



**June 21- 22, 2007**  
**Bucharest North**  
**Railway Station**  
**Conference**

**Romanian Railways**  
**in the Year of Romania's integration**  
**in the European Union- Present and Perspectives**

**EU Railway Safety and Quality Standards –**  
**The answers of the Romanian Railways**

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**January 1<sup>st</sup>, 2007**



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**FOREWORD**

Once upon a time...

**1992 - Maastricht Treaty**

It provided a basis for the creation of a single Europe-wide transport network – one of the three Trans-European Networks (TENs) foreseen in the Treaty, the other two being telecommunications and energy.

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**FOREWORD**

- **January 1<sup>st</sup>, 2007**
  - Liberalization of Freight Railway Transport across EU
- **January 1<sup>st</sup>, 2010**
  - Liberalization of Passengers Railway Transport across EU

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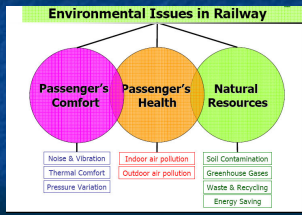
*27 Customers are waiting for:*



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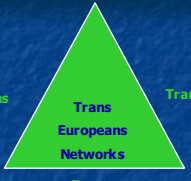
**FOREWORD**

**Environmental Issues in Railway**



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**FOREWORD FOR THE EU CLEAN FUTURE**



Brussels, 14 June 2007  
*"It is very encouraging that we are cutting emissions while the European economy grows strongly." European Environment Commissioner Stavros Dimas said.*

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- 1. Railway Transport Policy**
- 2. Railway Safety**
- 3. Railway Quality**
- 4. Railway Certification**

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**1. Railway Transport Policy**

**The First Railway Package (Railway Infrastructure Package)**

- 2001/12/EC - Directive of the European Parliament and of the Council of 26 February 2001 amending Council Directive 91/440/EEC on the development of the Community's railways
- 2001/13/EC - Directive of the European Parliament and of the Council of 26 February 2001 amending Council Directive 95/18/EC on the licensing of railway undertakings
- 2001/14/EC - Directive of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification

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### 1. Railway Transport Policy

**2001/12/EC - Directive of the European Parliament and of the Council of 26 February 2001 amending Council Directive 91/440/EEC on the development of the Community's railways**  
**Article 7**

1. Member States shall take the necessary measures for the development of their national railway infrastructure taking into account, where necessary, the general needs of the Community.
2. Member States shall ensure that safety standards and rules are laid down, rolling stock and railway undertakings are certified accordingly and accidents investigated. These tasks shall be accomplished by bodies or undertakings that do not provide rail transport services themselves and are independent of bodies or undertakings that do so, in such a way as to guarantee equitable and non-discriminatory access to infrastructure. Railway undertakings shall apply these safety standards and rules. Unless Member States mandate independent bodies with enforcement and monitoring, they may require or allow railway undertakings to be involved in ensuring the enforcement and monitoring of the safety standards and rules while guaranteeing the neutral and non-discriminatory execution of these functions.

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### 1. Railway Transport Policy

**2001/13/EC - Directive of the European Parliament and of the Council of 26 February 2001, amending Council Directive 95/18/EC on the licensing of railway undertakings**  
**Article 12**

1. In addition to the requirements of this Directive, a railway undertaking shall also comply with national law and regulatory provisions which are compatible with Community law and are applied in a non-discriminatory manner, in particular:

- a) specific technical and operational requirements for rail services;
- b) safety requirements applying to staff, rolling stock and the internal organisation of the undertaking;
- c) provisions on health, safety, social conditions and the rights of workers and consumers;
- d) requirements applying to all undertakings in the relevant railway sector designed to offer benefits or protection to consumers

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### 1. Romanian Railway Transport Policy

**GOVERNMENT OF ROMANIA**  
**ORDINANCE NO. 116/2007 ON THE ROMANIAN RAILWAYS AND INFRASTRUCTURE**  
 On the basis of Article 114 paragraph (1) of the Constitution of Romania, the Government of Romania issues the following Emergency Ordinance:

**TITLE I**  
**Organization and Performance of Transport on the Romanian Railways**  
**Chapter 1**  
**Organization of Rail Transport**  
**Article 1**

- (1) Public rail transport services, except for special rail transport services, are organized and performed by one or several entities under the organized rail transport system.
- (2) The rail transport may be public or for the own account of the rail operators.
- (3) The public rail transport services, for the purpose of public interest, contribute essential service for the community, contribute to the freedom of movement to the solving of major economic interests, including mobility of persons, tourism, emergency and humanitarian relief and other specific tasks, include a public interest element in their economic activity and are subject to public control regarding the defense requirements of the State, in accordance with the law.
- (4) The public rail transport shall be carried out only on the basis of a transport contract.
- (5) The transport contract shall be concluded in accordance with the provisions under this Commercial Code, the activities, with owned or leased vehicles.
- (6) Rail transport performed on the own account of rail operators is the transport carried out for purposes of their own activities, with owned or leased vehicles.
- (7) Rail transport serving other addition to the own account shall be executed by rail operators, Romanian legal entities, with an authorized capacity in the public rail transport system.

