



PRESS RELEASE n° 11/2025

UIC FRMCS Conference 2025: tackling the challenge of interoperable and future-ready railway digitalisation

(Paris, 15 October 2025) The International Union of Railways (UIC) welcomed railway leaders, regulators and international partners to the 4th edition of the Future Railway Mobile Communication System (FRMCS) Global Conference. More than 300 participants from 30 countries, representing railways, the global supply industry and the European Union Agency for Railways (ERA), attended this landmark event, making it one of the most successful and influential gatherings in the railway sector. The conference confirmed FRMCS as a central pillar of railway digitalisation, interoperability and operational excellence, both in Europe and worldwide.

The event opened with remarks from François Davenne, UIC Director General, who framed the conference as a defining moment for rail transport. *“Digitalisation is no longer simply a technical aspiration; it is a strategic imperative that shapes the future of mobility, economic growth and sustainability,”* he stated. UIC is leading the development of the Future Railway Mobile Communication System (FRMCS), which is designed to enable the safe operation of more trains, to support automation and to optimise maintenance through real-time monitoring, as well as providing a platform for innovative digital applications, ranging from intelligent train systems to predictive analytics and advanced traffic management.

Jean-Michel Evanghelou, UIC Director Telecom, Director Digital Systems and Innovation, highlighted that the success of FRMCS relies on strong partnerships. UIC has brought together railways, infrastructure managers, technology suppliers, mobile network operators and regulators across Europe and internationally. Thanks to collaborative governance and disciplined delivery, programmes such as Morane 2 are currently validating FRMCS hardware and software in three laboratories and on five field test lines, including a high-speed line in Spain, ensuring readiness for large-scale deployment from 2027 onwards.

Oana Gherghinescu, Executive Director of the European Union Agency for Railways (ERA), underlined the importance of partnership and early collaboration among all stakeholders involved in FRMCS. She also confirmed the full and strong engagement of ERA in this essential gamechanger. Finally, she highlighted that ERA provides a platform where all actors can come together to discuss not only progress but also challenges – ideally as early as possible. She also stressed that FRMCS is not just about replacing GSM-R; it is about providing a more resilient, future-proof communication system for Europe’s railways.

FRMCS builds on the legacy of GSM-R, introduced 25 years ago to address fragmented and limited railway communications. GSM-R established international standards for operational reliability, safety and interoperability, covering more than 250,000 km of railway lines worldwide. In the future, FRMCS will go beyond this foundation allowing higher capacity, supporting automation, enabling predictive maintenance, and allowing advanced traffic management and digital applications. FRMCS positions railways to respond effectively to both current operational demands and the challenges of the future.

The programme's success relies not only on technology but also on partnership and governance. UIC brings together a wide coalition of railways, infrastructure managers, suppliers and regulators, fostering collaboration based on shared objectives and disciplined execution.

In 2024, UIC delivered the FRMCS V2 specifications, which received a positive Technical Opinion from ERA, paving the way for Morane 2, the pan-European testing programme which replicates real-world railway operations, ensuring that FRMCS V3, the first market-ready edition, will be ready for the start of the 2027 migrations.

Throughout the conference, participants explored national railway plans, UIC specifications and worldwide deployment perspectives. They discussed governance structures, operational validation and the challenges of cross-border interoperability, gaining insight into the collaborative approach that drives FRMCS. The event provided a comprehensive picture of how strategic vision, technical expertise and disciplined delivery are coming together to make FRMCS a reality.

An important upcoming event is the FRMCS ETSI Plugtests at the UIC headquarters, where over 100 experts representing future FRMCS providers will install, connect and test their equipment. These sessions will simulate the operational complexities of modern railways, demonstrating how trains communicate with signalling systems, how hardware and software interact, and how interoperability is ensured across national contexts. The Plugtests will provide a tangible view of the system's progress and readiness, bridging the gap between specifications and real-world railway operations, and marking a critical step toward large-scale deployment.

Beyond technical achievements, FRMCS addresses broader societal and economic imperatives. It increases capacity, improves punctuality and enables automation, supporting rising passenger volumes and growing freight demand. Real-time data, predictive maintenance and optimised asset management enhance operational efficiency, reliability and competitiveness. FRMCS is designed to be future-proof, aligned with international 3GPP standards, supporting emerging technologies such as Mission Critical over 5G, and integrating future AI-driven functionalities. Harmonised EU frequencies ensure cross-border interoperability and long-term relevance, safeguarding decades of investment.

The global significance of FRMCS extends far beyond Europe. Countries including China, India, the United Arab Emirates, Saudi Arabia, Morocco, Tunisia and Australia are following the programme closely, reflecting the system's potential to become a model for multilateral collaboration in railway digitalisation. This conference demonstrated how coordinated efforts can turn ambitious technical concepts into operational reality and highlighted Europe's leadership in sustainable mobility and digital innovation.

The conference reinforced that FRMCS is not merely a system, but a strategic milestone. It demonstrated how vision, expertise and disciplined delivery converge to advance the railway sector. By enabling safer, smarter and more sustainable operations, FRMCS contributes to reduced energy consumption, lower emissions and improved reliability, while enhancing the competitiveness and attractiveness of rail transport.

UIC emphasised that the success of FRMCS depends on the engagement, expertise and collaboration of all stakeholders. The conference provided a platform to exchange ideas, share lessons learned and foster partnerships that accelerate deployment and innovation. Participants had the opportunity to shape the future of railways, ensuring that they remain safe, smart, sustainable and globally connected.

The organisers would like to thank all the sponsors, media partners and supporters whose contributions made this edition such a success, bringing together over 300 participants and reinforcing UIC as a key platform for railway digitalisation, standardisation and interoperability worldwide.

Watch the new FRMCS video: <https://youtu.be/UPiGLzsi8U>

Contact information

Communication Department: com@uic.org