THERE WAS A TIME…

INFORMAL MEETING OF TRANSPORT MINISTERS - BELGIUM PRESIDENCY

Informal meeting of all EU Transport ministers during the Connecting Europe Days

BRUSSELS DECLARATION

20 points guideline for the next EU legislative to prepare Europe's future mobility

Strong backing for rail freight

- Make the modal shift towards rail transport a central objective of European mobility policy.
- Make the development of rail freight a priority for the EU's internal market.
- Prepare the necessary regulatory changes and make every effort to adopt them in order to improve the competitiveness of rail transport.
- Ensure a level playing field with other modes of transport.

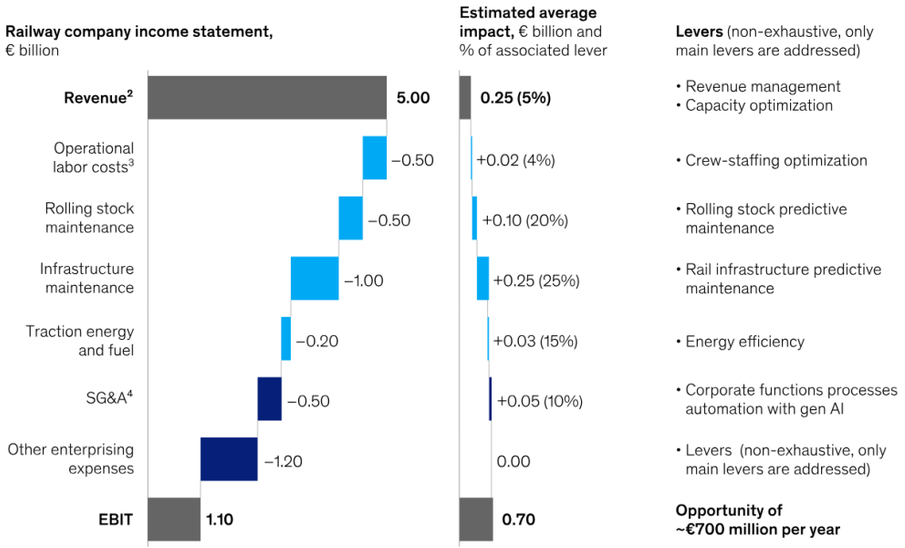
INTERNATIONAL UNION OF WAGON KEEPERS

AND THEN NEW PRIORITIES ARISE

NEW TECHNOLOGIES AND HIGH-SPEED RAIL ON TOP OF CURRENT AGENDA

AI could present an opportunity of around €700 million a year for a €5 billion company.

Cost structure of European railway companies (illustrative) ■ Addressable costs[1] ■ Non-addressable costs



[1]Infrastructure and rolling stock costs can often be separated if a railway company does not own infrastructure.
[2]Revenue can be generated by ticket sales or subsidies.
[3]These include wages for train drivers, on-board train staff, in-station staff, and traffic-management staff.
[4]Selling, general, and administrative expenses.
Source: UIC, annual reports, expert interviews

McKinsey & Company

THE RISE OF IoT & BIG DATA IN RAIL
BY ROTAIA MEDIA

Programme 14-15.05.2025

The global predictive maintenance market, including IoT-based train monitoring, is set to grow from 8.9 billion Euros in 2023 to 60.3 billion Euros by 2030. This surge underscores the increasing reliance on ***technologies like IoT, AI, and data analytics*** to optimise operations, reduce downtime, and enhance efficiency across industries, including rail transport.

NEWS ARTICLES | 6 February 2025

EU high-speed rail lines grew to 8 556 km in 2023

NEWS ARTICLE | 15 April 2025 | Directorate-General for Mobility and Transport | 1 min read

Commissioner Tzitzikostas hosts implementation dialogue on high-speed rail

Letter of Prime Ministers / Presidents of Estonia, Greece, Hungary, Latvia, Lithuania, Portugal, Romania, Slovakia, Spain and Czechia to the President of the European Commission on the European high-speed rail network and its financing

Dear Madam President,

We are writing to you concerning the development of the transport network in the European Union, which is the main prerequisite for a competitive and well-functioning Internal Market, economic growth, and prosperity. It is also one of the key factors in the current geopolitical situations and an important tool for support to our partners committed to become part of the EU.

The revision of Trans-European Transport (TEN-T) Policy, which has crucial strategical importance, entered into force last summer. The development of the TEN-T policy, especially the completion of the European Transport Corridors within the agreed deadlines, is the pivotal cornerstone for the sustainable, smart and resilient European transport network. The regulation addresses the modernisation of the entire network, quality standards as well as the missing links and bottlenecks in transport infrastructure along the network.