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### 1. Railway Transport Policy

**2001/14/EC - Directive of the European Parliament and of the Council of 26 February 2001 on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification**  
**(45) Measures are needed to ensure that all railway undertakings licensed under Community law are required to hold an appropriate safety certificate before operating on the territory of a Member State; the granting of safety certificates must comply with Community law.**

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### 1. Romanian Railway Transport Policy

**ROMANIAN GOVERNMENT**  
**ORDINANCE NO. 99/2003 on the allocation of railway infrastructure capacity and the levying of charges**  
 Published in the Monitorul Oficial al Romaniei, Part I, No. 23, 31 August 2003

On the grounds of Article 114 of the Constitution of Romania, the Government, pursuant to Law No. 279/2002 on the organization of the operation of some projects, in accordance with the proposal of Art. 10 of the European Parliament and of the Council of 26 February 2001, on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification, issued on the basis of the same, 20/2003, as well as on the basis of the Law No. 129/2003, issued on the basis of the same, 12/2003, issued on the basis of the same, in the following text:

**CHAPTER I**  
**GENERAL PROVISIONS**  
**Scope**

**Art. 1 - (1)** This Ordinance concerns the principles and procedures to be applied with regard to the setting and certification, the design and safety of railway infrastructure for railway infrastructure operators, the procedures on capacity allocation and the levying of charges for the use of railway infrastructure.

- (2) This Ordinance applies to the use of railway infrastructure for domestic and international rail services.
- (3) Locations forming part of the infrastructure may be subject to government decision in the following cases:
  - a) landlocked regional networks for passenger services;
  - b) remote islands and other specific services;
  - c) regional networks which are used for regional freight services solely by a railway undertaking provided that no other land mode is aimed at linking the generation, propagation and effects of fire and smoke in the event of a fire;
  - d) privately-owned railway infrastructure that exists solely for use by the infrastructure owner for its own freight operations.

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### 1. Railway Transport Policy

**Directive 2001/16/EC of the European Parliament and of the Council of 19 March 2001 on the interoperability of the trans-European conventional rail system**

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### 1. Railway Transport Policy

**(2) By signing the Protocol adopted in Kyoto on 12 December 1997 the European Union has undertaken to reduce its gas emissions. These objectives require an adjustment to the balance between the various modes of transport, and consequently an increase in the competitiveness of rail transport.**

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### 1. Railway Transport Policy

**Directive 2001/16/EC on the interoperability of the trans-European conventional rail system**

**ANNEX III**  
**ESSENTIAL REQUIREMENTS**  
**I. GENERAL REQUIREMENTS**  
**1.1. Safety**

- 1.1.1. The design, construction or assembly, maintenance and monitoring of safety-critical components and, more particularly, of the components involved in train movements must be such as to guarantee safety at the level corresponding to the aims laid down for the network, including those for specific degraded situations.
- 1.1.2. The parameters involved in the wheel-rail contact must meet the stability requirements required in order to guarantee safe movement at the maximum authorized speed.
- 1.1.3. The components used must withstand any normal or exceptional stresses that have been specified during their period in service. The safety repercussions of any accidental failures must be limited by appropriate means.
- 1.1.4. The design of fixed installations and rolling stock and the choice of the materials used must be aimed at limiting the generation, propagation and effects of fire and smoke in the event of a fire.
- 1.1.5. Any devices intended to be handled by users must be designed as not to impair the self-dependence of the devices or the health and safety of users if used carelessly in a manner not in accordance with the posted instructions.

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### 1. Railway Transport Policy

**Directive 2001/16/EC on the interoperability of the trans-European conventional rail system**

**2. REQUIREMENTS SPECIFIC TO EACH SUBSYSTEM**  
**2.1. Infrastructure**  
**2.1.1. Safety**

Appropriate steps must be taken to prevent access to or undesirable intrusions into installations. Steps must be taken to limit the dangers to which persons are exposed, particularly when trains pass through stations. Infrastructure to which the public has access must be designed and made in such a way as to limit any human safety hazards (stability, fire, access, evacuation, platforms, etc.).

Appropriate provisions must be laid down to take account of the particular safety conditions in very long tunnels.

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**1. Railway Transport Policy**  
**Directive 2001/16/EC on the interoperability of the trans-European conventional rail system**

**2.2. Energy**  
**2.2.1. Safety**  
 Operation of the energy-supply systems must not impair the safety either of trains or of persons (users, operating staff, trackside dwellers and third parties).

**2.3. Control and command and signalling**  
**2.3.1. Safety**  
 The control and command and signalling installations and procedures used must enable trains to travel with a level of safety which corresponds to the objectives set for the network. The control and command and signalling systems should continue to provide for safe passage of trains permitted to run under degraded conditions.

