Achieving a Single European Railway Area and reinforcing the attractiveness of the rail sector:

The vision of the European Rail Supply Industry

Philippe Citroën, UNIFE Director General

APTA Rail Conference, Baltimore – 12 June 2017

About UNIFE

- **UNIFE represents the European Rail Supply Industry (rolling stock, infrastructure, sub-systems and signalling)**
- **UNIFE is a trusted partner of European and international institutions in all matters related to rail transport**
- **85 full members of the largest and small and medium-sized companies in the rail supply sector and 16 associated members including 14 National Associations, representing almost 1000 suppliers of railway equipment**

World leaders:

UNIFE members have a 84% market share in Europe and supply 46% of the worldwide rail production

UNIFE Members

Associate Members

UNIFE and the US

- **Many European rail supply companies have established themselves sustainably in the US**

- UNIFE has developed a **solid cooperation with the American Public Transportation Association (APTA)** following the signature of a **Memorandum of Understanding in November 2013**

- **UNIFE discusses topics ranging from standards to infrastructure investment and procurement with US stakeholders**

EU Policies for Rail

Existing EU transport policies target a number of key challenges facing rail transport:

- **Interoperability:** harmonising and deploying standardised technology to allow for efficient unobstructed rail transport across borders
- **Infrastructure:** financing necessary infrastructure to enable efficient, reliable and environmentally friendly rail transport throughout the EU
- **Innovation:** deploying funds for research to increase the capacity and reliability of rail transport while keeping life cycle costs down
- **Modal share:** creating a level playing field for transport modes and promoting a shift to less polluting modes

Towards a Single European Railway Area: Relevant experience for other regions

The Technical Pillar of the Fourth Railway Package entered into force in June 2016. It is composed of:

- **Interoperability Directive:** The authorisation process of vehicles/infrastructure led by ERA
- **Safety Directive:** Safety certification process for train operators driven by ERA
- **ERA Regulation:** Enhanced role of ERA, granting ERA full powers to implement the Interoperability and Safety Directive

This long-awaited adoption:

- Represents a major step towards the a **Single European Railway Area**
- **Will cut the time and cost** necessary to obtain authorisation for locomotives and rolling stock for use on the European rail network

The Technical Pillar: What will change

- From a fragmented system of national rules and various procedures for Member States to **full interoperability (Technical Specifications for Interoparability) and a unique authority (ERA)** that will enable the completion of the Single European Railway Area

- **A simplified authorisation process in the EU:**

Technical File
- Prepared by Applicant
- Assessed by Notified Bodies

Authorisation (TSIs)
- Issued by **ERA** acting as one-stop-shop

Commercial service
- Done by the Railway Undertaking

- The ERA will play a **central role in removing technical barriers** with its **enhanced responsibility of issuing vehicle authorisations and safety certifications**, making those procedures faster and easier for railway manufacturers and operators

Expected benefits of the Technical Pillar

- **20% reduction in time to market** for rail equipment
- **20% reduction in cost and time** of equipment authorisation
- Savings of **over €500 million by 2025**
- A **more competitive European rail supply industry**
- Progress towards a **Single European Railway Area**

EU TEN-T Policy (1/2)

Trans-European transport network (TEN-T) policy is an ambitious EU transport infrastructure policy with the aim to create **a single multimodal European core network by 2030** with:

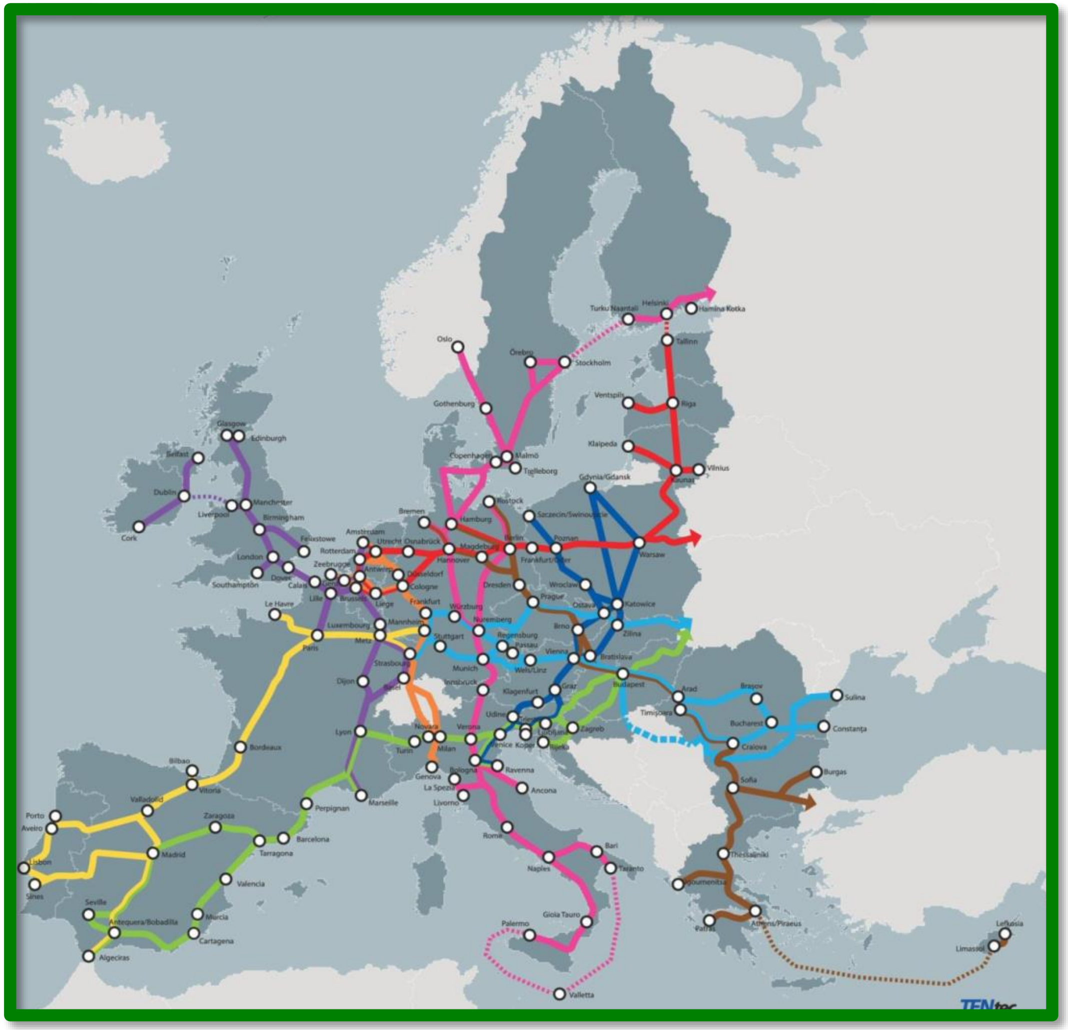
- High standards
- Common traffic management systems
- Targets for the deployment of clean fuels

The **core network** will connect:

- 94 main European ports with rail/road links
- 38 key airports with rail connections into major cities
- 15,000 km of railway line upgraded to high speed
- 35 cross-border projects to reduce bottlenecks

By 2050, the **comprehensive network** should be developed as “ground layer” to ensure accessibility and common standards

EU TEN-T Policy (2/2)



- **Coordinated implementation** of the **core network** by bringing together public and private resources and concentrating EU support from the CEF
- New **additional maps** adopted in February 2016 for the extension of the TEN-T network to **Iceland, Norway and the Western Balkans**

