Digitalisation driving customer benefits as the heart of intermodality and the challenges of innovation
UNIFE Vision

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Moving Towards a Sustainable Mobility
Building a Smart Environment and User-Friendly Integrated Mobility System
Lisbon – 2nd July 2019

■ **UNIFE is the European Association of train-builders and rail equipment suppliers**

■ **A unique network of over 100 member companies from all over Europe and of all sizes (1/3 of SMEs) and 14 National Associations**

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

Technical Harmonisation & Interoperability

- **Key role of Regulation**
  - ❖ Implementation of the SERA

  - ❖ Key role of the Technical Pillar of the 4th Railway Package

- **Key role of European Standardisation**
  - ❖ Improved and harmonized quality
  - ❖ Reduced costs
  - ❖ Global products with wider market acceptance
  - ❖ Reduce risk of misuse
  - ❖ Promote common technical referential

Research & Innovation

- **Shift2Rail 2 – UNIFE 9 Key enablers**:

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

Digitalisation

- UNIFE priorities:

  ❖ **ERTMS and Automation**

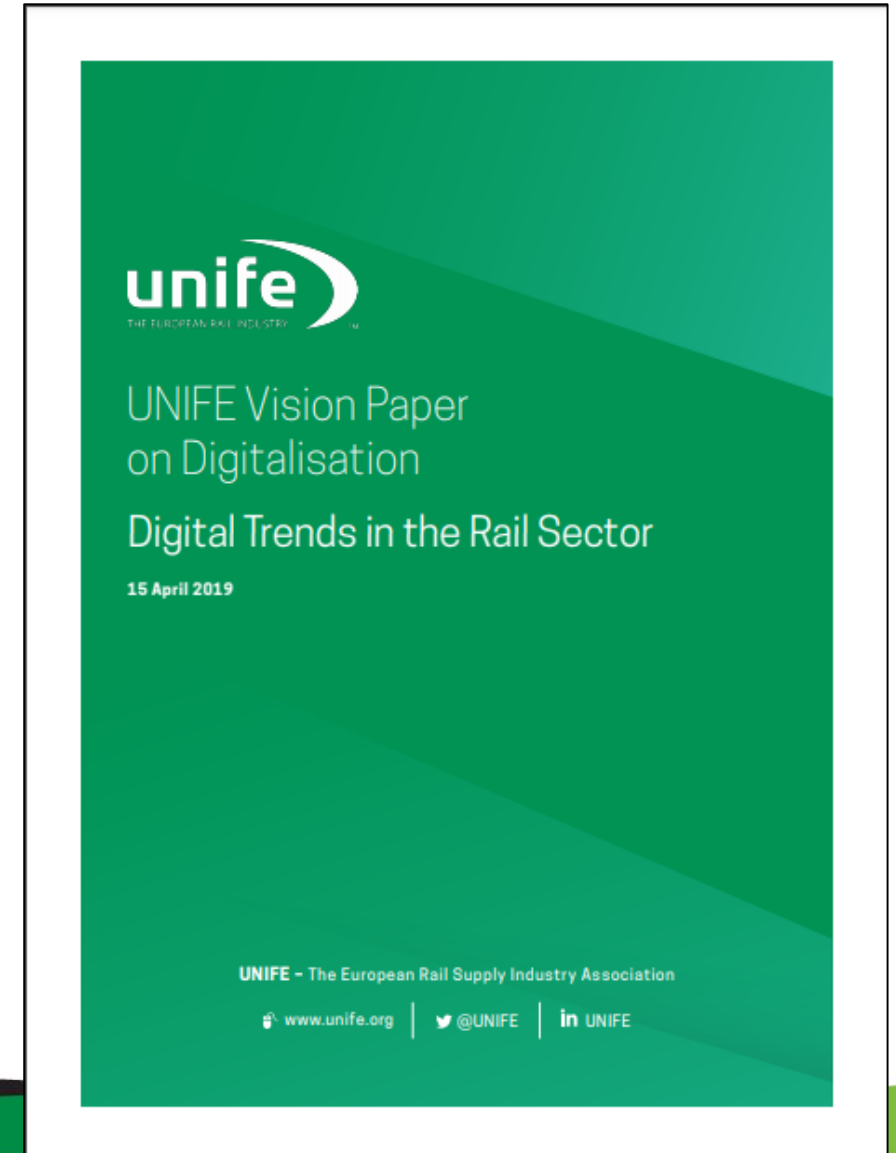 ❖ **Improving end-user's experience**

  ❖ **Increasing capacity and reliability of the railways**

  ❖ **Enhancing the security of the rail system (e.g. Cyber Security)**

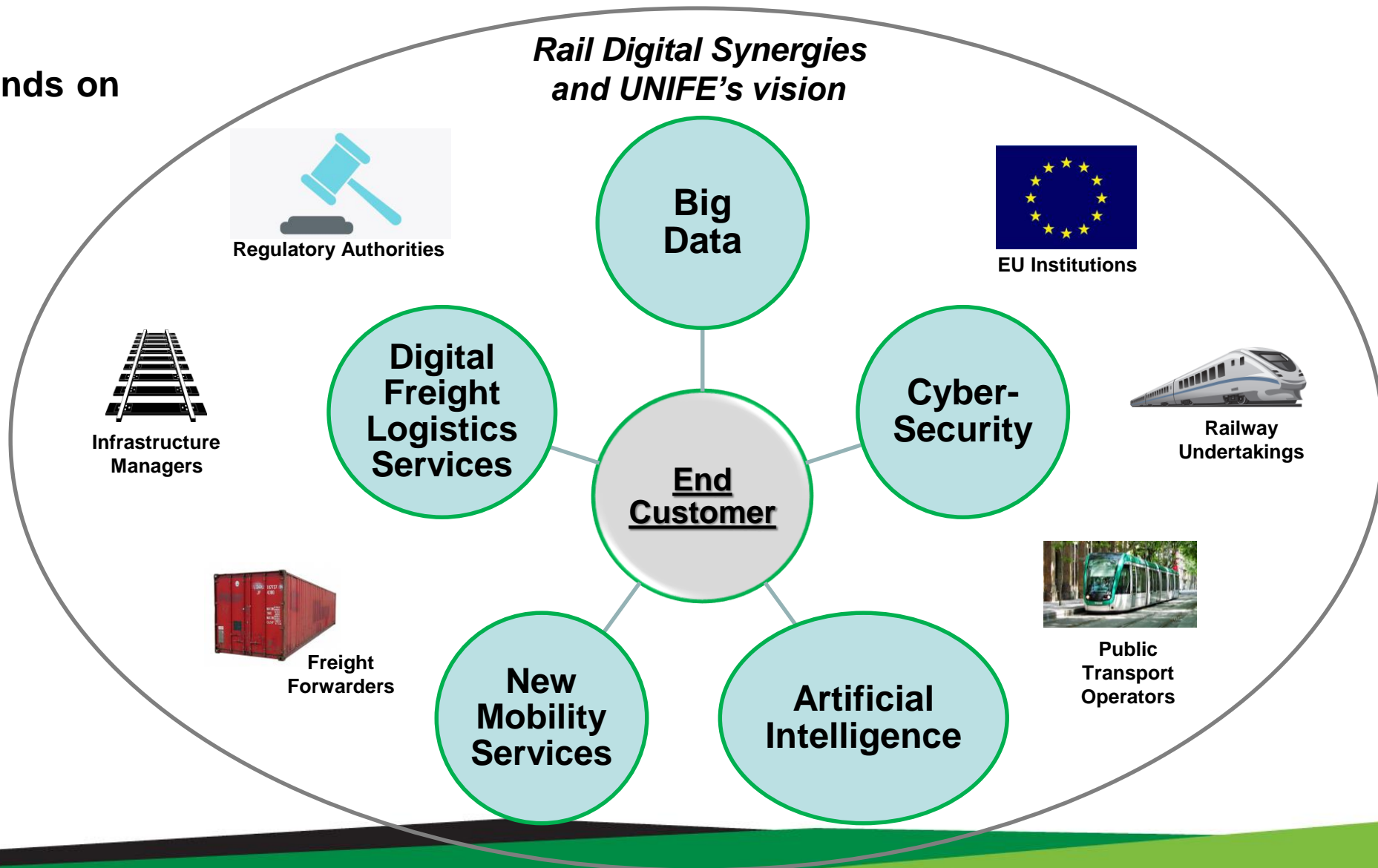 ❖ **Better accessing and using data**

UNIFE Vision Paper on Digitalisation ''Digital Trends in the Rail Sector" April 2019