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**1. Railway Transport Policy**  
**Directive 2001/16/EC on the interoperability of the trans-European conventional rail system**

**2.4. Rolling stock**  
**2.4.1. Safety**  
 The spaces of the rolling stock and of the links between vehicles must be designed in such a way as to protect the passenger and driving compartments in the event of collision or derailment. The design must ensure the safety and functioning of the control and command and signalling installations. The braking techniques and the stresses exerted must be compatible with the design of the track, engineering standards and signalling systems. Steps must be taken to prevent access to electrically live conductors in order not to endanger the safety of persons. In the event of danger, devices must enable passengers to inform the driver and accompanying staff to contact him. The access doors must incorporate an opening and closing system which guarantees passenger safety. Emergency exits must be provided and indicated. Appropriate positions must be laid down to take account of the particular safety conditions in very long trains. An emergency lighting system of sufficient intensity and duration is compulsory on board trains. Trains must be equipped with a public address system which provides a means of communication to the public, front-board staff and ground control.

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**1. Railway Transport Policy**  
**Directive 2001/16/EC on the interoperability of the trans-European conventional rail system**

**2.5. Maintenance**  
**2.5.1. Health and safety**  
 The technical installations and the procedures used in the centres must ensure the safe operation of the subsystem and not constitute a danger to health and safety.

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**1. Railway Transport Policy**  
**Directive 2001/16/EC on the interoperability of the trans-European conventional rail system**

**2.6. Operation and traffic management**  
**2.6.1. Safety**  
 Alignment of the network, operating rules and the qualifications of drivers and on-board staff and of the staff in the control centres must be such as to ensure safe operation, bearing in mind the different requirements of cross-border and domestic services. The maintenance operations and intervals, the training and qualifications of the maintenance and control centre staff and the quality assurance system set up by the operators concerned in the control and maintenance centres must be such as to ensure a high level of safety.

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**1. Railway Transport Policy**  
**Directive 2001/16/EC on the interoperability of the trans-European conventional rail system**

**2.7. Telematics applications for freight and passengers**  
**2.7.4. Safety**  
 Suitable levels of integrity and dependability must be provided for the storage or transmission of safety-related information.

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**1. Romanian Railway Transport Policy**

**ROMANIAN GOVERNMENT**  
**DECISION No. 658/17 July 2003**  
 On the interoperability of the Romanian conventional rail system with the trans-European conventional rail system.  
 Published in the Romanian Official Journal, Part I, No. 525/23rd July 2003.  
 On the grounds of the Article 107 of the Constitution.  
 Having regard to the Protocol signed by the European Agreement establishing an association between Romania, on the one hand, and European Community, on the other part, concluded in Brussels on 12th February 1993, ratified by the Parliament.

**CHAPTER ONE**  
**General provisions**  
 Article 1 - (1) This decision sets out to establish the conditions to be met to achieve interoperability of the Romanian conventional rail system with the trans-European conventional rail system in order to achieve the objectives set in Article 107 of the Constitution. The conditions concern the design, construction, putting into service, upgrading, operation and maintenance of the network, the professional qualifications of the staff and the safety of the rail with a view to the safe operation of the rail.

2. The purpose of this objective must be to ensure a minimum level of technical interoperability and, where possible to:

- ensure the development and the use of the trans-European conventional rail system;
- contribute to the progressive creation of the internal market in equipment and services for the construction, operation and maintenance of the trans-European conventional rail system;
- contribute to the interoperability of the trans-European conventional rail system.

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**1. Railway Transport Policy**  
**The Second Railway Package**

- **2004/49/EC** - DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on safety on the Community's railways and amending Council Directive 95/18/EC on the licensing of railway undertakings and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification (Railway Safety Directive)
- **2004/50/EC** - Directive Of The European Parliament And Of The Council amending Council Directive 95/18/EC on the interoperability of the trans-European high-speed rail system and Directive 2001/16/EC of the European Parliament and of the Council on the interoperability of the trans-European conventional rail system
- **2004/51/EC** - DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Council Directive 91/440/EEC on the development of the Community's railways
- **(EC) 881/2004** - Regulation establishing a European Railway Agency

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**1. Railway Transport Policy**

**DIRECTIVE 2004/49/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 29 April 2004 on safety on the Community's railways and amending Council Directive 95/18/EC on the licensing of railway undertakings and Directive 2001/14/EC on the allocation of railway infrastructure capacity and the levying of charges for the use of railway infrastructure and safety certification (Railway Safety Directive)**

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**1. Railway Transport Policy**  
**Railway Safety Directive**

*(1) In order to pursue efforts to establish a single market for rail transport services, initiated by Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways, it is necessary to establish a common regulatory framework for railway safety.*

Member States have until now developed their safety rules and standards mainly on national lines, based on national technical and operational concepts. Simultaneously, differences in principles, approach and culture have made it difficult to break through the technical barriers and establish international transport operations.

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1. Railway Transport Policy  
Railway Safety Directive

(8) Common safety targets (CSTs) and common safety methods (CSMs) should be gradually introduced to ensure that a high level of safety is maintained and, when and where necessary and reasonably practicable, improved.

They should provide tools for assessment of the safety level and the performance of the operators at Community level as well as in the Member States.

