October, we updated the Italian market on the latest IRIS evolutions during Expo Ferroviaria in Milan. Italy is still one of the top 5 countries for IRIS certificates, keeping this crucial segment well informed is key to that success
- Finally, at the end of October, we discussed certification and conformity during the 12th World Congress on Railway Research (WCRR) in Tokyo. This event gathers rail experts from across the globe every three years and proved to be a unique opportunity to share our views in a more international setting

D Development of the future ISO 22163

In 2019, Bernard Kaufmann, IRIS General Manager, convened four meetings of the ISO/TC 269 Working Group 5 for UNIFE. The ballot on the current ISO/TS 22163, shared with the 22 TC members, launched at the end of 2018 and generated more than 400 comments and recommendations. The clustering of 20 themes allowed an easier handling of the points.

The working group is composed of 50 members, representing 14 countries. Discussions are very rich as we need to understand, integrate and find a consensus between different railway cultures and experiences. Nevertheless, the progress of the group is satisfactory and the target to publish the ISO 22163 in 2022 is still on track.

Discussions on the future content of the standard are currently focusing on clarification of definitions, safety requirements, process approach and measurement of results. There are a lot of connections with other standards to take into account, especially to foster the processes application towards product requirements. We have to also take care of other concurrent evolutions in referred to standards.



IRIS certification presentation at the EXPO Ferroviaria /October, 2019

E One year of International Rail Quality Board (IRQB)

During InnoTrans 2018, 18 leading companies have sealed the creation of the International Rail Quality Board. The consortium they have created aims to further develop the rail quality management system and the certification process at the rail sector level, thereby strengthening the IRIS Certification™ scheme. This has been reflected in the market development strategy established by the members.

In 2019, the board met five times and staffed seven Working groups, under IMC's coordination. We have already finalized:

- A proposal for the "Silver" performance level which was published under the IRIS rev. 03 (see previous article)
- An update to the "Special processes" and "Maintenance" guideline publications that will help companies to better implement their processes
- A communication package based on:
 - A visual corporate identity (logo, template, etc.) logo
 - A website coupled with a Twitter account QR code and address
 - A leaflet available in several languages
 - A factsheet to highlight one year of works
- This year, four new candidates were accepted to join the IRQB. On 1 January 2020, the board will be composed of 22 companies

Achievements, progresses & developments...one year in a nutshell!

WORKING GROUP ACHIEVEMENTS

01 Calibration and awarding
 70 % in progress
 Quality Performance levels



02 Feedback and continuous improvement
 30 % in progress
 Improvements in the IRIS system



03 Key Performance Indicators (KPIs)
 50 % in progress
 Guideline KPIs



04 Maintenance
 100 % finalized
 Guideline Maintenance



05 Special Processes
 100 % finalized
 Guideline Special Processes



06 Distributors
 20 % in progress
 Certification process for distributors



07 Communications
 Not started yet
 IRQB Communication plan

MARKET DEVELOPMENT STRATEGY

North
America
Asia

Europe
South
America

1st phase

2nd phase





First IRQB presence at DB Rail Forum

On 1-2 October 2019, DB AG organised the 5th Rail Forum in Berlin. The event and accompanying conferences hosted 125 stands and 1600 attendees. IRQB had a stand in the main hall and welcomed numerous stakeholders who were eager to know how the rail sector will push IRIS Certification™ in the near future.

A roundtable discussion and conference slot were dedicated to quality and performance enhancement, based on shared experiences and organisational knowledge. Further round table discussions will be repeated and reinforced at subsequent events to push the IRQB consortium closer to its goal of increasing quality performance for confidence and trust.



Rail Forum Berlin exhibition / October, 2019

09

COMMUNICATIONS



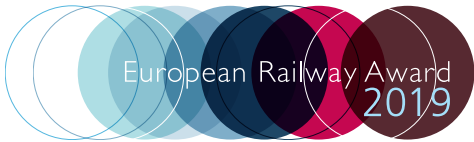
→ **European Railway Award / p83**

→ **Other events in 2019 / p87**

→ **UNIFE General Assembly / p85**

→ **Figures / p89**

European Railway Award



Since 2007, the European Railway Award has celebrated and recognised business and technical achievements in the European rail sector. This event also helps kick off each new year with addresses from high-level EU policymakers

The 2019 ceremony, which took place at the Royal Museum of Fine Arts of Belgium in Brussels, was followed by the Annual Reception, co-hosted by CER and UNIFE. Together, the organisations attracted more than 500 guests from all over Europe to the event, including senior EU officials and transport stakeholders.

The European Railway Award for 2019 was presented to Catherine Trautmann, former Vice-Chair of the European Parliament's Industry, Research & Energy Committee, for her long-standing support of the European rail supply industry and a thriving rail network suitable for the transport of people and goods across the EU. Catherine Trautmann accepted the award and received a €10.000 donation for the European Disability Forum, the laureate's charity of choice.

