TELECOMMUNICATIONS

Opportunities

❯ With a clear definition and shaping of the needs, it will be possible to limit the implementation costs of FRMCS;

❯ FRMCS will increase the number of security and business applications supported by mobile communication and modify the railway operating model;

❯ If the successor of GSM-R enables to use public mobile networks (when appropriate), telecom costs of IMs will be significantly reduced.

Challenges

❯ Smooth migration from GSM-R to FRMCS requires coordination with the ERTMS deployment plans;

❯ Cyber-attacks are a threat to telecommunications;

❯ Without an adequate allocation of spectrum frequencies, the costs for IMs may significantly increase;

❯ Running several technologies during the transition phase may increase costs;

❯ A successor technology must be in place when GSM-R will be phased out in 2030.

Last revision: 27/05/2019

Objective

Telecommunications is a highly strategic topic for Infrastructure Managers (IMs) as it enables safe and secure communication related to railway operations. The current railway mobile telecom technology, GSM-R, will be phased out by 2030. Therefore, the rail sector is busy working on the requirements for a successor technology. The future railway mobile communication system (called 'FRMCS') is currently being defined and its roll out is expected to start from 2023. The issue is being addressed by the European Commission, the EU Agency for Railways (ERA), as well as the EU standardisation bodies.
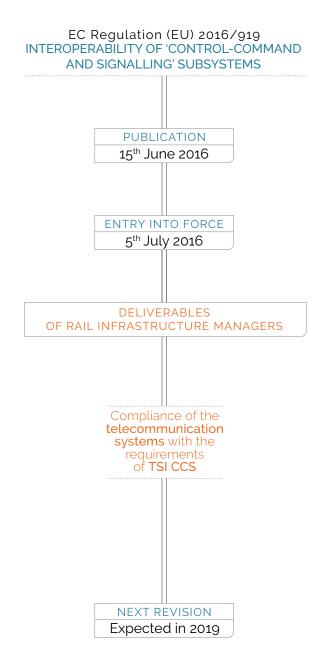
Regulation (EU) 2016/919 on the Technical Specification for Interoperability relating to the Control-Command and Signalling (CCS TSI) applies to telecommunications. Although FRMCS is not yet included in the CCS TSI, it is anticipated that parts of its specifications shall be incorporated in the next update of the TSI.

Involvement of Infrastructure Managers

The FRMCS will have significant importance for IMs. Ensuring an effective migration between the current GSM-R and the future technology will be essential for IMs to save operational costs and spectrum frequencies. Appropriate allocation of spectrum will be key to enabling the re-use of existing GSM-R infrastructure for the future use of FRMCS and limit implementation costs for IMs.

EIM in action

› EIM's Telecom Working Group (TEL WG) supports the strategy for the Future Railway Mobile Telecom system (FRMCS) in cooperation with the ERTMS community;

› EIM advocates a high-performing, robust and cost-efficient FRMCS, as well as a clear migration plan between the two telecom systems.

EC Regulation (EU) 2016/919
INTEROPERABILITY OF 'CONTROL-COMMAND AND SIGNALLING' SUBSYSTEMS

PUBLICATION
15th June 2016

ENTRY INTO FORCE
5th July 2016

DELIVERABLES
OF RAIL INFRASTRUCTURE MANAGERS

Compliance of the **telecommunication systems** with the requirements of **TSI CCS**

NEXT REVISION
Expected in 2019

■ EU LEGISLATION   ■ INFRASTRUCTURE MANAGERS