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1. Railway Transport Policy  
Railway Safety Directive

(9) Information on safety of the railway system is scarce and not generally publicly available. It is thus necessary to establish common safety indicators (CSIs) in order to assess that the system complies with the CSTs and to facilitate the monitoring of railway safety performance. However, national definitions relating to the CSIs may apply during a transitional period and due account should therefore be taken of the extent of the development of common definitions of the CSIs when the first set of CSTs is drafted.

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1. Railway Transport Policy  
Railway Safety Directive

(10) National safety rules, which are often based on national technical standards, should gradually be replaced by rules based on common standards, established by TSIs. The introduction of new specific national rules which are not based on such common standards should be kept to a minimum.

New national rules should be in line with Community legislation and facilitate migration towards a common approach to railway safety.

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1. Railway Transport Policy  
Railway Safety Directive

(12) The development of CSTs, CSMs and CSIs as well as the need to facilitate progress towards a common approach to railway safety requires technical support at Community level.

The European Railway Agency established by Regulation (EC) No 881/2004 of the European Parliament and of the Council is set up to issue recommendations concerning CSTs, CSMs and CSIs and further harmonisation measures and to monitor the development of railway safety in the Community.

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1. Railway Transport Policy  
Railway Safety Directive

(15) To ensure a high level of railway safety and equal conditions for all railway undertakings, they should be subject to the same safety requirements. The safety certificate should give evidence that the railway undertaking has established its safety management system and is able to comply with the relevant safety standards and rules. For international transport services it should be enough to approve the safety management system in one Member State and give the approval Community validity. Adherence to national rules on the other hand should be subject to additional certification in each Member State. The ultimate aim should be to establish a common safety certificate with Community validity.

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1. Railway Transport Policy  
Railway Safety Directive

(17) Every infrastructure manager has a key responsibility for the safe design, maintenance and operation of its rail network.

In parallel to safety certification of railway undertakings the infrastructure manager should be subject to safety authorisation by the safety authority concerning its safety management system and other provisions to meet safety requirements.

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1. Railway Transport Policy  
Railway Safety Directive

(22) As part of the new common regulatory framework for railway safety, national authorities should be set up in all Member States to regulate and supervise railway safety. To facilitate cooperation between them at Community level, they should be given the same minimum tasks and responsibilities. The national safety authorities should be granted a high degree of independence. They should carry out their tasks in an open and non-discriminatory way to help to create a single Community rail system and cooperate to coordinate their decision-making criteria, in particular concerning safety certification of railway undertakings operating international transport services.

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1. Romanian Railway Transport Policy

Law 55/2006 on railway safety from 16.03.2006  
Published in Romanian Official Journal, Part I, No.322, from 1.04.2006  
The Romanian Parliament adopts the present law.

CHAPTER I  
Introductory provisions

Article 1

Purpose  
The purpose of this Law is to ensure the development and improvement of safety on Romanian railways and improved access to the market for rail transport services by:

- harmonising the regulatory structure in the Member States;
- defining responsibilities between the actors;
- developing common safety targets and common safety methods with a view to greater harmonisation of national rules;
- equipping the establishment, in Romania, of a safety authority and an accident and incident investigating body;
- defining common principles for the management, regulation and supervision of railway safety.

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1. Romanian Railway Transport Policy

CHAPTER IV  
Romanian Railway Safety Authority

Article 10

Setup and tasks

- The Romanian Railway Safety Authority shall be established as independent body with the Romanian Railway Authority - ARS, under Agreement with Government Decision No. 50/06.
- The Romanian Railway Safety Authority shall be mainly entrusted with the following tasks:
  - publishing the technical specifications of the structural subsystems recognised in the transit European high-speed operated and maintained in accordance with the relevant essential requirements;
  - authorising the original and copies of the structural subsystems certificates, the tasks European conventional rail (TSE) and international standards of Government Decision No. 50/06 and checking that they are published and maintained in accordance with the relevant essential requirements as required by Article 17 of Government Decision No. 50/06 and Government Decision No. 137/2003;
  - ensuring that the interoperability certificates in compliance with the essential requirements as required by Article 17 of Government Decision No. 50/06 and Government Decision No. 137/2003;
  - the issue, renewal, amendments and revocation of safety certificates and of safety certificates for the interoperability certificates, in accordance with the essential requirements as required by Article 17 of Government Decision No. 50/06 and Government Decision No. 137/2003;
  - issuing, granting, renewing, suspending, withdrawing and developing the safety regulatory framework including the system of national safety rules;
  - ensuring that relevant technical information and that safety-related information in the national register, established in accordance with Article 18 of Government Decision No. 50/06 and of Government Decision No. 137/2003, accurate and up-to-date.

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## 1. Railway Transport Policy

### Setting up of CSMs and CSTs

In order to promote and improve the compatibility and competitiveness of railways in the Member States, the European Community set up the European Railway Agency, with the tasks for interoperability and safety. One of the most crucial tasks for the harmonisation process across Europe in the field of railway safety regulation and management can be seen in setting up Common Safety Methods and Common Safety Targets.

### Milestones ahead

- First set of CSMs regarding risk evaluation and assessment till 30th of September 2007.
- First set of CSTs regarding examination of current safety performances till 30th of September 2008.
- Second set of CSMs regarding the methods used for assessing conformity with requirements till 30th of September 2009.
- Second set of CSTs regarding the priority areas where safety needs to be further improved till 30th of September 2010.