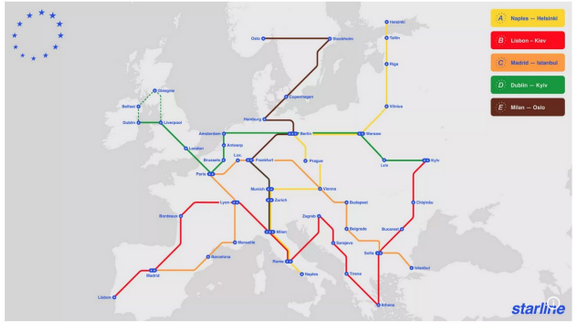
We are fully committed to implement these goals and the requirements to modernise the existing infrastructure for the carriage of passengers and goods by rail. We welcome that new high-speed railway connections have been included in the so-called TEN-T revision, particularly in the regions, where these connections are yet to be built and where they will contribute to further improve the transport connectivity.

We endorse the objectives of the Commission as referred in the Mission letter of Commissioner Tzitzikostas to prepare the action plan for European high-speed rail network connecting the capitals and the regions while having in mind the importance of cross-border projects. We encourage the Commission together with Member States to prioritise work on flagship projects with high European added value.

Furthermore, we support the findings of Enrico Letta's and Mario Draghi's reports on the European Union Single Market and on the future of European Competitiveness that the lack of high-speed rail connections and the risk of incompleteness of the cross-border links among major cities of different countries are considered a major stumbling block of the well-function Internal Market and thus the competitiveness of the European Union.

Moreover, completion of the European Transport Corridors through development of the new high-speed rail connections linking the capitals and major cities across the European Union will significantly contribute to the decarbonisation of the transport sector at the European level while strengthening the resilience of the European Union, inter alia for the needs of Military Mobility.

© Letter to EC on high-speed rail network



Copyright 21st Europe

Avg. construction costs	Scenario	Construction cost (bn €)	NPV (M€)	B/C Ratio
12 €M per KM[10]				
	2030	63	447.488	10
	2050	410	836.670	4
16.5 €M per KM[11]				
	2030	87	431.527	7,6
	2050	546	748.594	3
25 €M per KM[12]				
	2030	132	400.734	5
	2050	855	561.433	2

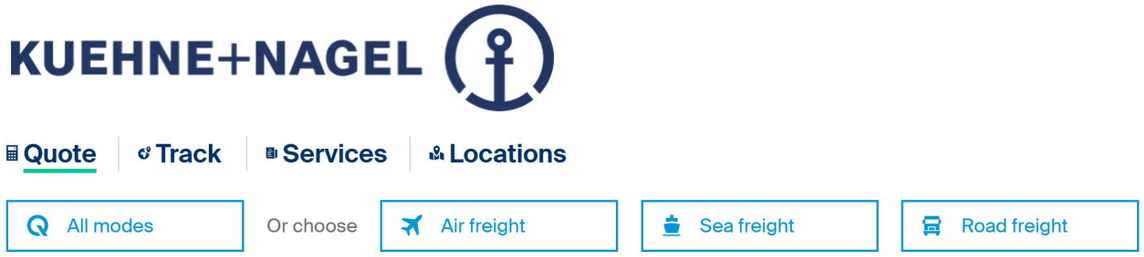
© EY HSR study 2023

AS IF IT WOULDN'T BE ENOUGH…

LOGISTIC AS KEY FACTOR FOR ECONOMIC GROWTH

Geopolitical risks have a significant impact on the global economic outlook, influencing economic growth, inflation, financial markets, and supply chains.

Logistics supply chain & empowerment - infographic



Homepage: https://ch.kuehne-nagel.com/de/

Logistics contributes to economic growth, efficiency, and competitiveness

- Efficient logistic reduces lead times, lowers operational costs, enhancing overall supply chain efficiency and resilience
- Efficient logistic can lead to faster delivery times, improved customer satisfaction, and cost savings, making businesses more attractive to consumers and investors. It provides competitive advantages.
- Efficient logistic enables small and medium-sized enterprises to reach wider markets beyond their local regions. It fosters access to new customers and opportunities, driving business growth and expansion.
- Efficient logistics stimulates economic growth by facilitating trade and consumption. It enables the movement of goods across regions and countries, promoting economic development and prosperity

Time to question the approach and the role of rail in logistics ?

