

EVIDEN

Delivering your transition from GSM-R to FRMCS



Connecting the future of rail

Over the past two decades, GSM-R has been the backbone of safe and reliable railway communications, enabling seamless train operations across Europe and beyond.

It is expected to be phased out around 2035–2040, with decreasing vendor support and increasing operational constraints.

FRMCS, the Future Railways Mobile Communication System, is its successor, addressing the limitations of aging 2G technology and its approaching end of life. Based on 5G and MCX technologies, FRMCS enables secure, high-capacity, IP-based communications and supports mission-critical voice, video, and data for future railway operations.

The migration to FRMCS starts today

How to overcome the challenges of integration, interoperability, service continuity, and cybersecurity throughout that migration? As a system integrator and solution provider, Eviden builds the bridge towards FRMCS with a comprehensive portfolio of cutting-edge solutions, Lifelink MCx Connect, enabling railways to start their FRMCS journey today without waiting for full 5G network deployment.

Lifelink MCx Connect includes MCx Server and Client, Interworking Functions (IWF), Dispatcher Systems, Recorders, Geolocation Servers, TOBA, and various Railway Applications within the FRMCS Service and Application strata. All these solutions are designed and deployed with cybersecurity at their core.



Integrating FRMCS with existing GSM-R networks

Rather than a “big-bang” replacement, FRMCS can be introduced progressively at the FRMCS Service and Application Strata levels, allowing GSM-R and FRMCS to coexist seamlessly during a controlled transition phase.

This approach enables:

- Early deployment of Mission-Critical Services (MCX)
- Gradual replacement of aging GSM-R components, such as the dispatching system
- Early familiarization of operational and maintenance staff with next-generation technologies
- Support for new use cases not fully addressed by GSM-R
- Immediate start without waiting for 5G infrastructure deployment

The transition is typically structured across multiple phases, starting with proof-of-concept deployments first and culminating in full FRMCS compliance, aligned with latest CCS TSI requirements.

The key role of IWF

The IWF is a key enabler for hybrid GSM-R / FRMCS operations.

It ensures seamless communication between:

- FRMCS system
- Legacy GSM-R network
- Existing PBX, and other external environments

With the IWF, dispatchers, shunters, controllers and train drivers stay fully connected, unaware of whether their communications are running over GSM-R or FRMCS.



Operational Benefits of a phased FRMCS Introduction at Service and Application Strata levels without waiting for 5G deployment

- GSM-R and FRMCS can coexist, already ensuring uninterrupted mission-critical communications during migration
- Reduced transition risk through staged deployment, avoiding the risks of a full “big-bang” cutover
- Cost control, avoiding an immediate full network replacement
- Enhanced operational capabilities via introduction of new MCX services (MCPTT, MCVideo, MCData)
- Future readiness, aligned with evolving FRMCS and CCS TSI specifications
- Improved cybersecurity, supporting modern regulatory requirements
- Faster staff familiarization



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