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## 1. Railway Transport Policy

### The Third Railway Package

The Commission adopted a **third package of measures** on 3 March 2004. This package consists of 4 proposals:

- a further opening of the market for international passenger transport by rail;
- a regulation on the rights and obligations for passengers in international rail traffic;
- a regulation on rail freight quality;
- a directive for train driver licences

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## 1. Railway Transport Policy

COM(2004) 140 final - Brussels, 3.3.2004  
**COMMUNICATION FROM THE COMMISSION  
Further integration of the European  
rail system: third railway package**

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## 1. Railway Transport Policy

COM(2004) 139 final - Brussels, 3.3.2004  
Proposal for a

**DIRECTIVE OF THE EUROPEAN  
PARLIAMENT AND OF THE COUNCIL  
amending Council Directive  
91/440/EEC  
on the development of the  
Community's railways**

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## 1. Railway Transport Policy

SEC(2004) 236 - Brussels, 3.3.2004  
**COMMISSION STAFF WORKING PAPER  
Proposal for a Directive of the European  
Parliament and the Council, amending  
Directive 91/440/EEC on the development  
of the Community's railways to gradually  
open up the market for international passenger  
services by rail**  
*Extended Impact Assessment* (COM(2004)139 final)

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## 1. Railway Transport Policy

COM(2004) 142 final - Brussels, 3.3.2004  
Proposal for a  
**DIRECTIVE OF THE EUROPEAN  
PARLIAMENT AND OF THE COUNCIL  
on the certification of train crews  
operating locomotives and trains on  
the Community's rail network**

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## 1. Railway Transport Policy

COM(2004) 143 final - Brussels, 3.3.2004  
Proposal for a

**REGULATION OF THE EUROPEAN  
PARLIAMENT AND OF THE COUNCIL  
on International Rail Passengers'  
Rights and Obligations**

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## 1. Railway Transport Policy

### Article 33

#### Service Quality standards

1. Railway undertakings shall define service quality standards for international services and implement a quality management system to maintain the service quality. The service quality standards shall at least cover the items listed in Annex IV.
2. Railway undertakings shall monitor their own performance as reflected in the service quality standards. Railway undertakings shall publish each year a report on their service quality performance together with their annual report. These results shall also be published on the internet website of the railway undertakings.

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## 1. Railway Transport Policy

### ANNEX IV

#### MINIMUM SERVICE QUALITY STANDARDS

- Information and tickets
- Punctuality of international services, and general principles to cope with disruptions of services;
- Cancellations of international services;
- Cleanliness of rolling stock and station facilities (air quality in carriages, hygiene of sanitary facilities, etc.);
- Customer satisfaction survey;
- Complaint handling, refunds and compensation for non-compliance with quality;
- Assistance provided to PRM.

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## 1. Railway Transport Policy

**COM(2004) 144 final - Brussels, 3.3.2004**  
**Proposal for a**  
**REGULATION OF THE EUROPEAN**  
**PARLIAMENT AND OF THE COUNCIL**  
**on compensation in cases of non-**  
**compliance with contractual quality**  
**requirements for rail freight services**

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## 1. Railway Transport Policy

### Article 1

#### Subject matter and scope

This Regulation lays down the obligation of railway undertakings and rail freight customers to define quality requirements for rail freight services, and subsequent compensations in the case of non-compliance with the quality requirements in the transport contract.

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## 1. Railway Transport Policy

### Article 3

#### Contractual quality requirements

Quality requirements for rail freight services shall be based on an agreement between the parties, resulting in rights and obligations and taking into account the specific circumstances of the transport contract.

The transport contract shall define in a detailed manner all quality requirements of the services concerned. The following quality requirements shall be included, otherwise the transport contract shall be void:

- agreed times of hand-over of goods or wagons or trains between the railway undertaking and the rail freight customer;
- arrival time and compensation for delays;
- compensation in the event of losses or damage of goods;
- compensation in the event of cancellation of a train by the railway undertaking;
- compensation in the event of cancellation of a train by the rail freight customer;
- a quality monitoring system defined by the parties.

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## 1. Railway Transport Policy

**M/ 334 EN - Brussels, 22 May 2003**  
**MANDATE FOR PROGRAMMING**  
**AND STANDARDISATION**  
**ADDRESSED TO CEN, CENELEC**  
**and ETSI in the field of the**  
**INTEROPERABILITY OF THE**  
**TRANS-EUROPEAN**  
**CONVENTIONAL RAIL SYSTEM**

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## 1. Railway Transport Policy

**M/ 334 EN - Brussels, 22 May 2003**

4.4 The European standards adopted should be transposed into national standards and differing national standards will have to be withdrawn from the catalogues of the national standards organisations in the Member States within six months of their adoption.