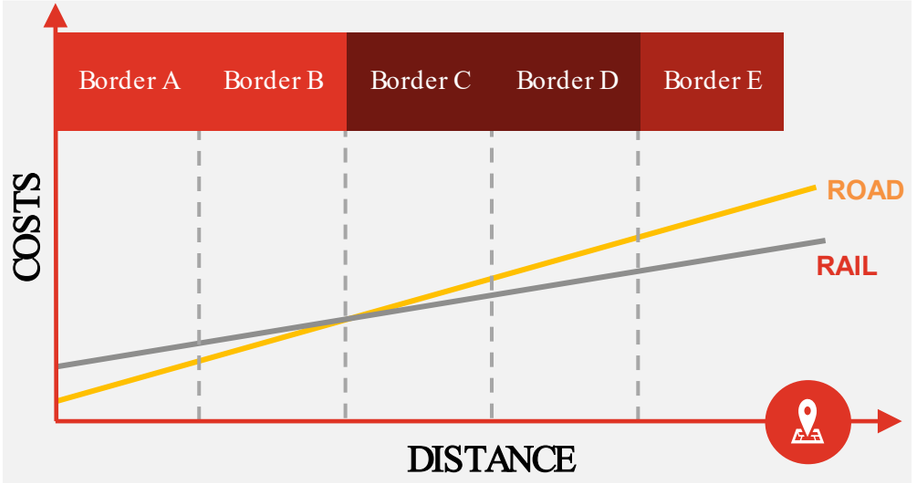
MAKING A FULLY INTEROPERABLE RAILWAYS SYSTEM IN THE EU

FIRST PART OF THE DIGITAL CHALLENGE

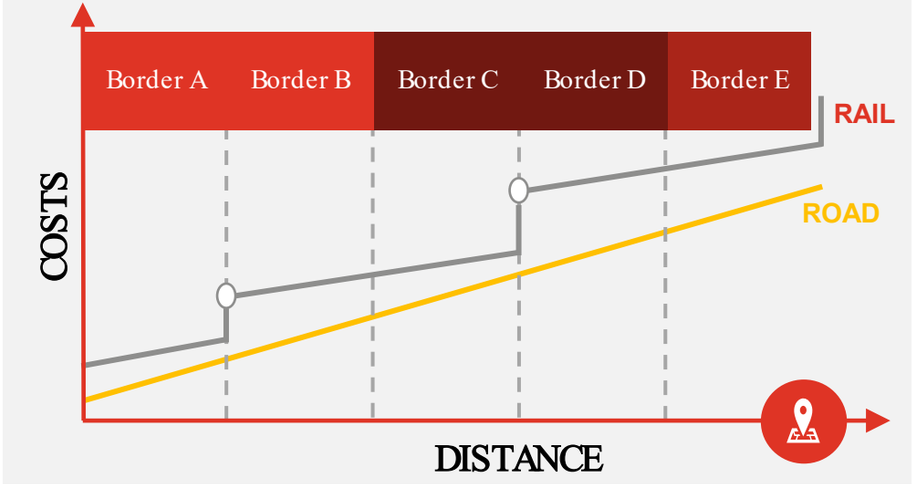
RAIL FREIGHT CHALLENGES

COSTS	QUALITY	SERVICE	TECH
Improve productivity, efficency, utilisation of resources	Improve reliability, punctuality, customer satisfaction	Develop new service added-value Re-enter markets	Migrate to european, digitalised & automated solutions

LACK OF INTEROPERABILITY



Where theory and reality don't match…



Addressing the challenges through

- EU regulatory framework
- EU financial support
- Collaboration between Stakeholders
- **Innovation**

DIGITAL, AUTOMATED, CONNECTED, CUSTOMER FOCUSED

SECOND PART OF THE DIGITAL CHALLENGE – MOST RELEVANT TOPICS

Logistics concepts:

- Automation in logistics operations enabling smoother collaboration
- Real time dynamic adaptation of logistics networks
- Increased, real-time, data sharing
- Decentralised data sharing
- Multi- and synchromodal transport concepts and solutions
- Full sustainability visibility enabling individual stakeholder decision making
- Circular logistics services to accommodate transition to circular supply chains
- Dynamic, eco-based, last mile control systems
- Consumer centric solutions

Market and society trends:

- Increasing effect of geopolitical developments
- Reshoring, nearshoring, friendshoring
- Socially responsible consumer engagement
- Urban development from a holistic approach (liveable cities)
- Resource limitations / scarcity (human, water, raw materials, …)
- Adaptation of climate change
- Requirements for sustainability measurement and accountability (e.g. Corporate Sustainability Reporting Directive)
- Less willingness to accept poor working conditions
- Lack of qualified workforce

Key enabling technologies:

- Automated & autonomous driving
- Distributed Ledger Technology
- Digital Platforms
- Artificial Intelligence
- Data spaces
- Internet of Things
- Alternative engines & drives
- Digital Twins

Automated & autonomous driving
Platooning
Autonomous trucks
Digital Automatic Coupling
Autonomous vehicles
Drones / Pods

- All concepts and trends part of **UIP's vision 2022**
- Key elements included in **UIP's manifesto 2024**