The evening started off with a roundtable discussion involving top EU transport policymakers and stakeholders. During the

discussion, Henrik Hololei, European Commission (EC) Director-General for Mobility and Transport (DG MOVE), highlighted "Is rail a priority? We have invested over €16bn in more than 250 railway projects through the Connecting Europe Facility (CEF) – they are 70% of the total CEF funding!".

Representing the EP, MEP Karima Delli (Greens/EFA, FR), Chair of the Committee on Transport and Tourism stated: "I am very happy to participate in the European Railway Award 2019. Rail is key to fighting climate change! As such, it needs fair competition with aviation and road. That is why it needs to be more inclusive!".

Sabrina Soussan, UNIFE Chair and CEO of Siemens Mobility, praised the laureate's significant contributions to the sector and commented:

”



As transport volumes grow, rail becomes ever more important as an integral part of a sustainable mobility system. The upcoming EU budget should reflect this and make the digitalisation of EU railways a priority both through the Connecting Europe Facility and Shift2Rail 2 - because with digital technologies, we increase the capacity of our rail network, secure full availability of its assets, enhance passenger experience, and thus strengthen our rail networks and Europe's transport sector altogether.

Sabrina Soussan, UNIFE Chair, CEO of Siemens Mobility

Matthias Ruete, European ERTMS Coordinator, congratulated the laureate and said: "ERTMS will be the backbone of digital rail. We need to roll it out rapidly."



www.europeanrailwayaward.eu



UNIFE General Assembly



UNIFE held its 28th General Assembly in Dublin, from 12 to 14 June, convening more than 220 participants. The 2019 programme included presentations and contributions from industry CEOs and high-level speakers from European institutions like the EC, the EP, the European Investment Bank (EIB), Shift2Rail Joint Undertaking (S2R JU), and the EU Agency for Railways (ERA)

This year's General Assembly was an opportunity for EU rail suppliers and decision-makers to together address the current challenges that the industry faces. Participants recognised both the strategic importance of the manufacturing sector and its need to act without any delay to ensure that European rail manufacturing companies keep their global leadership amidst growing international competition. Making the most of this occasion, the Members of the UNIFE

Presiding Board signed the Dublin Declaration to raise awareness amongst EU and national decision-makers of the crucial importance our industry holds for the sustainable development of both our continent and the planet as a whole.

The 2019 General Assembly also presented the opportunity to celebrate significant growth in UNIFE's membership, having ratified the admission of nine new members: **Dutch Analytics BV (Netherlands), Elcowire Rail GmbH (Germany), IVM Srl (Italy), Konux (Germany), Leonardo SpA (Italy), RideOnTrack (Belgium), STIMIO (France), Triorail Bahnfunk (Germany), and Wenzel Elektronik GmbH (Germany).**

On 12 June, the first day of the conference featured six dialogue forums on some of the European rail supply industry's main challenges:

- Quality
- Digitalisation & innovation
- Skills
- Investment & public procurement
- Interoperability & harmonisation
- Trade

The next day began with a keynote speeches from Sabrina Soussan and Danny Di Perna, President of conference sponsor Bombardier Transportation, followed by a panel discussion. Representing the Irish government, Minister for Transport Shane Ross explained how railway is among the 10 key priorities of the Ireland2040 Plan and how Irish rail networks will soon benefit from several billions of euros of public investment.

Learn more about the important conversations held at the 2019 UNIFE General Assembly by visiting the event's page on [UNIFE.org](https://unife.org).

The next UNIFE General Assembly will take place in Berlin, Germany on 24-26 June 2020.



Other events in 2019



UNIFE at Rail Live event in Bilbao, Spain / March, 2019



UNIFE at SIFER Exhibition Lille, France / March, 2019



Philippe Citroën at 'Space for Innovation in Rail' Conference in Vienna, Austria / March, 2019



UNIFE at the TEN-T & CEF Conference in Bucharest, Romania / March, 2019



UNIFE stand at the Expo Ferroviaria Conference in Milan, Italy / October, 2019



UNIFE at the Railway Days Summit in Bucharest, Romania / October, 2019



UNIFE attends the Digital Transport Days in Helsinki, Finland / October, 2019



Philippe Citroën presenting at the InnoRail Conference in Budapest, Hungary / November, 2019