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## 1. Railway Transport Policy

**M/ 334 EN - Brussels, 22 May 2003**

**INVENTORY OF STANDARDISATION**  
**ACTIVITIES CONCERNING THE**  
**INTEROPERABILITY OF THE TRANS-**  
**EUROPEAN CONVENTIONAL RAIL**  
**SYSTEM – 21.01.2003**  
**(DIRECTIVE 2001/16/EC)**

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## 1. Railway Transport Policy

**M/ 334 EN - Brussels, 22 May 2003**

### INFRASTRUCTURE

- Roll
- Track geometry
- Track and structure mechanical characteristics
- Electrical characteristics of tracks and switches and crossing
- Switches and crossing
- Underground structures emergency access, evacuation and ventilation – Fire resistance
- Aerodynamic effects on structures
- Infrastructure clearance
- Cross wind
- Passenger platform
- Train arresting devices
- Replenishment and supplying
- Recording and reporting

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## 1. Railway Transport Policy

**M/ 334 EN - Brussels, 22 May 2003**

### ENERGY

- Contact line geometry
- Contact line material
- Electrical protection coordination
- External interference and EMC
- Internal radiated EMI (Electro Magnetic Interference)
- Power supply traction – voltage and frequency
- Power supply traction – Specified performance of the system
- Power supply auxiliary – Specified performance of the system
- Dynamic behaviour and current collection quality

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## 1. Railway Transport Policy

**M/ 334 EN - Brussels, 22 May 2003**

### ROLLING STOCK

- Kinematic Gauge
- Coupling between vehicles (electrical, pneumatic and mechanical), buffers
- Safe access and egress for rolling stock
- Functional requirements: Strength of main vehicle structure
- Doors closing and locking
- Emergency Exit and Signposting
- Securing of Freight
- Fire Safety
- Static axle load, dynamic wheel load and linear load
- Electrical protection of the train
- Environmental conditions for rolling stock (Range of functioning of components)
- Braking performance
- Vehicle capability to transmit information from vehicle to vehicle in freight and passenger train
- Vehicle capability to transmit information between ground and vehicle
- Aerodynamic effects (slip stream)

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## 1. Railway Transport Policy

M/ 334 EN - Brussels, 22 May 2003

- Rolling stock parameters which influence ground based train monitoring systems (signalling systems / train detection systems, like track circuits, axle counters, level crossing devices, hot box detectors)
- Vehicle dynamic behaviour (wheel-rail interaction)
- Bogie and Running Gear
- Wheelssets
- Noise emitted by freight wagons
- Cross winds
- Labelling of freight wagons
- Special vehicles for the transport of dangerous goods and pressurised gases
- Longitudinal compressive forces
- Maintenance plan & maintenance work shop accreditation criteria

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## 1. Railway Transport Policy

M/ 334 EN - Brussels, 22 May 2003

### CONTROL COMMAND

- EMC interaction between RS and CCS infrastructure equipment
- Train detection systems
- Driven Machine Interface (DMI)
- Hot box detector

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## 1. Railway Transport Policy

M/ 334 EN - Brussels, 22 May 2003

### TRAFFIC OPERATION AND MANAGEMENT

- Numbering system for Vehicles identification
- Loading rules
- Electronic format for timetables
- Recording of supervision data pertaining to the running of the train

### TELEMATIC APPLICATIONS

- Electronic data exchange for European freight transport on rail – in XML format

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## 1. Railway Transport Policy Cross-Acceptance proposals

COM(2006)782 final of 13 December 2006

**COMMUNICATION OF THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT**  
**"Facilitating the movement of locomotives across the European Union"**

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## 1. Railway Transport Policy Cross-Acceptance proposals

### 2. SIMPLIFYING NATIONAL PROCEDURES FOR THE APPROVAL OF LOCOMOTIVES

As far as locomotives and multiple units are concerned, in order to obtain authorisation to enter into service in another Member State, in-use locomotives must be demonstrated to be compliant with the national rules of that Member State. National rules will comprise specifications and standards relating to infrastructure compatibility and also specific national safety requirements.

Railway infrastructures across the Member States have differing characteristics, such as infrastructure gauge, electro-magnetic interference characteristics, traction power supply voltages and control command systems. Specific national safety requirements have their basis in national technical characteristics and also reflect historical lessons learnt from accidents and incidents that have occurred within individual Member States.

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## 1. Railway Transport Policy Cross-Acceptance proposals

For wagons and passenger cars, existing agreements such as RIC and RIV have ensured cross acceptance on the basis of a number of conditions, one of which is the registration of wagons and passenger cars with UIC members, who in turn, take charge of the maintenance of this rolling stock. Once the European Interoperability and Safety Directives are implemented, the provisions of RIV/RIC will be replaced partially by EU provisions and partially by the new CCJ contract.

Until all TSIs are adopted, infrastructure and rolling stock registers are in place, national safety authorities are set up and able to place rolling stock in service, including registration, and Member States have fully implemented the Interoperability and Safety Directives, we are in a period of transition. It is important that all actors know their responsibilities and which provisions they have to apply during this transitional period. This is why a "transition guide" has been developed by the Commission in consultation with all stakeholders and the Member States. The principle of mutual acceptance of existing wagons/cars marked RIV/RIC is already accepted.