ERTMS – A key EU rail export

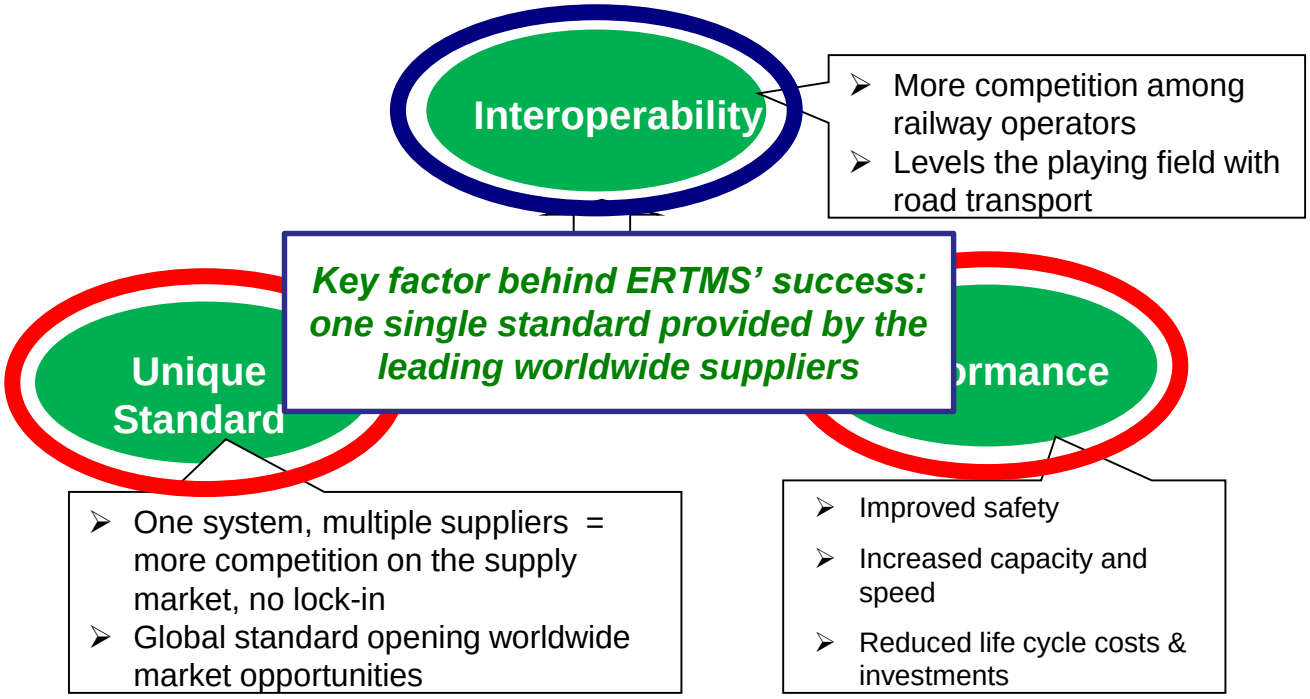
The **European Railway Traffic Management System** (ERTMS) is a major industrial project developed by eight UNIFE members (*Alstom Transport, Ansaldo STS, AZD Praha, Bombardier Transportation, CAF, Mermec, Siemens Mobility and Thales*) in close cooperation with the European Union, railway stakeholders and the GSM-R industry

- Two components: **European Train Control System (ETCS)** – and the GSM-R

- **Worldwide ERTMS Investments (February 2017):**
  - Total track km: **over 90 000**
  - **48** countries are using ETCS trackside
  - Total number of vehicles: **over 12 000**

