unife
THE EUROPEAN RAIL INDUSTRY

Annual Report
2012

Published in January 2013 by
UNIFE – THE EUROPEAN RAIL INDUSTRY
AVENUE LOUISE 221, BTE 11
B – 1050 BRUSSELS
www.unife.org | general@unife.org
Tel: +32 2 626 12 60 | Fax: +32 2 626 12 61

Design by
Oxalis
www.oxalis.be

Printed by
Drifosett Printing sa-nv
www.drifosett.com

Paper
FSC certified recycled paper

Images courtesy of

Alstom Transport / A.Fevrier
Balfour Beatty Rail/ Herald Schön
Bombardier Traansportation / Ingo Kniest
CAF
EUROSTAR
European Commission
Green Cargo
InnoTrans
iStock
Luchinni RS
Siemens
Thales
Vossloh AG

Table of contents

MESSAGE FROM THE CHAIRMAN AND THE DIRECTOR-GENERAL 4

1. UNIFE IN 2012 6

A. UNIFE Mission and Vision 8

B. UNIFE Structure 10

C. UNIFE Committees and Groups 10

D. UNIFE Presiding Board in 2012 13

2. SHIFT²RAIL - Joint Technology Initiative (JTI) 14

A.SHIFT²RAIL: a Joint Technology Initiative to build tomorrow's railway system 16

B.Why launching such a large-scale EU research initiative? 17

C.What will SHIFT²RAIL deliver? 17

D.Structure of SHIFT²RAIL 19

E.Who supports SHIFT²RAIL and when will it start? .. 20

F.2012: Overview of a year of intense work for the benefit of SHIFT²RAIL 20

3. EUROPEAN AFFAIRS 22

A.Infrastructure Policy: TEN-T Revision and Connecting Europe Facility 24

B.Fourth Railway Package 26

C.World Rail Market Study - Forecast 2012 to 2017 ... 27

D.UNIFE contributes to the success of Rail Forum Europe 29

E.Climate Change Related Activities 31

F.Internalisation of External Costs 33

G.Non-Road Mobile Machinery (NRMM) Directive 34

H.Rail Investments in Central and Eastern Europe ... 34

I.Cohesion Policy 35

J.Horizon 2020 and the Future of Transport Research 37

K.OECD Arrangement on Export Credits 38

L.Public Procurement Instrument 39

4. INTERNATIONAL AFFAIRS 40

A.Launch of Free Trade Agreement (FTA) Negotiations with Japan – Rail at the Heart of the Negotiations 42

B.High-Speed Developments in the United States 43

C.UNIFE Event in the Gulf Countries 44

D.Russia: An Enhanced Relationship 44

E.UNIFE Participation in UN Activities 45

F.Additional Activities 45

5. STANDARDS & REGULATION 46

A.European Railway Agency (ERA) -related activities 48

B.Topical and Mirror Groups 49

C.Other Activities 57

D.UNIFE and UIC Joint Technical Recommendations (TecRecs) 60

6. UNIFE RESEARCH & DEVELOPMENT ACTIVITIES 62

A. Projects Submitted under the Sixth Call of the Seventh Framework Programme 64

B. On-going Projects Coordinated by UNIFE 67

C. On-going Projects with UNIFE Involvement 72

D. Finalised Projects 78

7. SIGNALLING & ERTMS 84

A.ERTMS Memorandum of Understanding: A Coordinated Approach to ERTMS Deployment 86

B.Worldwide ERTMS Expansion Continues 86

C.Towards Pan-European ERTMS Corridors? 88

D.UNISIG: An Increasingly Active Consortium at the Service of ERTMS Suppliers 89

E.Additional Facts and Events 90

8. ERWA - EUROPEAN RAILWAY WHEELS ASSOCIATION ... 92

9. IRIS – INTERNATIONAL RAILWAY INDUSTRY STANDARD 96

A.High Quality for rail with IRIS 98

B.New Targets and Further Steps 101

10. UNIFE COMMUNICATIONS 2012 104

A.European Railway Award 2012 106

B.UNIFE General Assembly 2012 108

C.UNIFE at InnoTrans 2012 110

D.UNIFE Interactive Analysis 112

11. UNIFE MEMBERS IN 2012 114

12. UNIFE STAFF IN 2012 122

ACRONYMS 128

Dear UNIFE Members, Partners and Supporters,

Whilst Europe is struggling to recover from the effects of the economic downturn that has been affecting the worldwide economy since 2009, the rail industry has some good reasons to be confident. The InnoTrans fair held in September 2012 in Berlin achieved record results, such as a 19% increase in exhibitors and trade visitors and deals of more than EUR 1.8 billion transacted at the fair. That is enough to look to the future with realistic optimism.

Such optimism is also justified by the results of the Roland Berger World Rail Market Study commissioned by UNIFE and launched during InnoTrans. The fourth edition of the study reveals that the industry is successfully navigating the economic downturn witnessed at the end of the last decade. Figures show the vitality of the rail supply market, especially in some geographical areas such as Western Europe, Russia and CIS, Brazil and Qatar. The world market has grown by 3.2% in each of the past three years - that is a remarkable achievement considering public funds are less available due to the financial crisis, which started in 2008. On another positive note, the study points to a positive outlook for the next six years.

Speaking of future, the passionate and relentless work being carried out by UNIFE and its Members on the Joint Technology Initiative (JTI) SHIFT²RAIL makes us feel that we are at a turning point of our history. Having submitted the official proposal to the European Commission in July, UNIFE is now engaged in discussions with the Directorates General for Transport and Research in order to refine the content and agree on the next steps; an addendum to the SHIFT² RAIL proposal was sent to the Commission in January 2013. We have also engaged discussions with infrastructure managers and railway undertakings who will certainly join the initiative together with academic institutions and several European SMEs. Our key message is clear: if rail is to become more competitive by delivering increased capacity and improved reliability at an affordable cost, rail transport technology requires re-thinking.

In 2012, UNIFE managed a number of important projects to increase energy efficiency in modern railway systems, improve testing and authorisation methods, reduce noise, and further increase security for mainline and urban rail systems. Just recently, the MERLIN and ECUC projects have been launched. With REFRESCO, NGTC, FOSTER-RAIL, CAPACITY4RAIL and TRANQUIL, we submitted further project proposals under the sixth call of FP7. We have also been bringing our current activities to a successful conclusion: ERRAC, TRIOTRAIN – AeroTRAIN and PantoTRAIN, MODSAFE, PM'n'IDEA, TRANSFEU, and TIGER – you are invited to find out more about these, and about other success stories of our on-going projects in the R&D chapter of this report.

Significant progress has been made for ERTMS through the signing of a Memorandum of Understanding during a Danish Presidency event in Copenhagen, held in May 2012, jointly chaired by the Danish Transport Minister Henrik Dam Kristensen and Commission Vice-President Siim Kallas. The MoU makes a strong case for strict implementation of the ERTMS Deployment Plan, which states that major pan-European axis will have to be equipped with ERTMS in the coming years. As recently released data suggests, Europe is lagging behind an international trend as most of the track kilometres equipped with ERTMS are now outside Europe. In our relentless effort to support the implementation of the European Deployment Plan we found a strong ally in the Danish government which held the Presidency of the Council of the European Union during the first semester of 2012.

In the regulatory field, UNIFE carried out many activities with the European Railway Agency and the

PHILIPPE CITROËN, UNIFE DIRECTOR-GENERAL

European Commission in 2012, in particular regarding the Authorisation process. UNIFE succeeded through the Task Force for Railway Authorisation to reopen the debate with the institutions about the necessary steps to be urgently undertaken in order to simplify and speed up the Authorisation process, in particular for railway vehicles. Its results were also taken as valuable input for the Fourth Railway Package.

In the meantime UNIFE has been working with ERA in drafting the new batch of Technical Specification for Interoperability (TSIs) that will further harmonize the EU authorization process extending the TSIs validity also out of the TEN lines. Moreover, UNIFE was a key partner for the EU Institutions in the on-going discussions on relevant railway dossiers.

A key legislative dossier is the Fourth Railway Package. Over the past years UNIFE has incessantly advocated a reform of the current authorisation system which is too slow, costly and inefficient. UNIFE stepped up its efforts to ensure that the Fourth Railway Package will lead to simplified and quicker authorisation processes that are harmonised among Member States. To achieve this objective it is unquestionable that ERA will need to play a greater role. ERA must become the single issuing authority for authorisation in Europe, ensuring the coherence of processes and rules, and do away with redundant, unnecessary national rules. A joint UNIFE-CER position paper further highlighted the sector's expectations for the Fourth Railway Package that should lead towards a real Single Rail European Area and to the new ERA role as "one-stop-shop" for the rail vehicles authorization. Furthermore, the Fourth Railway Package should also be used to put in place governance structures and market rules that increase the competitiveness of railway transport vis-á-vis other modes of transport.

In December 2012, the European Parliament's TRAN Committee voted on the amendments to the European Commission's proposal for the Trans-European Transport Network Guidelines. The European Parliament made a number of significant improvements to the Commission's proposal, focusing on the actual implementation of the programme. In order to turn TEN-T maps into reality, adequate financing is needed under the Connecting Europe Facility - the Commission's 50 billion plan for strategic infrastructure investment in transport, energy and telecommunications. This dossier was also voted by the European Parliament's TRAN and ITRE Committees in December 2012.

In 2012 UNIFE further broadened its horizon by enhancing cooperation with a number of non-European stakeholders. Just to give some examples, UNIFE organised an event in the Gulf Countries in April and enhanced relations with the Russian stakeholders through a Memorandum of Understanding with NP-UIRE (Russian Union of Industries of Railway Equipment), also signed in April.

Last but not least, the UNIFE Presiding Board decided to give a push to the IRIS initiative. Five working groups were launched and shall propose challenging solutions for the further development. The first group finalized a new commitment defining and imposing a clear auditing policy within the rail industry.

We would like to give our most sincere thanks to General Manager Eric Fontanel, who retired from UNIFE in October. We are extremely grateful for the 6 years he served at UNIFE and the efforts and dedication that he put into the development of the railway sector.

The Annual Report 2012 gives a flavour of UNIFE's broad range of activities. We look forward to further fruitful cooperation on these issues in 2013.

We wish you an enjoyable read.

Henri Poupart-Lafarge,
UNIFE
Chairman

Philippe Citroën,
UNIFE
Director-General

UNIFE IN 2012

01

A. UNIFE Mission and Vision

B. UNIFE Structure

C. UNIFE Committees and Groups

D. UNIFE Presiding Board

A. UNIFE Mission and Vision

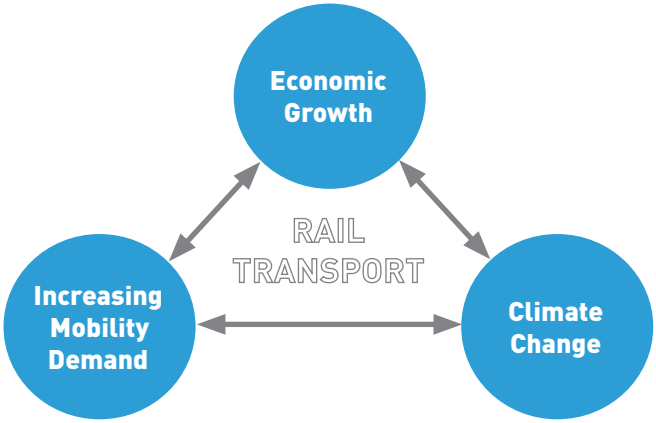
MISSION

Promote Rail Market Growth For Sustainable Mobility

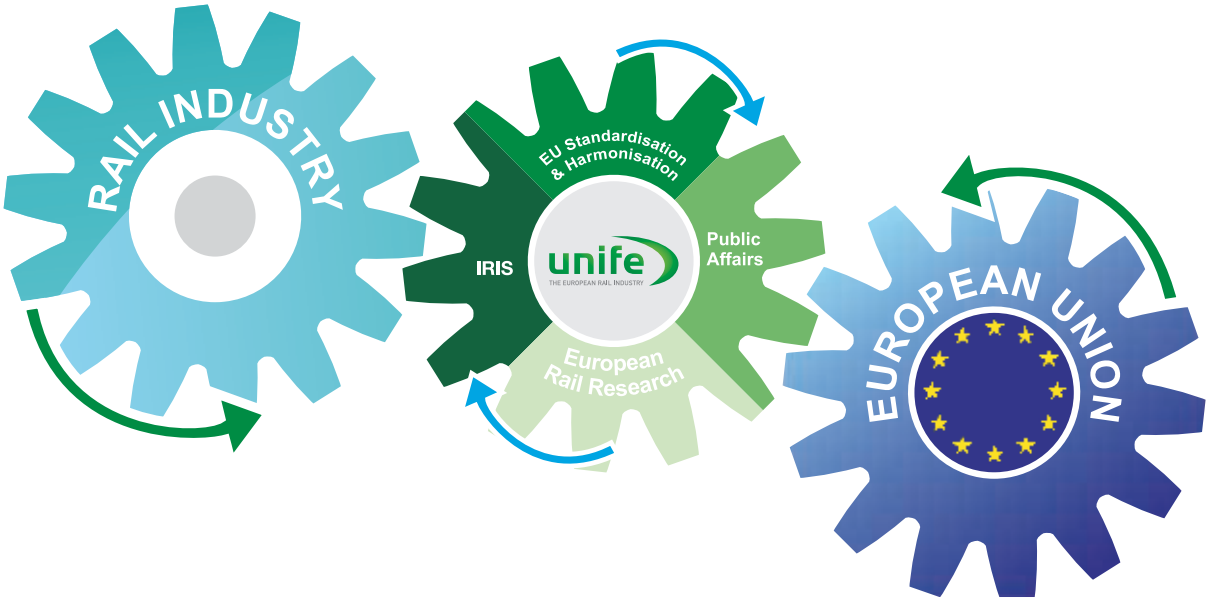
FOUR PRIORITIES TO ACHIEVE THE MISSION:

1. Promote European policies favourable to rail
2. Shape a European interoperable and efficient railway system
3. Ensure European rail supply industry leadership through advanced research, innovation and quality
4. Provide UNIFE members with strategic and operational knowledge

VISION



THE FOUR KEY ACTIVITIES OF UNIFE



1 EU Standardisation & Harmonisation

- Liaison & Collaboration with the European Railway Agency in defining rail regulations (including TSIs)
- Provide expertise for European and International Standardization Bodies
- Promote a Single European Rail Area, interoperable and environmentally friendly

2 European Rail Research

- Coordinate EU-funded research projects
- Active role in ERRAC - the European Rail Research Advisory Council
- Shaping the future of rail research & innovation in Europe

3 Public Affairs

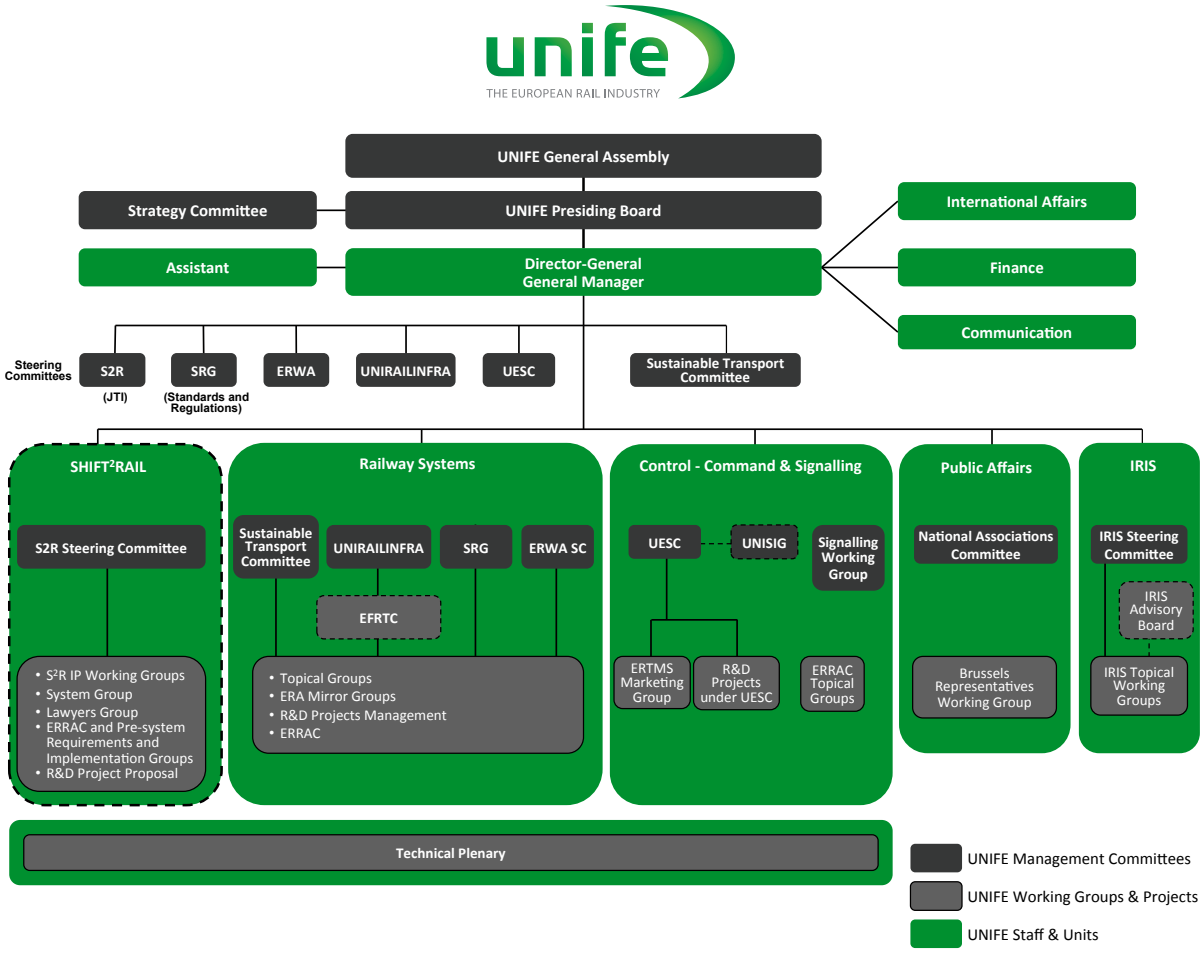
- Promote modal shift at EU-level
- Support transport policies that increase the competitiveness of rail
- Advocating rail transport as best solution to meet social challenges of the future

4 IRIS

- The **globally recognised standard** for evaluation of business management systems unique to the railway sector
- Facilitates **efficient and effective business processes** and leads to **substantial cost reduction** throughout the entire supply-chain
- Currently almost **800 IRIS certificates issued worldwide**

www.iris-rail.org

B. UNIFE Structure



C. UNIFE Committees and Groups

The **UNIFE Presiding Board** is the highest UNIFE committee and is accountable for the management of the association. It takes any measure and action required to achieve the objectives and general policies of the association. It submits the admission of new Full and Associated Members to the General Assembly for ratification. The Presiding Board is composed of 9 members elected by the General Assembly for three years on the proposal of the retiring Board.

The **UNIFE Strategy Committee** and the UNIFE Technical Committee are the highest UNIFE bodies after the Presiding Board. They steer UNIFE activities,

provide expertise and advise UNIFE management in their respective fields of competence: strategic and political issues and preparation of the Presiding Board decisions for the Strategy Committee; standardisation, regulation and research for the Technical Committee. The members of these committees are high-level managers from the most active UNIFE members.

The **UNIFE National Associations Committee** is made up of national associations representing more than 1,000 large and medium-sized rail supply companies from all over Europe. As associated members of UNIFE, they engage in an important exchange, addressing UNIFE positions nationally while bringing national issues to European level. The committee is composed of the directors of 16 national associations from 14 different countries.

The **Brussels Representatives Working Group** aims at providing a platform to exchange ideas on EU policy dossiers, reflecting on lobbying strategies and identifying potential synergies between UNIFE and EU representatives of the member companies. The group is composed of EU representatives of UNIFE members active in Brussels.

The **Standards and Regulation Group (SRG)** steers UNIFE's technical activities in the fields of the European regulatory framework (the Interoperability Directive, Safety Directive, and all other directives when they are applicable to the European Railway system, as well as the related regulations and Technical Specifications for Interoperability (TSIs)). The SRG also deals with the rail standardisation initiatives (Joint Programming Committee Rail/CEN/CENELEC/ETSI/IEC) and with the management of the UNIFE research projects. SRG oversee the work of the Topical and Mirror Groups composed by EU experts coming from the UNIFE members and coordinate the interface with all the others technical steering committees. The SRG is composed of technical directors from the main UNIFE system integrators and main subsystem suppliers.

The **Communication Committee** steers the UNIFE Communication Strategy. It is composed of the Communications Directors of UNIFE members.

The **UNIRAILINFRA Committee** brings together suppliers, contractors and integrators active in the fields of engineering, production, installation and maintenance of fixed rail infrastructure systems. The Committee provides a platform for consensus building on infrastructure topics at a pre-competitive stage, aiming at promoting investment and innovation in the railway infrastructure sector. Within this context, the purpose of the UNIRAILINFRA Committee is to discuss and promote the development of the rail infrastructure sector. It also plays an advisory role for UNIFE technical and political activities that have an impact on infrastructure.

Since 1999, the **UNIFE Sustainable Transport Committee** has been a forum for exchanging experiences on sustainability and environmental matters. Considering the increased complexity of environmental and sustainability issues, the competencies of the UNIFE Sustainable Transport Committee have grown. The railway manufacturing industry vision for 2020 is a sustainable intermodal transport system, with railways as the backbone. The railway manufacturing industry is therefore looking to provide eco-efficient products and service solutions. Eco-efficiency is seen to be achieved over the whole life cycle - from production to operation to end of life, and by targeting key areas such as eco procurement, noise, energy efficiency, diesel emissions, emissions trading, sustainability, reporting and product declarations. This Committee acts as coordinator for all environmental matters and provides a platform for consensus-building to formulate common positions.

The **ERWA Steering Committee** aims at promoting usage benefits, life cycle cost improvement and standardisation of railway wheels and wheelsets. The committee is composed of the CEOs of the five European wheels and wheelsets manufacturers. Two additional committees support this committee: the ERWA Development Committee dealing with political issues, market strategy and communication; and the ERWA

Technical Committee dealing with standardisation, regulation and research.

The **UNIFE ETCS Steering Committee (UESC)** is in charge of coordinating UNIFE activities in the field of ERTMS, from a strategic and political perspective. It is composed of high-level representatives from the ERTMS suppliers.

The **ERTMS Marketing Group** is in charge of coordinating marketing activities related to ERTMS, in particular deployment statistics, events, common publications and the ERTMS website.

The **Signalling Working Group** provides expertise in the field of signalling to UNIFE. It is a platform for consensus building on signalling-related issues, aiming to promote investment and innovation in the railway signalling sector. It plays an advisory role for UNIFE technical and political activities having an impact on signalling. The committee is composed of representatives from the UNIFE members active in signalling.

The **SHIFT²RAIL Steering Committee** is the most recent committee activated in UNIFE in order to manage the preparation of the proposed Joint Technical Initiative under Horizon2020 for a step change in the European rail technology. It is composed by R&D Managers coming from the 15 companies promoting the initiative. The SHIFT²RAIL Steering Committee also deal with other R&D project proposals.

The **IRIS Steering Commitee** steer the activities relevant to the promotion and development of the IRIS standard, the quality management system of the EU rail industry globally recognized.

LIST OF UNIFE GROUPS IN 2012

TOPICAL GROUPS	MIRROR GROUPS
TG Brakes	MG Aerodynamics
TG Crash Safety	MG Certification of Entity in Charge of Maintenance
TG CAB	MG Cross Acceptance and Certification
TG Chemical Risk	MG Electromagnetic Compatibility (EMC)
TG Diesel	MG Energy (ENE)
TG Energy Efficiency	MG Entity in Charge of Maintenance (ECM)
TG Life Cycle Assessment	MG Infrastructure (INF)
TG TCMS	MG Noise
	MG Persons with Reduced Mobility (PRM)
	MG Railway Dynamics
	MG Rolling Stock (RST)
	MG Running Dynamics
	MG Safety Assurance
	MG Safety in Railway Tunnels (SRT)
	MG Telematic Applications for Passengers (TAP)
	MG Wagon

You may read more about the activities of the UNIFE Groups in the Section B. Topical and Mirror Groups of the Chapter Standards & Regulation.

D. UNIFE Presiding Board in 2012

Henri Poupart-Lafarge
Chairman of the Presiding Board
President, Alstom Transport

The present UNIFE Presiding Board was elected at the UNIFE General Assembly 2011 for a three-year term (2011-2014). The incumbent chairman is Henri Poupart-Lafarge, President of Alstom Transport.

Thierry Barrel
Member of the Presiding Board
Chairman and CEO,
Faively Transport

Sergio De Luca
Member of the Presiding Board
CEO, Ansaldo STS (also representing AnsaldoBreda)

Jean-Pierre Forestier
Member of the Presiding Board
Senior Vice-President in charge of Transportation Systems, Thales Group

Hans-Jörg Grundmann*
Member of the Presiding Board
CEO, Siemens Mobility
**Ended 1 October 2012*

John Moore
Member of the Presiding Board
CEO, Balfour Beatty Rail

André Navarri
Member of the Presiding Board
President, Bombardier Transportation

Kevin Riddett
Member of the Presiding Board
President and CEO, Invensys Rail Group

Dieter Wilhelm
Member of the Presiding Board
Member of the Executive Board, Knorr-Bremse AG

Jochen Eickholt*
Member of the Presiding Board
CEO, Siemens Rail Systems Division
**Starting 1 October 2012*

SHIFT²RAIL

INCREASED CAPACITY, CONSOLIDATED RELIABILITY FOR EFFICIENT AND SUSTAINABLE RAIL TRANSPORT AND A COMPETITIVE EUROPEAN RAIL INDUSTRY

A Flagship Joint Technology Initiative in Horizon 2020

rdable
e Capacity
an Jobs
ing Standards
prehensive
inable
dership
Market up-take

02

A. What is SHIFT²RAIL?

B. Why launching a large-scale EU research initiative?

C. What will SHIFT²RAIL deliver?

D. Structure of SHIFT²RAIL

E. Who supports SHIFT²RAIL and when will it start?

F. 2012: Overview of a year of intense work for the benefit of SHIFT²RAIL

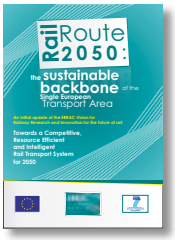
A. SHIFT²RAIL: a Joint Technology Initiative to build tomorrow's railway system

"The Shift²Rail initiative would contribute to developing rail as a transport mode by promoting step-change innovations for passenger rolling stock, freight transport, traffic management systems and rail infrastructure"

Communication of the European Commission on "The Fourth Railway Package"[1] , 30 January 2013

SHIFT²RAIL is the first European initiative to deliver focused Research & Innovation (R&I) and market-driven solutions by accelerating the integration of new and advanced technologies into innovative rail product solutions, meeting key objectives of the **EU 2020 Strategy** and the EU Transport policy.