➢ The Digitalisation Platform of UNIFE is open to all UNIFE's Members who are willing to feed the current & future debates on digitalisation of the rail transport.

➢ On 15th April 2019, UNIFE has published its ''vision'' on digitalisation ''*Digital Trends in the Rail Sector*''

- **<u>Five majors focus areas</u>** have been identified as priorities for the rail supply industry.
  1) Big Data;
  2) Cybersecurity;
  3) Artificial Intelligence;
  4) New Mobility Services;
  5) Digitalisation of Freight Logistics.

- Bringing the European rail supply industry's views and objectives into the centre of the digital debate.

- Engaging in a fruitful dialogue with decision-makers and other key stakeholders – in the transport sector and beyond.
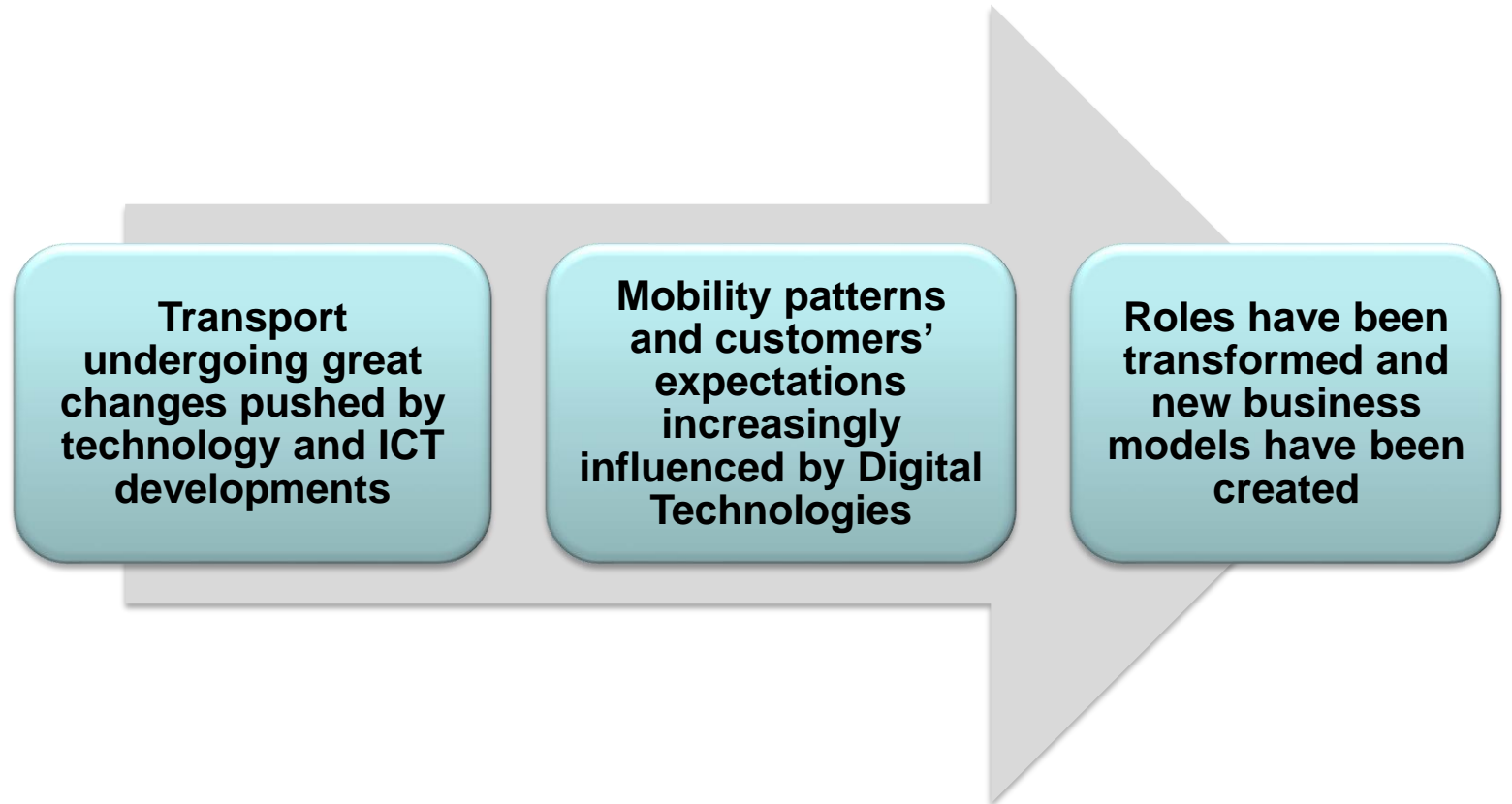
unife
THE EUROPEAN RAIL INDUSTRY ™