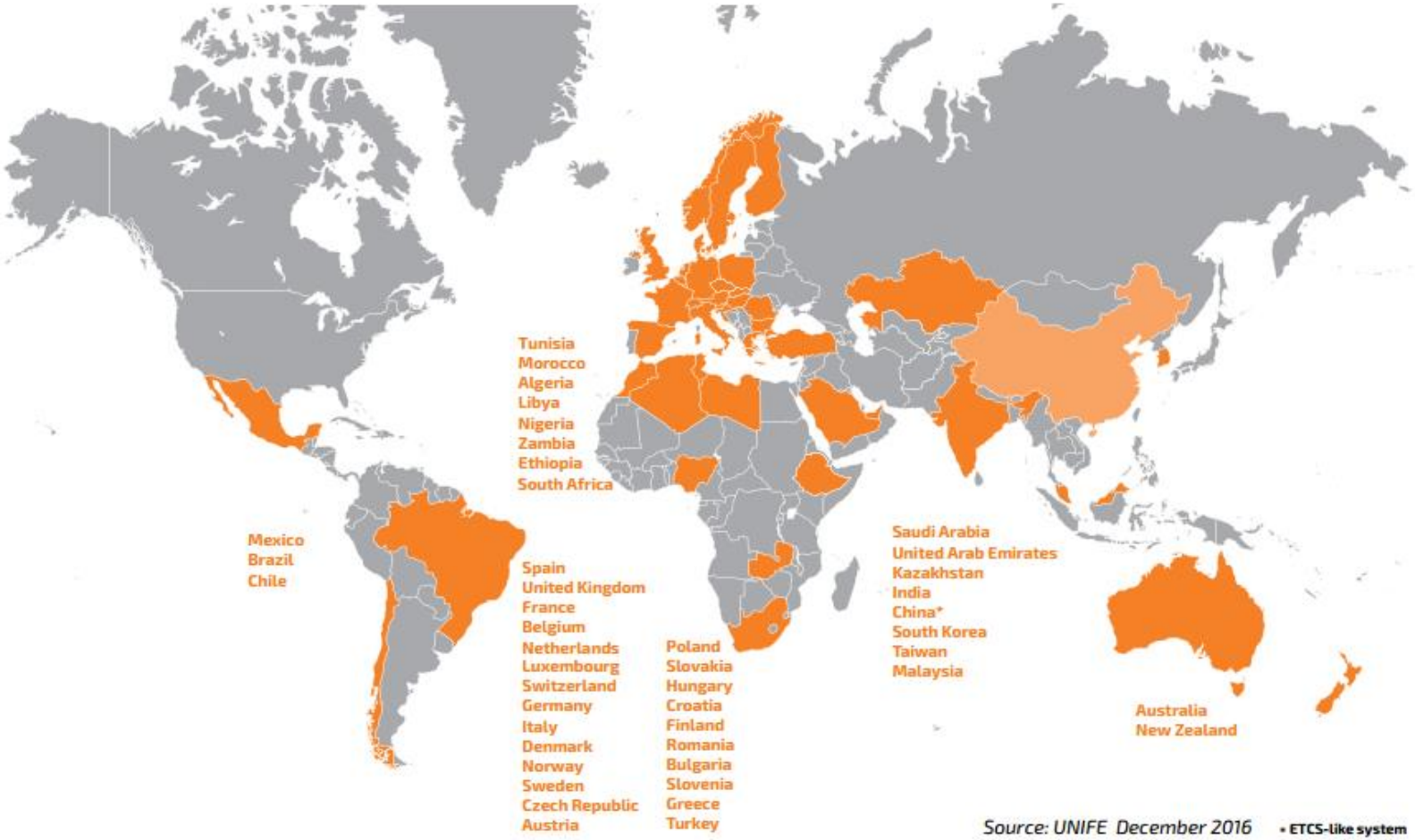
- **Relevant system for future US projects (e.g. high-speed)**

ERTMS – Key success factors

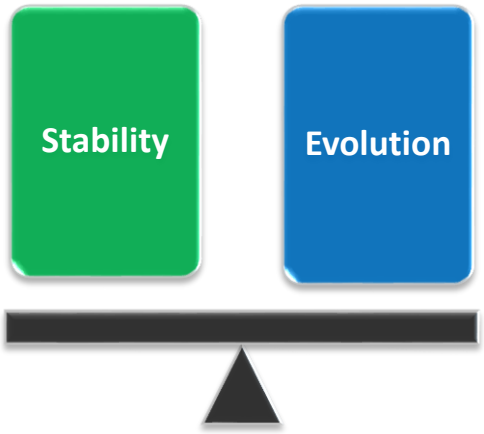


ERTMS – A proven system, successful worldwide

Global ERTMS deployement by country



Ensuring stability while preparing the future: The challenge ahead



- **The new version of the specifications ("Baseline 3 Release 2") has been adopted**
- Priority to **stability: No "release" before 2022**

- European stakeholders, including UNIFE members, are now working on the evolution of the system, including new functions **("game changers")** to be integrated in the next version of the specifications