SHIFT²RAIL IS AN UNPRECEDENTED JOINT EFFORT OF THE EUROPEAN RAIL INDUSTRY TO INVEST TOGETHER IN RESEARCH AND INNOVATION IN ORDER TO:



- reinforce the **attractiveness of rail transport** toward passengers and business; and therefore achieve the ambitious objectives set:
  - by the European Commission in the 2011 White Paper on Transport
  - by the whole rail sector in the ERRAC RailRoute2050
- to increase the **competitiveness of the European rail industry** in a world of increasingly fierce competition with Asian companies
- and to preserve and create **high-quality jobs in Europe**.

FOR THIS PURPOSE, SHIFT²RAIL WILL FOCUS:

» on three major challenges

- **CAPACITY**
  (Enhancing the capacity of the European rail system in order to cope with increased passenger and freight demand)
- **RELIABILITY/QUALITY OF SERVICES**
  (Increasing reliability of next generation products and solutions to attract passengers and businesses to use rail transport)

[1] EC Communication on "The Fourth Railway Package – Completing the Single European Railway Area to foster European Competitiveness and Growth", 30 January 2013

LIFE CYCLE COSTS REDUCTION
(Reflecting the need to reduce rail ticket/shipment costs for users and public subsidies for the tax payer)

» and on all segments of the rail market!

High speed and Mainline

Regional

Urban / Metro and Suburban

Freight

The overall budget of SHIFT²RAIL will amount, depending on the final layout of the project, to EUR 1 billion over a six to seven year period – and will be funded jointly by the private sector and the European Union.

B. Why launching such a large-scale EU research initiative?

The companies supporting SHIFT²RAIL consider that keeping to the status quo for rail research in Europe is not an option. Global leadership can only be maintained if a critical mass of committed EU industry joins forces to develop innovative, high-capacity, and high-quality products. **Capitalising on the previous success of the rail sector in EU-funded collaborative research projects** since the mid-1990s, the **ambitious goals of EU transport policy and climate change will be met.** SHIFT²RAIL is the natural evolution of **EU industrial research cooperation in Horizon 2020.**

C. What will SHIFT²RAIL deliver?

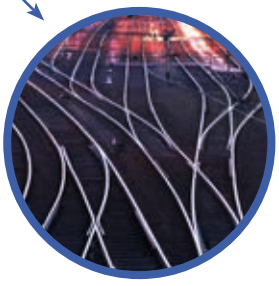
Clear research priorities have been established in a two-year investigation period among UNIFE members and the wider rail community. The result is a long-term strategic programme built around key research clusters segmented in five Innovation Programs (IPs).

IP1: Energy & Mass Efficient Technologies for High Capacity Trains

IP2: Advanced Traffic Management & Control Systems

IP5: Technologies for Sustainable & Attractive European Freight

IP4: IT Solutions for a Seamless Attractive Railway



IP3: Cost Efficient High Capacity Infrastructure

IP1 – ENERGY AND MASS EFFICIENT TECHNOLOGIES FOR HIGH CAPACITY TRAINS:

Comprehensive and systematic re-evaluation of the structure and on-board systems in order to boost capacity, efficiency, and sustainability of all types of passenger rolling stock.

IP2 – ADVANCED TRAFFIC MANAGEMENT AND CONTROL SYSTEMS

Building on existing ERTMS/ETCS specifications interoperability across the EU network – including urban rail networks (CBTC) – is increased and research is dedicated to keeping ERTMS technology ahead of the competition.

IP3 – COST EFFICIENT HIGH CAPACITY INFRASTRUCTURE

Offers a comprehensive and systematic approach to improving the durability, capacity and efficiency of track and energy systems to cope with increased train traffic and speeds.

IP4 – IT SOLUTIONS FOR SEAMLESS ATTRACTIVE RAILWAYS

Fosters inter-modal passenger transit across Europe with an attractive and efficient conventional as well as urban rail network, and smart connections to road and aviation networks.

IP5 – TECHNOLOGIES FOR SUSTAINABLE AND ATTRACTIVE EUROPEAN FREIGHT

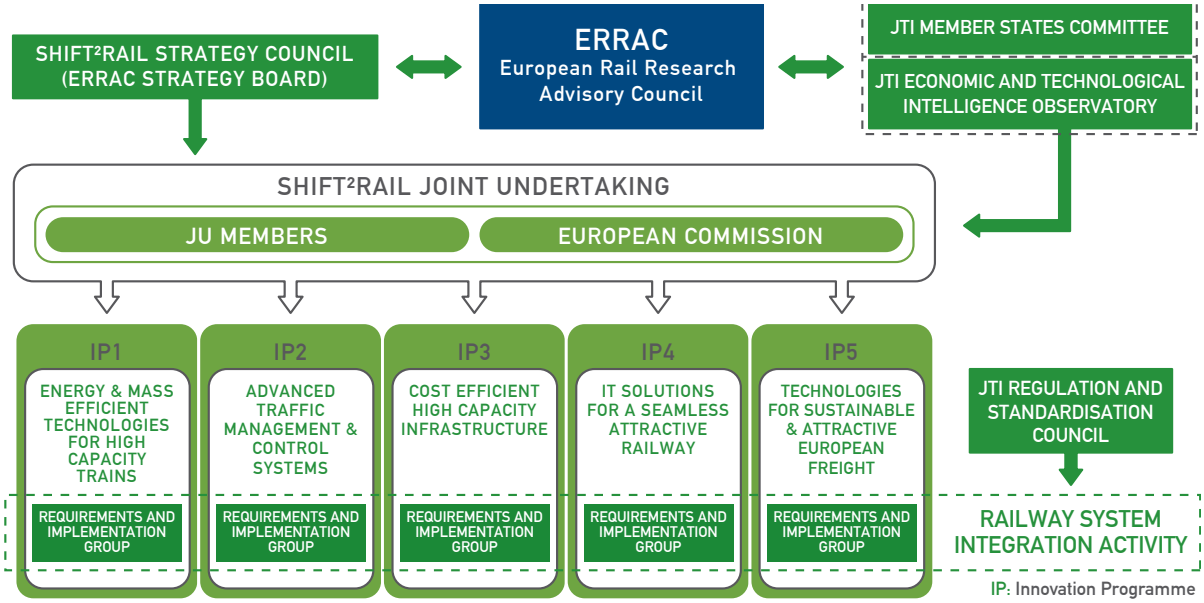
Improves door-to-door transport time, security, and traceability, thereby demonstrating a real business case for smart interoperable rail freight that offers reliable, competitive, sustainable, flexible transport services that are efficiently interfaced with other modes.

For each Innovation Programme so-called **Technology Demonstrators**, each addressing specific topics, have been defined. They will integrate innovative technologies and develop lab-tested prototypes to generate future competitive sub-systems. This research activity will take into account functional and operational specifications as well as the interfaces among the various subsystems.

All innovations from the Innovation Programmes are validated, tested, and integrated in a **real rail environment** to demonstrate the expected benefits at system level. Four of these 'System Platform Demonstrations' will be developed on **high speed/mainline, urban/suburban, regional, and freight train** platforms.

D. Structure of SHIFT²RAIL

SHIFT²RAIL is a single coherent and flexible research instrument managed in a **Joint Undertaking** within **Horizon 2020** to address the societal challenge of transport and to reinforce the global competitiveness of European rail industries.



The European Rail Research Advisory Council (**ERRAC**), which brings together all major European rail stakeholders, will play a key role in the SHIFT²RAIL governance. Future ERRAC Strategy Board Members are notably intended to form the SHIFT²RAIL Strategy Council.

E. Who supports SHIFT²RAIL and when will it start?

Fifteen **major rail stakeholders**[2] are currently signatories of the SHIFT²RAIL Memorandum of Understanding (MoU), committing themselves to a long-term investment in the future of European rail research.

Additional companies are expected to join the initiative – leading railway undertakings and infrastructure managers have already expressed their interest.

A quarter of the SHIFT²RAIL budget will be managed through open calls for proposal, encouraging the **participation of SMEs, transport Research Institutes, and Academic Institutions** that will collaborate with those signatory companies that are best placed to **facilitate the take-up of results**.

The SHIFT²RAIL signatories have developed this **sound research programme** on which to **build the railways of tomorrow**. They are asking for the support of the European Commission, and the approval of the European Parliament and the Council of Ministers to realise this initiative by **establishing a Joint Undertaking** and starting operations in 2014.

F. 2012: Overview of a year of intense work for the benefit of SHIFT²RAIL

The year 2012 was characterised by the important work carried out by UNIFE and the SHIFT²RAIL signatories regarding both the content of the official proposal (sent to the Commission in July 2012) and the need to inform all stakeholders and decision-makers about this initiative.

As far as the technical preparation is concerned, UNIFE took part in numerous productive meetings with the European Commission with both DG Research and Innovation and DG Mobility and Transport, as well as with the European Railway Agency (ERA) which will certainly have an

[2] Alstom Transport, Ansaldo Breda, Ansaldo STS, Bombardier Transportation, CAF, Faiveley, Invensys Rail, Knorr Bremse, Network Rail, Thales, Siemens, Strukton Rail, Talgo, Trafikverket and Vossloh.

important role to play in the JTI. Moreover, following the **signature of a Memorandum of Understanding** by the CEOs of 14 leading European rail companies in June 2012, this year was also marked by the discussions conducted with some leading railway undertakings and infrastructure managers that showed an interest to join the initiative. As a result, the Swedish infrastructure manager Trafikverket officially signed the SHIFT²RAIL Accession Agreement last December and joined the 14 initial promoters.

Beside this, UNIFE has led an **extensive information campaign** in order to raise the awareness of EU decision-makers about SHIFT²RAIL. A large number of meetings was organised throughout the year with Cabinets of Commissioners, Members of the European Parliament, and Ministers from some Member States (i.e. Denmark, Cyprus and Bulgaria). SHIFT²RAIL was also presented during an official hearing organised by the Transport Committee of the European Economic and Social Committee.

With the active and appreciated support of national rail industry associations, UNIFE regularly made **presentations of SHIFT²RAIL** and took part in information events organised in different Member States (i.e. Austria, Bulgaria, France, Germany, Italy, Spain, and Romania). UNIFE also accompanied Bombardier CTO Josef Doppelbauer as he presented Shift²Rail during important events across Europe (InnoTrans in Berlin, Transport Research Arena in Athens, and Conference on Railways in Europe at the European Parliament in Brussels).

Josef Doppelbauer, Chairman of the SHIFT²RAIL Steering Committee, CTO, Bombardier Transportation and Philippe Citroën, UNIFE Director-General presenting SHIFT²RAIL at InnoTrans

Furthermore, UNIFE has informed and worked closely with the European scientific community. For example, last December UNIFE signed a specific Memorandum of Understanding with the IK Railway Institute – the research institute of the Polish Ministry of Transport – to ensure that Polish stakeholders are well informed about this initiative. Similarly, UNIFE launched discussions with the European Rail Research Network of Excellence, EURNEX; an association which brings together 47 European institutes with particular expertise in rail research.

Since SMEs will definitely play a key role in the future JTI, UNIFE has also established a fruitful cooperation with numerous European railway clusters, both on an individual basis and through the European Railway Clusters Initiative which brings together 8 major clusters and hundreds from various parts of the continent.


EUROPEAN
AFFAIRS

03

A. Infrastructure Policy : TEN-T Revision and Connecting Europe Facility

B. Fourth Railway Package

C. World Rail Market Study - Forecast 2012 to 2017

D. UNIFE contributes to the success of Rail Forum Europe

E. Climate Change Related Activities

F. Internalisation of External Costs

G. Non-Road Mobile Machinery (NRMM) Directive

H. Rail Investments in Central and Eastern Europe

I. Cohesion Policy

J. Horizon 2020 and the Future of Transport Research

K. OECD Arrangement on Export Credits

L. Public Procurement Instrument

A. Infrastructure Policy: TEN-T Revision and Connecting Europe Facility

The revision of the TEN-T guidelines and the cohesion policy programme as well as the outcome of the discussions on the Connecting Europe Facility (CEF) will be fundamental milestones in shaping the future European infrastructure policy.

The Commission's proposals on TEN-T guidelines and CEF, published in October 2011, are broadly in line with the objectives set in the Transport White Paper published in March 2011 which is the reference for any upcoming future EU policy on transport.

In addition, options for Cohesion policy after 2014 are being discussed since the European Commission's adoption in October 2011 of a draft legislative package that will frame Cohesion policy for 2014-2020.

CONNECTING EUROPE FACILITY

With a budget of EUR 29 billion between 2014 and 2020, agreed by the Council in February 2013, the Connecting Europe Facility (CEF) is specifically designed to promote growth, jobs and competitiveness through targeted infrastructure investment at the European level. It will support the roll-out of high-performing, sustainable and joined-up trans-European networks in the fields of transport, energy, as well as broadband and digital services.

On 18 December 2012, the European Parliament's ITRE and TRAN Committees voted on the amendments to the European Commission's proposal for the Connecting Europe Facility. Under the Danish Presidency, the European Council reached a partial general approach in June which is in line with UNIFE's position.
The dossier is expected to be formally approved in 2013 under the Irish Presidency of the European Council.

Following the European Parliament vote of 18 December 2012, UNIFE regrets the reduction of the EU financing rate for on-board equipment to 40% of the eligible cost for ERTMS. As the full benefits of ERTMS are realised only when a significant number of neighbouring countries have made the necessary investments to upgrade their network, EU funding is pivotal in increasing the pace of ERTMS deployment along the European railway network.

UNIFE PRIORITIES ON THE CONNECTING EUROPE FACILITY:

- The CEF shall be consistent with the objectives of the Transport White Paper by giving clear priority to the development of rail transport infrastructure
- The importance of ERTMS deployment should be strengthened as a horizontal priority, by maintaining the existing financing rate of 50%

- The EUR 31.7 billion budget for transport infrastructure proposed by the European Commission for the EU budget 2014-2020 shall be safeguarded as it only covers a marginal part of the TEN-T investment needs (EUR 550 billion by 2020)

- Co-financing rules for transport infrastructure projects should be clarified and climate-proofing considerations should be added to the criteria for setting co-financing rates

TEN-T POLICY REVIEW

On 19 October 2011 the European Commission unveiled its proposals for the Trans-European Transport Network (TEN-T) Guidelines. The Commission proposed a dual layer approach, consisting of a core network and a comprehensive network. The overall objective is to finalise the core network by 2030 and the comprehensive network by 2050. UNIFE welcomes the Commission's proposals which are mostly in line with the objectives set in the Transport White Paper published in March 2011.

In particular, UNIFE appreciates the Commission's intention to focus on the implementation of TEN-T projects, subjecting EU Member States and all other actors involved in the rights and obligations of the Regulation. Under the current regulation, one Member State can effectively block the implementation of an entire project.

On 18 December 2012, the European Parliament's TRAN Committee voted on the amendments to the European Commission's proposal for the Trans-European Transport Network Guidelines.

The European Parliament made a number of significant improvements to the Commission's proposal, focusing on the actual implementation of the programme.

The dossier is expected to be formally approved in 2013 under the Irish Presidency of the European Council.

UNIFE PRIORITIES ON TEN-T:

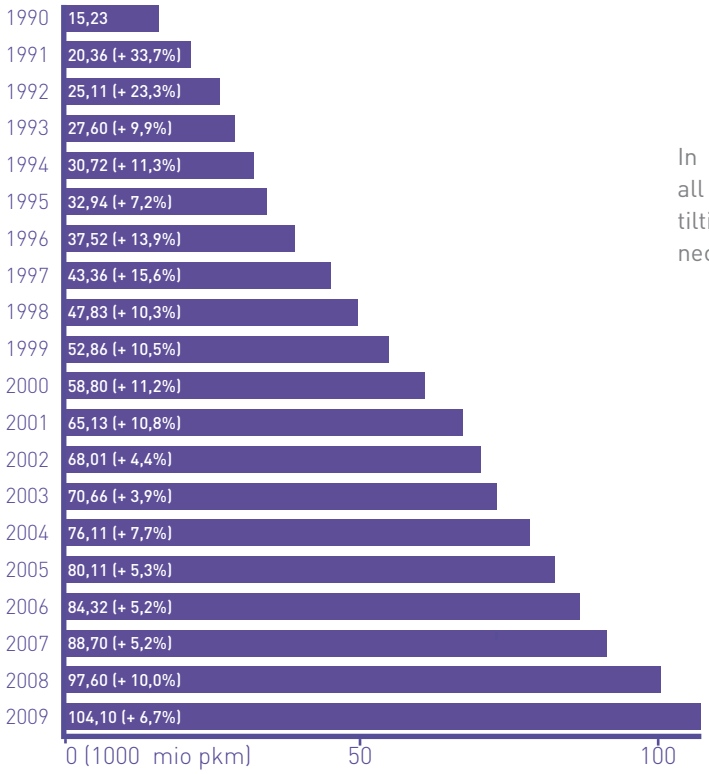
- A clear priority should be given to developing rail transport infrastructure to reflect the modal shift objectives set out in the Transport White Paper

- Intermediate targets should be set for TEN-T in order to reinforce the credibility of the programme

- The TEN-T budget should be increased, used more efficiently and complemented with new resources

- The TEN-T programme should foresee clear mandatory provisions for the full implementation of ERTMS by 2030 on all railway lines of the core network and by 2050 on all railway lines in the comprehensive network

HIGH SPEED RAIL TRANSPORT:



In this table, high-speed rail transport covers all traffic with high-speed rolling stock (incl. tilting trains able to run 200 km/h). This does not necessarily require high-speed infrastructure.

Source: UIC, national statistics, estimates

B. Fourth Railway Package

Throughout the year 2012, the European Commission was working on the so-called Fourth Railway Package, a set of directives and regulations that will amend and complement the existing rail legislation. Like the previous three packages, the Fourth Railway Package aims at reviving rail transport in Europe. The proposed legislation will focus on the opening of the domestic passenger markets which are not yet open to competition in a number of EU Member States, on the relationship between infrastructure managers and railway undertakings, and on enhancing of the role of the European Railway Agency which should lead to a single European authorisation for rolling stock.

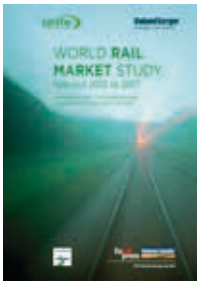
Throughout the year, UNIFE has closely followed the work of the European Commission and collaborated with the European Railway Agency on the dossier, in particular on the extremely important topic of authorisation, through several position papers and very active participation on the Task Force on Vehicle Authorisation. UNIFE works hard to achieve quicker and simpler authorisation processes in Europe which are essential for the rail supply industry. In the context of the Fourth Railway Package, UNIFE also advocated successfully for the European Railway Agency to take a leading role in the promotion of European standards abroad. The official legislative proposal on the

Fourth Railway Package is expected to be published in early 2013. UNIFE will continue to work on the dossier, together with other rail associations such as CER, the European Commission and the European Parliament.

UNIFE CONSIDERS THAT THE FOURTH RAILWAY PACKAGE SHOULD:

- Enhance the role of the European Railway Agency (ERA), as outlined in the Position Paper published by CER and UNIFE on authorisation[3]
- Empower ERA to pro-actively work with non-European bodies and ensure that European TSIs and standards are adopted globally
- Ensure an efficient liberalisation of the domestic passenger markets and the attribution of public service contracts under competitive conditions whilst clarifying the relation between infrastructure management and railway operators

C. World Rail Market Study - Forecast 2012 to 2017



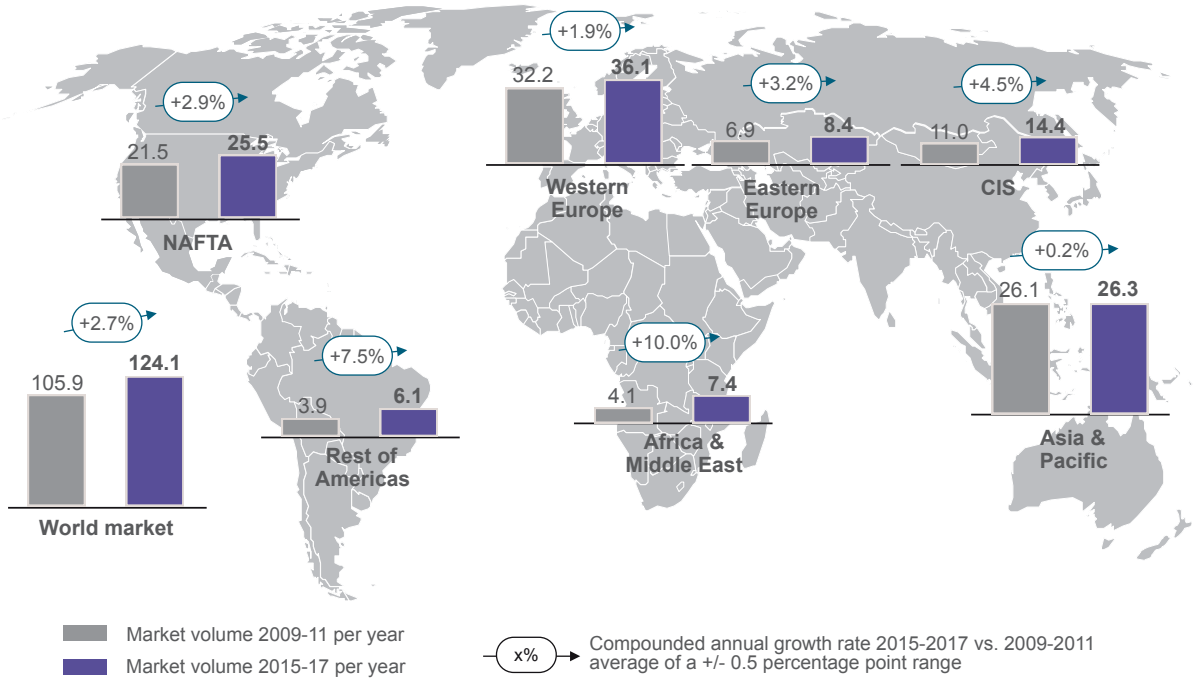
The fourth edition of the UNIFE World Rail Market Study was launched on 18 September 2012 at the InnoTrans fair in Berlin. The UNIFE World Rail Market Study is published biennially. In 2012 it was conducted by Roland Berger Strategy Consultants and published by DVV Media Group.

[3] http://www.unife.org/uploads/CER_and_UNIFE_Position_Paper_on_the_Future_role_of_ERA.pdf

The study shows that the world rail market remains stable despite the current economic downturn. Steady growth can be expected for the world rail market until 2017. Particularly in the Middle East, Russia and CIS, and Latin America will grow strongly. Growth in these regions compensates for the slowdown of mainline rail investments in China where a shift to urban rail is predicted.

ACCESSIBLE MARKET VOLUME BY REGION [EUR BN P.A.] :

Rail supply markets are forecast to grow at 2.7% in the next six years – highest growth in **Africa & Middle East** and **Latin America**



Source: World Rail Market Study - Forecast 2012 to 2017

Despite the economic crisis the global rail market grew continuously in the past years. **The world market has grown by 3.2% in each of the past three years** - which is a remarkable achievement considering public funds are less available due to the financial crisis which started in 2008.

"The current market increased by more than 3% CAGR[4] over the last study – Biggest absolute growth in infrastructure and rolling stock"

Brian Simpson, Chairman of the EP's Transport Committee

"The results of the study are definitely very encouraging for the sector. We should continue to promote rail investments, especially in Eastern European countries where the absorption rate of EU funds for rail projects is still too low"

[4] CAGR: Compound annual growth rates

The world **rail supply market is forecasted to grow by 2.7%** every year in the next six-year period. One of the key drivers of growth is the Gulf region with large projects such as the Doha Metro and light rail transit (LRT) system, the new Mecca mass transit system, and the Mecca-Medina very high speed (VHS) project.

Another growth hotspot is Latin America as a result of large orders coming from Brazil for rail freight and urban transport systems and other large-scale orders coming from neighbouring countries such as Argentina and Chile.

To order a copy of the UNIFE World Rail Market Study, please visit the UNIFE website: http://www.unife.org/page.asp?pid=66.

Philippe Citroën,
UNIFE
Director-General
"Looking at the quality and quantity of existing and projected orders, the European rail industry is certain to retain a leading market position against other competitors. The increased demand for high-tech product in sectors such as rail control, for instance, gives reason to believe that the innovative head start of the European rail industry can certainly be retained over the next years"

D. UNIFE contributes to the success of Rail Forum Europe

Rail Forum Europe, the MEPs' platform dedicated to rail transport, was officially established in February 2011. Key Members of the European Parliament joined forces to create a cross-committee forum where constructive dialogue can improve the understanding of rail-related issues and facilitate the development of joint strategies and initiatives between MEPs and the rail sector.

The Forum is governed by a Managing Board of MEPs, the President of which is Mr Brian Simpson (Chairman TRAN Committee) and Vice-Presidents Mr Michael Cramer and Ms Gesine Meissner. In addition, the following MEPs also work to oversee the association: Ms Ayala-Sender, Mr Georges Bach, Mr Jan Brezina, Mr Antonio Cancian, Mr Philippe De Backer, Mr Saïd El Khadraoui, Mr Ismail Ertug, Mr Malcolm Harbour, Ms Edit Herczog, Ms Danuta Hübner, Mr Jo Leinen, Mr Boguslaw Liberadzki, Mr Dominique Riquet, Mr Andreas Schwab, Ms Debora Serracchinai and Mr Evzen Tosenovsky and Mr Karim Zeribi. An Advisory Committee composed of rail stakeholders assists MEPs in the definition of the activity programme and the preparation of the organisation's budget.

On 25 October 2012, Leonardo Dongiovanni, Public Affairs Manager at UNIFE, succeeded Jérémie Pélerin as the Executive Secretary of the Association.

RAIL FORUM EUROPE ORGANISES EVENTS AND TECHNICAL VISITS SPONSORED BY COMPANIES OR ASSOCIATIONS. FOLLOWING EVENTS WERE ORGANISED IN 2012:

- **11 January:** European rail industry: latest trends in international rail markets and the way forward (sponsored by Alstom)

- **25 January:** ERTMS deployment in the EU and its evolution as a global standard (sponsored by Ansaldo STS)
- **28 March:** What are the right conditions for efficient rolling stock maintenance in open markets? (sponsored by SNCF)
- **19 June:** Innovative Solutions in European Rail Freight (sponsored by ÖBB)
- **11 September:** Putting rolling stock and infrastructure financing on the right track (sponsored by PKP)
- **10 October:** Status quo and perspective of the world rail market – Presentation of the UNIFE World Rail Market Study 2012 (sponsored by UNIFE)
- **4 December:** How to meet passenger expectations (sponsored by European Passengers' Federation)

For more information, please visit the website of Rail Forum Europe at **www.rail-forum.eu.**

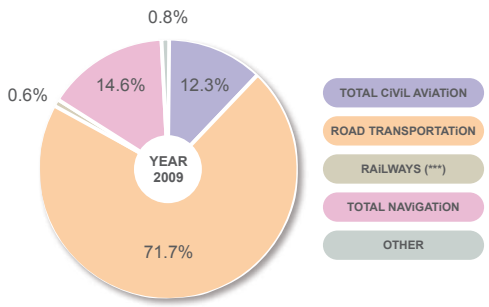
E. Climate Change Related Activities

There is a growing attention from the European Commission and from the operators' side on Climate change adaptation. In spring 2012, CER organised a dedicated workshop on Climate change adaptation where UNIFE presented the industry point of view with a focus on Rolling Stock. As a result of the UIC Sustainability Conference 2012, the UIC members have also agreed to launch a special working group on Climate change adaptation starting from the beginning of 2013.