UNIFE Vision Paper
on Digitalisation

Digital Trends in the Rail Sector

15 April 2019

UNIFE – The European Rail Supply Industry Association

www.unife.org | @UNIFE | UNIFE

UNIFE's digital vision stands on three main principles:

- Sectorial synergies and cooperation between all rail's stakeholders.

- Effective collaboration & dialogue with the EU Institutions and Regulatory Bodies.

- Priority given to the interest of the final customer.

Rail Digital Synergies and UNIFE's vision

- Regulatory Authorities
- Infrastructure Managers
- Freight Forwarders
- EU Institutions
- Railway Undertakings
- Public Transport Operators

- Big Data
- Digital Freight Logistics Services
- End Customer
- Cyber-Security
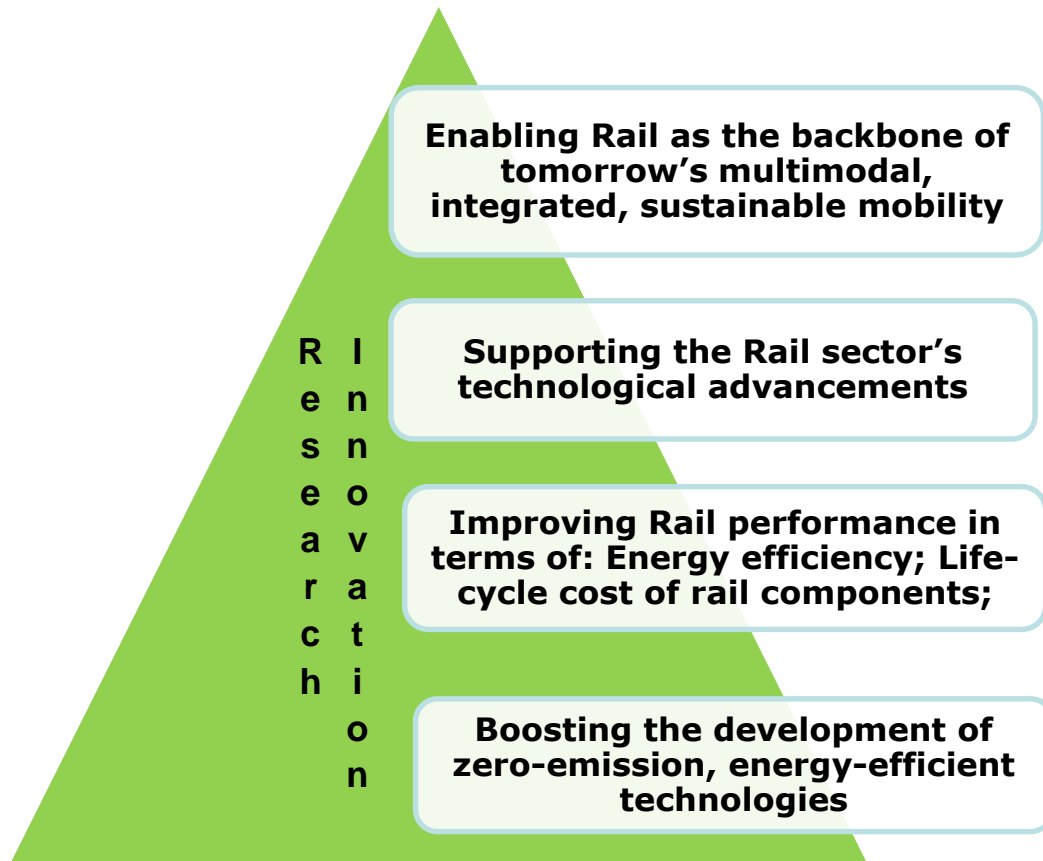- New Mobility Services
- Artificial Intelligence