DIGITAL, AUTOMATED, CONNECTED, CUSTOMER FOCUSED

RAIL AS THE BACKBONE OF SAFE FREIGHT TRANSPORT – NECESSITY TO TRANSFORM

Ports

- gates to the world

Modular systems

- flexible and customised

Digital Platform

- a new way of working together

Intelligent Infrastructure

- cloud-based signalling

Efficient land use

- loading/ unloading/ capacity

Integrated in city logistics

- combined and multimodal

Digitally connected in the train

- Full Digital Freight Train Operations **FDFTO**

UIP

INTERNATIONAL UNION OF WAGON KEEPERS

DIGITAL, AUTOMATED, CONNECTED, CUSTOMER FOCUSED

WHAT IS AT STAKE IS BIGGER THAN DAC – LOGISTICS AND **ROAD TRUCKING**

EC Action Plan on the future of the automotive sector – 5 March 2025

OUR WORK **TO ENSURE A SUSTAINABLE AND COMPETITIVE EUROPEAN AUTOMOTIVE INDUSTRY**:

Innovation & Digitalisation

- Creating **large-scale cross-border test beds** for automated driving
- Developing **next-generation battery technology** through BATT4EU, with a dedicated budget of around **€350 million + €1 billion from Horizon Europe for connected and autonomous vehicles and batteries**
- **A European Connected and Autonomous Vehicle Alliance** for Companies to develop shared software, chips and autonomous driving technology

Clean Mobility

- Accelerating the **uptake of zero-emission vehicles** in corporate fleets
- More **flexibility for meeting the 2025 CO_2 standards** while keeping the target
- Improving **battery repairability** and accelerating the **roll-out of charging infrastructure + €570 million from the Alternative Fuels Infrastructure Facility**
- Ensuring **price transparency at recharging points**

Level Playing Field with non-EU competition

- Ensuring that **European companies are protected** against unfair competition
- Ensuring that **foreign investments in the EU automotive sector** benefit European companies and contribute to the industry's long-term competitiveness

Competitiveness & Supply Chain Resilience

- Boosting Europe's battery industry with a **'Battery Booster' investment package** to support EU made batteries **+ €1.8 billion from the Innovation Fund**
- **Promoting European production** of key components for connected and automated vehicles

Supporting Workers

- A **European Fair Transition Observatory** to track employment trends in the automotive sector, identifying potential "hot spots" of job displacement for proactive solutions
- **€90m Pact for Skills fund** to boost skills training in the automotive industry

Acea – September 2024

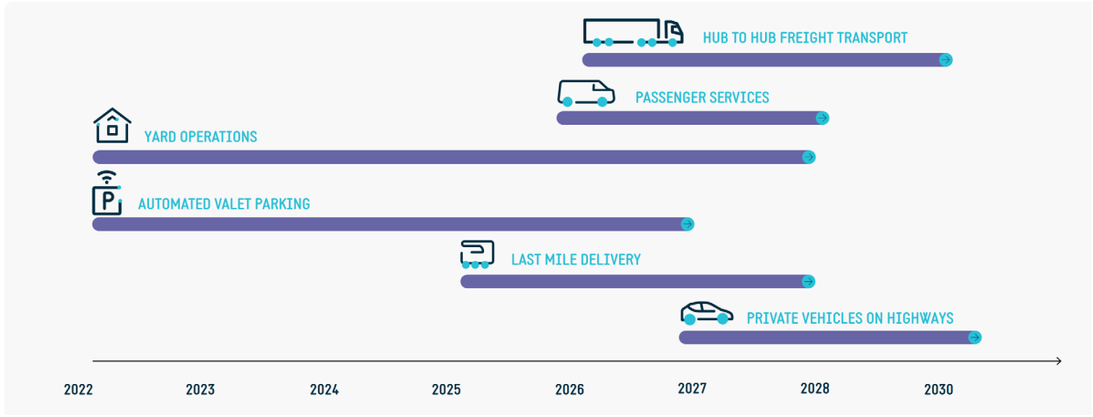
- 16 major Europe-based automobile manufacturers
- Vision since 2014
- 1st roadmap 2016
- New: **automated mobility**: not just a vision

acea

Alice – February 2025

- European Technology Platform
- Strategy for research, innovation and market deployment
- 160+ members reaching the full stakeholders' groups within freight transport

alice | Alliance for Logistics Innovation through Collaboration in Europe



ALICE collaboration with Europe´s Rail is aiming to **address these challenges through new technologies that can be implemented in the rail sector**. Its aim is to align the rail offering more closely with shippers' expectations, creating a smoother and more efficient transport system in the long term.

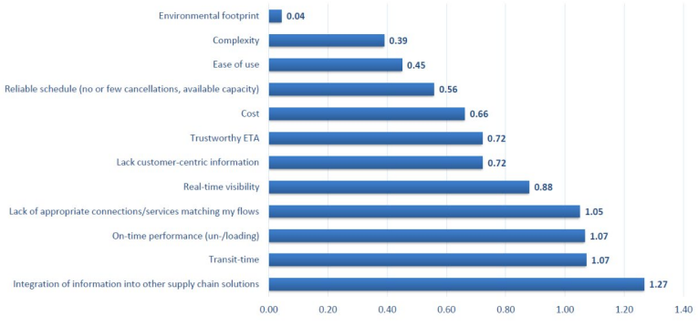


Figure 4. ALICE survey 2022. Perception gap on all 12 detailed performance criteria. Shipper perception versus rail sector.