GHG EMISSIONS FROM TRANSPORT - EU-27 BY MODE (SHARES%)

INCLUDING INTERNATIONAL BUNKERS

	TOTAL CIVIL AVIATION	Civil Aviation (domestic) (*)	International Bunkers – Aviation	ROAD TRANSPORTATION	RAILWAYS (***)	TOTAL NAVIGATION	Navigation (domestic) (*)	International Bunkers – Maritime Transport	OTHER TRANSPORTATION (****)	TOTAL TRANSPORT (*****)	TOTAL EMISSIONS (**)
1990	8.7	17.2	82.8	75.1	1.5	13.5	14.0	86.0	1.1	16.5	100
1991	8.6	17.2	82.8	75.7	1.3	13.4	14.1	85.9	1.1	16.9	100
1992	8.9	16.5	83.5	75.9	1.2	13.1	13.9	86.1	0.9	18.0	100
1993	9.2	15.2	84.8	75.7	1.1	13.1	13.5	86.5	0.9	18.5	100
1994	9.5	14.8	85.2	75.9	1.1	12.7	14.1	85.9	0.9	18.8	100
1995	9.8	14.9	85.1	75.8	1.0	12.5	13.5	86.5	0.9	19.0	100
1996	10.0	15.4	84.6	75.4	1.0	12.7	12.9	87.1	0.9	19.2	100
1997	10.2	15.7	84.3	74.7	0.9	13.3	12.2	87.8	0.8	20.0	100
1998	10.6	15.0	85.0	74.3	0.9	13.4	12.3	87.7	0.8	20.8	100
1999	11.2	15.1	84.9	74.5	0.8	12.7	13.0	87.0	0.8	21.6	100
2000	11.7	14.7	85.3	73.7	0.8	13.0	11.4	88.6	0.8	21.8	100
2001	11.3	14.5	85.5	73.8	0.7	13.4	11.3	88.7	0.8	21.9	100
2002	10.9	14.2	85.8	73.9	0.7	13.6	11.0	89.0	0.8	22.3	100
2003	11.1	13.5	86.5	73.7	0.7	13.7	11.0	89.0	0.7	22.2	100
2004	11.5	13.0	87.0	73.0	0.7	14.1	10.6	89.4	0.8	22.8	100
2005	12.0	12.7	87.3	72.0	0.6	14.6	10.2	89.8	0.8	23.1	100
2006	12.2	12.3	87.7	71.1	0.6	15.2	9.6	90.4	0.8	23.6	100
2007	12.5	12.1	87.9	70.9	0.6	15.2	9.7	90.3	0.8	24.0	100
2008	12.7	11.6	88.4	70.6	0.6	15.3	9.6	90.4	0.8	24.2	100
2009	12.3	11.7	88.3	71.7	0.6	14.6	10.7	89.3	0.8	25.0	100



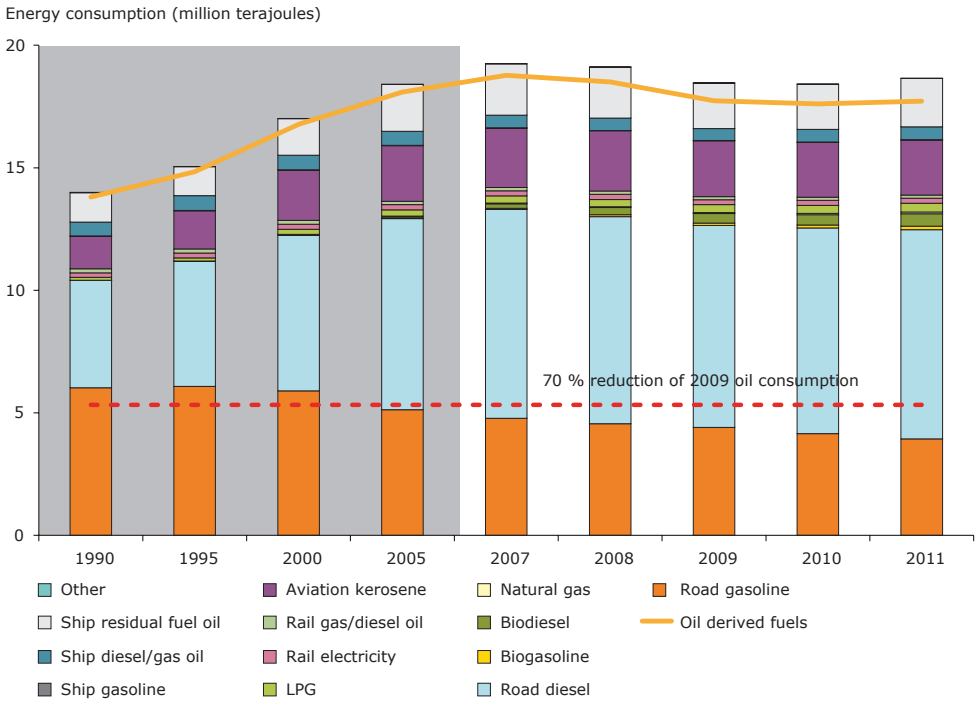
Notes: (*) excluding international bunkers (international traffic departing from the EU);
(**) including international bunkers but excluding IUIUcF;
(***) excluding indirect emissions from electricity consumptions;
(****) combustion emissions from all remaining transport activities including pipeline transportation; ground activities in airports and harbours, and off-road activities.
(*****) total transport share in total emissions:

Source: European Environment Agency (EEA), August 2011

The European Commission (DG CLIMA) has also called for a stakeholder consultation in autumn 2012 to support the drafting of the EU strategy for Adaptation to Climate change planned to be published in spring 2013, in which transport is included. As a response to the European Commission initiative, UNIFE together with the other railway associations in Brussels (EIM, CER, UITP...) presented a joint position on Climate change adaptation and Standardisation[5].

[5] http://www.unife.org/uploads/Rail_Sector_Position_Paper_Climate_Change_and_Standardisation.pdf

TRANSPORT ENERGY CONSUMPTION (EEA-32 EXCLUDING ICELAND AND LICHTENSTEIN)



Notes: 2011 data estimated using internal market deliveries for international maritime bunkers, road transport and aviation (domestic and international).
Latest available data: 2010 (2011 estimated).

Source: Eurostat

THE MAIN MESSAGES TO BE DELIVERED BY THE SECTOR ARE:

1. No changes in the present regulatory framework are necessary to deal with foreseeable climate changes.

2. Any adaptation of the European rail standardisation landscape shall be based upon well-focussed research and development activities agreed by the rail sector (e.g. ERRAC roadmap and SHIFT²RAIL)

3. Only the existing standardisation framework shall be revised by taking climate change resilience into account. A manual could be developed in order to incorporate the aspect of climate change for the elaboration and revision of standards.

The overall process (incl. R&D & elaboration and revision) is to be started as soon as possible and to be carried out by 2020, as forecasted in the ERRAC roadmap on Design for Environment. The implementation shall follow immediately afterwards and needs to be encouraged and supported by the Members States.

F. Internalisation of External Costs

As a follow-up to the adoption of the revised Eurovignette Directive on internalisation of external costs in October 2011 and in line with the vision set in the Transport White Paper of 2011, the Commission is due to publish in 2013 its report on ways to internalise the external costs of all modes of land transport.

A consultation took place in October 2012 on a proposal to charge for the use of road infrastructure. In 2013, the Commission will launch this proposal which will develop charging for the external costs of transport for lorries. Previously this was dealt with in the Eurovignette Directive.

Being part of a broad coalition of transport sector representatives including railways, intermodal transport, logistic and forwarders, UNIFE has long argued for EU Member States to apply the internalisation of external costs for road freight transport – as is already practice for other modes of transport.

UNIFE'S KEY MESSAGES WERE THE FOLLOWING:

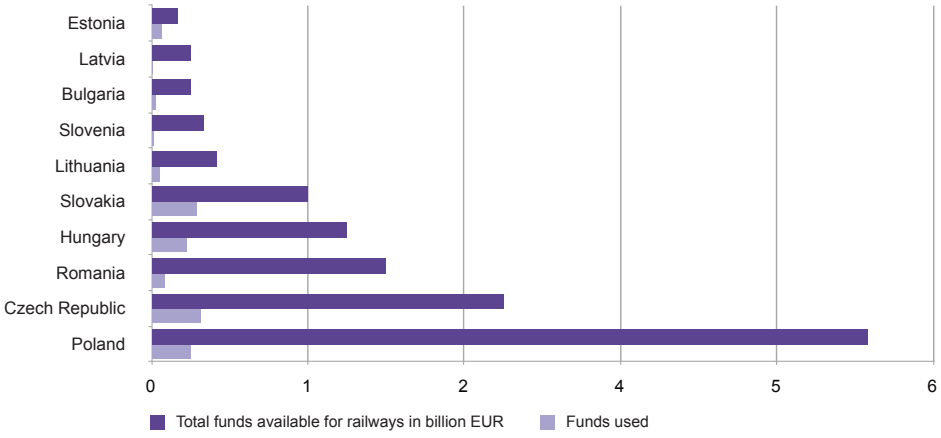
- The opportunity must be taken to move the internalisation of external costs forward as far as possible if the 2016 and 2020 targets for it outlined in the Transport White Paper are to be met. Such a move will also help achieve fairer competition between transport modes, and secure financing for sustainable transport infrastructure through the "user pays" principle
- An EU internalisation package is needed in order to make the EU transport system more sustainable without distorting competition
- The Swiss example should be followed: revenues from road charges should be used to develop an efficient and interoperable railway network

G. Non-Road Mobile Machinery (NRMM) Directive

In 2012, the NRMM Directive was amended. A flexibility scheme was introduced to facilitate the transition from stage IIIA to stage IIIB engines for diesel propelled rolling stock. Despite strong resistance from some powerful Member States and opposition in the European Commission, a flexibility scheme could be introduced albeit with a lower number than advocated by UNIFE. UNIFE will closely monitor the developments during the on-going full revision of the NRMM directive in 2013.

H. Rail Investments in Central and Eastern Europe

In the period between 2007 and 2013, the Central and Eastern European Member States can receive around EUR 30 billion from the European Union in order to modernise and upgrade their rail transport infrastructure. The rail system of the Central and Eastern European countries urgently needs significant investment in order to regain competitiveness vis-à-vis other modes of transport. So far, however, most Member States have problems using the funds.



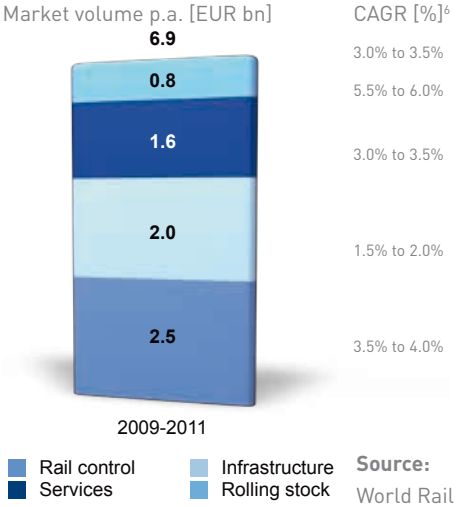
Source: Reuters, Special Report, "Signal Failure", Anthony Deutsch, Marcin Goettig, June 2012

A political bias in favour of road investments, administrative short-comings and inefficiencies, as well as poor project management all play a role in keeping rail investments low in the countries concerned. Together with the CER, UNIFE tries to help improve the situation which is deplorable for the railway systems, the entire transport system and the environment by organising regular high-level conferences in Central and Eastern Europe. After a successful meeting in Sofia in 2011, the last meeting was held in Warsaw in July 2012 in the presence of the

transport ministry and the Minister for Regional Development. UNIFE will continue to work with the European Commission and its partners to find solutions to improve the absorption of funds in Central and Eastern Europe.

MARKET DEVELOPMENT EASTERN EUROPE

Current Accessible Market



Source:
World Rail Market Study - Forecast 2012 to 2017

Key developments

- Turkish and Hungarian market to drive rolling stock demand in the short run, Poland to increase its demand in the long run
- VHS expected to see demand in Turkey, with Hungary mainly demanding metros and Poland focusing on multiple units and coaches
- Infrastructure driven by Polish and Turkish markets with both countries investing in their mainline and urban rail networks
- Further demand to be expected from Central and Eastern European countries if they increase the rate at which they absorb available EU funds

I. Cohesion Policy

On 6 October 2011, the European Commission presented its legislative proposals for the next programming period of the Cohesion Policy (2014-2020). UNIFE very much welcomes these proposals as they are in line with the position that UNIFE defended throughout 2011. UNIFE's key objectives for the new Cohesion Policy are to promote sustainability and improve the absorption capacity of Central and Eastern European Member States.

The European Commission proposes to dedicate a total budget of EUR 336 billion to regional policy and proposes to keep the two existing Funds (Cohesion Fund and ERDF) and the system of geographical distinction between Member States (for Cohesion Fund) and Regions (for ERDF).

As for investments in transport, UNIFE particularly appreciates the new priority given to "promoting sustainable transport and removing bottlenecks in key network infrastructure". The Commission puts an emphasis on sustainability and rail transport which was not the case in the current programming period. For the upcoming period, the Commission even commits, in addition to supporting TEN-T investments, to "developing environment-friendly and low-carbon transport systems including promoting sustainable urban mobility", and to "developing comprehensive, high quality and interoperable railway systems".

[6]Compounded annual growth rate 2015-2017 vs. 2009-2011

Moreover, UNIFE welcomes the Commission's proposal to provide co-financing rates that may be modulated to take into account the "protection and improvement of the environment" and considers the establishment of ex-ante conditions that should lead to a better absorption of EU funds by Member States as a huge advance. The European Commission indeed imposes as a prerequisite the definition of a comprehensive national transport plan with an explicit chapter on railway development.

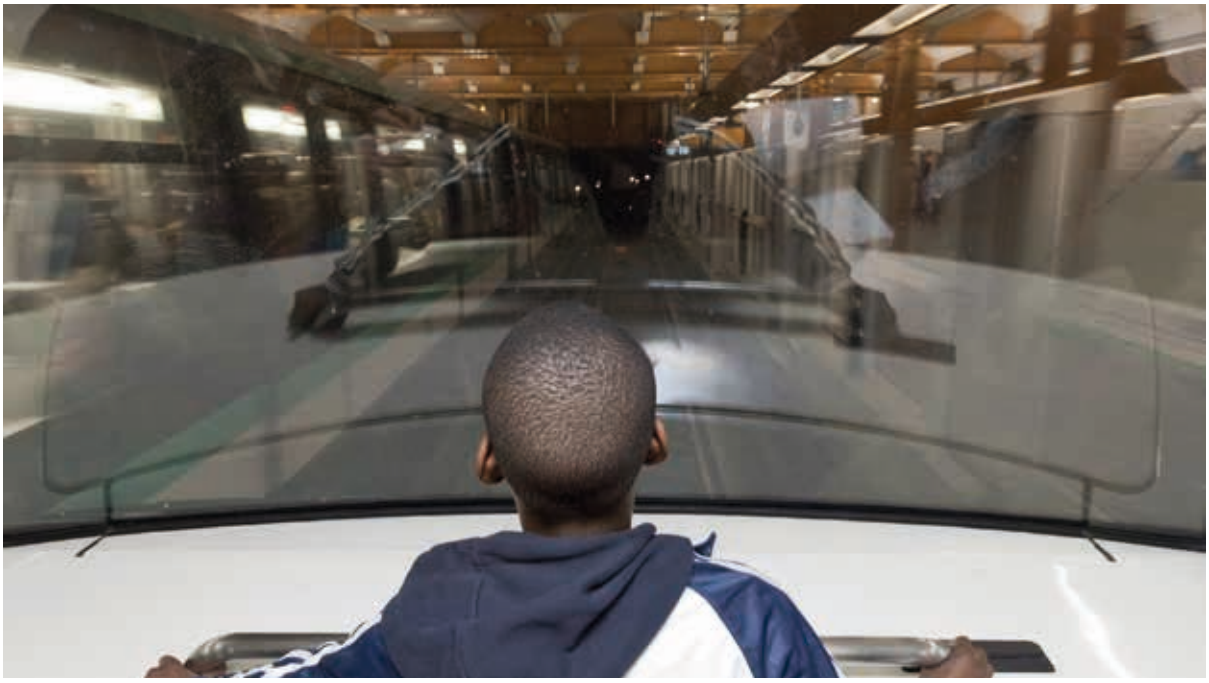
On 11 July 2012, the European Parliament's REGI Committee adopted several Mandates for opening inter-institutional negotiations with the Council. UNIFE notably welcomes the amendment of the REGI committee that explicitly foresees the possibility of using ERDF for the "purchase of rolling stock used for public transport" and the amendment allowing ERDF to be used to make investment in Transport everywhere in Europe including in the "More developed Regions".

Negotiations are now taking place between the European Parliament and the Council of the EU. A first reading agreement is expected to take place during the first half of 2013. The outcome of these negotiations dependant on the results of the global budgetary discussions on the Multiannual Financial Framework 2014-2020.

UNIFE PRIORITIES ON COHESION POLICY:

- A sufficient allocation of Cohesion Funds and ERDF shall be made to transport (in addition to the proposed Connecting Europe Facility)
- All European regions (including the "most developed" ones) should be entitled to use ERDF to fund transport infrastructure
- Co-financing rates should be defined according to the sustainability of the projects, taking into account their climate performance
- A level-playing field shall be established between transport modes in regard to eligible expenditure. The deduction of revenues generated by rail infrastructure from EU co-financing should be allowed only if similar provisions exist for road transport in the Member States concerned. Alternatively, the co-financing rate of sustainable projects generating revenue should be higher than the co-financing rate of less sustainable and non-revenue generating projects
- Financial instruments of Cohesion Policy should allow to combine EU and private funding in pools and leasing scheme for rolling stock financing
- Ex-ante conditions as proposed by the European Commission shall be kept so as to increase funds absorption, especially in Central and Eastern European countries

J. Horizon 2020 and the Future of Transport Research



On 30 November 2011, the European Commission presented a package of measures aiming at boosting research, innovation and competitiveness in Europe through the creation of Horizon 2020, a new multiannual Framework Programme of EUR 80 billion for investment in research and innovation. UNIFE very much welcomes these proposals which foresee a considerable increase of the total multiannual Research and Innovation budget (EUR 53 billion for 2007-2013) and especially appreciates the increase of the proposed budget for Transport Research (EUR 7.69 billion compared to EUR 4.16 billion for 2007-2013).

However, on 28 November 2012 the European Parliament's ITRE Committee adopted the Madurell's Report on "Horizon 2020 – The Framework Programme for Research and Innovation" which foresees a dramatic decrease of the future Transport Research budget: from 8.8% to 6.9% of the total Horizon 2020 budget.

At a time when the rail sector is teaming up to build an ambitious Research Programme aiming at developing tomorrow's railway system – the SHIFT²RAIL Joint Technology Initiative (JTI) which should be co-financed by the European Commission –, this is undoubtedly a bad signal that the ITRE Committee was sending to the rail transport sector. UNIFE reacted by sending a letter to the MEPs and by co-signing a joint press release with the whole transport sector.

UNIFE PRIORITIES FOR HORIZON 2020:

- An ambitious budget for Horizon 2020 and more specifically for Transport Research
- All research activities should provide a support to the shift towards sustainable transport modes (such as rail) in line with the objectives of the White Paper on Transport
- Horizon 2020 should foresee the possibility for the EU to launch Joint Technology Initiatives (JTI) in key economic sectors (such as the rail sector)

K. OECD Arrangement on Export Credits

A new emerging public affairs topic in 2012 was the OECD Arrangement on Export Credits on which UNIFE initiated a lobbying campaign.

The OECD arrangement provides a framework for the orderly use of officially supported export credits which are used in many rail projects throughout Europe and beyond. Following discussions with rail suppliers, the European Commission wishes to propose an extension of the loan guarantees that can be provided by Export Credit Agencies (ECAs) in the case of rail. Currently, ECAs are only allowed to cover loans with maturities of up to 8.5/10 years which does not match the lifetime of railway projects.

To better build the case for railways, UNIFE created a dedicated taskforce with relevant experts from member companies. Several meetings were organised with the European Commission, and a Position Paper was published in late October. Following discussions at the OECD in November, it is now expected that a specific workshop on rail will be organised in early 2013. This could pave the way for a review of the OECD arrangement.

L. Public Procurement Instrument

The European Commission published in March its long-awaited proposals to promote a level playing field on the global rail market which are foreseen to have a specific importance when it comes to railways.

The European Commission proposal aims to increase incentives for the EU's trading partners to open up their procurement markets to EU bidders. Indeed, the public procurement market within the European Union is very open; this, however, is not always the case for its trading partners. For instance, the access of the European rail industry to the Japanese market has long been hindered by the application of a so-called "Operational Safety Clause" on the Japanese side (please see section "International Affairs"). Under the proposals now published by the European Commission, foreign bidders could be excluded from European tender procedures under certain conditions, should no reciprocal access be granted to European suppliers.

An uphill struggle is now expected in both the European Parliament and Council where Member States, as Members of the European Parliament, are divided on the issue.

INTERNATIONAL AFFAIRS

04

A. Launch of Free Trade Agreement (FTA) Negotiations with Japan – Rail at the Heart of the Negotiations

B. High-Speed Developments in the United States

C. UNIFE Event in the Gulf Countries

D. Russia: An Enhanced Relationship

E. UNIFE Participation in UN Activities

F. Additional Activities

A. Launch of Free Trade Agreement (FTA) Negotiations with Japan – Rail at the Heart of the Negotiations

The end of the year was marked by the official launch of FTA negotiations between the EU and Japan, following the green light given by EU Member States on 29 November 2012.

Rail is to be an important part of the Commission's mandate for the FTA negotiations, as a result of UNIFE's pressure to level the playing field between the both trading partners. The lack of accessibility to the Japanese market remains a constant source of concern for the European industry as Japanese suppliers benefit from a de facto open market in Europe. The UNIFE campaign continues to receive the full political support at highest level within the European Commission (DG TRADE and DG MARKT) and an opening of the Japanese railway market is also supported by a large number of Member States.

2013 will certainly be a crucial year for the FTA negotiations and for business opportunities in the Japanese rail market. Whilst some small gestures of goodwill were taken by Japanese operators in 2012, pressure is expected to mount on this country to deliver concrete measures to facilitate market access for foreign suppliers. UNIFE will also be involved in discussions with the European Commission on the progress made in the FTA negotiations.

B. High-Speed Developments in the United States

In July 2012, UNIFE Director General Philippe Citroën attended the UIC High Speed World Congress in Philadelphia. The congress was also an occasion for UNIFE to organise a series of side events, such as a meeting with the representatives of UNIFE members in the US, joint meetings with ERA and APTA, and a specific session on IRIS which took place at the UNIFE stand.

The event was marked by the signature of a Memorandum of Understanding between ERA and the US Federal Railroad Administration (FRA). This Memorandum foresees a number of discussions on the issue of railway standards. UNIFE, which had supported ERA activities in the US, welcomed this Memorandum as an important strategic document as the US High Speed standards are currently being discussed.

"UNIFE welcomed this Memorandum as an important strategic document"

Last but not least, the idea of a Free Trade Agreement (FTA) between the EU and the US returned at the end of 2012 when the Commission opened a consultation on this topic. UNIFE sent its contribution, highlighting on some of the difficulties faced by European Companies on the US market (e.g. "Buy America" measures).

C. UNIFE Event in the Gulf Countries

As a follow-up of its activities in the Middle East, UNIFE organised in partnership with the United Arab Emirates' National Transport Authority an "International Strategic Rail Forum" in April 2012.

The two-day event, which involved UNIFE members, the European Railway Agency (ERA), the Gulf Cooperation Council Secretariat General (GCC-SG), and representatives from the region's rail operators, was the occasion to discuss a number of important issues, such as the structural organisation of legislation and regulation in the Gulf region and Europe, the benefits of choosing certain rail standards, and critical issues such as safety and interoperability.

From UNIFE's perspective, the choice of standards in the Gulf region could be crucial for the opening of further market opportunities for our suppliers. UNIFE will remain in contact with the authorities of the region in the coming years.

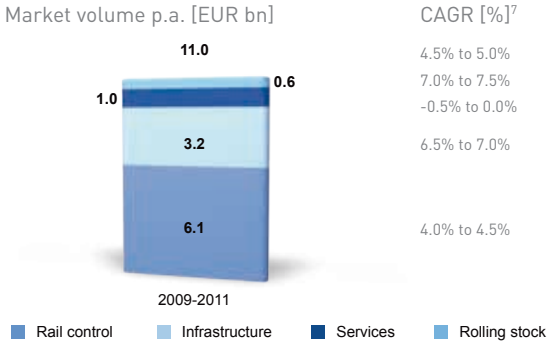
D. Russia: An Enhanced Relationship

2012 saw the signing of a Memorandum of Understanding between UNIFE and NP-UIRE (Russian Union of Industries of Railway Equipment) in April, in a move to strengthen ties between the European and Russian railway sectors. The Memorandum foresees joint cooperation in a number of areas, including standardisation, cross-acceptance, homologation procedures, and issues of other common interest such as quality management (IRIS).

Henri Poupart-Lafarge (UNIFE Chairman, President Alstom Transport) Valentin Gapanovich (Senior Vice-President, Russian. Railways), Hans-Jörg Grundmann (CEO, Siemens Mobility)

MARKET DEVELOPMENT IN CIS

Current Accessible Market



Key developments

- Russia to invest significantly in electric locomotives and trams/light rail (replacement and extensions in various cities), in medium to long run
- Accessible market for infrastructure almost stable at about EUR 1bn with decreases in Kazakhstan and particularly Ukraine mostly compensated by increases in Russia
- Services showing a high growth rate because of growing installed base in last years and increased accessibility (spin-off of maintenance from RZD)

Source: World Rail Market Study - Forecast 2012 to 2017

[7]Compounded annual growth rate 2015-2017 vs. 2009-2011

As a follow-up of this agreement, UNIFE subsequently participated in an event staged by RZD during the InnoTrans fair in September. In particular, industry experts contributed to the sessions on IRIS, railway standards and IT security. In parallel, UNIFE continues to work with RZD in the frame of the EU-Russia Industrialists' Roundtable. A White Paper[7] of the joint European-Russia working group on railway standards was released at the end of the year and distributed to politicians from both regions.

Philippe Citroën (UNIFE Director-General), Valentin Gapanovich (Senior Vice-President, Russian Railways)

E. UNIFE Participation in UN Activities

RIO+20

Twenty years after the 1992 Earth Summit in Rio de Janeiro, where countries adopted Agenda 21; a blueprint to rethink economic growth, advance social equity and ensure environmental protection - the UN brought together governments, international institutions and major groups to agree on a range of smart measures that can reduce poverty while promoting decent jobs, clean energy and a more sustainable and fair use of resources.