- ➢ **For the rail sector, the digital transformation is an opportunity:**
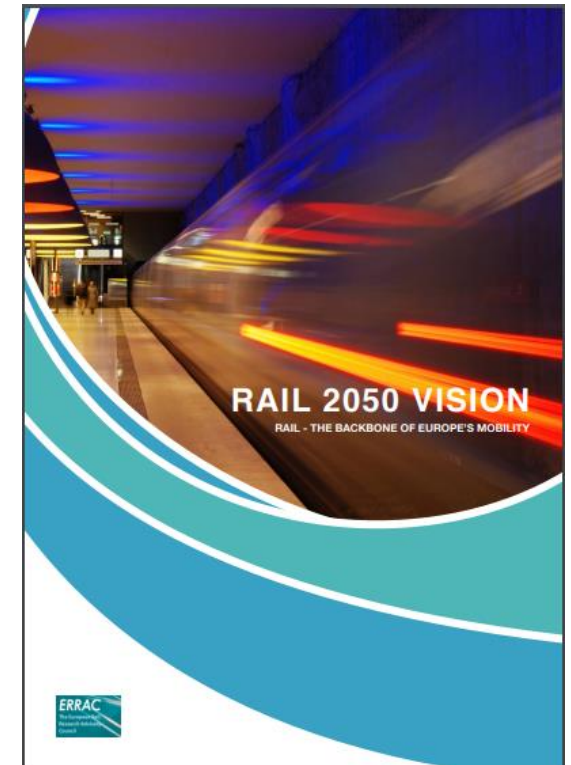 - ▪ Other modes of transport are pushing on their technological progress.
  - ▪ Digitalisation, not merely as an objective, but rather as a mean to achieve more ambitious and paramount goals.
  - ▪ The ultimate benefit of the 'final transport user', namely the individual passenger or the freight customer, must remain at the heart of digital transformation within the rail sector.
  - ▪ A European platform on digitalisation of rail encompassing all rail relevant stakeholders should be created.

| Transport undergoing great changes pushed by technology and ICT developments | Mobility patterns and customers' expectations increasingly influenced by Digital Technologies | Roles have been transformed and new business models have been created |

➤ **Research and Innovation (R&I) plays a fundamental role in fostering the Rail sector's digitalisation and sustainability efforts.**

Research Innovation

Enabling Rail as the backbone of tomorrow's multimodal, integrated, sustainable mobility

Supporting the Rail sector's technological advancements

Improving Rail performance in terms of: Energy efficiency; Life-cycle cost of rail components;

Boosting the development of zero-emission, energy-efficient technologies

- The Rail sector R&I common vision is delivered through the European Rail Research Advisory Council (ERRAC)

- ERRAC's 'Rail Vision 2050' sets out the long-term roadmap for railways to embrace the new technologies and master the raising digital mega-trends.