Innovative rail technologies: The SHIFT2RAIL PPP

- A **public-private Joint Undertaking** of €920 Million (50% financed by the EU, 50% financed by the rail industry) for the period 2014-2020 to increase attractiveness and competitiveness of rail transport

- **3 major challenges:** capacity, reliability and life cycle costs

- **5 'Innovation Programmes'** impacting all segments of the rail market (freight, mainline passenger transport, urban transport…)

The key role of the European Rail Supply industry in digitalisation (1)

Many aspects already covered by the use of digital technologies:

- **Contribution to the Railway performance**
  - Signaling solutions, with ERTMS/ETCS, and CBTC for urban rail; Traffic management systems;
  - Energy management solutions which is a high political priority;
  - Digital based maintenance, with monitoring and diagnosing tools;
  - Cyber-security; physical security, and specifically video system;
  - Communication solutions;
  - Internet of Things and Big Data applications.
- **Improvement of end customer's satisfaction**
  - Infotainment (internet on board);
  - (Real time) passenger information solutions, new apps…;
  - Seamless access to all travel services;
  - E-ticketing and/or various rights to travel;
  - Digital tracking/tracing applications (for freight and passengers).
- **Internal transformation of the Railway manufacturing industry**
  - Industry 4.0 with automation of production, of the supply chain and collaborative workplaces;
  - Digital based design and/or production (Simulation, Collaborative design), virtualization.

The key role of the European Rail Supply industry in digitalisation (2)

- Digitalisation technologies in the transport sector (including rail) have the **potential to create new growth, more efficient transport networks, more efficient logistics and better use of the existing infrastructure.** However, there are still some **barriers to digitalise the rail sector** (long life cycle, interoperability, safety aspects…)

- The **rail supply industry is committed to extending this effort**, aiming to develop technological and organisational arrangements maximising capacity and reliability, and leading to a major culture change to better operate and maintain the railway

- **Digital transformation will benefit end-users and the complete sector and will make railways more attractive and competitive:** the rail supply industry is keen to contribute to achieve common objectives for the railway sector as whole

- Further developments will come from all **SHIFT2RAIL Innovation Programmes**

Rail R&I: IT2Rail – A promising Shift2Rail lighthouse project

Jane is provided with a personalized, customizable and secure digital "Travel Companion" (TC) environment

Jane plans her trip to attend her fashion show

Jane builds her multimodal travel solutions, manages her booking and shopping through her prefered one-stop shop

Jane uses TC´s wallet to validate entitlements

Jane receives notification of significant event affecting her itinerary. She is offered some options for re-routing and re-accomodation

Assistance to navigate at interchanges, taking into account **Jane's** mobility constraints (luggage, reduced mobility)

Business Analytics provide relevant feedback of traveler data to operators and service providers, to ensure more robust and responsive operations

Procurement – a key instrument to promote innovative and qualitative products

- **The 2014 EU public procurement framework contains a specification that "contracting entities shall base the award of contracts on the most economically advantageous tender" (MEAT principle)**

- **Award criteria "shall be identified on the basis of the price or cost, using a cost-effectiveness approach, such as life-cycle costing"**

- **More qualitative, social and environmental criteria should become determining factors in the choice of a contractor, and the procurement should stimulate innovation uptake**

- **Need to switch from 'Lowest Price' to the 'Best Price-Quality Ratio' in public procurement**

Which approach ensures the best value for money?

- **What should be chosen:**
  - a product which has a cheaper catalogue price yet turns out to be more expensive in the maintenance, or
  - a more expensive product which costs less in the long run (CAPEX and OPEX integrated approach)?

- The European rail supply industry innovation strategy is based on the **life cycle cost (LCC) approach → Added value for operators, infrastructure managers and end-users**

- **Cost efficiency is a key priority for Shift2Rail:** Target -50% reduction of LCC of the railway transport system!

- European companies are also **developing innovative tools for measuring life-cycle cost for infrastructure and rolling stock**

UNIFE – Promote rail market growth for sustainable mobility