RIO+20
United Nations Conference on Sustainable Development

The Rio+20 negotiations considered transport within the context of cities and urban development. UNIFE with the cooperation of UIC and UITP organised a series of events to promote Sustainable Transport cities during the Rio+20 Conference in June 2012. As a closing accord, the joint statement on Sustainable Transport in the Cities of the Future was launched by the three associations and welcomed by the Brazilian Transport Minister, Paulo Sergio Passos as well as by the Secretary of States from Rio de Janeiro and São Paolo respectively.

COP18

UNIFE was also present at the UN Climate Change talks in Doha from 27 November till 7 December. During the summit, UNIFE, UIC and UITP co-organised a side-event on "Transport and our low carbon future". UNIFE has promoted railways as the backbone of sustainable combined transport in both rural and urban areas. For the first time in the history of the COP events, a dedicated Transport and Climate Change Day was also held in Doha.

F. Additional Activities

With an ever more globalised railway market, the need for international activities is foreseen to expand in the coming years. The ERA mandate, which is to be reviewed in the coming years, will most likely include a specific chapter on "international activities". It is therefore expected that additional activities between Europe and other third countries (e.g. Brazil) in the field of rail will be initiated in the coming years.

[7]Recommendations of the EU-Russia Industrialists' Round Table Task Force 8 «Technical regulation» on approximation of regulatory system in technical regulations between Custom Union and European Union

STANDARDS & REGULATION

05

A. European Railway Agency (ERA) -related activities

B. Topical and Mirror Groups

C. Other Activities

D. UNIFE and UIC Joint Technical Recommendations (TecRecs)

A. European Railway Agency (ERA) -related activities

OVERALL COORDINATION ACTIVITIES

UNIFE is investing a great deal of effort in order to solve one of the most problematic issues that still affect the railway sector: the authorisation for placing into service, particularly with regard to railway vehicles. In this respect, the two main activities in 2012 were: the Task Force on Authorisation, in order to highlight the fact that the current legislative framework still does not work, and the revision of all TSIs, in order to extend their scope.

TASK FORCE ON RAILWAY VEHICLES AUTHORISATION

The Task Force on Railway Vehicles Authorisation launched by the European Commission in September 2011, highly supported by UNIFE during 2012, was a success: it brought the attention of the European institutions to the fact that the current directives are neither implemented nor followed in day-to-day activities. UNIFE welcomes and fully supports the recommendations listed in the final report of the Task Force (DV62), which focuses mainly on **implementing the current legislative framework** (some European countries are under the infringement procedure), respecting roles and responsibilities, and clarifying some points which still have different interpretations with a European recommendation (also called DV29bis). Some possible amendments to the current legislative framework were also highlighted, in particular regarding **a stronger role that ERA could have in the authorisation process**. Some of these points may be part of the Fourth Railway Package which is under drafting by the European Commission and is expected to be adopted in early January 2013.

UNIFE is looking forward to the follow up of all of these recommendations and actions, which is expected at the beginning of 2013.

Revision of all TSIs (Technical Specification for Interoperability) – **A Prime Objective for UNIFE**

During 2012, all the structural (Rolling Stock, Energy and Infrastructure) and the transversal (Noise, Safety in Railway Tunnels, and Persons with Reduced Mobility) TSIs continued their drafting process, with the scope of:

- Extension of the geographical scope from TEN to the entire network
- Merging High Speed and Conventional Rail
- Closing the open points

UNIFE has great expectations from the extension of scope, which should prevent a situation where two parallel sets of rules have to be applied to secure authorisation: TSIs and the national rules of the country in which the equipment is to be authorised.

"The final drafts of the Loc & Pas, Energy, Infrastructure and TAF TSIs have now been produced by ERA and will be presented to the Member States at RISC (Railway Interoperability and Safety Committee) in January 2013. The formal vote by Member States is expected to take place in mid-2013, which ought to lead to an entry into force of the TSI in early 2014"

Once the TSI scope is extended, all National Rules will have to be superseded by the corresponding requirement of the TSI, and will only apply to duly identified specific cases or open points (if any are remaining). UNIFE is strongly pressuring the European Railway Agency and the European Commission to clarify the process of removing unnecessary national rules.

An interim draft has been produced for the Persons with Reduced Mobility and Noise TSIs that will be presented to the Member States at RISC in January 2013. The final draft is planned to be ready in the mid-spring of 2013, with formal voting planned for the latter part of 2013. Assuming this programme is met, both TSIs should enter into force in the second half of 2014.

UNIFE was heavily involved in this activity during 2012; more details on the different TSIs are available in the Mirror Group section below. The TSI Application Guides will be drafted in 2013; they will provide a fundamental support to the TSIs, as they should provide **references to the harmonised voluntary standards which provide presumption of conformity** with several TSIs requirements in addition to guideline information.

B. Topical and Mirror Groups

UNIFE Topical Groups (TG) and Mirror Groups (MG) aim to steer UNIFE work on standardisation, regulation and research. The overall coordination is done by the respective committees. Topical Groups follow specific topics, mainly related to standardisation and research activities. Mirror Groups are temporary groups active during the drafting and revision of regulations and Technical Specifications for Interoperability (TSIs), mirroring the groups active in ERA where delegates of UNIFE participate as official representatives of the European rail supply industry.

1. MIRROR GROUPS

MIRROR GROUPS ON TECHNICAL SPECIFICATIONS FOR INTEROPERABILITY

Rolling Stock Mirror Group (MG RST)

This Mirror Group has been following and contributing to the new Rolling Stock Locomotive and Passenger Carriages (Loc & Pas) Technical Specification for Interoperability (TSI).

Significant success has been achieved in closing open points, particularly in aerodynamics and those which relate to functions essential to safety, in refining and correcting errors, and ensuring consistency for a good merger

between the high speed and conventional speed requirements. **This version of the TSI will also incorporate the 1520mm system.**

The Rolling Stock Mirror Group has also interfaced where necessary with other groups, including the Infrastructure Mirror Group, particularly on important topics such as axle load limits and the Railway Dynamics, Aerodynamics, Cab, Crash and Fire Safety Groups, to ensure that specialist knowledge in these areas is taken into account.

A prime example is that the new Loc & Pas TSI will also integrate the Rolling Stock fire safety requirements from the SRT TSI (Safety in Railway Tunnels).

Rail : Locomotives and Railcars

Stock of vehicles

	1970	1980	1990	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010		
EU27			65.715			53.259	51.618	48.721	47.546	48.261	61.625	61.137	61.491	59.439	EU27	-3,3 %
EU15	43.259	40.361	43.444			36.515	36.349	33.986	33.062	34.026	47.314	47.197	47.323	46.778	EU15	-1,2 %
EU12			22.271	17.460	17.068	16.744	15.269	14.735	14.484	14.235	14.311	13.940	14.168	12.661	EU12	-10,6 %
BE	1.536	1.740	1.727	1.670	1.706	1.678	1.522	1.528	1.518	1.469	1.449	1.403	1.341	1.341	BE	0,0 %
BG	1.005	1.009	1.119	762	753	680	671	657	669	687	699	713	712	624	BG	-12,4 %
CZ				3.596	3.481	3.301	3.280	3.258	3.163	3.037	2.921	2.758	2.746	2.258	CZ	-17,8 %
DK	480	461	524	415	495	566	458	458	464	447	447	448	538	495	DK	-8,0 %
DE	11.439	12.694	14.437	9.656	9.998	9.036	10.363	8.293	7.742	8.817	13.890	14.565	15.337	15.613	DE	1,8 %
EE			300	194	194	236	241	178	170	167	190	98	76	81	EE	6,6 %
IE	307	192	166	172	169	225	268	306	412	428	428	549	572	572	IE	0,0 %
EL	514	313	400	244	290	278	237	269	289	284	295	301	301	173	EL	-42,5 %
ES	1.928	1.791	1.922	1.693	1.951	1.931	1.911	1.928	1.946	1.745	1.918	1.983	1.670	1.732	ES	3,7 %
FR	6.261	6.204	7.279	7.158	7.224	7.336	7.240	7.149	7.354	6.995	7.155	7.050	6.758	6.768	FR	0,1 %
IT	4.715	4.916	4.818	4.697	4.650	5.205	4.937	4.901	4.674	5.008	4.683	4.621	4.691	4.494	IT	4,2 %
CY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	CY	
LV			739	433	403	392	386	376	358	348	346	197	196	196	LV	0,0 %
LT			389	419	406	390	371	367	365	368	368	356	317	275	LT	13,2 %
LU	95	85	97	124	132	131	141	141	145	128	149	159	157	104	LU	-33,8 %
HU			2.040	1.453	1.442	1.363	1.458	1.328	1.385	1.400	1.413	1.428	1.458	1.275	HU	-12,6 %
MT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	MT	
NL	2.140	2.174	2.372	1.965	2.128	2.029	2.118	2.076	2.078	2.025	2.033	2.079	2.027	2.411	NL	18,9 %
AT	1.423	1.428	1.543	1.530	1.606	1.555	1.556	1.610	1.500	1.639	1.725	1.668	1.660	1.233	AT	-25,7 %
PL			6.801	5.293	5.232	5.028	4.975	4.893	4.723	4.561	4.581	4.617	4.590	4.421	PL	-3,7 %
PT	626	583	530	589	536	515	506	463	439	429	433	431	436	275	PT	-36,9 %
RO		4.564	4.515	3.440	3.341	3.594	2.173	2.071	2.186	2.220	2.262	2.290	2.649	2.229	RO	-15,9 %
SI			358	300	304	310	273	273	261	271	273	267	269	267	SI	-0,7 %
SK				1.570	1.512	1.450	1.441	1.334	1.204	1.176	1.258	1.216	1.155	1.035	SK	-10,4 %
FI	877	752	669	735	724	731	731	737	702	697	694	662	641	644	FI	0,5 %
SE	1.408	1.576	1.350	887		869	773	622	622	644	648	639	632	213	SE	-66,3 %
UK	9.510	5.452	5.610			4.430	3.588	3.505	3.177	3.271	11.367	10.639	10.562	10.710	UK	1,4 %
HR	588	565	563	480	397	396	393	388	377	374	339	345	347	284	HR	-18,2 %
MK		91	92	101	71	71	74	73	73	72	72	72	67	63	MK	-6,0 %
TR	1.055	1.101	897	849	838	819	755	734	735	732	724	613	660	673	TR	2,0 %
IS	-	-	-	-	-	-	-	-	-	-	-	-	-		IS	
NO	439	430	502	299	303	269	266	208	289	223	223	223	207	544	NO	162,8 %
CH	1.116	1.205	1.254	1.528	2.011	2.008	2.164	2.224	2.198	2.167	2.272	2.278	2.265	1.745	CH	-23,0 %

Source: UIC

Notes: Data relate to main railways (UIC members)

DE: includes DE-E: 1970=5000; 1980=4506; 1990=6331

Safety in Railway Tunnels Mirror Group (MG SRT incorporating members of the Fire Safety TG)

The Mirror Group has continued to follow the revision of the TSI SRT. It has been vital that the Group ensures **that the number of specific cases is kept to a minimum in order to ensure true interoperability,** as the extension of geographical scope will mean a significant number of tunnels covered by this TSI. In addition, all fire safety requirement clauses relating to Rolling Stock will be merged into the new TSI Loc & Pas. Importantly, **EN 45445** was

voted positively by CEN and this will be a great support for the simplification of this TSI because, as a harmonised standard, it provides presumption of conformity with a large number of the TSI requirements.

Persons with Reduced Mobility Mirror Group (MG PRM)

The PRM Mirror Group activities consisted of participating in and contributing to the TSI PRM revision activities coordinated by ERA. Significant steps have been taken to **increase accessibility** of railway transport and the Mirror Group is proactive and supportive of continuing this trend, particularly where practical technological advances have been made. The Group is also ensuring that the requirements do not exceed what is necessary in order to ensure their appropriate implementation, and that any increase in requirements does not unnecessarily damage the competiveness of the rail sector compared to other modes, thus guaranteeing that **this TSI revision has a positive impact on the sector as a whole**.

Due to the sensitive and quite political nature of this topic area, the original time plan has been extended in order to ensure that the appropriate level of discussion and input can contribute to the revising of this TSI.

Noise Mirror Group

The Noise Mirror Group is carefully following the activities of the TSI Noise revision as the objectives of the TSI revision present some issues themselves. The most controversial issue is the **reduction of the noise emission limit**: the values proposed by ERA are not realistic for the timing requested by a new revision of the TSI, and for this reason UNIFE experts, together with ERA and all the other sector associations, are now developing a **2-step approach**:

1. To indicate in the noise **TSI short term limit values** for noise reduction that will be applied when the noise TSI comes into force

2. To indicate also **long term limit values for noise reduction**: The long term limits should target 6 - 8 years after the latest noise TSI revision and must be revised before coming into force

Moreover, it is worth recalling that a reduction in the maximum noise level permitted for new rolling stocks will not reduce the perceived annoyance caused to the European citizens if no measure looks at the noise factors stemming from infrastructure - the main element of the total rolling noise.

At the same time, proposals on how to improve and simplify the TSI have been supplied to the ERA working party and are under discussion. Moreover, the Noise Mirror Group proposed updates to the noise TSI Application Guide based **upon the first results of the European research project ACOUTRAIN, on the simplified evaluation method;** agreement on this topic is expected at the beginning of 2013.

Running Dynamics Mirror Group

Work took place during 2012 in order to prepare UNIFE participation in the ERA DYN Working Party and to provide

running dynamic input to the UNIFE Rolling Stock Mirror Group, in particular on the issue of **axle load limits and running dynamic functions related to safety.** The Group also followed activities at CEN, notably the **development of EN14363:2012 (E)** which was being drafted by TC256 SG8 and WG10. Related to both CEN and ERA activities, the Running Dynamics Group worked on the Technical Document 001, providing the necessary additional specifications to perform running dynamic behaviour testing of rolling stock. The aim of the document is to introduce relevant new requirements from the future revised EN 14363 into the TSI, helping to close open points, without waiting for the conclusion of the Enquiry for this standard revision. **The Group also followed developments in the EU R&D FP7 project DynoTRAIN, co-ordinated by UNIFE.**

Aerodynamics Mirror Group

Work in the Aerodynamics Mirror Group focussed on following **developments in the FP7 EU R&D project AeroTRAIN**, co-ordinated by UNIFE, as well as on contributions to the Rolling Stock Mirror Group aiming at **closing TSI open points relating to aerodynamic effects**. To this end, inputs from AeroTRAIN were discussed and agreement was reached about how these could be used to close certain open points.

Infrastructure Mirror Group (MG INF)

This year, the Infrastructure Mirror Group has been fully involved in the revision of the infrastructure TSI. Significant successes have been seen in reinforcing **some functional and technical specifications of the infrastructure subsystem** (track parameters, switches and crossings, track sleepers). For instance, the rail profiles of the **EN standard 13674 and the three very basic rail steel properties** (hardness, tensile strength and fatigue strength) are now covered by the Infrastructure TSI. Moreover, there is now a link to the EN standard 13674 in Chapter 6, which gives a clear methodology of the testing activities. It is also important to underline that ERA has decided to keep the interoperability constituents (Chapter 5) in the Infrastructure TSI as suggested by the UNIFE Infrastructure Mirror Group.

The Infrastructure Mirror Group has also interfaced, where necessary, with other groups, including the Rolling Stock Mirror Group, particularly on important topics such as axle load limits. This version of the TSI will also integrate requirements not only relating to standard track gauges, but also **incorporates the 1520mm system**.

Energy Mirror Group (MG ENE)

In 2012 the Energy Mirror Group continued providing proposals to ERA to merge the two existing energy TSIs and to **close the remaining open points**, and continued working on "Chapter 6 Assessment of Conformity and EC verification". An important work has also been done on Chapter 7 **"Implementation" and on the definition of the migration strategy for overhead contact line geometry** (clause 7.2.3). Indeed, the objective of the migration strategy is to create a clear path to the creation of an extended electrified network in the coming years, which is capable of accommodating both pantographs as defined in the Loc & Pas TSI. This version of the TSI will also incorporate the 1520mm system.

The Energy Mirror Group has also interfaced with the Rolling Stock Mirror Group, particularly on important topics such as pantograph geometry.

Final Energy Consumption
by sector 2010 (Mtoe)

	All sectors	- Industry	- Transport	Road	Railways	Air	Inland navigation	Consumption in pipeline transport, etc.
EU27	1153,3	291,6	365,2	299,7	7,4	49,8	5,9	2,4
Share	100 %	25,3 %	31,7 %	82,1 %	2 %	13,6 %	1,6 %	0,7 %
BE	36,4	11,2	10,3	8,4	0,2	1,5	0,2	0,0
BG	8,8	2,5	2,9	2,5	0,0	0,2		0,1
CZ	25,6	8,8	6,3	5,6	0,2	0,3	0,0	0,2
DK	15,5	2,4	5,2	4,0	0,1	0,9	0,2	0,0
DE	217,4	60,5	61,9	51,0	1,8	8,7	0,3	0,1
EE	2,9	0,6	0,8	0,7	0,1	0,0	0,0	0,0
IE	11,8	1,9	4,7	3,9	0,0	0,7	0,0	0,0
EL	19,0	3,5	8,2	6,5	0,0	0,9	0,7	0,0
ES	90,6	23,4	37,2	29,8	0,9	5,4	1,1	0,0
FR	158,8	31,2	50,3	42,0	0,9	6,7	0,3	0,4
IT	124,8	31,1	42,0	36,0	0,4	3,9	1,1	0,5
CY	1,9	0,2	1,0	0,8		0,3		0,0
LV	4,3	0,8	1,2	1,0	0,1	0,1	0,0	0,0
LT	4,8	0,9	1,5	1,4	0,1	0,0	0,0	0,0
LU	4,3	0,7	2,6	2,2	0,0	0,4		0,0
HU	16,7	2,9	4,4	4,0	0,2	0,2	0,0	
MT	0,5	0,1	0,3	0,2		0,1		
NL	54,0	14,3	15,0	11,2	0,2	3,5	0,2	0,0
AT	27,9	8,8	8,8	7,6	0,2	0,7	0,0	0,3
PL	66,3	15,4	17,6	16,5	0,4	0,5		0,3
PT	18,2	5,4	7,4	6,2	0,1	1,0	0,1	
RO	22,5	6,9	5,0	4,4	0,2	0,3	0,1	0,1
SI	5,0	1,3	1,8	1,7	0,0	0,0		0,0
SK	11,6	4,4	2,7	2,2	0,0	0,0		0,4
FI	26,5	11,6	5,0	4,0	0,1	0,7	0,2	0,0
SE	34,4	12,6	8,6	7,4	0,2	0,8	0,2	
UK	143,0	28,2	52,6	38,6	1,0	11,7	1,4	0,0
HR	6,3	1,4	2,1	1,9	0,0	0,1	0,1	0,0
MK	1,8	0,5	0,5	0,4	0,0	0,0	0,0	0,0
TR	73,1	24,0	15,8	13,3	0,2	1,6	0,4	0,2
IS								
NO	19,7	6,1	5,3	3,6	0,1	0,8	0,3	0,1
CH	21,9	3,9	7,4	5,7	0,3	1,5	0,1	0,0

Source: Eurostat, April 2012

Electromagnetic Compatibility Mirror Group (MG EMC)

During 2012, the Mirror Group worked on the preparation of ERA EMC working party, which feeds into the Control Command and Signalling - CCS TSI. It also worked on follow-up, preparation and participation for the **CENELEC TC9X WGA4-2 and WG18 and the EUREMCO project**, co-ordinated by UNIFE.

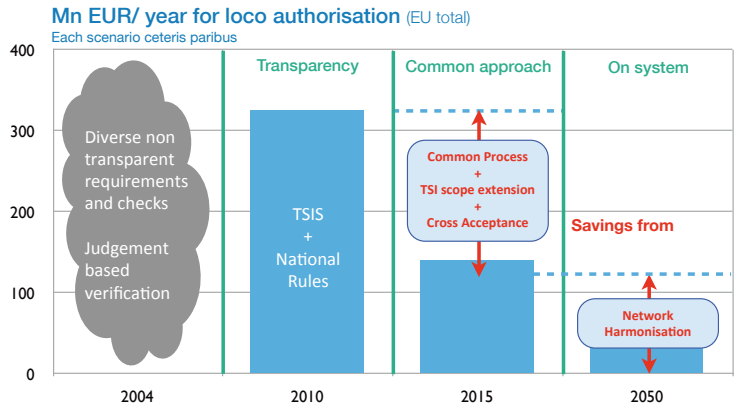
The UNIFE EMC Mirror Group was involved in **discussions on issues such as metal masses, types of Track Circuits which will be permissible in the future**, and in work with colleagues from UNISIG on compatibility between rolling stock and Eurobalise on-board equipment. It was also involved in discussions on **frequency management under 25Kv and DC systems**, as well as in proposals to modify frequency management in current standards and the TSI.

MIRROR GROUPS ON REGULATIONS

Cross-Acceptance and Certification Mirror Group

UNIFE strongly supports the goals and objectives of the Cross-Acceptance Unit at ERA, in particular to **clarify the processes and the conditions for vehicles to be placed into service for achieving a single and harmonised understanding of the authorisation process**. To this end, all the **National Legal Frameworks** have been collected by ERA and will soon be available on the ERA website. Even if the processes are still quite different from each other, **this transparency is a first step towards real harmonisation of the authorisation process.**

Economic benefits of simplification for vehicles and the potential of network harmonisation:



Source: European Railway Agency, 2012

Another important step concerns the National Rules: having been published as PDF files on the ERA website (**http://www.era.europa.eu/Document-Register/Pages/National_Reference_Documents.aspx**), all the National Rules notified through the reference documents are now being transferred into the **Reference Document Database**, a web-based tool collecting and cross-referencing all National Rules. The database is still under testing, but UNIFE is strongly requesting a deadline for the completeness and reliability of this database, to reach the goal of total transparency regarding the rules an applicant has to comply with in order to obtain an authorisation. In this respect, **UNIFE is working closely with ERA to promote the elimination of all unnecessary national technical rules for the harmonisation and clarification of the authorisation process at European level.**

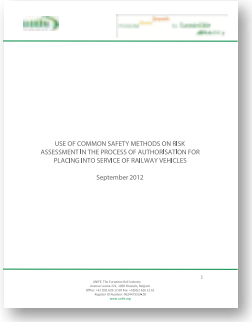
European Registers

UNIFE is actively involved in the ERA activity which delivered **guidelines on the type concept** and the use of ERATV – the European Register for Authorised Types of Vehicles, for modified types belonging to the same family. In addition, ERA has issued a draft report on the complete set of registers foreseen by the European Directives and 3 different scenarios of their use. UNIFE – in conjunction with GRB, strongly recommended to ERA and to the European Commission to focus on the first step, i.e. **to deliver the registers as currently foreseen by the legislation**. After this, a possible enhanced use of the register could improve the exchange of information in real time during operation.

The RDD – Register of Notified National Rules and RINF – the Register of Infrastructure are of particular interest to UNIFE, as they will allow for complete transparency of the rules with which vehicles will have to comply in order to obtain the authorisation for placing into service.

Safety Assurance Mirror Group

UNIFE safety experts are supporting the tasks performed by ERA, as requested by the Safety Directive. In 2012 the main focus was on the **revision of the Common Safety Methods (CSM) on Risk Assessment Regulation**, in particular seeking to clarify the role of the **Independent Safety Assessment Body (ISAB) and the Risk Acceptance Matrix**. Unfortunately, despite several position papers from UNIFE, some of which were issued in conjunction with CER (Community of European Railway and Infrastructure Companies), the Risk Acceptance Matrix is not part of this revision of the Regulation. The European Commission promised that the work on this topic will continue and that a solution will be proposed by ERA in mid-2013.


USE OF COMMON SAFETY METHODS ON RISK ASSESSMENT IN THE PROCESS OF AUTHORISATION FOR PLACING INTO SERVICE OF RAILWAY VEHICLES

September 2012

Pending the publication of the so-called DV29bis by the European Commission, UNIFE also issued a position paper regarding the use of the CSM on RA in the framework of the authorisation process.

The Group also followed the activities on the Common Safety Methods on Monitoring, the Safety Certification and the Safety Performance working parties. In addition, the Group's expertise is often requested for other UNIFE activities, for example for functions essential to safety when described in the TSIs.

UNIFE furthermore participates in CENELEC Working Group 14 for updating standards EN50126, EN50128 and EN50129; the final version of the 50126 standard - that will include former EN50128 and EN50129 - is expected next year.

2. TOPICAL GROUPS

Brakes Topical Group

The main work of the TG Brakes for 2012 has been to **support the activities of the Rolling Stock Mirror Group** with respect to the revision of the Rolling Stock TSIs. The Topical Group also acts as a **link with the brake standardisation world** in order to ensure consistency between standards and regulation. The group is also involved in activities relating to the revision of **braking performance requirements in the Operation TSI**, again in close cooperation with other UNIFE expert groups.

Crash Safety Topical Group

UNIFE's Crash Safety TG has largely been working in collaboration with **UIC Crash Experts on TecRec_100-006** concerned with **Interior Passive Safety**, and members of the group have been regularly participating in the working group meetings which have taken place throughout 2012. Further information is detailed in the TecRec section.

In addition, the Topical Group has also provided specialist support and expertise as required for the TSI revision, particularly for the areas of discussion which relate to Rolling Stock **structural crash worthiness and passive safety requirements**. The group has helped provide information to ensure the TSI Rolling Stock is consistent with the standards, particularly **EN15227 (Crashworthiness standard)**.

CAB Topical Group

In 2012, the TG CAB was strongly involved in the preparation of the **prEN 16186 standard which deals with the driver's cab**, through the participation of UNIFE experts in the CEN Working Group, TC256 WG37. This EN Standard builds on some of the work undertaken to prepare **TecRec 100-002** on driver-machine interfaces, for example the pictograms.

The second enquiry has now started for Part 1; the Standard should be published at the end of 2013 or beginning of 2014.

Life Cycle Assessment Topical Group (TG LCA)

There is a growing customer demand for information on the environmental performance of railway vehicles. **The Environmental Product Declaration** is a voluntarily developed information, the purpose of which is to provide quality-assured and comparable information regarding environmental performance of products in accordance with the standard ISO 14025.

The UNIFE Life Cycle Assessment Topical Group has developed a standardised method to apply **environmental life cycle assessments** in a transparent and reliable way and to communicate the results in a credible way, based on the rules laid out by the International **Environmental Product Declaration® system**.

The first issue of the Product Category Rules for Rail Rolling Stock (PCR), the guideline to create an EPD, was published by UNIFE in 2009. During 2012, the document was updated taking into account new approaches like the **Recyclability and Recoverability Calculation Method** – Railway Rolling Stock, and the Railway Industry Substance List.

The PCR aims to identify and specify the minimum rules and procedures for:

- The functional and performance characteristics of the product category;
- The system boundaries, cut-off criteria and allocation rules to be used in the Life Cycle Assessment study of products belonging to the product category; and
- The information that shall be reported in the EPD

The Life Cycle Assessment Group discusses the improvement of rail eco-performance and the optimisation of production and tendering costs taking into consideration:

- Increasing customer demands; and
- Legislative and standardisation requirements

The railway industry recommends Environmental Performance Declarations which cover the whole supply chain and are based on consensus building in respect of performance indicators, material lists and methodology.