RAIL 2050 VISION
RAIL - THE BACKBONE OF EUROPE'S MOBILITY

ERRAC

Shift2Rail Joint Undertaking is the first European rail's collaborative-research initiative, established under Horizon 2020, with a budget of € 940 million for the period 2014-2020.

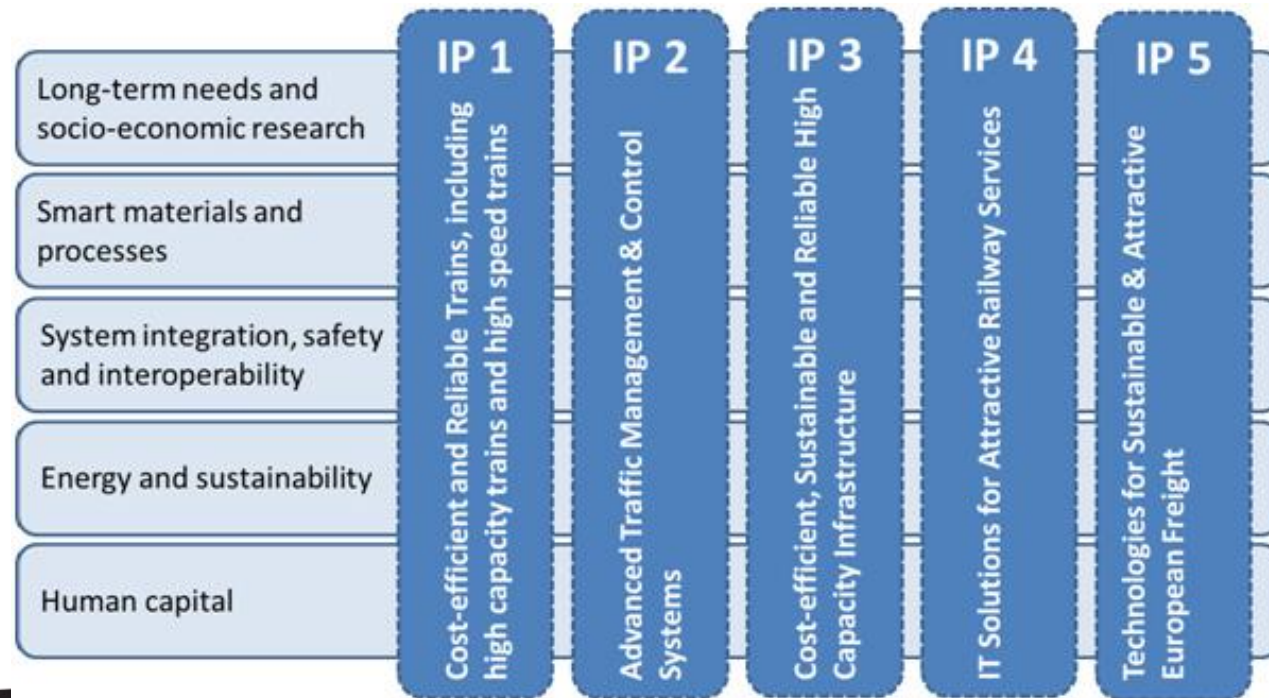**Continuity, stability and long-term vision of the whole rail sector's innovation efforts**