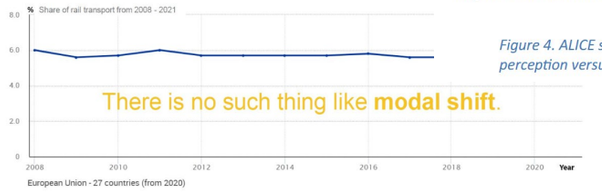


Figure 2. Market share of rail freight 2008 – 2021 (% of all modes incl. maritime, inland waterways, road transport, air freight) – source Eurostat

DIGITAL, AUTOMATED, CONNECTED, CUSTOMER FOCUSED

WHAT IS AT STAKE IS BIGGER THAN DAC – **RAIL INFRA & PASSENGER**

Europe's Rail


European Rail Traffic Management and Digital Enablers


Competitive Digital Green Rail Freight


Digital & Automated up to Autonomous Train Operators


Smart Solutions for Low Density Traffic Lines


Sustainable and Digital Assets

Innovation Pillar	2021 – 2031 (in EUR million)	Multi Annual Call 2022 (in EUR million)
Flagship Area 1: Network management planning and control & Mobility Management in a multimodal environment & Transversal Topics: Digital Enablers	173.7	87.4
Flagship Area 2: Digital & Automated up to Autonomous Train Operations	251.9	121.5
Flagship Area 3: Intelligent & Integrated asset management	217.4	104.2
Flagship Area 4: A sustainable and green rail system	169.2	89.7
Flagship Area 5: Sustainable Competitive Digital Green Rail Freight Services	136.3	95.5
Flagship Area 6: Regional rail services / Innovative rail services to revitalise capillary lines	82.3	37.7
Flagship Area 7: Innovation on new approaches for guided transport modes	15.7	7.3
Total	1046,5	543,3

https://rail-research.europa.eu/wp-content/uploads/2022/09/Europes-Rail-Catalogue-of-Solutions-v4.pdf

- Solution 5: Light Carbodies
- Solution 11: Lightweight Axle
- Solution 13: Light Running Gear Frame
- Solution 14: HMS for CBM
- Solution 15: Electromechanical Brake System (EMB)
- Solution 18: High-SIL Brake Control

- Solution 23: Automatic Train Operation (up to GoA4)
- Solution 24: Moving Block
- Solution 25: Fail-Safe Train Positioning
- Solution 28: Onboard Train Integrity

DIGITAL AUTOMATED CONNECTED AND CUSTOMER FOCUSED

DAC AS ENABLER: BENEFITS FOR THE SECTOR AND SOCIETY

Rail Freight Sectoral

Society & Environment

Capacity

Smart capacity, in addition to conventional extension

Productivity

Reduction of time/efforts (€),

increase of system speed and asset efficiency

Quality

Increased flexibility and reliability,

innovative customer services and information

Worker's & Rail Safety

Automation of manual processes,

invest in human capital

Economics & Employment

10+ bn EUR value creation in Europe

better work-places in rail

EU Green Deal

- 10 to -20 mn tons CO_2 equiv. p. a.