Chemical Risk Topical Group

In 2012, the UNIFE Chemical Risk Topical Group has developed and launched the "**UNIFE Material Declaration Template**". The aim of the template is to **harmonise the information** requested by some of the main system integrators and to develop a common form which would be recognized by all of them. With this new document, the reporting on hazardous substances would be simplified for the suppliers and the same format could be delivered for each system integrator.

The release of the common template is part of the series of actions the European Railway Industry has launched in order to best comply with the **REACH regulation (EC 1907/2006)**. The UNIFE Material Declaration Template can be found under the Railway Industry Substance List website www.unife-database.org which was launched in 2011 and has been recently updated with the latest list on prohibited substances under the REACH regulation.

The UNIFE Chemical Risk Topical Group members urge the industry suppliers to use the UNIFE Material Declaration Template which will be the official format for reporting on substance composition of their products.

The Chemical Risk Topical Group follows up on chemical risk issues and aims to develop a common understanding and harmonised rules for the Rail Industry as well as providing support for railway system integrators and their suppliers in understanding their legal obligations. This UNIFE Group actively covers European legislation - including REACH, CLP, WEEE, and RoHS - and presents the point of view of the Railway Industry during consultations.

C. Other Activities

UNIFE AND NB-RAIL

RELATIONS WITH OTHER SUPPORTING BODIES: NB-RAIL (ASSOCIATION OF NOTIFIED BODIES)

In 2012, UNIFE continued a close cooperation with NB-Rail in order to find common solutions to problems related to the conformity assessment with TSIs and to improve, simplify and speed up the certification process in order to achieve a faster authorisation for the placing into service of subsystems, and vehicles in particular.

Two meetings were held in 2012, also involving the IRIS management, for the quality certification issue; this cooperation will continue in the coming years.

GRB

UNIFE took over the secretariat of GRB – the Group of Representative Bodies, which involves all the sector associations (UNIFE, CER, EIM, UIP, UITP, ERFA and EPPTOLA). In the GRB, all relevant topics regarding standardisation, regulation and research are discussed at sector level, thus allowing the different bodies to find a common sector position, with stronger power towards giving increased influence with the legislators or standardisation bodies, when necessary. The GRB also officially met the ERA management during the **NRB (Network of Representative Bodies) sessions** and is actively involved in the **JNS (Joint Network Secretariat)** together with ERA, NSA (National Safety Authority) and NIB (National Investigation Bodies).

UNIFE SIGNS A NEW MEMORANDUM OF UNDERSTANDING WITH THE EUROPEAN FEDERATION OF RAILWAY TRACK-WORKS CONTRACTORS (EFRTC)

EFRTC represent almost 150 companies that generate collectively approximately EUR 4 billion in turnover only for track-works (excluding materials), and employ over 25 000 people involved in specialised track-works. EFRTC members are involved in major European projects constructing new high-speed lines, including priority projects for the upgrading of the EC Trans-European Network. Moreover, EFRTC members are not only active in Europe but are also involved in international railway projects in around 30 countries, e.g. – South America (Chile, Argentina, Brazil), Asia (Hong-Kong, Vietnam, Taiwan), Africa (Algeria, Morocco, Angola, Mali), USA and Australia.

By signing a new Memorandum of Understanding with the European Federation of Railway Trackworks Contractors at the annual UNIFE General Assembly that took place in Copenhagen from 13 to 15 June 2012, UNIFE and EFRTC reinforce the cooperation between both associations. In particular, joint cooperation will therefore be strengthened in a number of areas, such as standardisation, harmonisation of rules and regulations, cross-acceptance, and issues of other common interest such as technical innovations.

In 2012, UNIFE participated in the EFRTC's general meetings, committees and publications, and in turn EFRTC were also involved in UNIFE's activities. UNIFE participated in EFRTC's bi-annual general meetings and made

presentations on the current European transport policies of relevance to contractors. UNIFE also assisted in the production of the bi-annual newsletters. EFRTC participated at several UNIRAILINFRA committee meetings, which allowed for a useful exchange between the supply sector and the contractors. It reiterated its support for UNIFE policies of promoting a more open and competitive rail market and of the simplification of authorisation processes for track construction and maintenance machinery.

UNIFE-EFRTC COOPERATION: ON TRACK MACHINES (OTM) TASK FORCE GROUP

In 2011, an agreement was reached to set up an EFRTC/UNIFE Task Force on "On Track Machines" (OTM) with joint track-works contractors (EFRTC members) and the manufacturing industry (UNIFE members) leadership. The reason for building an OTM working group was primarily the need for clarification of the relationship of OTMs and the European Railway legal and regulatory technical frameworks, prior to opening dialogue with the European Railway Agency (ERA) and National Safety Authorities (NSA).

EIM and CER also agreed to participate in its double role of representing Infrastructure Managers who own OTM and playing a similar role in the communication with the European Commission and the European Railway Agency.

The OTM Task Force Group missions are:

- To simplify the current processes for authorisation of OTMs with the aim of reducing costs and shortening time for placing the OTM in service;

- To facilitate the cross-acceptance of OTMs with the aim of further opening of the market for construction, renewal and maintenance of railway lines in Europe and increasing the competitiveness of the European construction industry worldwide.

In 2012, a detailed comparison of TSI Locomotives & Passengers and EN 14033 (European norm applicable to OTM) was conducted with the identification of critical items for authorisation and cross-acceptance. Moreover, the OTM Task Force Group has worked with CEN TC 256 /SC1 WG 5 on OTM, aiming at harmonising EN 14033 with the current revision of TSI Locomotives & Passengers. A final report has been produced and an official Request for Change for the TSI Locomotives & Passengers has been officially sent to the European Railway Agency in order to adapt the TSI Locomotives & Passengers with OTM manufacturers' requirements.

UNIFE has great expectations from the extension of scope, which should prevent a situation where two parallel sets of rules have to be applied to secure authorisation: TSIs and the national rules of the country in which the equipment is to be authorised.

Once the TSI scope is extended, all National Rules will have to be superseded by the corresponding requirement of the TSI, and will only apply to duly identified specific cases or open points (if any are remaining). UNIFE is strongly pressuring the European Railway Agency and the European Commission to clarify the process of removing unnecessary national rules.

D. UNIFE and UIC Joint Technical Recommendations (TecRecs)

TECHNICAL RECOMMENDATIONS (TECRECS): A REMINDER

Pending the publication of a European standard (EN), a TecRec will serve as a common standard to improve the competitiveness of the European railway systems. Approved by both UNIFE and UIC, the TecRecs are recognised as a voluntary pre-standard by the rail sector as a whole.

TecRecs are designed to:

- Feed directly into the established European standardisation system, thereby speeding up the formulation of ENs
- Facilitate the optimal publication of important UNIFE/UIC EU-funded R&D project results, improving their chances of market uptake
- Set new product and interface standards, which are of high priorities for UNIFE and UIC

TecRecs will intensify the rail supply industry's contribution to the European rail standardisation system. The UNIFE/UIC Memorandum of Understanding signed in 2009 signifies a new era of collaboration between the industry and rail operators in developing more competitive railway systems.

Two TecRecs, mainly focused on Rolling Stock, were signed and published by UNIFE and UIC:

1. TecRec 100_001: "Specification and verification of Energy consumption for railway rolling stock"
2. TecRec 100_002: "Driver-machine interfaces"

FIRST TECREC TRANSPOSED INTO A TECHNICAL SPECIFICATION BY CEN/CENELEC

The TecRec 100_001: "Specification and verification of Energy consumption for railway rolling stock" was sent to CEN/CENELEC in 2012 and was approved by the CENELEC TC9X to become a CENELEC Technical Specification from 1st January 2013. This TecRec has been developed under the Railenergy project with the support of the energy experts from UNIFE and UIC.

This TecRec aims at providing a comparative framework for assessing energy performance values for train sets or locomotives on a common basis, thereby benchmarking and improving the energy efficiency of all types of rail vehicles.

FURTHER TECREC DEVELOPMENT

INTERIOR PASSIVE SAFETY

Following on from the Safeinteriors project, UNIFE and UIC members have been working together to develop a TecRec for Interior Passive Safety. This group commenced working at the end of 2011 and have continued through 2012 to meet regularly as a working group tasked with drafting this technical recommendation. The main goal of this work is to formulate the basis for a technical standard which covers the findings and recommendations from the Safeinteriors project and also where appropriate draws on previous experience in other projects.

THE PROJECT HAS DEFINED THE TWO MAIN PRINCIPLES OF IMPROVING CRASH SAFETY FOR PASSENGER INTERIORS AS:

1. Minimising the number and severity of occupant injuries (occupant injury reduction)
2. Improving the ability of the occupant to self-evacuate from a rail vehicle if the need to do so arose (occupant egress ability)

The drafting is drawing to a conclusion and several interim drafts have been produced with the intention to soon send a draft to the TecRec steering group for review.

UNIFE RESEARCH & DEVELOPMENT ACTIVITIES

06

A. Projects Submitted under the Sixth Call of the Seventh Framework Programme

B. On-going Projects Coordinated by UNIFE

C. On-going Projects with UNIFE Involvement

D. Finalised Projects

A. Projects Submitted under the Sixth Call of the Seventh Framework Programme

REFRESCO

In November 2012, UNIFE submitted a proposal to the European Commission under the Sixth call of FP7, for a project entitled REFRESCO (Towards a **RE**gulatory **FR**amework for the us**E** of **S**tructural new materials in railway passenger and freight **C**arb**O**dyshells). This was submitted under the topic *Technical requirements for the certification of new materials for railway rolling stock.*

REFRESCO brings together a total of 18 partners, of which 8 are UNIFE members: Alstom Transport, AnsaldoBreda, Bombardier Transportation, CAF, DuPont Transportation, Siemens, Talgo and Vossloh.

The overall objective of the project is to make **recommendations for the necessary adaptations to the current standards to allow the use of lightweight materials such as composites for structural parts in rolling stock car bodies**. While such materials promise much in terms of reduction in energy consumption and in track wear, as well as increases in capacity, the current standards do not take into account rolling stock built from these materials. The project aims to benefit from the substantial work already carried out in other transport sectors, such as aerospace, **to facilitate the use of composites in structural parts**. This project is therefore addressing current and future certification processes with a view to enabling the use of new materials in rolling stock construction.

The proposal is for a total budget of approximately EUR 4.8million with a requested EU contribution of just under EUR 3 million. A decision on whether the project receives European Commission funding is expected by April 2013.

NGTC

In November 2012, UNIFE submitted a proposal to the European Commission under the sixth call of FP7 for a project entitled NGTC (**N**ext **G**eneration of **T**rain **C**ontrol systems in the domain of urban and main line European railway systems). This was submitted under the topic of "Next Generation of Train Control systems in the domain of urban and main line European railway systems", with the aim of **reacting to the increasing market needs on both mainline and urban lines**. The first scope of this proposal is to analyse the commonality and differences of the required functionality for all types of lines, in order to determine the potential degree of convergence of ETCS and CBTC architectures, hardware platforms and system design achievable.

On top of the synergy of both systems, the NGTC project will **aim to apply new technologies to the new train control system**. Based on worldwide market-driven requirements, NGTC proposes research work on Satellite Positioning, the further development of IP Based Radio Communication and a system approach to the Moving Block concept.

All the above mentioned results will be applied to propose a solution based on the already standardised ETCS train protection system and using the experience of the suppliers that have developed sophisticated CBTC systems around the world.

NGTC has a total budget of around EUR 11 million and a requested EU contribution of approximately EUR 6 million. The consortium gathers 19 partners, of which 8 are UNIFE members: Alstom Transport, Ansaldo STS, AZD, Bombardier Transportation, CAF, Invensys Rail, Siemens and Thales, working together for an estimated time of 36 months. The decision on whether the project receives European Commission funding is expected at the beginning of 2013.

FOSTER-RAIL

The project proposal FOSTER-RAIL (**F**uture **O**f **S**urface **T**ransport **R**esearch RAIL) was submitted by ERRAC in November 2012, in the framework of the FP7 sixth call for proposals. This project proposal will follow up on the work performed over the past three years by ERRAC, especially in the framework of ERRAC ROADMAPS.

FOSTER-RAIL foresees the **development of Rail Business Scenarios and an updated Strategic Rail Research and Innovation Agenda (SRRIA).** These activities will be based on the latest document published by ERRAC, "RAILROUTE 2050".

In addition, FOSTER-RAIL plans to continue **working on implementation plans (roadmaps) which take into account the possible standardisation outputs coming from research projects.**

ERRAC will also enhance its relations with other sectors (most notably ERTRAC and WATERBORNE TP, the Technology Platforms of the automotive and waterborne sectors, respectively) but also with other research programmes such as ERA NET and National technology platforms.

The first results from the evaluation of the European Commission are expected in the first quarter of 2013 but an early start of the activities could be foreseen for January 2013. FOSTER-RAIL gathers 20 partners, including Alstom Transport, Ansaldo STS, Bombardier Transportation and MERMEC.

CAPACITY4RAIL

In November 2012, a proposal was submitted to the European Commission under the sixth call of FP7 for a project entitled CAPACITY4RAIL (Increasing **Capacity 4 Rail** networks through enhanced infrastructure and optimised operations). This was submitted under the topic *New concepts for railway infrastructure and operation: adaptable, automated, resilient and high-capacity.*

CAPACITY4RAIL is a proposal coordinated by UIC with UNIFE involved as partner. The consortium brings together a total of 48 partners, of which 8 are UNIFE members: Ansaldo STS, Knorr-Bremse, Oltis Group, Voestalpine VAE, Vossloh Cogifer, Vossloh Fastening Systems, Tata Steel and EFRTC.

CAPACITY4RAIL will deliver **innovative research** and will prepare rail for the future, taking into account results from previous research projects and programmes. The project will deliver both **technical demonstrations and recommendations that will be the basis for future research and investment, increasing the capacities of rail networks** in the future. New concepts for low maintenance infrastructure, using standardised and "plug-and-play" concepts, will be proposed. Non-intrusive innovative monitoring techniques or self-monitoring infrastructure will be investigated, allowing low or no impact on train operations. The resilience of switches to any kind of known failure will be reinforced, as well as the ability of the operation system to recover from incidents. Capacity enhancements will also be achieved by higher speed freight vehicles, allowing an optimised interleaving of freight trains into mixed traffic, and improved planning models for operation.

The proposal is for a total budget of around EUR 15.5 million with a requested EU contribution of just under EUR 10 million.

TRANQUIL

In November 2012, a proposal was also submitted to the European Commission under the sixth call of FP7 for a project entitled TRANQUIL (**Tra**ck **N**oise Reduction for a **Qu**ieter **L**iving Environment). This was submitted under the topic *Track optimisation and monitoring for further noise reduction.*

TRANQUIL is a proposal coordinated by UIC with UNIFE involved as partner. The consortium brings together a total of 23 partners, of which 6 are UNIFE members: Alstom Transport, RAIL.ONE, Tata Steel, Vossloh Cogifer, Vossloh Fastening Systems and Vibratec.

TRANQUIL will:

- **improve the understanding of noise produced by the track, developing improved models which will enable development of optimised noise mitigation solutions at the source.**
- develop and propose innovative solutions for both ballasted and slab structures, from the optimisation of single components to the development of new concepts of infrastructure.
- **identify optimised maintenance strategies and practices for the sustainability of the track acoustic performance**
- provide a valuable input to the European TSI regulation, better defining track noise characteristics both in relation to type testing and in-service noise emission from railways.
- produce noise management tools which will help to both fulfil requirements of the European Noise Directive for noise mapping and action plans, and resolve noise hotspots and integrate noise management into the overall track maintenance strategy.

The proposal is for a total budget of around EUR 4.5 million with a requested EU contribution of just under EUR 3 million.

B. On-going Projects Coordinated by UNIFE

ACOUTRAIN

ACOUTRAIN (Virtual certification of acoustic performance for freight and passenger trains) is a three year European research project that began in October 2011 with a budget of around EUR 3 million. ACOUTRAIN involves the following UNIFE members: ABB, Alstom Transport, Bombardier Transportation, Talgo and Vibratec.

ACOUTRAIN's main objective, **promoting the interoperability of rail traffic in Europe, can be detailed as dramatically reducing the time and cost of the TSI Noise conformity assessment procedure and harmonising the process for noise conformity assessment across Europe by providing standard procedures**. Equally important are the objectives of clarifying the application of the simplified evaluation method introduced by the partial revision of the TSI Noise by providing specific examples, and investigating a wider technical scope and impact of the certification procedure. The expected project results are a standard process of when and how to use virtual certification, the validation of a procedure for the suitability of the tools, standards on how to assess the outcome of virtual certification, and a proposal for the **future revision of the TSI Noise which includes acoustic virtual certification**.

The project was presented at InnoTrans 2012 and at the Transport Research Arena 2012 event in Athens. Furthermore, on 26 September 2012, an ACOUTRAIN public workshop took place in Brussels. This workshop brought together project partners and railway stakeholders (European Railway Agency, CEN/CENELEC, manufacturers, operators and research institutes). The objectives of this event were to present the project's results on the clarification of the simplified evaluation method (directly linked to the current revision of the TSI Noise) and to present the progress of the work on virtual certification. The results presented were welcomed by the railway stakeholders, who are eagerly anticipating the final results on virtual certification. The results on the clarifications of the simplified evaluation method should be implemented in the new TSI Noise.

For more information on ACOUTRAIN please visit: **www.acoutrain.eu**

CLEANER-D

CleanER-D (**Clean E**uropean **R**ail-**D**iesel) is a research project partly funded by the European Commission under the Seventh Framework Programme that started in June 2009. This four year project (budget: EUR 13.6 million of which EUR 8 million is EU funded) **aims at developing, improving and integrating emissions reduction technologies for diesel applications, which are compliant with the requirements of stage IIIB of the NRMM Directive.** CleanER-D involves the following UNIFE members: Alstom Transport, Bombardier Transportation, Saft, Siemens, Voith and Vossloh.

In the operational subprojects, the final design of the engine compartment was installed in the locomotives and the detailed check-up of the vehicles was performed. After the installation was completed, validation tests were carried out on the new equipment installed on the locomotives. In autumn 2012, the locomotives started the field-follow programme and will perform revenue service until mid-2013.

The Sustainability and Integration subproject has a strong focus on the socio-economic and green aspects of rail diesel applications. Preliminary results show that from 1990 to 2008, NOx and PM emissions have already decreased by approximately 35 %, and calculations by the CleanER-D consortium suggest a further decrease of NOx by slightly more than 20% from 2008 to 2020, with a reduction of more than 25% for PM over the same period. This subproject has developed a methodology for cost/benefit analysis and the calculation of life cycle costs of rail vehicles complying with the latest emission limits set by the European Commission under the NRMM Directive. These are core elements for the assessment of how the introduction of clean diesel technologies for rail impacts the overall emission performance of the European rail Diesel fleet.

The Emerging Technologies subproject deals with the analysis of the impact that current and future innovations, in terms of after-treatment systems, are likely to have. Other key activities include a **strong focus given to the influence of fuel type and quality on emissions, evaluating DPF (Diesel Particle Filter) regeneration strategies**.

The Hybrid subproject evaluates the energy saving potential of on-board energy storage systems (ESS) for diesel-driven rail vehicles. The use of hybrid drive systems ensures a higher energy efficiency and therefore reduces fuel consumption, as well as both CO2 and pollutant emissions. Simulations of system architectures with ESS identify that fuel savings of up to 30 % can be achieved through ESS even with the same system architecture. The most promising reduction can be achieved for DMUs or shunting locomotives.

The UNIFE Diesel Topical Group members are constantly contributing to the project results and reports, directly as project partners or via the Topical Group through expert consultation.

For more information on CleanER-D please visit: **www.cleaner-d.eu**

EURAXLES

EURAXLES (Minimizing the risk of fatigue failure of railway axles) was launched in November 2010, under the FP7 third call. The project gathers 23 key rail players, including manufacturers, operators, suppliers, and Academic Institutions, in a far-reaching project that **aims to bring the risk of axle failure in rail transport to a minimum**, thereby further improving the operation of the European interoperable railway system.

The main concept of the EURAXLES project is to follow three complementary routes which take into account in an **innovative way the combined influence of axle design, production and maintenance standard parameters, whilst retaining a safe management of the life cycle**. This includes: improving the axle load definition, progressing beyond the state of the art by resolving the problems associated with existing surface coating methods (corrosion, damage) through improved adhesion and new innovative coating and treatment processes; and enhancing the currently-used ultrasonic techniques for inspecting the complete volume of the axle.

In addition, RAMS and LCC analyses will be undertaken in EURAXLES to assess the market uptake of the investigated solution. EURAXLES will yield positive results for the environment in the coatings and adhesion methods it develops that will avoid or severely limit VOC emissions.

The project is now entering its final year. The next steps will be critical as the full scale tests are launched, with the first results expected in the first half of 2013. The consortium held its 2nd General Meeting in November 2012 in Brussels.

The EUR 2.6 million funding project is steered by the following UNIFE members: Alstom Transport, AnsaldoBreda, Bonatrans, CAF, GHH-Valdunes, Lucchini RS, MERMEC and RAFIL.

For more information on EURAXLES, please visit: **www.euraxles.eu**

EUREMCO

EUREMCO (**EU**ropean **R**ailway **E**lectro**M**agnetic **CO**mpatibility) began in October 2011. It involves the following UNIFE members: Alstom Transport, Bombardier Transportation and Siemens. Partners from other parts of the rail sector include Railway Undertakings, such as DB, SNCF and Trenitalia, and Infrastructure Managers such as Network Rail and ProRail. Academic Institutions and Research Centres are also involved in the project. The project has a planned duration of 36 months, and will finish in September 2014.

The main objective of EUREMCO is to **harmonise and reduce the certification process of rail vehicles against Electromagnetic Compatibility (EMC)**. The main concept of the project is to specify the conditions for cross-accepted certification all around Europe, through sound scientific methodologies allowing for the identification of the "transfer functions" to be applied to results obtained on different test tracks in different countries, for the same power supply system. By also addressing non-electrified lines, the project will cover the entire European railway network. By helping to close the corresponding "open points" in the TSIs, the project will lead to a time and cost reduction in the **certification process of rail vehicles against Electromagnetic Compatibility issues**, corresponding to an estimated saving of EUR 60 million for the next 15 years.

Work has been undertaken towards collecting information and experience relating to the management of EMC issues in the various countries (such as Austria, Belgium, France, Germany and the United Kingdom) which are represented in EUREMCO. A great deal of work has also taken place in various Work Packages to plan and prepare test campaigns. The data measured and collected in these campaigns will inform much of the remaining project work. Towards the end of 2012, Work Packages 4 and 5 conducted a successful test campaign in Belgium, France and Italy.

In 2013, work will involve the analysis and processing of the data collected from these tests, as well as the planning, preparation and execution of test campaigns in other Work Packages.

For more information on EUREMCO please visit: **www.euremco.eu**

MERLIN

In October 2012, the consortium, led by UNIFE, successfully launched the MERLIN project (Sustainable and intelligent **M**anagement of **E**nergy for smarter **R**ai**L**way systems in Europe: an **IN**tegrated optimisation approach). The project was submitted under the topic *"Management of Energy in Railways"* and seeks to follow previous UNIFE coordinated projects such as Railenergy, by looking at the energy management of the entire European Rail system. A further objective is to consider the implications of the recent efforts to liberalise the electricity market.

MERLIN's main aim and purpose is to investigate and demonstrate the viability of an integrated management system to achieve a more sustainable and optimised energy usage in European electric mainline railway systems.

MERLIN will provide an integrated optimisation approach that includes multiple elements, dynamic forecasting, supply-demand scenarios and cost considerations to support operational decisions leading to a cost-effective intelligent management of energy and resources through:

- Improved design of existing and new railway distribution networks and electrical systems as well as their interfaces with the public grid and considering network interconnections
- Better understanding of the influence on energy demand of operations and operational procedures of the different elements of the railway system
- Identification of technologies and solutions able to further contribute to the optimisation of energy usage;
- More efficient traction energy supply based on optimised use of resources
- Understanding of the cross-dependency between these different technological solutions to define optimum combinations for optimised energy usage
- Improving cost effectiveness of the overall railway system
- Contribution to European standardisation (TecRec)

MERLIN will also deliver the interface protocol and the architecture for energy management systems in the railway domain, combining the technical development with new business models that would enable and foster their application.

The project is planned to last 36 months with an expected finish date of September 2015. The total

budget of the project is EUR 7.1 million with almost EUR 4.5 million EU funded under the Seventh Framework Programme. The UNIFE members involved in the project are Alstom Transport, AnsaldoBreda, Ansaldo STS, CAF, MERMEC, Oltis Group, and Siemens.

For more information on MERLIN please visit: **www.merlin-rail.eu**

OSIRIS

The OSIRIS project (**O**ptimal **S**trategy to **I**nnovate and **R**educe Energy Consumption **I**n Urban Rail **S**ystems) has accomplished its first year. The project is partly funded by the European Commission under the Seventh Framework Program. The total budget is EUR 8 million of which EUR 4.3 million is EU funded. OSIRIS has 17 partners, including the following UNIFE members: Alstom Transport, Ansaldo STS, AREVA, CAF, Saft and Siemens.

Urban rail systems are complex environments and their energy consumption is characterised by a wide range of interdependent factors. Aside from the energy performance of urban rail vehicles, it is also necessary to consider the energy associated with the infrastructure, as well as the influence of the modes of operation.

During the first year, one of the **major achievements of the project was to elaborate adequate and measurable energy consumption-related Key Performance Indicators** (KPIs) for urban rail systems as well as rules for measurement and formulas for calculation. These KPIs take into consideration the entire system, the rolling stock (in service or parked mode) and stations. In addition, the operational requirements and needs were identified by the relevant project partners and the benchmarking database has been developed for data collection. The first User Group meeting was held at the end of 2012, due to the importance of receiving feedback on the preliminary results from non-direct members of the consortium. The group is composed of UNIFE and UITP members.

In the coming year, the project will focus on **identifying the standard duty cycles for urban rail applications**. The development of the overall model taking into account electric as well as thermal energy will continue. The Technical Recommendation on the safety risk assessment of on-board energy storage systems will be completed, while the technology development and their validations will come to maturity.

For more information on OSIRIS please visit: **www.osirisrail.eu**

DYNOTRAIN

TrioTRAIN is a cluster of three integrated FP7 projects, AeroTRAIN, DynoTRAIN and PantoTRAIN which seek to **simplify the authorisation process for the placing in service of rail vehicles**.

The projects began in June 2009. AeroTRAIN and PantoTRAIN finished on 31 May 2012. You may read more about these projects in the section D. Finalised Projects in 2012.

DynoTRAIN (Railway Vehicle Dynamics and Track Interactions: **T**otal **R**egulatory **A**cceptance for the **I**nteroperable

Network) continues until 31 May 2013. This project has a budget of around EUR 5.5 million. DynoTRAIN involves the following UNIFE members: Alstom Transport, AnsaldoBreda, Bombardier Transportation, CAF and Siemens.