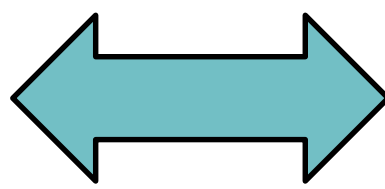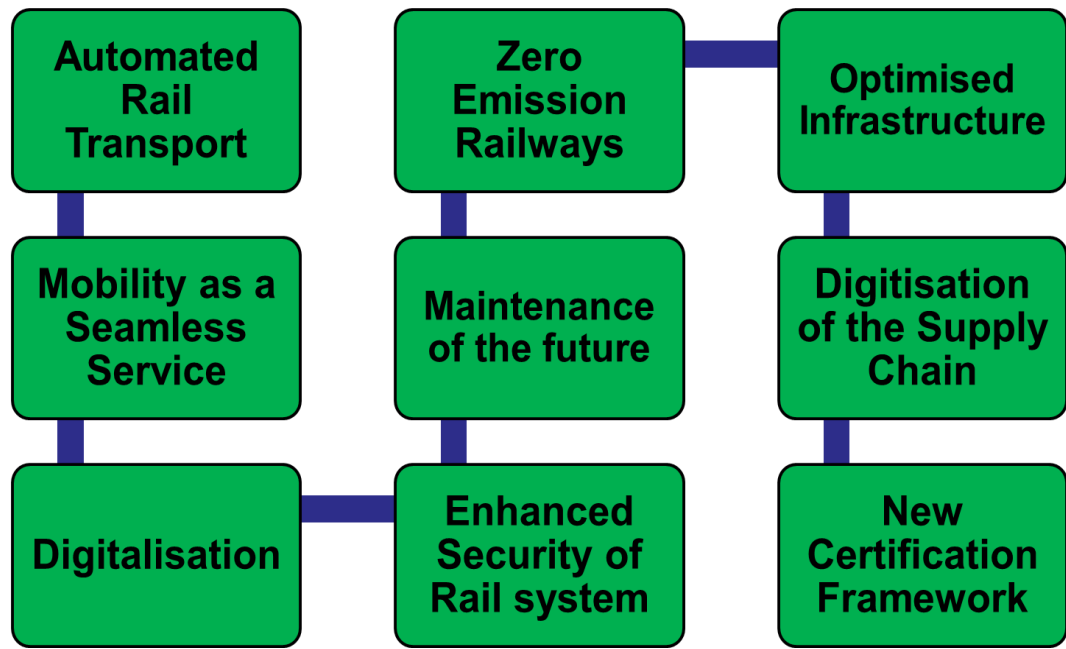**Collaborative research and platform for cooperation across the whole innovation ecosystem**

Technology demonstrators for competitive, intelligent rail freight operations

Five asset-specific Innovation Programmes (IPs), covering all the different structural (technical) and functional (process) subsystems of the rail system.

	IP 1	IP 2	IP 3	IP 4	IP 5
Long-term needs and socio-economic research	Cost-efficient and Reliable Trains, including high capacity trains and high speed trains	Advanced Traffic Management & Control Systems	Cost-efficient, Sustainable and Reliable High Capacity Infrastructure	IT Solutions for Attractive Railway Services	Technologies for Sustainable & Attractive European Freight
Smart materials and processes					
System integration, safety and interoperability					
Energy and sustainability					
Human capital					

> ➢ **UNIFE strongly calls for the continuation of the Shift2Rail Joint Undertaking within the next Research and Innovation framework programme Horizon Europe 2021 – 2027.**
> ➢ **UNIFE's nine key-enablers shall be at the core of Shif2Rail 2 programme.**

The European rail supply industry's vision for Shift2Rail 2

Automated Rail Transport

Zero Emission Railways

Optimised Infrastructure

Mobility as a Seamless Service

Maintenance of the future

Digitisation of the Supply Chain

Digitalisation

Enhanced Security of Rail system

New Certification Framework

Shift2Rail 2 to enable rail transport to tackle and be part of the solution vis-à-vis the ongoing mega-trends

Shift2Rail 2 to embrace the increasing need for shared mobility, customer-focused, digital and intermodal transport solutions

Shift2Rail 2 to reinforce the attractiveness of rail transport toward passengers and business

Want to know more about UNIFE?

➢ Read our « *About UNIFE* » guide
➢ Consult our website: **www.unife.org**
➢ Follow us on twitter: **@UNIFE**

➢ Download our Vision Paper on digitalisation:
http://unife.org/publication-press/publications.html

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