Delivering the European Green Deal

INTEROPERABILITY

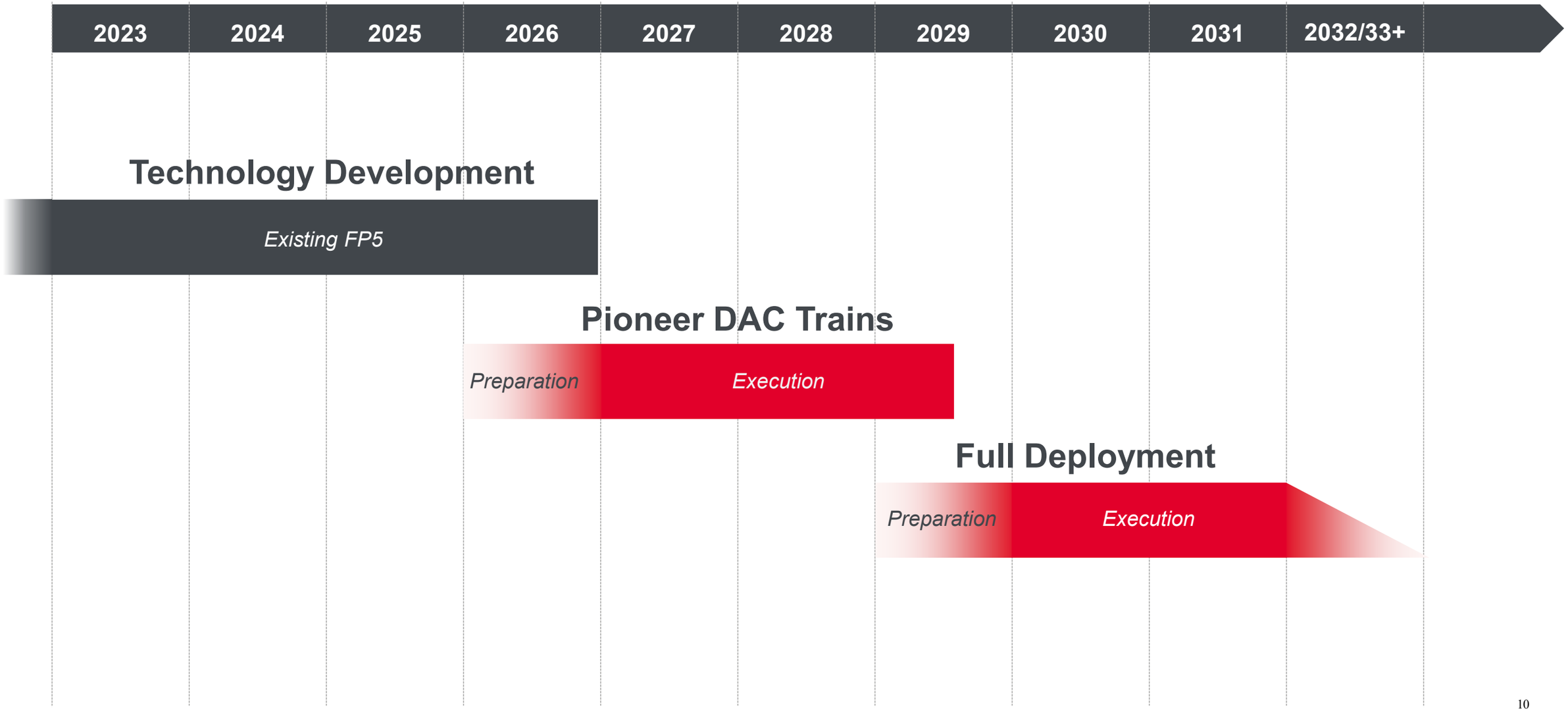
Competitiveness

new markets and growth

+ 50% rail freight | - 55% GHG emissions until 2030

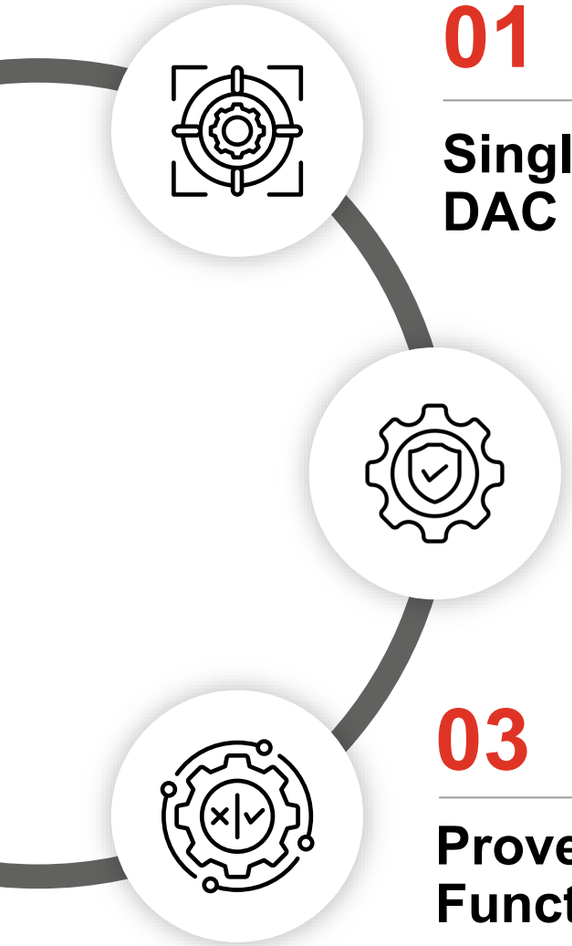
DAC PROJECT TIMEPLAN

3 PHASES OF DAC PROJECT



PRECONDITIONS FOR INVESTING IN DAC DEPLOYMENT

ALL NEEDS TO BE PROVEN BEFORE INVESTMENT DECISIONS WILL BE TAKEN



01

Single European DAC System

DAC-Technology and DAC-operations/ functionalities are **clearly defined and harmonised**

02

Proven Technology

The **technology** meets all essential requirements (incl. RAMS) and is proven through large demonstrations (incl. Pioneer Trains)

03

Proven Operational Functionality

The **operational functionalities/use cases** bring the expected benefits - proven through large demonstrations