In 2012, the project continued analysis of data from the test runs, during which both static and dynamic test data was captured, and with the finalisation of the technical and scientific work. Some Work Packages were completed in 2012, such as the work on track loading limits and network access, with the remainder of the work on course to complete in 2013. Also in 2012, a workshop was organised by the Work Package looking at model building and validation, in order to engage with all the main experts in Europe, both inside and outside of the project.
This was a great success and will inform the remaining work in this Work Package.

This year will see the technical work being brought to a conclusion, and the peer review of the main scientific deliverables containing proposals for standards and regulation. The technical and scientific results will give rise to proposals for integration to standards, and these will be peer reviewed prior to project completion. This will ensure a sound consensus from within and across the project on the final output.

In 2012 there has been interest in the project from the American Federal Railroad Administration, and the project held a meeting with this organisation. Liaison activities have also taken place with ERA officers and with CEN TC256 WG10.

Work will continue in 2013 on track and contact geometry, model building and validation and virtual certification of modified vehicles, as DynoTRAIN draws to a close.

For more information on DynoTRAIN please visit: **www.triotrain.eu**

C. On-going Projects with UNIFE Involvement

AUTOMAIN

AUTOMAIN (**A**ugmented **U**sage of **T**rack by **O**ptimisation of **M**aintenance, **A**llocation and **I**nspection of railway **N**etworks) is a three-year European research project that began in February 2011 with a budget of around EUR 3.8 million. The project aims to optimise railway track inspection, maintenance and possessions, and develop processes and technology so that railway infrastructure is only maintained when intervention is needed. Within the project, research is being carried out in the areas of railway infrastructure inspection, high speed maintenance and possession planning.

The project was presented at InnoTrans 2012 and at the Transport Research Arena 2012 event in Athens. Moreover a first public dissemination workshop took place on 4 October 2012 in Paris. This event provided the participants with: an overview of the project; the results of the research carried out to date; and the opportunity to be involved in the project's future stages. The plans for the final year of the project were also presented at the workshop.

To date, the project has delivered interesting results on:

- Functional requirements, key performance indicators and evaluation criteria for more efficient track maintenance; and
- Process improvement tools for track maintenance

Henri Olink (Project Coordinator, ProRail)

The final project results and final outputs-demonstrators of the project will be presented at the second and third workshop that will take place in 2013.

UNIFE's main role is dissemination and communication. The project is coordinated by ProRail. UNIFE members involved in the project are: MERMEC, Strukton Rail, Vossloh Cogifer and EFRTC.

For more information on AUTOMAIN please visit:
www.automain.eu

ECUC

ECUC (**E**ddy **CU**rrent Brake **C**ompatibility) is a three year European research project that began in September 2012 with a budget of around EUR 3.2 million. **The project aims to improve the understanding of the interaction between Eddy Current Brakes (ECB) and the track, including trackside equipment**.

Therefore, the ECUC project's primary objective is to prove that ECB is a highly effective and **applicable solution for increasing the braking capacity of new high-speed trains**. Secondly, it aims to solve the existing concerns by proposing concrete and realistic solutions to overcome any possible drawbacks that ECB have experienced on some lines. A **new generation linear eddy current brake** will be designed and the study of incompatibilities will be performed in two domains: electromagnetic and thermo-mechanical. Moreover, the test setup and test site that enables the approval test for linear eddy current brakes, focusing not only on the functionality but also on thermal, mechanical and electromagnetic requirements, will be designed.

UNIFE is the leader of the Work Package dealing with dissemination and exploitation. The project is coordinated by CEIT (Centro de Estudios e Investigaciones Técnicas). UNIFE members involved in the project are: Alstom Transport and Knorr-Bremse.

For more information on ECUC please visit:
www.ecuc-project.eu

MARATHON

MARATHON (**MA**ke **RA**il **T**he **HO**pe for **P**rotecting **N**ature) is an EU FP7 co-funded project **aiming to increase network capacity and cost efficiency by the coupling of two classical trains**, the two locomotives of the train are then connected via a radio link with a driver controlling the front and middle locomotive from the master locomotive (usually the front loco). This need has been reinforced by market studies which show great potential for these types of trains.

MARATHON will look at deploying "longer, faster and heavier trains" on the existing infrastructure. A key technical solution to be developed by the project is a wireless communication device which can enable two locomotives and trains to be connected together with the middle locomotive operated remotely from the front locomotive. The project has confirmed that it is technically possible with the use of a radio link to drive a "Marathon" train with a length of up to 1500m. Further tests have been performed in France between Lyon and LeBolou using real train circulations to identify the appropriate communication technologies and radio frequencies able to provide uninterrupted radio signals. Simulations have also been conducted to analyse the longitudinal effects that Marathon trains may endure. These tests will complement the brake tests.

UNIFE's main role is dissemination and coordinating the development of technical recommendations that will be useful for the industry. UNIFE has organised MARATHON promotion at several events including InnoTrans 2012 and the Transport Research Arena conference hosted in Athens in April 2012. The project will run for 36 months in total and has an overall budget of EUR 4.38 million. The project is coordinated by D'Appolonia and the technical leader is NewOpera. UNIFE members involved in the project are Alstom Transport, Cerontech, Faiveley and Vossloh.

For more information on MARATHON please visit: **www.marathon-project.eu**

PROTECTRAIL

PROTECTRAIL (The Railway-Industry Partnership for Integrated Security of Rail Transport) is a European integration project with the objective of **developing an interoperable and modular architectural framework for mainline rail security solutions**. Eventually, this framework would allow the creation of a system architecture that makes **plug-and-play for security solutions** possible. It will be possible to integrate new solutions easily into existing security systems. The project developed different scenarios in 2012 which will be tested in a demonstration that is to be held in autumn 2013.

Together with UIC, UNIFE takes a leading role in dissemination. In 2012 the project was presented at InnoTrans, to reach out to the rail industry, and was also present at the London Transport and Security Expo in order to raise awareness of PROTECTRAIL in the security industry sector and in the United Kingdom. The project held its midterm conference in Bratislava in conjunction with the UIC World Security Congress. For 2013 a project video is planned that will explain the demonstration and analyse its results. This will allow PROTECTRAIL to reach an even larger audience.

PROTECTRAIL is co-funded by the European Commission within the framework of the FP7 programme and has a

total budget of EUR 20 million.

For more information on PROTECTRAIL please visit: **www.protectrail.eu**

RIVAS

RIVAS (**R**ailway **I**nduced **Vi**bration **A**batement **S**olutions) is a three-year European research project that began in January 2011 with a budget of around EUR 8.2 million. The project aims at reducing the environmental impact of ground-borne vibration while safeguarding the commercial competitiveness of the railway sector. For several areas of concern, vibration should be reduced to near or even below the threshold of perception. The project's goal is therefore to provide the tools to solve vibration problems for surface lines by 2013.

The key deliverables of the RIVAS project are:

- Assessment of the benefits of mitigation measures in terms of human response and agreed protocol for the evaluation of annoyance and exposure to vibration
- Agreed measurement protocols to assess and monitor the performance of anti-vibration measures
- Agreed protocol to characterise vibration response properties of soils
- Guidelines for track and vehicle maintenance geared towards low vibration
- Mitigation measures for ballasted and slab track
- Guidelines for the design of transmission mitigation measures under/next to the track and
- Guidelines for the design of low vibration vehicles

The project was presented at InnoTrans 2012 and at the Transport Research Arena 2012 event in Athens. Moreover a public dissemination workshop took place on 26 October 2012 in Venice. This event provided the participants with an overview of the project and the results of the research carried out to date. It also presented the plans for the final year of the project.

The final project results and final outputs-demonstrators of the project will be presented at the second and third workshop that will take place in 2013.

UNIFE's main role is dissemination and communication. The project is coordinated by ProRail. UNIFE members involved in the project are: MERMEC, Strukton Rail, Vossloh Cogifer and EFRTC.

For more information on RIVAS please visit: **www.rivas-project.eu**

SUSTRAIL

SUSTRAIL (The sustainable freight railway: designing the freight vehicle/track system for higher delivered tonnage with improved availability at reduced cost) is a four year European research project that began in January 2011 with a budget of around EUR 9.5 million. The project **aims to contribute to a new era of increased competitiveness for the rail freight sector by adopting a holistic approach, implementing a clear methodology and viable procedures for a combined improvement in both freight vehicles and track components**. New design models including aerodynamics and novel lightweight materials with a targeted increase in speed and axle-load will be implemented for freight vehicles.

MODEL SPLIT OF INLAND FREIGHT TRANSPORT

	Roads	Railways	Inland Waterways
EU-27	77.5%	16.5%	5.9%
Germany	67.0%	20.9%	12.1%
France	81.0%	15.9%	4.1%
Italy	91.0%	9.0%	-
Spain	96.6%	3.4%	-
UK	86.7%	13.2%	0.1%
Sweden	62.5%	37.5%	-
Greece	97.8%	2.2%	-

Source: EUROSTAT 2009

The benefit will be an increased performance of the whole rail freight system (vehicle and track), which will be assessed and quantified through the implementation of appropriate life cycle and cost analyses. Finally, business cases will be produced to demonstrate that the contributions, solutions and innovations that SUSTRAIL aims to introduce in the railway sector are viable on real routes.

The project was presented at InnoTrans 2012 and at the Transport Research Arena 2012 event in Athens.

UNIFE's main role is dissemination and communication. The project is coordinated by Consorzio Train. UNIFE members involved in the project are: Lucchini RS, MERMEC and Tata Steel.

For more information on SUSTRAIL please visit: **www.sustrail.eu**

SECUR-ED

SECUR-ED (**Se**cured Urban Transportation – A **E**uropean **D**emonstration) is a demonstration project with the objective to provide a **set of tools and procedures to improve urban transport security**.The project which started in April 2011, is co-financed by the European Commission in the framework of FP7, has a budget of EUR 40 million and a duration of 42 months. It brings together 40 partners, including major security technology providers, rolling stock manufacturers and public transport operators. It includes UNIFE members, such as Alstom Transport, Ansaldo STS, Bombardier Transportation and Thales. A key element of the project is the demonstrations which will take place in Paris, Madrid, Berlin and Milan. The outcomes of the project will be tested and validated in realistic scenarios. **Each demonstration focuses on different technologies and threats, ranging from CCTV and video analytics to CBRN-E and intrusion detection.** SECUR-ED also focuses on a non-technological approach to security by including the

development of training and lesson plans for operational public transport workers. All **solutions are designed to be transferable, scalable and adaptable to the needs of different public transport systems**. The demonstrations will take place during the course of 2013 and 2014.

UNIFE is predominantly involved in the dissemination and has organised a series of events, and has coordinated the participation of project partners in conferences. SECUR-ED was represented at stands in a number of events, including InnoTrans, IT Trans, Transport and Security Expo, and the International Transport Forum. SECUR-ED is also working on several project videos which will present the project and its results to all interested stakeholders. UNIFE is also the contact for the Industry Advisory Group where interested companies can follow the project and give advice to the consortium.

On 30 May 2013, SECUR-ED will hold its midterm conference in Geneva.

For more information on SECUR-ED please visit: **www.secur-ed.eu**

TIGER DEMO

TIGER DEMO (**T**rans-**R**ail **I**ntegrated **G**oods **E**uropean-Express **R**outes **Demo**nstrators) is the continuation of the TIGER Project coordinated by NewOpera, you may read more about this project in the chapter on projects which finished in 2012.

The project which started in April 2011is co-financed by the European Commission under the framework of FP7 and has a budget of around EUR 6 million with a duration of 30 months.

TIGER DEMO will accompany the original TIGER Pilots into full scale demonstrations. During the Full Scale Demonstration, TIGER DEMO will manage the various fine-tuning of services, with their effective performances being fundamental for achieving the full commercial exploitation in the market place.

The project is planning inter-modal solutions for maritime traffic flows in four different geographical locations in Europe. Such solutions take into consideration both the geographical particularities of each zone and their operational environment.

UNIFE is involved in the dissemination activities to ensure that the project deliverables are in line with the interests of the UNIFE members. The project is coordinated by NewOpera and there are no UNIFE members directly involved as partner.

For more Information on TIGER DEMO please visit: **www.tigerdemo-project.eu**

D. Finalised Projects

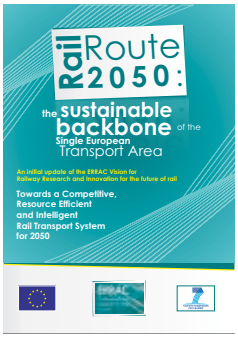
ERRAC & ERRAC ROADMAPS

ERRAC, the European Rail Research Advisory Council is responsible, at European level, for providing expertise to the European Commission (especially DG Research and Innovation) regarding rail research.
The platform has in the past published the Strategic Rail Research Agenda (SRRA) which has provided guidance for developing Research Work Programmes.

In summer 2012, ERRAC finalised the project ERRAC ROADMAPS that started in June 2009. The project aimed at **developing research roadmaps in rail for guiding research efforts.**

A total of 9 single roadmaps, in different areas, were developed by 5 main Work Packages:

- WP01 – The Greening of surface Transport led by SNCF and Knorr-Bremse
- WP02 – Encouraging modal shift (long distance) and decongesting transport corridors, led by Trafikverket and EPF
- WP03 – Ensuring sustainable urban transport, led by UITP and Ansaldo STS
- WP04 – Improving safety and security, led by RFI and MERMEC
- WP05 – Strengthening Competitiveness, led by Network Rail and Tata Steel



ERRAC also officially handed-over the vision document "RAILROUTE 2050" to the European Commission during the last ERRAC Plenary Meeting. This document establishes a vision to step up rail research, development and innovation. **"RAILROUTE 2050" offers a range of research opportunities for a competitive, resource-efficient, and intelligent rail transport system that meet the future demands of European citizens, stipulates economic growth, creates European jobs, and strengthens the position of the European rail sector in global competition**. It will serve as a basis for the future work to be done by the platform.

2012 was also the year of change for ERRAC as Josef Doppelbauer (Bombardier) took over the Chairmanship in July 2012 from Andrew McNaughton (HS2). Andy Doherty (Network Rail), representing the rail operating community, and Manuel Pereira (IST Lisbon) representing the Academic Institutions act as Vice-Chairmen.

In order to modernise and adapt the platform to the

Dan Otteborn (Vice-President Bombardier Transportation), Yves Amsler (UITP), Josef Doppelbauer (Chairman SHIFT²RAIL Steering Committee, CTO, Bombardier Transportation) Máire Geoghegan-Quinn (European Commissioner Research, Innovation and Science) Marcel Verslype (Executive Director, European Railway Agency)

current needs, a new working structure is set to be introduced in 2013. Most notably, the introduction of Strategic Board, a new high-level committee which will be in charge of providing strategic guidance to ERRAC, especially in the framework of the proposed rail Joint Technology Initiative (JTI), SHIFT²RAIL.

The year 2013 will also be important for ERRAC due to the preparation, jointly with the European Commission, of the launching of HORIZON 2020; the successor of the Seventh Framework Programme (FP7).

MODSAFE

The MODSafe (Modular Urban Transport Safety and Security Analysis) project has reached the last year of its four year duration. In summary, with regards to the safety aspects, a hazard and risk analysis, safety requirements and functional model development have been completed. Regarding the safety aspects, **life cycle and certification approaches have been proposed**. Concerning security, existing means and technologies for security systems have been analysed.

The project has developed:

- A Safety Model for Urban Guided Transport Systems
  Since train control system architectures may of course differ, no generic safety requirement could be put on specific components, but the relationship has been demonstrated in principle
- Common Life Cycle Approach Proposal
  The project identified differences and similarities in the processes of different EU countries, analysed the regulatory background and the main phases of the safety life cycle
- Recommendation for security in Urban Guided Transport Systems

The main objective was to identify, categorise and assess the relevant technologies for security surveillance and prevention and to integrate them in an overall security model. The project has developed recommendations supporting targeted solutions for the improvement of urban guided transport security.

For more information on MODSafe please visit: **www.modsafe.eu**

PM'N'IDEA

PM'n'IDEA (**P**redictive **M**aintenance employing **N**on-intrusive **I**nspection & **D**ata **A**nalysis) is a co-funded European research project focused on developing **innovative inspection and maintenance technologies for railway track infrastructure**. It is a three year project that ended in May 2012 with a budget of around EUR 5 million. UNIFE is the coordinator of the project and PM'n'IDEA involves the following UNIFE members: Alstom Transport, MERMEC and Tata Steel.

PM'n'IDEA is focused on the development of non-intrusive track inspection systems to increase track availability, increase life span and reduce life cycle costs of track components, and improve the safety of both workers and users of urban rail systems. The project has utilised and further developed existing innovative technologies to monitor the health status and the rate of degradation of track components to provide visibility of future maintenance and renewal requirements.

The project delivered six Key Innovations that are aimed **at improving the integrity of urban rail transport networks through the deployment of intelligent design and sensor technologies into cost effective products and targeted non-intrusive monitoring processes**:

- Key Innovation 1: Intelligent image acquisition and analysis system for track inspections
- Key Innovation 2: Laser sensors dimensional measuring system with on-board diagnostics
- Key Innovation 3: Assessment of internal integrity of embedded rails
- Key Innovation 4: Inspection technologies for the assessment of track quality
- Key Innovation 5: Establishing actionable boundary limits for the wear of rails
- Key Innovation 6: Automatic assessment of degradation and the integrity of intelligent track components

PM'n'IDEA was presented by the project team to Máire Geoghegan-Quinn, the European Commissioner for Research, Innovation and Science during TRA 2012

These Key Innovations have been successfully tested on live networks within the three year time scale of the project. In summary, the project partners of the PM'n'IDEA project have successfully developed solutions to the challenges handed to them by the Infrastructure Managers.

For more information on PM'n'IDEA please visit: **www.pmnidea.eu**

TIGER

TIGER project (**T**ransit via **I**nnovative **G**ateway concepts solving **E**uropean - intermodal **R**ail needs) is a Large Scale Integrated Collaborative Project for the development of Rail transport in competitive and co-modal freight logistics chains that ended after 3 years of activities on 27 September 2012 in Brussels with the Tiger Final Report Book presentation.

The project had an overall budget of a EUR 13.5 million and gathered 20 European partners in its consortium. UNIFE was involved in the dissemination activities to ensure that the project deliverables are in line with the interests of the UNIFE members – copies of the final TIGER Final Report Book are available at UNIFE. The project is coordinated by Consorzio Train and no UNIFE members were directly involved as a partner.
TIGER has studied the necessary step changes for providing a solution to EU ports and road congestion. In order to approach these challenges from different geographical locations, four separate demonstrations were planned to support the development of inter-modality in Europe by providing suitable answers for problem solving.

The Maritime Market Assessment traffic projection for 2015-2020 conducted for the 6 nominated TIGER ports of Genoa, Gioia Tauro, Taranto, Hamburg, Bremerhaven and Jade-Weser (Wilhelmshaven) was the first research activity completed for TIGER project. This research work was a fundamental pillar providing the database for the TIGER pilot demonstrators.

The continuation of the four demonstrators will be part of the TIGER DEMO project.

For more information on TIGER please visit: **www.tigerproject.eu**

TRA

The **T**ransport **R**esearch **A**rena (TRA) is an intermodal conference organised by the main Surface Transport European Technology Platforms and the European Commission: the European Railway Research Advisory Council (ERRAC), the European Road Research Advisory Council (ERTRAC) and WATERBORNE TP.

The main objective of the TRA2012 was to contribute to innovation in sustainable mobility for Europe, by bringing together all the stakeholders of the transport system. The TRA gives the opportunity for the road, rail and maritime sectors to address common challenges and share knowledge in order to deliver together a greener, safer and smarter transport system. In pursuing its objective of sustainable mobility for Europe, TRA enhances the global competitiveness of the European Union by promoting the three aspects of the knowledge triangle: **Research - Education - Innovation.**

The conference was successfully held in April 2012 in Athens (Greece) and gathered over 1 000 participants. UNIFE, through ERRAC, was actively involved in the preparation and during the conference. In addition to a stand, UNIFE presented EU research projects (including, but not exclusively, RAILENERGY, TRIOTRAIN, PM'n'IDEA and PROTECTRAIL) and participated to several sessions on European Transport Policy.

The next edition of TRA will be held in Paris, in April 2014.

For more information on TRA, please visit:
www.traconference.eu

TRANSFEU

TRANSFEU (Transport Fire Safety Engineering in the European Union) was launched in April 2009 and aimed at developing a holistic approach of fire-safety performance based on design methodology able to support efficiently European surface transport standardisation.

The project aimed at contributing directly to the finalisation of the CEN EN 45545 Part 2 for a dynamic measure of toxicity, and to use FSE and simulation as a possible alternative to current fire safety regulation and standard.

The project ended in November 2012 with successful results, most notably the numerical simulation tools in addition to full scale tests.

UNIFE successfully organised the project final conference in September in Brussels. The event was attended by over 50 representatives coming from interested stakeholders as well as the European Commission.

For more information on TRANSFEU, please visit: **www.transfeu.eu**

TRIOTRAIN - AEROTRAIN & PANTOTRAIN

AeroTRAIN (**AERO**dynamics: **T**otal **R**egulatory **A**cceptance for the **I**nteroperable **N**etwork) is one project co-ordinated by UNIFE which finished in 2012. In AeroTRAIN, extensive liaison with the European Railway Agency (ERA) continued in 2012, in order to facilitate the uptake of the project results. The project held meetings in May and June with ERA and the European Committee for Standardisation (CEN) to discuss the final results. AeroTRAIN provided input to allow some open points in the Technical Specifications for Interoperability (TSIs) relating to aerodynamic effects to be closed. Having some of its results included in the new TSI Loc & Pas represents a success for the project, this having been a key objective. AeroTRAIN results also contributed to the **revision of CEN standards**, with some input being given to EN 14067-6 which was produced by CEN TC256 WG6. In May, just before completion, UNIFE organised a final meeting of the AeroTRAIN project, at which the partners were able to assemble for one last time and where all the significant results across the Work Packages were presented. The project has undoubtedly **enhanced the aerodynamic community's knowledge in areas such as open air pressure pulse, ballast projection, crosswinds, trains in tunnels and slipstream effects**. Below are listed some of the notable results:

- Demonstrated that CFD (Computational Fluid Dynamics [computer simulation]) can reliably assess the pressure pulse at the head of the train
- Development of a measurement technique to assess the aerodynamic load in relation to the risk of ballast pick-up
- Proposal for use of numerical simulations for vehicle assessment for behaviour in crosswinds
- Creation of a European train-tunnel database, including a fully functional train-tunnel simulation tool and

- Proposal for a simplification of current TSI methodology of assessment for slipstream effects – AeroTRAIN results imply that one trackside measurement could be sufficient (instead of the current trackside and platform measurements)

As can be seen from the above, AeroTRAIN has, in addition to having achieved its objectives of **contributing to standards and regulation**, enhanced the current knowledge of aerodynamic effects related to rolling stock.

PantoTRAIN (**PANTO**graph and catenary interaction: **T**otal **R**egulatory **A**cceptance for the **I**nteroperable **N**etwork) was also completed in 2012. This project proposed to transfer as much as possible pantograph/catenary certification away from the current practices of on-track testing towards laboratory testing and simulation. In PantoTRAIN, there was no explicit objective of closing open points in TSIs.

The project delivered some excellent and useful results and it is likely that some of these will be integrated into revisions of some CENELEC standards. As with AeroTRAIN, extensive liaison with the European Railway Agency took place in 2012, in order to facilitate the uptake of the project results.

A final meeting was held for project partners, and attended by ERA and European Committee for Electrotechnical Standardization (CENELEC), at which the final results were presented.

This was a very good way to end the project, giving the partners an opportunity to meet before the project conclusion. It also represented the chance for the project to present its final results to ERA officers and Working Party members, and CENELEC Working Group members and Convenors.

Some examples of the notable achievements of PantoTRAIN are:

- Providing a basis for the validation of any software tool that may be used for virtual certification
- Successful results with 'hardware in the loop' testing, which compares favourably with in-line tests, showing that this method could be a suitable approach for the virtual certification of pantographs and catenaries
- The creation of a comprehensive database of European pantographs and catenaries, which could be very useful in virtual certification
- Results indicate that questions of compatibility between pantograph and catenary in some operational conditions can be addressed by numerical tools and
- A study which explored how the certification process could be adapted to take into account new, innovative active pantograph designs

The results of PantoTRAIN are currently being studied within the domains of regulation and standardisation, and several of these results are likely to contribute to future revisions of standards and regulations.

For more information on AeroTRAIN and PantoTRAIN please visit: **www.triotrain.eu**

SIGNALLING & ERTMS

07

A. ERTMS Memorandum of Understanding: A Coordinated Approach to ERTMS Deployment

B. Worldwide ERTMS Expansion Continues

C. Towards Pan-European ERTMS Corridors?

D. UNISIG: An Increasingly Active Consortium at the Service of ERTMS Suppliers

E. Additional Facts and Events

A. ERTMS Memorandum of Understanding: A Coordinated Approach to ERTMS Deployment

For the ERTMS community, 2012 was marked by the signature of the ERTMS Memorandum of Understanding (MoU) on 16 April, a key document that paves the way for a coordinated approach to ERTMS Deployment in the coming years.

The **Memorandum** which was signed by the European Commission, the European Railway Agency, and the railway community associations (UNIFE, CER, EIM, UIC and others), was ratified in Copenhagen on the occasion of a specific high-level Danish Presidency event in April. It foresees a number of common measures to facilitate deployment in terms of specifications maintenance, standardisation of interfaces, testing and deployment policies. UNIFE remained at the forefront of the discussions which coincided with the finalisation of Baseline 3 of the ERTMS specifications.

