

About ETSI

RT is part of ETSI – one of the world's leading standards development organizations for Information and Communication Technologies (ICT). Founded initially to serve European needs, ETSI has grown rapidly to become highly-respected as a producer of technical standards for worldwide use.

ETSI membership is composed of manufacturers and network operators – all the “big names” and many smaller companies too – plus national administrations, ministries, regulators, universities, research groups, consultancies and user organizations. A powerful and dynamic mix of skills, resources and ambitions, all working together to bring the very best ICT solutions to the global marketplace. Geographically, our membership of over 700 companies and organizations is drawn from more than 60 countries on 5 continents.

ETSI is independent of all other organizations and structures, a key feature for ensuring neutrality and trustworthiness. That brings benefits not only in the acceptance of our standards and other publications, but also in our growing range of ancillary services, such as interoperability testing. And because standardization inevitably draws upon the bright ideas of our members, we have an Intellectual Property Rights (IPR) policy in place that has become the model for many other organizations.

ETSI's standardization activities are open to all interested companies and organizations. Your company can be part of this dynamic organization. For more information about how *you* can be involved, please visit

<http://www.etsi.org/membership>

For details about ETSI's current GSM-R activities, please visit

<http://portal.etsi.org/portal/server.pt/community/RT/330>

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World Class Standards

GSM for Railways (GSM-R)



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GSM for Railways (GSM-R)

GSM for Railways (GSM-R) is a standard that defines the use of GSM as a network for rail transport infrastructure operators. The GSM-R standard implements a number of applications and requirements specific to the railway environment, including data and voice communications at speeds of up to 350 km/h.

GSM-R is fully based on the GSM standard. It enhances this with particular features such as:

- Operation in specific, dedicated, frequency bands in Europe, namely 876-880 MHz and 921-925 MHz, to be extended to 873-880 MHz and 918-925 MHz;
- Extensive use of functional addressing for call handling;
- Private Mobile Radio (PMR) features such as "Voice Group Call Service", "Voice Broadcast Service" and "Priority and Pre-emption";
- Location-dependent addressing.



The creation of a pan-European system for railway telecommunications was initiated in the 1990s by the Union Internationale des Chemins de Fer (UIC) under the project EIRENE (European Integrated Radio Enhanced Network) and the European Union with the project MORANE (MOBILE radio for RAILway Networks in Europe). As a result of these projects and ETSI specification work, GSM-R was selected as the interoperable radio system for railways and was mandated by a European Decision in 1997. Thirty two members of the UIC signed a Memorandum of Understanding (MoU), committing the signatories to use GSM-R for their radio applications.

Since then, GSM-R has continued its expansion not only towards Eastern Europe but also worldwide, including countries such as China, India, Algeria, Turkey and Saudi Arabia.



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ETSI TC RT: the home of GSM-R

ETSI Technical Committee "Railway Telecommunications" (TC RT) is a group of specialists with both railway and communications industry members. The committee is responsible for the maintenance and continuing development of the GSM-R standard.

TC RT's main task is to maintain the specifications for the use of GSM to meet the requirements of the railways, and to develop the existing ETSI standards in response to relevant European Directives.

TC RT is also working, in collaboration with the railway industry, on enhancing the GSM-R system in response to evolving requirements from users in Europe and throughout the world. One example is the provision of roaming for international trains.

To maintain the GSM-R standard, TC RT submits Change Requests to the 3rd Generation Partnership Project (3GPP, the collaborative project between standards organizations for the specification of advanced mobile communications technologies) for updating the "plain" GSM standard as required. The committee also manages three specifications dedicated to the railway environment:

- EN 301 515: Requirements for GSM operation on railways
- TS 102 610: Usage of the User to User Information Element
- TS 102 281: Detailed requirements for GSM operation on Railways

ETSI TC RT welcomes new members representing companies with interests in participating in further standardization activities for operation and services related to railway communications.