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## 1. Railway Transport Policy Cross-Acceptance proposals

### 3.2. Guide for the approval of existing rolling stock

The use of the common checklist (Annex V) for cross-acceptance projects by all Member States is recommended. Member States should fill in a table of requirements based on the common checklist and following the guidelines given in Annex VI. Member States are also encouraged to use these guidelines together on a bi- or multilateral basis for actual projects.

The European cross-acceptance process should be permanently monitored by the Agency (ERA). The Agency should extend and update this cross-acceptance tool on the basis of Member States contributions. It could do this under its mandate for the development of TSIs, because an analysis of the technical rules in a given subsystem should be the first step in developing a TSI. In addition, national rules notified to the Commission under Article 8 of the Railway Safety Directive are forwarded to the Agency for assessment and publication.

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## 1. Railway Transport Policy Cross-Acceptance proposals

**Commission staff working documents accompanying the Communication from the Commission to the Council and the European Parliament**  
**"Facilitating interoperability of locomotives across the European Union",**  
**SEC(2006)1640, 1641 and 1642 final of 13 Dec.2006**

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## 1. Railway Transport Policy Cross-Acceptance proposals

SEC(2006) 1640 - Brussels, 13.12.2006

The present document reminds the principles related to railway interoperability directives (annex I), compares the placing in service procedures applicable to rolling stock (annex II), reminds the principles related to the railway safety directive (annex III) and to the mutual recognition (annex IV), lists the technical parameters (annex V) and presents the homologation guide proposal for existing rolling stock (annex VI).

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**1. Railway Transport Policy  
Cross-Acceptance proposals**

SEC (2006) 16-42 - Brussels, 13.12.2006

**OBJECTIVES**  
**Strategic objectives**  
The strategic Community objectives in improving the cross-acceptance of railway rolling stock are:

- To complete the internal market, and in particular to ensure the free movement of railway rolling stock within the EU in order to improve the competitiveness of manufacturers, railway undertakings and logistics providers, which in turn will reinforce the rail mode of transport;
- To simplify EU and national legislation in line with the "better regulation" objective;
- To lower the costs of doing business and remove unnecessary red tape, both of which are particularly burdensome for SMEs;
- To reduce the administrative costs of the authorisation process for Member States.

All these objectives are a part of the "Lisbon Strategy" to strengthen employment, economic reform and social cohesion as part of a knowledge-based economy.

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**1. Railway Transport Policy  
Cross-Acceptance proposals**

**Proposal for a Directive of the European Parliament and of the Council on the Interoperability of the Community rail system,**  
**COM(2006)783 final of 13 December 2006**

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**1. Railway Transport Policy  
Cross-Acceptance proposals**

**1. CONTEXT OF THE PROPOSAL**  
National procedures for the approval of locomotives are currently regarded as one of the biggest barriers to the creation of new railway companies in the freight sector and a major obstacle to the interoperability of the European railway system. Since no Member State can decide on its own that the authorisation for placing in service which it issues will be valid on the territory of other Member States, a Community initiative is needed to harmonise national procedures, simplify them and apply more systematically the principle of mutual recognition.

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**1. Railway Transport Policy  
Cross-Acceptance proposals**

**Proposal for a Directive of the European Parliament and of the Council, amending Directive 2004/49/EC on safety on the Community's railways,**  
**COM(2006)784 final of 13 December 2006**

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**1. Railway Transport Policy  
Cross-Acceptance proposals**

(7) Article 14 is replaced by the following:  
*"Article 14*  
**Placing in service of existing stock**  
1. Rolling stock that has been authorised to enter into service in one Member State under Article 10 shall be the subject of authorisation to enter into service in any other Member State pursuant to this Article, if such authorisation is required by the Member State(s) concerned. However, in the case of rolling stock bearing an EC declaration of verification, Article 14(8) of Directive .../.../EC (4) [Directive on the interoperability of the rail system] shall apply.

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**1. Railway Transport Policy  
Cross-Acceptance proposals**

**Proposal for a Directive of the European Parliament and of the Council, amending Regulation (EC) No 881/2004 establishing a European Railway Agency,**  
**COM(2006)785 final of 13 December 2006**

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**1. Railway Transport Policy  
Cross-Acceptance proposals**

(1) The following Article 8a is inserted:  
*"Article 8a*  
**Classification of national rules**  
1. The Agency shall facilitate Member States' acceptance of rolling stock put into service in another Member State in accordance with the procedures laid down in paragraphs 2 to 5 of this Article.  
2. The Agency shall progressively create and update a reference document cross-referencing all the national rules applied by the Member States for putting rolling stock into service. This document shall contain the national rules of each Member State for each of the parameters listed in Annex VI to Directive 2004/49/EC and also specify the Annex VI group to which these rules belong. These rules shall include those notified under Article 16(3) of Directive .../.../EC (4) [Interoperability Directive], those notified following adoption of TSIs (specific cases, open issues, exceptions) and those notified under Article 8 of Directive 2004/49/EC.

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**1. Railway Transport Policy  
Cross-Acceptance proposals**

(7) Article 18 is replaced by the following text:  
*"Article 18*  
**Registration of rolling stock**  
The Agency shall draw up and recommend to the Commission a standard application form for registration and common specifications for the national vehicle register in accordance with Article 14 of Directive .../.../EC [Rail Interoperability Directive]."