B. Worldwide ERTMS Expansion Continues

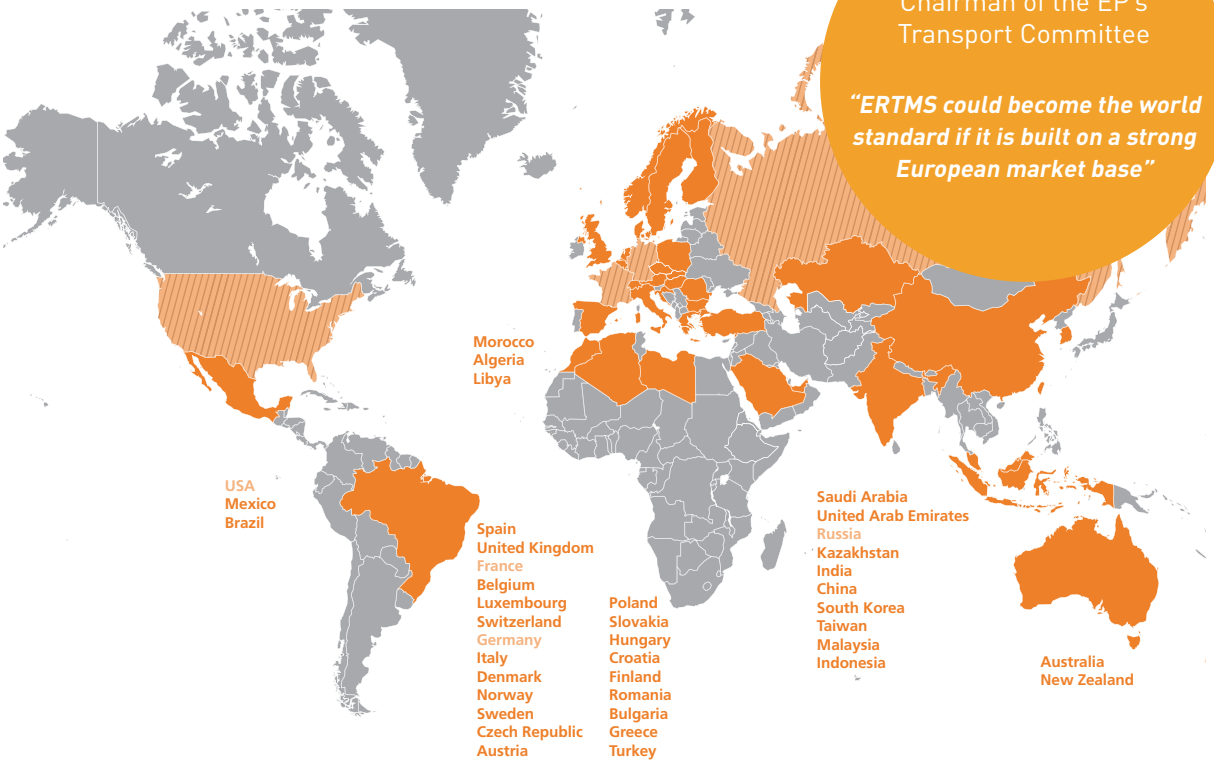
ERTMS continued its global expansion in 2012 as an ever-growing number of countries is gradually equipping their networks.

Based on the data provided by its members, UNIFE published its 2012 statistics on ERTMS Deployment in April which were officially presented during the UIC ERTMS Conference in Stockholm. To date, there are more than 62,000 km of railway tracks and 7,500 vehicles are already running or contracted to be equipped with ERTMS.
Non-European countries account for nearly 50% of the trackside investments, with some major investments in Asia (29% of the total ERTMS trackside investments) and Africa and the Middle East (14%). In total, 38 countries are using ERTMS throughout the world. This global success led the suppliers to continue their reflection on how the needs of non-EU countries could influence ERTMS in the long term.

GLOBAL ERTMS DEPLOYMENT BY COUNTRY:

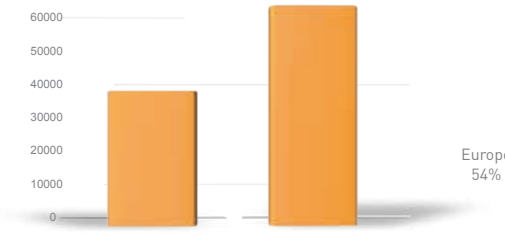
Brian Simpson,
Chairman of the EP's Transport Committee

"ERTMS could become the world standard if it is built on a strong European market base"

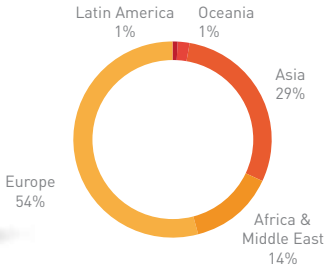


Source: UNIFE 2012

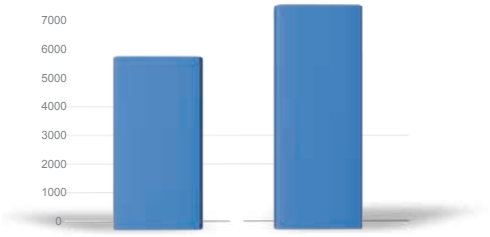
ERTMS DEPLOYMENT STATISTICS – OVERVIEW



ERTMS trackside contracts, in tracks km (excluding frame contracts), comparison September 2010 – April 2012



ERTMS trackside contracts, in percentage, by region



ERTMS onboard equipment contracts, in number of vehicles comparison September 2010 -January 2012

For more ERTMS Deployment statistics by country please see page 91

C. Towards Pan-European ERTMS Corridors?

In parallel, significant contracts were signed in Europe, where some countries are gradually equipping their entire networks with ERTMS, for instance in Denmark, Switzerland or Belgium.

However, the situation remained uneven throughout the continent, with some countries delaying the installation of ERTMS on some of their key corridors, thereby damaging the business case for several railway operators operating on an international basis (independent freight operators, leasing companies). The European Commission, encouraged by UNIFE, continued to push the EU Member States to respect the deadlines set in the ERTMS Deployment Plan adopted in 2009.

The European Commission is expected to adopt a communication on the state-of-play of ERTMS Deployment in the course of 2013.

Antonio Preto,
Head of Cabinet of Antonio Tajani, Vice-President of the European Commission, Responsible for Industry and Entrepreneurship

"ERTMS is the most performing signalling, control and security system for railways worldwide. Implementation is crucial for the competitiveness and growth of the rail sector"

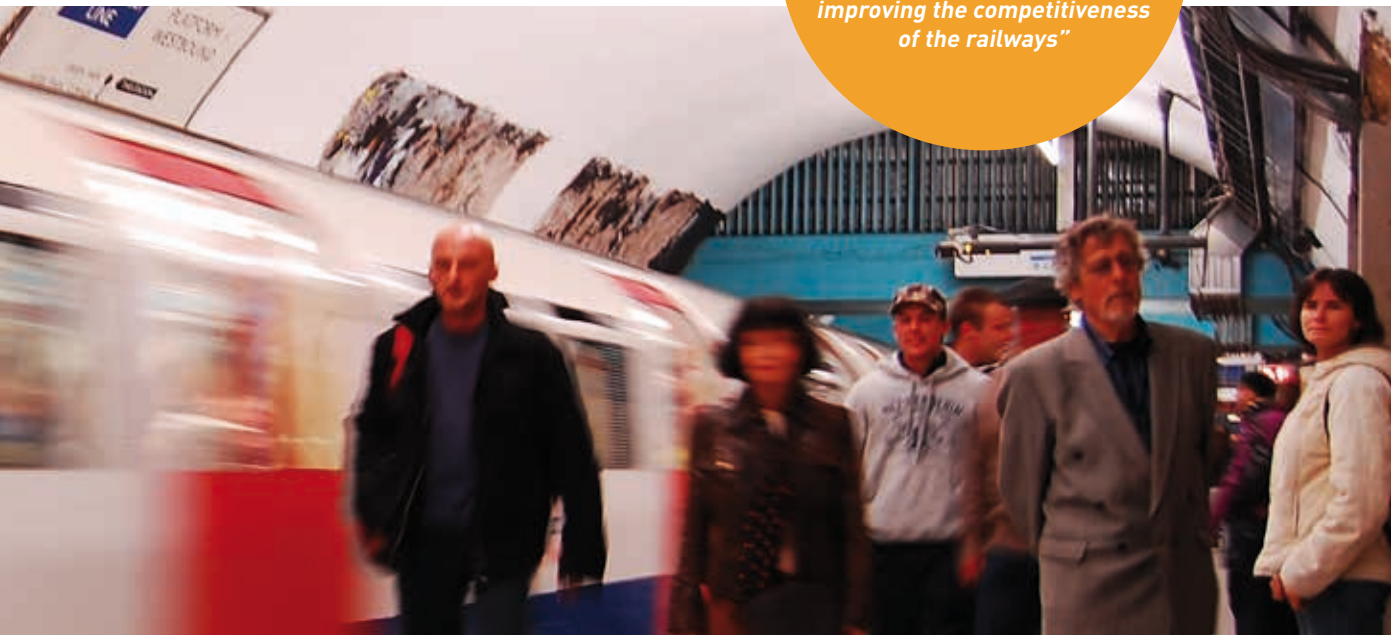
D. UNISIG: An Increasingly Active Consortium at the Service of ERTMS Suppliers

2012 was also a very busy year for UNISIG, the technical consortium in charge of writing the ERTMS specifications. Under the leadership of Michel Van Liefferinge who took over the management of UNISIG on 1 January 2012, a number of actions were carried out during the course of the year:

- Baseline 3 of the ERTMS specifications was officially adopted by the EU institutions in November 2012. This put an end to a four-year long process during which more than 80 industry experts were involved
- Activities to standardise the interface between the on-board unit and the train (Train Interface) continued, in cooperation with the rolling stock companies part of UNIFE; discussions on a possible standardisation of the Driver Machine Interface (DMI) were also initiated
- Following the successful application submitted by UNIFE/UNISIG for the TEN-T third call, works were initiated on a certain number of critical issues, such as Automatic Train Operations (ATO) and the use of GPRS
- UNISIG remained at the forefront of the technical discussions surrounding ERTMS, particularly with regard to the writing of the specification which was done in cooperation with the European Railway Agency

Brian Simpson

"The European Parliament has always been united in giving its support to ERTMS, recognising the pivotal role it can play in improving the competitiveness of the railways"



E. Additional Facts and Events

In addition, the following actions were undertaken by UNIFE and its members in the course of 2012:

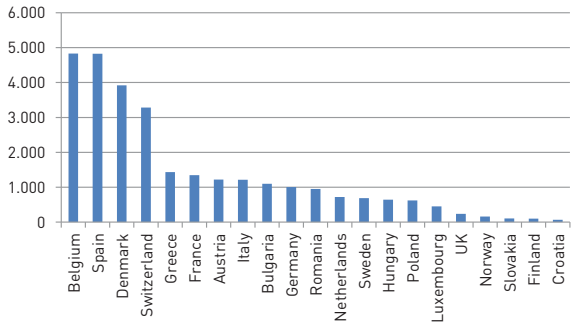
- The co-organisation of the UIC ERTMS Conference which took place from 24 to 26 April in Stockholm and gathered hundreds of industry experts; UNIFE influenced the programme and ensured an appropriate representation of the industry jointly with UIC
- UNIFE took part in the Control Command and Railway Communication Conference 2012 organised by ERA in Lille on 6 and 7 November 2012. UNIFE was invited to present the ERTMS state-of-play as viewed by the supplying industry and the future ERTMS roadmap
- During the InnoTrans fair, UNIFE had the pleasure of inviting Karel Vinck, the European coordinator for ERTMS, for a public Q&A session. Michel van Liefferinge, UNISIG's General Manager was invited to take part in an ERTMS roundtable organised by ERA with key managers of the railway sector
- UNIFE used this occasion to re-brand its communication material and to create new ERTMS factsheets; furthermore, a document to demonstrate ERTMS interoperability was also designed

The ERTMS factsheets are available at
www.ertms.net/facts-and-figures/ertms-factsheets.aspx

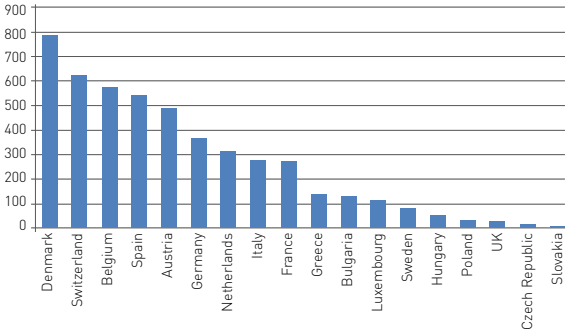
- The supply industry jointly worked to submit a common application under the FP7 programme in November 2012 (please see separate section of the annual report on research projects); similarly, contributions were made to the IP2 of the SHIFT²RAIL initiative, the IP covering the signalling aspect of SHIFT²RAIL
- UNIFE launched further lobbying actions in favour of ERTMS, for instance within the frame of the review of the TEN-T policy; generally ERTMS continues to be supported at a high level within the European Commission, as demonstrated by the launch of an additional TEN-T call in November, for a total amount of EUR 100 million
- A specific "ERTMS European lab/testing working group" was created, to initiate a possible agreement amongst suppliers on how testing activities should be best performed

The UNIFE Signalling Working Group continues to play its role as a technical platform for the industry to work on various signalling issues.

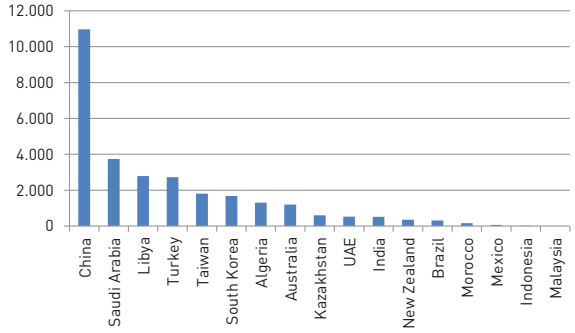
ERTMS DEPLOYMENT STATISTICS – BY COUNTRY



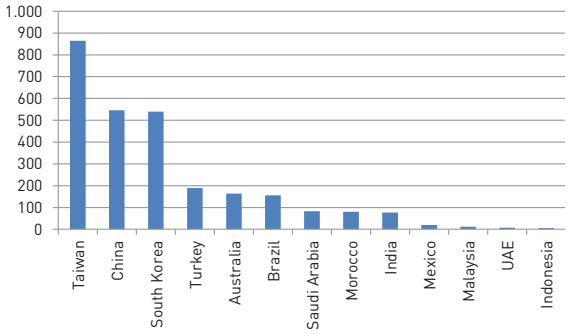
ERTMS trackside contracts, Europe, in tracks km (excluding frame contracts)



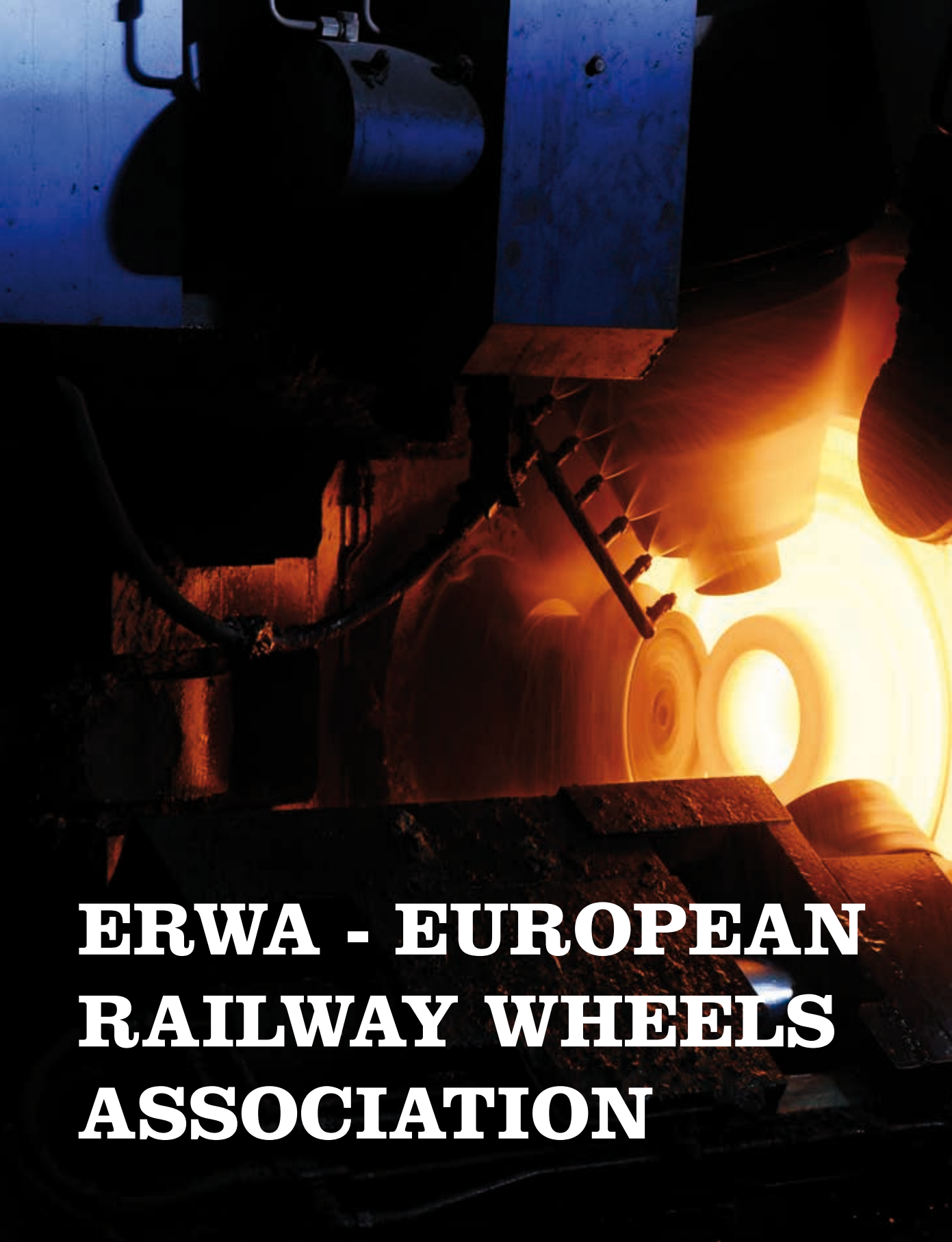
ERTMS onboard contracts, Europe, in number of vehicles



ERTMS trackside contracts, Rest of the World, in tracks km (excluding frame contracts)



ERTMS onboard contracts, Rest of the world, in number of vehicles



ERWA - EUROPEAN RAILWAY WHEELS ASSOCIATION

08

A. ERWA - European Railway Wheels Association

ERWA, the UNIFE Railway Wheels Committee, currently comprises 10 companies from 9 different countries, all of which produce railway wheels and wheelsets in Europe: Bochumer Verein Verkehrstechnik, Bonatrans, CAF, Lucchini RS, Lucchini Sweden, Lucchini UK, Lucchini Poland, Radsatzfabrik Ilsenburg, Valdunes SAS, and Valdunes Belux.

At present, the ten companies are organised in five European groups, each of which is vertically integrated from forge to finished products: Bonatrans Group, CAF, GHH-Valdunes, BVV-Rafil, and the Lucchini RS Group.

The ERWA General Assembly hosted by BVV was held on the 15 May 2012 in Dortmund. About 30 representatives of the rail supply industry participated in the annual meeting. The outgoing ERWA Chairman, Mr Jean-Pierre Auger, as well as Mr Francesco Lombardo of Lucchini RS, and Mr Jakub Weimann of Bonatrans presented the activities and the progress of their committees. Mr Auger resigned from ERWA Chairmanship, after serving the committee for three years. The General Assembly warmly thanked Mr Auger for his hard and productive work at the head of the association over the past three years. Mr Raimund Abele of GHH-Valdunes was elected Chairman of the Steering Committee and received the warmest wishes from Mr Auger and all ERWA representatives.

From left to right: František Seják (Managing Director, BONATRANS), Norbert Klein (Managing Director Sales, BVV-RAFIL), Dr. Raimund Abele (CEO and new ERWA Chairman, GHH-Valdunes), Jean-Pierre Auger (outgoing ERWA Chairman, GHH-Valdunes), Iñigo Ona (Managing Director, CAF), Erder Mingoli (CEO, Lucchini RS)

The two other chairs were maintained to ensure the continuity of ERWA work: Mr Jakub Weimann for the ERWA Development Committee and Mr Francesco Lombardo for the ERWA Technical Committee.

At the occasion of the General Assembly, the CEOs of the five ERWA groups signed a "Commitment to Industry", by which they engaged in keeping high levels of quality, customer satisfaction and social responsibility. ERWA members pay particular attention to the safety of products and operations.

In 2012 numerous activities coordinated by the ERWA Steering Committee were carried out. They can be summarised as follows:

Strategic/public affairs activities

- Market statistics and trends
- Communication strategy and lobbying
- ERWA annual newsletter

Technical activities

- Contribution to European standards and TSI
- IRIS certification issues
- Joint R&D projects

ERWA

unife

THE EUROPEAN RAIL INDUSTRY

European Railway Wheels Association

ERWA COMMITMENT TO INDUSTRY

We, members of ERWA, the European Railway Wheel Association, hereby declare that through our dedication to the rail industry, particularly but not limited to:

Safety of our products and their operation;

Design and certification of wheelset sub-systems;

Full scope of services related to operation of our products.

We generate value for society, for industry and for each and every customer.

We hereby declare our fundamental commitments to the railway industry in the following areas:

COMMITMENTS TO QUALITY

- Continuous innovation and improvement of the life cycle of the product
- Full traceability of materials, operations and services
- Continuous investment in advances in technology, both for production processes and for product inspection.
- Continuous quality improvement in our facilities, as well as requiring such of our sub-suppliers
- IRIS certification as the standard of our industry
- Continuous innovation and improvement of steel grades
- Cooperation on establishing and improving the related railway standards and regulations

COMMITMENTS TO CUSTOMERS

- Capability to meet customer requirements worldwide, according to EN standards and other local, national and international standards
- Commitment to support customers, validated through appropriate KPIs
- Day to day support to end users of our products
- Design innovation
- Capability to design optimised products for which infrastructure and operational conditions are properly defined

COMMITMENTS TO SOCIAL RESPONSIBILITY

- Uncompromising with safety
- Commitment to increasing the competitiveness of rail transportation
- Transparency of operations
- Commitment to the principles of ISO 14001 and OHSAS 18001

We, members of ERWA, further declare that we shall actively promote permanent observance to the values and principles outlined underneath:

UPHOLDING OF THE LAW

The undersigned Company upholds the valid laws and regulations of the country or countries in which it operates.

INTEGRITY AND MANAGEMENT OF COMPANY

In its conduct the undersigned Company is guided by generally accepted moral values and principles such as integrity, transparency, honesty, respect for human dignity, openness and non-discrimination on the basis of racial or ethnic origin, sex, religious persuasion or world-view, physical disability, age or sexual orientation.

The undersigned Company rejects corruption and bribery in the sense of the relevant UN convention[1]. It supports correct conduct, responsible management and monitoring within the Company by the appropriate methods, and takes suitable measures in order to prevent in particular direct or indirect transgression of the laws applicable to:

Theft, embezzlement, fraud, abuse of authority, forgery and alteration of documents, cartel agreements of companies entering tenders, divulgence of business and operational secrets and unauthorised use of models or prescriptions of a technical nature, corruption and bribery in business contact, provision of advantages, gifts or other favours to employees of contractual partners or acceptance of such gifts or advantages, that exceed normal common hospitality.

The undersigned Company uses serious and recognised business practices and establishes fair competition, in particular with respect to the provisions relating to competition law.

HUMAN RIGHTS AND WORKING CONDITIONS

The undersigned Company endeavours to promote human rights. It adheres to human rights in accordance with the UN Universal Declaration of Human Right[2]. In addition it abides by the central employment norms of the International Labour Organisation (ILO).

ENVIRONMENTAL PROTECTION

The undersigned Company meets the provisions and standards for environmental protection relating to its activity and conducts itself in an ecologically conscious manner in all areas of its operation. The Company handles natural resources in a responsible manner on the basis of the principles of the Rio Declaration[3].

ERWA Chairman: Jean-Pierre Auger

CAF: Iñigo Ona

Lucchini RS: Ender Mingoli

BWV: Rudi Norbert Klein

GHH Valdunes: Raimund Abele

Bonatrans: František Sejak

[1] United Nations Convention against Corruption adopted in 2003, effective as of 2005

[2] Universal Declaration of Human Rights, UN resolution no. 217 A (III) dated 1948.

[3] 27 principles of the "Rio Declaration on Environment and Development" from 1992 as the result of the United Nations

IRIS – INTERNATIONAL RAILWAY INDUSTRY STANDARD

09

A. High Quality for rail with IRIS

B. New Targets and Further Steps

A. High Quality for rail with IRIS

In 2012, the IRIS scheme developed by UNIFE six years ago has continued to convince new companies to take the way of certification and to show their commitment to quality:

- 830 sites producing, designing, or maintaining rail products are officially listed in the IRIS Portal with a valid certificate
- Almost 500 more sites are registered on the Portal and are currently implementing the IRIS requirements in their organisation in order to be able to improve their performance
- Global development is more than ever visible through IRIS

The following actions, events, and activities of 2012 that backed up this evolution have to be highlighted:

1. IRIS MANAGEMENT CENTRE

The IMC team after the changes in 2012

2. INNOTRANS 2012

Every two years, InnoTrans is the occasion to see the developments and evolutions of the rail sector. For IRIS it was the third presence at the fair and all visitors could see the evolution achieved. As usual, we had a lot of contact with interested parties as well as with already certified ones, eager to know and understand the latest developments. The IMC organised three discussion forums with stakeholders of the rail industry at the booth and took part in a

major seminar outside the fair organised by Russian Railways (RZD). All events gathered a large audience.

The IRIS logo was proudly displayed at the stands of numerous IRIS certified companies, showing their achievement as well as their commitment to a leading scheme in the sector.

The IMC team present at InnoTrans 2012

3. TECHNICAL DEVELOPMENT

In 2012, IRIS increased the support to the industry by launching new IRIS guidelines. The Technical Forum of Improvement prepared two documents which were validated by the IRIS Advisory Board:

- First Article Inspection (FAI)
- Obsolescence Management

They are available for all IRIS Portal members at: **www.iris-rail.org**. Other documents are in the pipeline and will be published in 2013.

The most important technical change is linked to the publication of the electronic version of the IRIS booklet. The so-called IRIS Rev. 02.1 standard is available since October 2012, only in electronic version, and only in English, French and Italian. All other language versions will be progressively transferred to the new format.

Moreover, the IMC decided to outsource the dispatching of documents to specialised websellers.
All necessary information is available on the IRIS Portal.

4. WORLDWIDE INTEREST

In early 2012, the IRIS scheme was officially launched in Quebec, the French speaking province of Canada. Pushed by the Ministry of Economic Development, the event gathered the entire local rail industry and is the cornerstone of future achievements. Consequently, a first awareness session was organised in June in Montréal.

In line with the set target, the Russian industry organised again a mix of awareness sessions and seminars in several locations in the country. During the annual '1520 Strategic Partnership Forum' in Sochi last May, UNIFE took part in several conferences. Furthermore, two Memoranda of Understanding were signed with Mr Gapanovitch, RZD Vice-President and NP-UIRE Chairman:

- **MoU on Further Cooperation in Standardisation** by Henri Poupart-Lafarge, Alstom President and UNIFE Chairman
- **MoU on the Development of an Official Translation of the IRIS Booklet** by Bernard Kaufmann, IRIS General Manager

Backed by the Russian Railways (RZD), the knowledge about IRIS starts spreading more quickly as the first IRIS certificates are being awarded. Being IRIS certified is becoming a priority for the railway stakeholders in Russia.

Last but not least, the IMC participated in the UIC HIGHSPEED Conference in Philadelphia, USA, and met the local industry. There is still a huge potential for communication in this area. Some seminars were also held in European countries for certification bodies, national associations, or rail operator. It is obvious that the market is currently slowing down in Europe compared to other regions such as Asia.

