



Paving the way to a successful ERTMS rollout – together!

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17-21
Sept. 2024



Vienna, Austria
Aula der Wissenschaften

ERTMS features



ERTMS

ATO

Automatic Train Operation

- ☐ Enhanced performance
- ☐ More predictable journeys
- ☐ Increased capacity
- ☐ Energy-optimized

European Train Control System

- ☐ Boosts safety
- ☐ Enhances interoperability
- ☐ Increases capacity
- ☐ Lower infrastructure costs

GSM-R

Global System Mobile for Railways

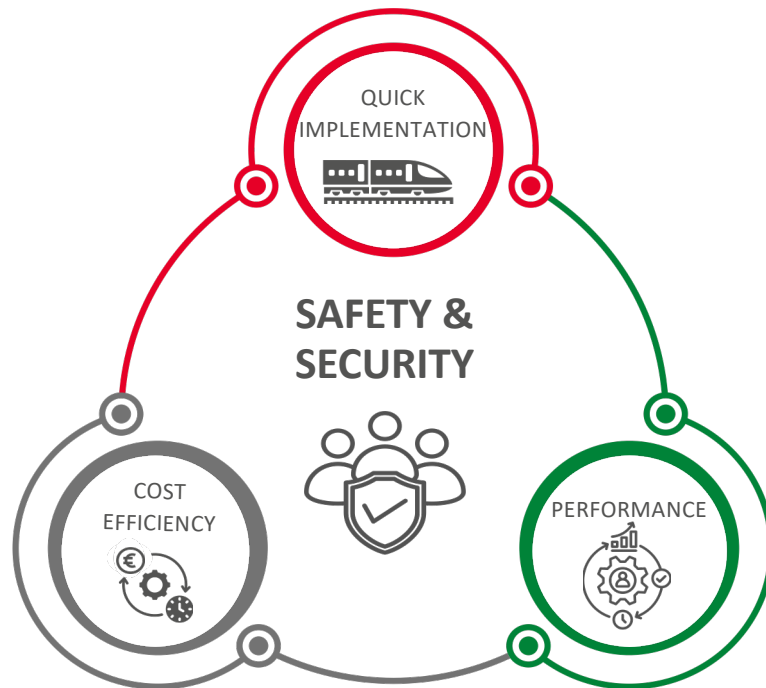
- ☐ Stable radio communication (2G based)
- ☐ Standardized across Europe
- ☐ Mature 2G technology: cost efficient and interoperable

FRMCS

Future Railway Mobile Communication System

- ☐ High Data Capacity (5G based)
- ☐ Future-Proof: designed to accommodate new technologies and requirements
- ☐ Enhanced safety and digitalisation: enables real-time video and IoT integration.

Business objectives

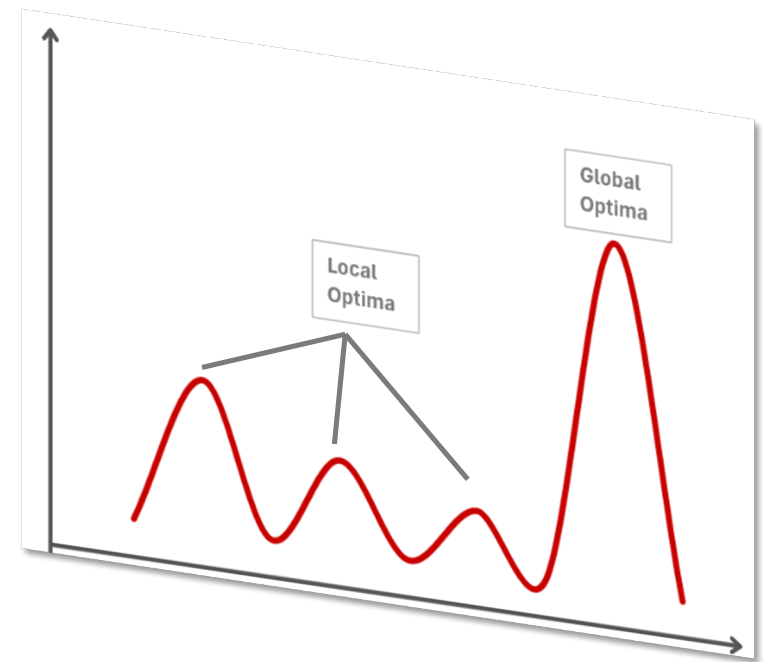


- A fundamental objective:
 - ☐ Achieve appropriate level of safety & security
- These objectives are linked and have to be addressed in combination:
 - ☐ Increased cost efficiency
 - ☐ Higher performance of railway system
 - ☐ Quicker rollout of solutions

The railway sector will only benefit substantially, if we implement more cost efficient and high performance solutions quicker. !