Figures

Google Analytics - www.unife.org



71,644
visits



55,607
visitors

153,122 page views

LinkedIn - UNIFE - The European Rail Supply Industry Association



3855
UNIFE followers



1383
visitors

Twitter - @UNIFE



751,100
impressions



33,625
profile visits

543
new followers



408
tweets



481
mentions

Vimeo - UNIFE



11,000
impressions



994
new views



8700
total views

UNIFE in the press



14
interviews



37 articles about or
mentioning UNIFE

10

UNIFE MEMBERS



UNIFE Members



ABB Sécheron
abb.com



AKKA Technologies
akka-technologies.com



ALSTOM
alstom.com



ALTPRO
altpro.com



Arcelor Mittal
arcelormittal.com



Ardanuy
ardanuy.com



Astra Vagoane Călători
astra-passengers.ro



AZD Praha
azd.cz



Beckers
beckers-group.com



Belam
belam.lv



Blue Engineering
blue-group.it



Bochumer Verein
Verkehrstechnik
bochumer-verein.de



Bombardier Transportation
bombardier.com



Bonatrans
ghh-bonatrans.com



British Steel
britishsteel.co.uk



CAF
caf.net



CEG Elettronica Industriale
cegelettronica.com



CENTRALP
centralp.fr



Comesvil
comesvil.com



Constellium
constellium.com



ContiTech
contitech-online.com



DIGINEXT
diginext.fr



Dutch Analytics
dutchanalytics.com



Eaton
eaton.eu/Europe/Rail



ECM
ecmre.com



EKE Electronics
eke-electronics.com



Elcowire Rail
elcowire.com



ELMA
elma.com



ELPA
elpa.si



ELTEC
eltec.de



Eolane
corporate.eolane.com



Evopro
evopro.hu



Faiveley Transport
faiveleytransport.com



FOGTEC
fogtec-international.com



Frauscher
ontrack.frauscher.com



Frequentis
frequentis.com



Funkwerk
funkwerk.com



GDS
gds.com



GERFLOR
gerflor.fr



GHH-RADSATZ
ghh-bonatrans.com



Greenbrier Europe
gbrx.com



HaCon
hacon.de



HARTING
harting.com



HaslerRail
haslerrail.com



HIMA
hima.com



Hirschmann
hirschmann.com



Hitachi Rail STS
sts.hitachirail.com



Hoppecke
hoppecke.be



ILO Technology
ilo-conseil.fr



Indra
indracompany.com



ISKRATEL
iskratel.com



IVM
ivmtech.it



Kalthoff
kalthoff-luftfilter.de



Kirow
kirow.de



Knorr-Bremse
knorr-bremse.com



KONČAR
koncar.hr



Kontron
kontron.de



KONUX
konux.com



Leonardo
leonardocompany.com



Logiplus
logiplus.com



Lucchini RS
lucchinirs.com



Masats
masats.es



Matisa
matisa.ch



MEN
men.de



MERMEC
mermecgroup.com



MIOS
mioselettronica.com



MIPRO
mipro.fi



Movares
movares.nl



Neat
neat.it



Nokia
networks.nokia.com



NVENT
schroff.nvent.com



OLTIS Group
oltisgroup.com

UNIFE MEMBERS



PIXY
pixy.ch



Plasser & Theurer
plassertheurer.com



Prolan
prolan.hu



Prover Technology
prover.com



Radiall
radiall.com



RELOC
relocsa.ro



RideOnTrack
rideontrack.com



SAFERAIL
saferail.fr



Saft
saftbatteries.com



Schaeffler
schaeffler.com



Schaltbau
schaltbau.com



Scheidt & Bachmann
scheidt-bachmann.de



Selectron
selectron.ch



Sertec
sertec.net



Siemens Mobility
mobility.siemens.com



Sirti
sirti.it



STIMIO
stimio.fr



Strukton Rail
struktonrail.com



Talgo
talgo.com



TELESTE
teleste.com



Thales
thalesgroup.com



Thoni Alutec
thoni-alutec.pl



Trimble
rail.trimble.com



triorail

Triorail
triorail.com

UNIFE MEMBERS



Unex
unex.net



VDS
vdsrail.com



Voestalpine
voestalpine.com



VOITH
voith.com



Vossloh
vossloh.com



VUKV
vukv.cz



Wenzel
wenzel-elektronik.de

UNIFE Associate Members



Association of the Czech Railway Industry (ACRI), Czech Republic
acri.cz



AGORIA, Belgium
agoria.be



Romanian Railway Industry Association (AIF), Romania
asifrom.ro



Associazione Industrie Ferroviarie (ANIE/ASSIFER), Italy
anie.it



Austrian Association of the Railway Industry, Austria
bahnindustrie.at



Fédération des Industries Ferroviaires (FIF), France
fif.asso.fr



Spanish Railway Association (MAFEX), Spain
mafex.es



Railway Industry Association

Railway Industry Association (RIA), United Kingdom
riagb.org.uk



Association for Rail Industry Companies (SWEDTRAIN), Sweden
akka-technologies.com