Layout: OEBB

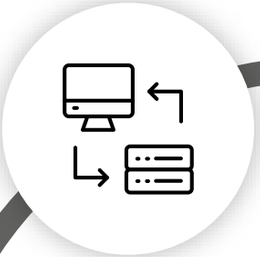
PRECONDITIONS FOR INVESTING IN DAC DEPLOYMENT

ALL NEEDS TO BE PROVEN BEFORE INVESTMENT DECISIONS WILL BE TAKEN

06

Sound Migration Plan

A **sound migration plan** is set, guaranteeing simultaneous deployment in Europe (funding programs, established production capacities, staff training, infrastructure and IT adaptations



05

Simple Authorisation

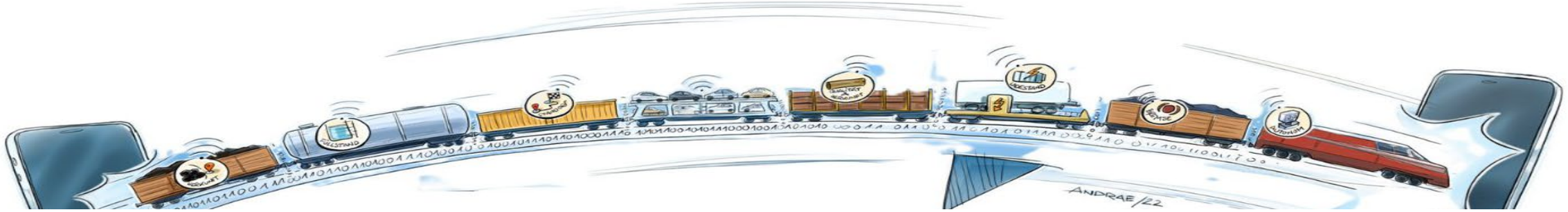
Efficient & suitable authorisation process & requirements are available & authorization risks are mitigated, documents well prepared

04

Availability of Adequate Funding

Positive **CBA incl. adequate funding programs** (EU and MS) are made available and guaranteed

Layout: OEBB



	FP5TRANS4M-R	FP5DACtiVate	DACcelerate	DACcord	DAC FIT
	Description: • Core project for developing the DAC for Europe • Development of 16 rail freight innovations, including DAC Type 4 +5, automated shunting, → Innovation	**Description:** • derailment and propelling safety tests, crash tests, clim. chamb. • interchangeability of DAC across suppliers • Hybrid coupler locos • Wagon Onboard Unit (WoBu) → Innovation	**Description:** • Accelerating DAC adoption through EDDP streamlining • Standardizing DAC specifications for seamless integration • Guiding comprehensive DAC integration by 2030 → Management/Integration	**Description:** • Aligns DAC implementation for rail freight • Creates deployment roadmap aligned with EDDP goals • Facilitates funding and activity coordination for DAC deployment. → Management	**Description:** • Drives the implementation of DAC • Ensuring smooth transition of vehicles and facilities to DAC, optimizing logistics efficiency. → Transformation
	Partners: 75 Diverse Participants - Includes rail end users, industry, operators, SMEs, academia	**Partners:** 12 beneficiaries, 21 partners Includes RUs, industry, operators, SMEs, …	**Partners:** ViF, railiable, hwh, Molinari, OWITA, TRV, SNCF, RINA	**Partners:** railiable, Railenium, TRV, LSP, UNIFE, UIC	**Partners:** DB C, k+v, Instytut Kolejnictwa, VUKV, BME ITS, VERS, IML
	Duration: 07/22 – 12/26	**Duration: 24 months**	**Duration:** 06/21 - 01/23	**Duration:** 04/23 – 03/26	**Duration: 24 months**
	Lead: DB	**Lead:** DB	**Lead:** VIF	**Lead:** RAILIABLE	**Lead:** DB C
€	**EUR:** 95,1 Mio. EUR	**EUR**: 10,7 Mio. EUR	**EUR:** 2,1 Mio. EUR.	**EUR:** 1,5 Mio. EUR	**EUR**: 1,5 Mio. EUR
			ended		