RSI & ROC cooperation

- ❑ ROC's operational expertise and RSI's solution competence are **complementary**.
- ❑ Cooperation between ROC and RSI is crucial for **achieving global optimization**, rather than just local improvements.
- ❑ The benefits of this collaboration are seen in the **System Pillar** of Europe's Rail Joint Undertaking.



TEN-T deadlines

- ❑ ERTMS will be **implemented across the entire TEN-T network as the unified European signaling system**, improving rail safety and efficiency.
- ❑ **National legacy "class B" systems will be gradually phased out**, encouraging industry investment in ERTMS.

ERTMS Deployment

- ❑ 2030 core network
- ❑ 2040 extended core network
- ❑ 2050 comprehensive network

Class-B decommissioning

- ❑ 2040 core network
- ❑ 2045 extended core network
- ❑ 2050 comprehensive network

ERTMS rollout

- ❑ After 20 years of ERTMS deployment, implementation is insufficient
- ❑ Accelerated ERTMS deployment is key to improve business case for stakeholders
- ❑ Joint sector initiative between the European Commission, ERA, RSI and ROC to remove barriers and for faster ERTMS rollout.



ERTMS rollout initiative

- ❑ Support ERTMS deployment targets in the revised TEN-T regulation and ERTMS National Implementation Plans.
- ❑ ERTMS Stakeholder Platform to ensure overall coordination, align deployment and implementation and to facilitate efficient and commercially viable deployment with the objective of the Single European Railway Area
- ❑ Establish a renewed joint commitment to ERTMS, through a **joint statement at InnoTrans 2024** and updating the 2016 ERTMS Memorandum of Understanding.

Proposed objectives at strategic level

- ❑ Improve interoperability and operational performance with an accelerated ERTMS roll-out, enabled by more cost-efficient signalling solutions ensuring more efficient operations
- ❑ Promote a stronger coordination on European ERTMS governance and Programme Management
- ❑ Strengthen cooperation between stakeholders
- ❑ Ensure commitment of stakeholders for their area of responsibility
- ❑ Promote harmonisation of requirements and optimum standardization
- ❑ Promote the efficient implementation of authorisation and approval processes



FRMCS



- ❑ FRMCS is a **priority technology for the future railway system**, driven by the imminent **obsolescence of GSM-R** and the significant opportunities FRMCS provides to **enable and support the digitalisation** of the railway.
- ❑ FRMCS will **support existing applications** such as ETCS and voice, as well as **enabling new applications**: ATO, data/video services and, more generally, essential services requiring **telecom quality, flexibility and capacity**.
- ❑ European railway telecommunications supply industry has been in **active cooperation** with the UIC, ERA and other European railway stakeholders in the definition of **FRMCS specifications** and **testing programmes**.
- ❑ Based on the 2023 EU-RAIL FRMCS Report and new TSI Request from the EC to ERA, the mature FRMCS V3 specifications and inclusion as the '**FRMCS 1st Edition**' is expected to be included in the ERA Recommendation deliverable by the end of 2026, for the **TSI update in 2027**
- ❑ UNIFE and 12 UNIFE members will be involved in the **ERJU MORANE-2 project**, which will focus on **the development and testing of FRMCS technologies and delivery of FRMCS V3 specifications**.
- ❑ To achieve this objective and the timelines expected by the sector, we request **enhanced cooperation** between the industry, railways and EU institutions, and an urgent **refocus on the scope** and delivery of the FRMCS V2 and V3 specifications.

Conclusion

For a successful, quicker ERTMS rollout at European scale, we need:

- ☐ Strong cooperation between concerned stakeholders,
- ☐ More harmonised operational & technical requirements,
- ☐ Simplified authorisation and approval processes and
- ☐ Reliable multiyear implementation plans and financing commitment

RSI will contribute to make
ETCS + radio based
communication a success
for the railway sector



**Thank you for
your attention!**