From left: Henri Poupart-Lafarge (UNIFE Chairman President, Alstom Transport) Valentin Gapanovich (Senior Vice-President, Russian. Railways), Hans-Jörg Grundmann (CEO, Siemens Mobility), Bernard Kaufmann (General Manager, IRIS)

5. COMPETENCE OF STAKEHOLDERS

One of the founding principles of IRIS lies in the recognition and acceptance of the results and the certificate. Therefore, actions to control the scheme and its users are key tasks of the IMC on a daily basis. The actions were centred on three axes:

1. Information: The IMC participated in several auditor meetings and published a number of guides to explain the specific rules in details
2. Training: Three training sessions for external IRIS official auditors were organised and examinations performed

3. Verification: a strong witness audit programme was applied in 2012, revealing shortcomings in the application of the IRIS rules. The correction of the gaps is a priority for 2013. An extended office audit programme was deployed as well. The internal organisation of the approved certification bodies can still be improved in order to bring about full confidence in their output: the IRIS Certificate.

We acknowledge that IRIS is a demanding scheme but regarding the benchmark of other industrial schemes, we are sure that only robust processes and a strict application of the defined rules are a guarantee for success.

B. New Targets and Further Steps

Following several position papers on the evolution of IRIS issued since the end of 2011, the UNIFE Presiding Board decided in February 2012 to involve the quality directors of their respective companies in order to define levers for the further development of the IRIS scheme.

Subsequently, two meetings with the nominated persons were organised at UNIFE. The team asked their CEOs to validate the following five pillars:

1. Reinforcement and precision of the system auditing statement
2. Supply chain management
3. Tangible improvements and quality of the audits
4. Operators to join IRIS
5. Managing IRIS Certification in Asia

All these points were accepted and in the last quarter of 2012 five dedicated working groups were launched in order to propose challenging actions and targets for IRIS in the near future.

As an example and driver for the other groups, the first group proposed a commitment defining very precisely the policy to be followed by the rail industry in terms of quality system assessment. The UNIFE Presiding Board validated this commitment on 17 October. This important decision was communicated to all UNIFE members, operators and interested parties. It is the first step of the mid-term strategy of IRIS and other structuring decision will be made and communicated early 2013.

EXTRACT OF THE COMMITMENT OF THE RAIL INDUSTRY

APPROACH

The following matrix provides definitions and application criteria for the above mentioned audit levels:

		Project Audit	
	System audit	**Process audit**	**Product audit**
Scope of audit	Business Management System (Business management process landscape and its implementation throughout the entire organization) IRIS scope of activity (not included: financial aspects, HSE, ...)	Evidence of front- to - end operational process performance for a specific project/product (Focus on but not limited to special processes)	Evidence of final product compliance to requirements
Phase	Evaluation for entry into "approved supplier register" (not related to project)	-Supplier selection for a specific project/product -Project execution	Project execution
Trigger	-NEW NON-IRIS certified supplier -Expired NON IRIS certified supplier -Not to be applied at all for suppliers, who are IRIS certified in the needed scope	-Supplier selection process for a specific project/product -Supplier development initiatives -Production process readiness -Performance issues of supplier	-Production readiness -First delivery / First Assembly -Start of serial delivery -Major changes in the realization process -Non Conformities
Objective	Ensure only mature suppliers in the company's "approved supplier register"	Ensure supplier operational process capabilities for a specific project/product	Ensure product compliance
Decision	Entry of the supplier in the company "approved supplier register"	-Quality approval for Purchase Order placement -Operational process improvement as an answers of a performance issue	-Approval for 1st part production -Approval for 1st delivery -Approval for serial delivery -Approval for major changes in the realization process

DEPLOYMENT

Following the commitment signed on 18 May 2006, the enclosed commitment confirms irrevocably that a system audit will not be performed in an IRIS certified site.

This commitment shall be widely communicated in the industry organisations:

- Internally: at all levels of quality and purchasing organisation
- Externally: to suppliers, partners and customers.

In case of deviation towards this commitment, the affected companies are encouraged to solve the issue among themselves. In case no agreement can be found, the IRIS Management Centre shall be informed.

COMMITMENT

The below undersigning members of the UNIFE Presiding Board herewith declare officially and bindingly that on their part no business management system audits will be initiated and/or performed at suppliers having a valid IRIS certificate in strict application of the above mentioned rules.

All other UNIFE members are expected to structure their auditing processes according to the above mentioned three audit levels and to formally apply this commitment.

Thanks to your contributions, 2013 will be a year of evolution within IRIS. The European rail industry will continue to push for improved quality for its customers and consequently better performance.

UNIFE COMMUNICATIO 2012

ONS

10

A. European Railway Award 2012

B. UNIFE General Assembly 2012

C. UNIFE at InnoTrans 2012

D. UNIFE Interactive Analysis

A. European Railway Award 2012

UNIFE and CER started the political year with the European Railway Award and their joint Annual Reception on 8 February 2012. In the political category, the award was given to the European Coordinator for ERTMS **Karel Vinck**. Alstom's Senior Vice President and Technical Advisor **Francois Lacôte** won the technical category.

Commission Vice-President and Commissioner for Transport **Siim Kallas** delivered the keynote speech at the gala evening. In his speech he addressed key challenges of the rail sector, and emphasised the important role rail transport must play in building the Single European Transport Area: "The idea is to unleash rail's true potential, to raise the quality of service so that it becomes a real and attractive alternative."

In his laudatory address to Karel Vinck, Brain Simpson, Chairman of the European Parliament's Transport and Tourism Committee, said: "I think the award to Karel Vinck comes in the tradition of giving the political prize to people who fight for a vision and who work hard to turn such visions into reality. Karel Vinck has toiled tirelessly to deliver ERTMS to our rail sector. His task has required diplomacy, determination and last but not least patience.

He has been crucial in laying the foundations for ERTMS which are essential in delivering an interoperable, safe and efficient European-wide signalling system, a vital element in developing an integrated European Railway."

The laureate of the Technical Award 2012 Francois Lacôte, was introduced by Marcel Verslype, Director of the European Railway Agency. Referring to Francois Lacôte's career at SNCF and ALSTOM he emphasised in particular his courage and his foresight: "In 1990, Mr Lacôte became Director of Rolling Stock at SNCF and had the courage to campaign for the new and 'revolutionary' concept of the Duplex (double-deck) TGV that no one wanted."

Both laureates of the European Railway Award received a EUR 10.000 prize, which was donated to NGOs of their choice. Francois Lacôte, recipient of the 2012 Technical Award, chose UNICEF Belgium, the United Nations Children's Fund, while Karel Vinck, winner of the Political Award, decided to share the prize between the University Hospitals Leuven (Cancer fund for children) and SOS Children's Villages (Plateforme SOS Kinshasa).

More information and pictures of the event are available on **www.europeanrailwayaward.eu**


European Railway Award 2012
unife


unife

B. UNIFE General Assembly 2012

Around 150 delegates gathered from 13 to 15 June 2012 in Copenhagen for the 22nd UNIFE General Assembly. The statutory meeting that took place on 14 June was chaired by Henri-Poupart Lafarge, UNIFE Chairman.

The welcome speech was given by Henrik Dam Kristensen, Transport Minister of Denmark. Among the guests were also Marcel Verslype, ERA Executive-Director, Karel Vinck, European ERTMS Coordinator, Jesper T Lok, CEO of DSB, Jesper Hansen CEO of Banedanmark, and Henrik Plougmann Olsen, CEO of Metroselskabet), who presented the Danish plans to invest in rail rolling stock and infrastructure for mainline, freight and suburban operation.

The main decisions of the UNIFE General Assembly 2012 were the following:

- The General Assembly approved the co-optation of John Moore as Presiding Board Member until the completion of the mandate of the current Presiding Board (June 2014)
- The General Assembly ratified the admission of seven **new full members:** Alcatel-Lucent, Chaps, Fogtec, GDF Suez, Indra Sistemas, Koncar and Vibratec
- The General Assembly adopted **UNIFE's Annual Report for 2011** and the accounts for 2011 discharging the Presiding Board
- The General Assembly approved the **UNIFE General Policy for 2012** and the **budget proposal for 2013**

Three round-table discussions were organised after the statutory meeting. The first panel focused on rolling stock. The panellists were Jesper T. Lok (CEO DSB) and André Navarri (Member of the UNIFE Presiding Board, President of Bombardier Transportation). The panellists debated the future Danish plans and investments in rolling stock, and the role of the European rail industry.

The second round-table had a focus on the Copenhagen Metro. Panellists were Henrik Plougmann Olsen (CEO Metroselskabet) and Sergio de Luca (Member of the UNIFE Presiding Board, CEO Ansaldo STS). The panellists addressed the key advantages of the newly built Copenhagen driverless metro and the technical aspects related to signalling.

The final round-table discussions featured Infrastructure and it gathered Jesper Hansen (CEO Banedanmark), Henri Poupart-Lafrage (UNIFE Chairman, President Alstom Transport) and John Moore (Member of the UNIFE Presiding Board, CEO Balfour Beatty Rail). The panellists discussed the future infrastructure plans of the Danish government with particular focus on interoperability.

Karel Vinck, European Coordinator for ERTMS and Christian Faure, Programme Manager, Single European Rail Area unit of DG MOVE participated in the ERTMS Implementation in Denmark and SHIFT²RAIL working sessions.

The next UNIFE General Assembly meeting will take place in Vienna from 12 to 14 June 2013. More information regarding the event can be found by visiting **www.unife.org**


nife


general
assembly
13-15 june
2012

C. UNIFE at InnoTrans 2012

UNIFE's presence at the InnoTrans 2012 fair in Berlin was a great success. Both the political and technical activities of UNIFE were presented at the stand through four workstations and a presentation area.

One highlight was the launch of the new edition of the World Rail Market Study on 18 September which attracted a large number of rail professionals and journalists from all over the world. Together with Andreas Schwilling, partner at Roland Berger Strategy Consultants (the author of the study); UNIFE Director-General Philippe Citroën presented the key conclusions of the study.

"An Espresso with..." was another popular feature of the UNIFE stand. Politicians and important rail stakeholders shared their views with the audience at the UNIFE stand including ERA Executive Director Marcel Verslype, Karel Vinck, ERTMS Coordinator European Commission, Josef Doppelbauer Chairman of the SHIFT²RAIL Steering Committee, Chief Technical Officer, Bombardier Transportation and Raimund Abele, ERWA Chairman.

ERTMS was extensively presented during InnoTrans on the UNIFE stand. In addition to the "An Espresso with..." the ERTMS Coordinator Karel Vinck, the following presentations were also showcased: Strategic and Political Challenges and Marketing and Worldwide Investment.
During the event, EU research and development projects in which UNIFE plays an active role were presented: SECUR-ED, PROTECTRAIL, TRANSFEU and EURAXLES were featured on the "Safety and Security Day"; PM'n'IDEA, AUTOMAIN, RIVAS, SUSTRAIL, OSIRIS, MODSafe and CleanER-D were presented during the "Infrastructure and Energy Day" while EUREMCO, ACOUTRAIN, MARATHON, TRIOTRAIN and Tiger were the highlights of the "Rolling Stock and Freight Day".

In cooperation with the German Rail Industry Association (VDB), UNIFE organised the Dialogue Forum on Rolling Stock and Service on 19 September and 21 September respectively. Forming part of the official InnoTrans programme, UNIFE members shared their expertise and innovative solutions with a large audience of rail experts and engaged in a constructive dialogue on both topics.


ESSE BERL
Inno Trans 2012

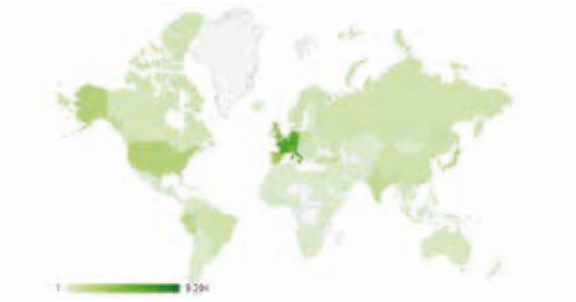

unife


unife

D. UNIFE Interactive Analysis

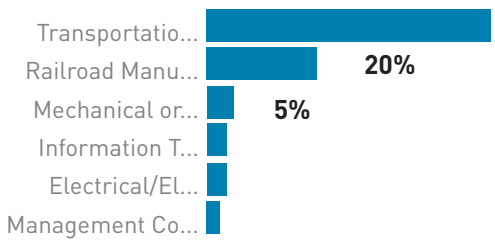
Google Analytics

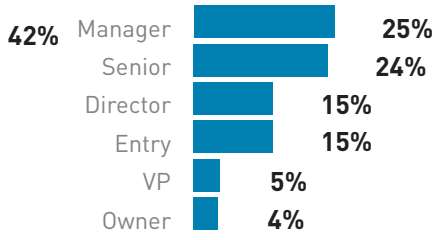
60,950	Visits
38,336	Unique Visitors
173,080	Pageviews
00:02:25	Avg. Visit Duration
60.80%	New Visits



www.unife.org

LinkedIn UNIFE Brussels Group

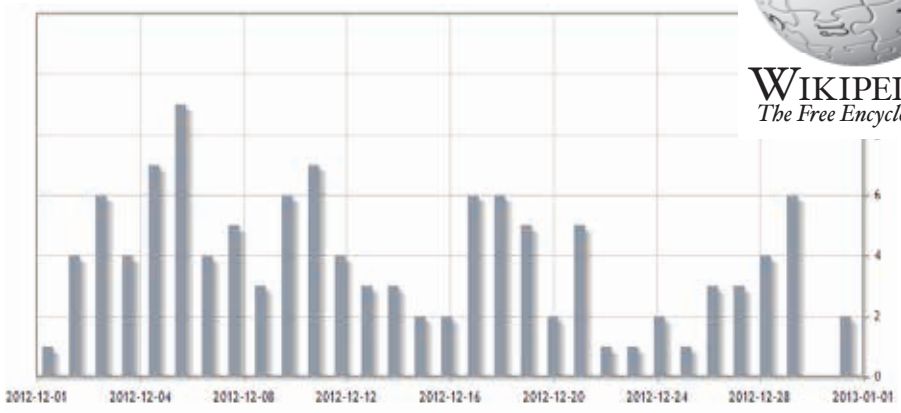




MEMBERS	876	SENORITY	25% Manager
WEEK OVER WEEK GROWTH RATE	57%	FUNCTION	14% Engineering

WIKIPEDIA
The Free Encyclopedia

1383 UNIFE Page views



fe
INDUSTRY

@ UNIFE

109 Tweets

253 Following

816 Followers

UNIFE MEMBER
IN 2012

RS

11

A. Full members

B. Associate members

A. Full members

ABB	**ABB Sécheron** www.abb.com	Alcatel·Lucent	**Alcatel-Lucent** www.alcatel-lucent.com
ALSTOM	**Alstom Transport** www.alstom.com/transport	ALTPRO d.o.o. RESEARCH · DEVELOPMENT · PRODUCTION	**Altpro** www.altpro.com
amurrio ferrocarril y equipos, s.a.	**Amurrio Ferrocarril** www.amufer.es	AnsaldoBreda a Finmeccanica Company	**AnsaldoBreda** www.ansaldobreda.it
AnsaldoSTS A Finmeccanica Company	**AnsaldoSTS** www.ansaldo-sts.com	ArcelorMittal	**Arcelor Mittal** www.arcelormittal.com
ASTRA	**Astra Vagoane Călători** www.astra-passengers.ro	AŽD PRAHA	**AZD Praha** www.azd.cz
Balfour Beatty Rail	**Balfour Beatty Rail** www.bbrail.com	Bochumer Verein Verkehrstechnik GmbH · seit 1842	**Bochumer Verein** www.bochumer-verein.de
BOMBARDIER the evolution of mobility	**Bombardier Transportation** www.bombardier.com/fr/transport	BONATRANS	**Bonatrans GROUP** www.bonatrans.cz
CAF	**CAF** www.caf.net	Casram Railway & Industry Solutions	**Casram Rail** www.casram.com

	**Cerontech** www.cerontech.com
	**Comau** www.comau.com
	**DuPont Transportation** www2.dupont.com/Rail
	**Efacec** www.efacec.pt
	**Electro-Motive Diesels** www.emdiesels.com
	**ELTA** www.elta.fr
	**EXA** www.exa.com
	**FAR Systems** www.farsystems.it

	**CHAPS** www.chaps.cz
	**Constellium Valais SA** www.constellium.com
	**ECM** www.ecmre.com
	**EKE Electronics** www.eke.com
	**Eliop Seinalia** www.eliopseinalia.com
	**EuroMaint Rail** www.euromaint.se
	**Faiveley Transport** www.faiveleytransport.com
	**Fogtec** www.fogtec-international.com

frenoplast	**Frenoplast** www.frenoplast.com
GDF SUEZ BY PEOPLE FOR PEOPLE	**GDF Suez** www.gdfsuez.com
GHH-VALDUNES	**GHH-Valdunes** www.ghh-valdunes.com
HARTING	**Harting** www.harting.com
HIRSCHMANN	**Hirschmann** www.hirschmann.com
indra	**Indra Sistemas** www.indracompany.com
intecs the Brainware company	**Intecs** www.intecs.it
KIROW	**Kirow Ardelt** www.kranunion.de

funkwerk	**Funkwerk Technologies** www.funkwerk-it.com
GE Transportation	**GE Transportation Systems** www.getransportation.com
GREENBRIER EUROPE	**Greenbrier Europe** www.gbrx.com
HASLERRail	**Hasler Rail** www.haslerrail.com
HOPPECKE POWER FROM INNOVATION	**Hoppecke** www.hoppecke.be
Ingeteam	**Ingeteam** www.ingeteam.com
invensys Rail	**Invensys Rail Group** www.invensysrail.com
KNORR-BREMSE	**Knorr-Bremse** www.knorr-bremse.com

KONČAR Končar - Electric Vehicles Inc.	**Koncar** www.koncar.com
GROUP LUCCHINI RS	**Lucchini RS** www.lucchinirs.it
MATISA	**Matisa** www.matisa.ch
oltis group	**OLTIS Group** www.oltisgroup.com
Radsatzfabrik Ilsenburg GmbH · seit 1946	**Radsatzfabrik Ilsenburg** www.rafil-gmbh.de
saft	**Saft** www.saftbatteries.com
SCHAEFFLER LUK INA FAG	**Schaeffler Group** www.schaeffler.com
SCHEIDT&BACHMANN	**Scheidt & Bachmann** www.scheidt-bachmann.de

kontron	**Kontron** www.emea.kontron.com
MAGLIOLA	**Magliola Antonio & Figli** www.magliola.it
mermec group	**MERMEC** www.mermec.it
PIXY MOBILE VISUALIZATION	**Pixy** www.pixy.ch
RAIL.ONE	**RAIL.ONE** www.railone.com
sapa:	**Sapa** www.sapagroup.com
SCHALTBAU Connect · Contact · Control	**Schaltbau** www.schaltbau-gmbh.com
Schroff®	**Schroff** www.schroff.biz

Sécheron	**Sécheron** www.secheron.com
SIEMENS	**Siemens Mobility** www.mobility.siemens.com
ŠKODA TRANSPORTATION	**Skoda Transportations** www.skoda.cz
Talgo	**Patentes Talgo** www.talgo.com
THALES	**Thales Rail Signalling Solutions** www.thalesgroup.com
v d s video display systems	**Video Display Systems** www.vds-it.com
voestalpine ONE STEP AHEAD.	**Voestalpine** www.voestalpine.com
vossloh	**Vossloh** www.vossloh.com

Selectron	**Selectron** www.selectron.ch
SKF	**SKF** www.skf.com
Strukton Rail	**Strukton Rail** www.struktonrail.com
TATA	**Tata Steel** www.tatasteeleurope.com
UniControls	**UniControls** www.unicontrols.cz
VibraTec	**Vibratec** www.vibratec.fr
VOITH	**Voith Turbo** www.voith.com
VÚKV	**VUKV** www.vukv.cz

B. Associate members

ACRI Association of Czech Railway Industry	**ACRI**, Czech Republic www.acri.cz
ROMANIAN RAILWAY INDUSTRY ASSOCIATION AIF	**AIF**, Romania www.asifrom.ro
BAHNINDUSTRIE.at Verband der Bahnindustrie	**Austrian Association of the Railway Industry**, Austria www.bahnindustrie.at
fédération des industries ferroviaires "Les voies du progrès"	**FIF**, France www.fif.asso.fr
MAFEX SPANISH RAILWAY ASSOCIATION	**Mafex**, Spain www.mafex.es
Railway Industry Association	**RIA**, United Kingdom www.riagb.org.uk
SWEDTRAIN	**Swedtrain**, Sweden www.swedtrain.org
UNISIG	**UNISIG**
ZVEI: Die Elektroindustrie	**ZVEI**, Germany www.zvei.org

AGORIA no future without technology	**AGORIA**, Belgium www.agoria.be
assifer ASSOCIAZIONE INDUSTRIE FERROVIARIE	**ANIE/ASSIFER**, Italy www.anie.it
EFRTC	**EFRTC** (European Federation of Railways Trackworks Contractors) www.efrtc.or
Holland Rail Industry	**Holland Rail Industry**, Netherlands www.hollandrailindustry.nl
RASTIA Association for Railway Automation, Signalling, Telecommunication and Industry	**Rastia**, Bulgaria www.rastia.org
SIRTS	**SIRTS**, Poland www.sirts.pl
SWISSRAIL Industry Association	**Swissrail Industry Association**, Switzerland www.swissrail.com
DIE BAHNINDUSTRIE. VDB VERBAND DER BAHNINDUSTRIE IN DEUTSCHLAND E.V.	**VDB**, Germany www.bahnindustrie.info

UNIFE STAFF IN 2012

12

A. UNIFE Staff in 2012

B. UNIFE wishes all the best to those who left the team in 2012

A. UNIFE staff in 2012

Philippe Citroën
Director-General
Philippe.CITROEN@unife.org

Eric Fontanel
(retired Oct 2012)
acting as representative of EF Consult

Massimo M. Marianeschi
General Manager
acting as representative of AnsaldoBreda S.p.A
Massimo.MARIANESCHI@unife.org

Emmanuel Brutin
Senior Public Affairs Manager

Mara Buttarelli
Public Affairs Trainee

Franco Cataldo
Technical Affairs Manager
Franco.CATALDO@unife.org

Andrei Ciufu
Communications Manager
Andrei.CIUFU@unife.org

Leonardo Dongiovanni
Public Affairs Manager
Leonardo.DONGIOVANNI@unife.org

Nicolas Furio
Infrasructure &
Electrification Manager
Nicolas.FURIO@unife.org

Stefanos Gogos
RS Unit Trainee

Kujtesa Hajredini
IRIS Manager
Tesa.HAJREDINI@unife.org

Ross Hanley
Technical Affairs Manager
Ross.HANLEY@unife.org

Angela de Heymer
IRIS Technical Manager
Angela.DEHEYMER@unife.org

Wolgang Jakob
ERTMS Adviser
acting as representative of Dr Wolfgang Jakob
Wolfgang.JAKOB@unife.org

Simona Jursova
Communications Trainee

Bernard Kaufmann
IRIS General Manager
Bernard.KAUFMANN@unife.org

Michel van Liefferinge
UNISIG General Manager
acting as representative of INFORTOP
Michel.VANLIEFFERINGE@unife.org

Léa Paties
Project Manager
Lea.PATIES@unife.org

Jean-Philippe Peuziat
Public Affairs Manager
Jeanphilippe.PEUZIAT@unife.org

Paulina Pineda
Senior Finance Manager
Paulina.PINEDA@unife.org

Alice Polo
Senior Interoperability & Safety Manager
Alice.POLO@unife.org

Javier Rodriguez
Junior UNISIG Engineer
Javier.RODRIGUEZ@unife.org

Judit Sandor
Sustainability & Environment Manager
Judit.SANDOR@unife.org

Audrey Semakadde
Assistant to the Director-General
and Office Co-ordinator
Audrey.SEMAKADDE@unife.org

Jan Steinkohl
Public Affairs Manager
Jan.STEINKHOL@unife.org

Giorgio Travaini
Senior Technical Manager
Giorgio.TRAVAINI@unife.org

B. UNIFE wishes all the best to those who left the team in 2012

Nevena Petrova

Jérémie Pelerin

Giuseppe Greco

Max Obenaus

Peter Kaloczkai

René Manschot

Denitsa Katelieva

Jesús Medrano

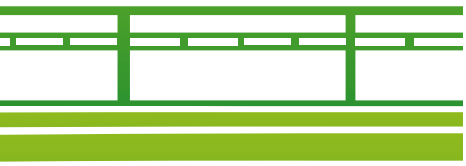
Marianna Sikorowska

ACRONYMS

AEIF	European Association for Railway Interoperability
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 Railways
CIS	Commonwealth of Independent States
CSM	Common Safety Methods
DG CLIMA	Directorate-General for Climate Action
DG MARKT	Internal Market and Services Directorate General
DG MOVE	Directorate General for Mobility and Transport
DG R&I	Directorate General for Research and Innovation
DG TRADE	Directorate General for Trade of the European Commission
DPF	Diesel Particle Filter
DMI	Driver Machine Interface
DMU	Diesel Multiple Unit
EC	European Commission
ECAs	Export Credit Agencies
ECB	Eddy Current Brakes
EFRTC	European Federation of Railway Track-works Contractors
EIM	European Rail Infrastructure Managers
EMC	Electro-Magnetic Compatibility
EP	European Parliament
ERA	European Railway Agency
ERATV	European Register for Authorised Types of Vehicles
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
ETSI	European Telecommunications Standards Institut
EU	European Union
EURNEX	European Rail Research Network of Excellence
FP7	Seventh Framework Programme
FRA	US Federal Railroad Administration
FTA	Free Trade Agreement
FRS	Functional Requirement Specification
GCC-SG	Gulf Cooperation Council Secretariat General
GHG	Greenhouse Gas
GRB	Group of Representative Bodies
GPRS	General Packet Radio Service
IEC	International Electro-technical Commission
IMC	IRIS Management Centre
IPs	Innovation Programs
IRIS	International Railway Industry Standard
ISAB	Independent Safety Assessment Body
ITRE	Committee on Industry, Research and Energy in the European Parliament
JNS Joint	Network Secretariat
JPCR	Joint Programming Committee Rail
JRC	Joint Research Centre
JSG	Joint Sector Group
JTI	Joint Technology Initiative
LCC	Life Cycle Costs
LOC & PAS	Rolling Stock Locomotive and Passenger Carriages
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
ORS	Operational Requirement Specification
NOx	Nitrogen Oxide
PPP	Public Private Partnership
R&D	Research and Development
RAMS	Reliability, Availability, Maintainability, Safety
RDD	Register of Notified National Rules
RINF	Register of Infrastructure
RISC	Railway Interoperability and Safety Committee
RZD	Russian Railways
S&R	Standards and Regulation
SRG	Standards and Regulation Group
SRRA	Strategic Rail Research Agenda 2020
SRRIA	Strategic Rail Research and Innovation Agenda 2050
SRT	Safety in Railway Tunnels
UIP	International Union of Private Wagons
UIRR	International Union of Combined Road - Rail Transport Companies
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
TSI	Technical Specification for Interoperability
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
UNISIG	Union Industry of Signalling



unife
THE EUROPEAN RAIL INDUSTRY

UNIFE - THE EUROPEAN RAIL INUDSTRY
AVENUE LOUISE 221, BTE 11
B - 1050 BRUSSELS
Tel: +32 2 626 12 60 | Fax: +32 2 626 12 61
www.unife.org | general@unife.org