Swissrail Industry Association, Switzerland
swissrail.com



Der Verband der Bahnindustrie in Deutschland (VDB), Germany
bahnindustrie.info



Zentralverband Elektrotechnik- und Elektronikindustrie (ZVEI), Germany
zvei.org

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Acronyms

APTA	American Public Transportation Association
ATO	Automatic Train Operations
CBTC	Communications Based Train Control
CEE	Central and Eastern Europe
CEF	Connecting Europe Facility
CEN	European Committee for Standardisation
CENELEC	European Committee for Electro-technical Standardisation
CER	Community of European Railway and Infrastructure Companies
CIS	Commonwealth of Independent States
COP(21)	Conference of Parties
CSM	Common Safety Methods
DG	Directorate General
DG GROW	Directorate General for Internal Market, Industry, Entrepreneurship and SMEs
DG MOVE	Directorate General for Mobility and Transport
DG RTD	Directorate General for Research and Innovation
DG TRADE	Directorate General for Trade of the European Commission
DMU	Diesel Multiple Unit
EC	European Commission
ECB	Eddy Current Brakes
EFRTC	European Federation of Railway Track-works Contractors
EFSI	European Fund for Strategic Investments
EIB	EIB – European Bank for Reconstruction and Development
EIM	European Rail Infrastructure Managers
EMC	Electro-Magnetic Compatibility
EP	European Parliament
ERA	European Union Agency for Railways
ERFA	European Rail Freight Association
ERDF	European Regional Development Fund
ERRAC	European Rail Research Advisory Council
ERTMS	European Rail Traffic Management System
ERWA	European Railway Wheels Association
ETCS	European Train Control System
ETS	European Trading Scheme
EU	European Union
EURNEX	European Rail Research Network of Excellence
FP7	Seventh Framework Programme
FTA	Free Trade Agreement
FRS	Functional Requirement Specification
GCC-SG	Gulf Cooperation Council Secretariat General
GHG	Greenhouse Gas
GNSS	Global Navigation Satellite System
GRB	Group of Representative Bodies
GPA	Government Procurement Agreement
GPRS	General Packet Radio Service
IEC	International Electro-technical Commission
IMC	IRIS Management Centre
IP	Innovation Programme
IRIS	International Railway Industry Standard
ISAB	Independent Safety Assessment Body
ISO	International Organisation for Standardization
ITRE	Committee on Industry, Research and Energy in the European Parliament
ITS	Intelligent Transport Systems
JPCR	Joint Programming Committee Rail

ACRONYMS

JU	Joint Undertaking
LCC	Life Cycle Costs
LOC & PAS	Rolling Stock Locomotive and Passenger Carriages
LPAA	Lima-Paris Action Agenda
MEP	Member of European Parliament
MG	Mirror Groups
MoU	Memorandum of Understanding
NB-Rail	Association of Notified Bodies
NIB	National Investigation Bodies
NRB	Network of Representative Bodies
NRMM	Non Road Mobile Machinery
NSA	National Safety Authority
NP UIRE	Russian Union of Industries of Railway Equipment
OECD	Organisation for Economic Co-operation and Development
OTM	On Track Machines
NOx	Nitrogen Oxide
PPMC	Paris Process on Mobility and Climate
PPP	Public Private Partnership
R&D	Research and Development
R&I	Research and Innovation
RAMS	Reliability, Availability, Maintainability, Safety
RDD	Register of Notified National Rules
RFE	Rail Forum Europe
RINF	Register of Infrastructure
RISC	Railway Interoperability and Safety Committee
RZD	Russian Railways
S&R	Standards and Regulation
S2R JU	Shift2Rail Joint Undertaking
SERA	Single European Railway Area
SMEs	Small and Medium-sized Enterprises
SRG	Standards and Regulation Group
SRRA	Strategic Rail Research Agenda 2020
SRRIA	Strategic Rail Research and Innovation Agenda 2050
SRT	Safety in Railway Tunnels
STC	Sustainable Transport Committee
TAP/TAF	Telematic Application for Passengers and Freight
TCMS	Train Control Management System
TecRec	Joint UNIFE and UIC Technical Recommendations
TEN	Trans-European Networks
TEN-T	Trans-European Network for Transport
TG	Topical Groups
TMP	Technical Management Platform
TRAN	Committee on Transport and Tourism in the European Parliament
TRA	Transport Research Arena
TRB	Transportation Research Board
TSI	Technical Specification for Interoperability
TTIP	Transatlantic Trade and Investment Partnership
UIC	International Union of Railways
UIP	International Union of Private Wagon Owners
UIRR	International Union of combined Road-Rail transport companies
UITP	International Association of Public Transport
UNFCCC	United Nations Framework - Convention on Climate Change
UNISIG	Union Industry of Signalling
WTO	World Trade Organization
WRMS	World Rail Market Study

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