UIP
INTERNATIONAL UNION OF WAGON KEEPERS

THANK YOU FOR YOUR ATTENTION

Austria | Belgium | Czech Republic | France | Germany | UK | Hungary

Italy | Netherlands | Poland | Slovak Republic | Spain | Sweden | Switzerland

Gilles PETERHANS

Secretary General

gilles.peterhans@uiprail.org

UIP
INTERNATIONAL UNION OF WAGON KEEPERS

DIGITAL, AUTOMATED, CONNECTED, CUSTOMER FOCUSED

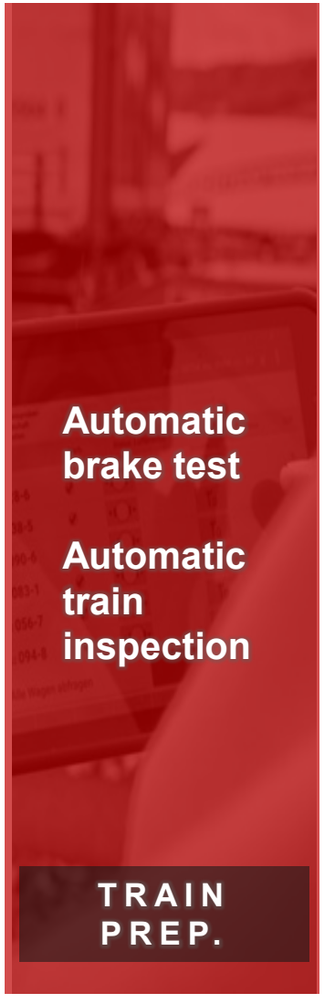
DAC AS ENABLER: BENEFITS FOR RAIL FREIGHT AS A SYSTEM

Automatic Coupling

Remote uncoupling

Digital Backbone

DIGITAL COUPLERS



Automatic brake test

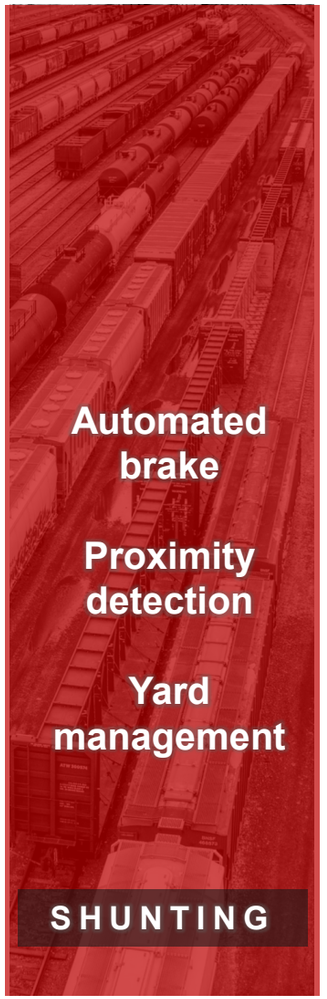
Automatic train inspection

TRAIN PREP.

Predictive maintenance

Wagon data & loading information

TELE MATICS

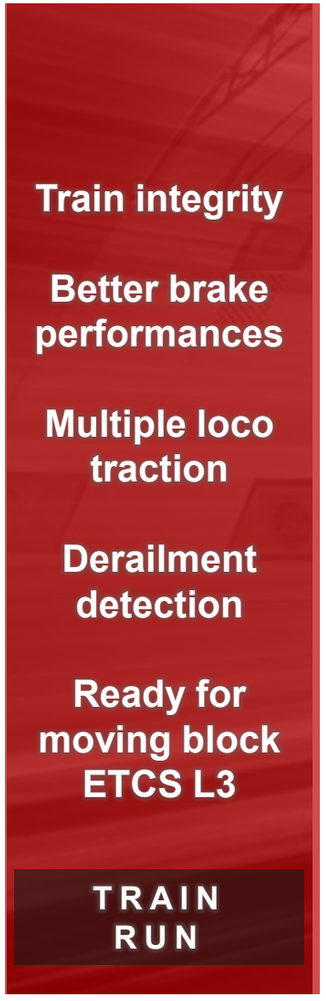


Automated brake

Proximity detection

Yard management

SHUNTING



Train integrity

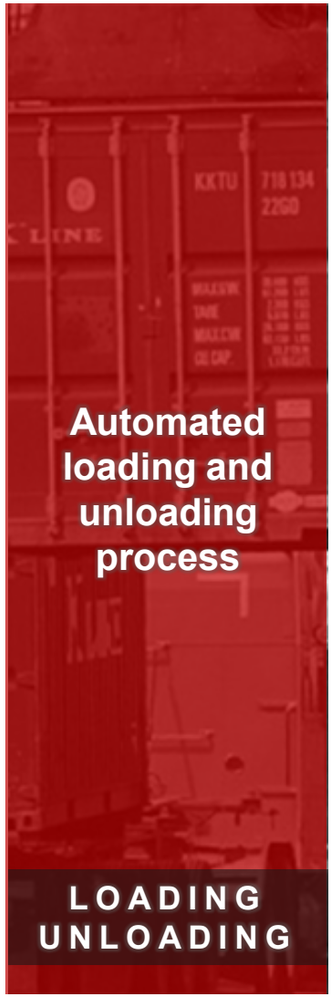
Better brake performances

Multiple loco traction

Derailment detection

Ready for moving block ETCS L3

TRAIN RUN



Automated loading and unloading process

LOADING UNLOADING

In collaboration with EUROPEAN DAC DELIVERY PROGRAMME

Europe's Rail

Delivering the European Green Deal

Contributing to the Sustainable and Smart Mobility Strategy by increasing rail freight traffic

Increasing Rail Freight Efficiency

Increasing Infrastructure Capacity

Layout: WABTEC