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**1. Railway Transport Policy**

EUROPEAN COMMISSION - DIRECTORATE-GENERAL FOR ENERGY AND TRANSPORT  
DIRECTORATE 4 - Inland Transport - Rail Transport and Interoperability  
Safety Certification Working Group - 12.05.2005

**TASK FORCE - DRAFT TERMS OF REFERENCE -**  
**Mutual Recognition of Rules and Standards Related to Rolling Stock Authorisation**

Objective  
The objective of the Task Force is to:

- Develop a methodology framework for the mutual recognition of national specific rules and standards related to rolling stock authorisation.
- Produce guidelines describing the methodology, its usage which should include the use of a checklist, and the activities needed to implement it.

The guidelines should aim to be both practical and implementable such that they can be used as a tool for developing the cross acceptance and mutual recognition of national standards.

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# 1. Railway Transport Policy

## Items for cross-Acceptance

- general information
- vehicle dynamics
- vehicle body superstructure
- draw and buffer gear
- bogie and running gear
- wheel set / wheelset bearing
- brake mechanism equipment
- technical systems requiring monitoring-needing parts e.g. compressed air system
- pantographs
- front / side windows
- doors
- devices for passing on board energy / EMC
- control systems (software)

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# 1. Railway Transport Policy

- drinking water and waste water systems
- environmental protection
- fire protection
- occupational health and safety
- vehicle gauge
- miscellaneous safety equipment e.g. control command, train radio
- tank-wagon tank
- pressure-discharge freight container
- load securing
- marking
- jointing technology
- special national conditions
- maintenance book
- operation book

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# 1. Railway Transport Policy

## Memorandum of Understanding on the implementation of approval procedures for rolling stock and cross-acceptance of approval procedures of the competent supervisory authorities

- The Ministry of Transport, Public Works and Water Management of the Netherlands
- The Federal Ministry of Transport, Building and Urban Affairs of the Federal Republic of Germany
- The Federal Department of the Environment, Transport, Energy and Communications of Switzerland
- The Federal Ministry of Transport, Innovation and Technology of Austria
- The Ministry of Transport of Italy

Issued on May 21, 2007 – By courtesy of EBA (Federal Railway Authority – Eisenbahn-Bundesamt - Germany)

Signed at Luxembourg on 7 June 2007

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# 1. Railway Transport Policy

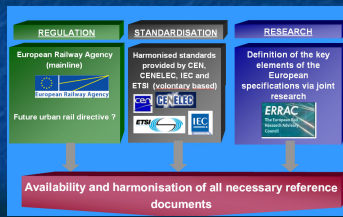
- Rail transport in the Participatory States is characterized by very high safety standards. The safety standards are based on many years of confident co-operation between the competent authorities – the Transport Verenien in Wiesbaden (Verein der Eisenbahnen der Niederlande), the Eisenbahn-Bundesamt for the Federal Republic of Germany, the Bundesamt für Verkehr of Switzerland, the Federal Ministry of Transport, Innovation and Technology of Austria and the National Safety Authority of Italy (Ministry of Transport of Italy).
- The principles for implementing the approval procedures for vehicles and the cross-acceptance of approval certificates are based on the basic ideas set out in the communication and the proposals for directives by the European Commission to the Council and the European Parliament of December 2006 regarding the facilitation of the movement of rolling stock across the European Union.
- The present Memorandum of Understanding is completely consistent with the approach and the goals of the European Union and Switzerland. The Participatory States which are members of the European Union shall apply this Memorandum of Understanding in accordance with the EU directives 96/48/EC, 2001/16/EC and 2004/49/EC.
- The goal is to intensify the current confident co-operation and accelerate and simplify the approval procedures, while maintaining the high railway transport safety standards in the States concerned.
- The chosen approach is not a closed shop. In the contrary the Participatory States wish to invite other European countries to follow the example.

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# 2. Railway Safety Standard



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# 2. Railway Safety Standard

## CEN/CENELEC/ETSI Joint Programming Committee (JPC) Rail

The mission of the CEN/CENELEC/ETSI JPC is to coordinate, plan, programme, promote, facilitate and expedite the production and use of European standards for the benefit of the railway sector in Europe.

As a non-exhaustive list of external regular contacts of TEC-CO, the following should be considered:

- the EU Commission;
  - all CEN/CENELEC/ETSI parties;
  - UIC and CR, UITP and UNIFE;
  - the AEF and the STI drafting groups;
  - EC/RES and TEC/CC 2/D;
  - ISO activities;
  - any further new entry.
- These contacts will complement but not replace the activities of CEN/CENELEC/ETSI.

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# 2. Railway Safety Standard

CENELEC standards are de facto made mandatory by Directive 93/38/EEC, which demands that all contracts worth more than 400,000 € be tendered on the basis of European specifications (including European standards).

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# 2. Railway Safety Standard

(2006/C 332/08) - 30.12.2006 - Commission communication in the framework of the implementation of the Council Directive 96/48/EC of 23 July 1996 on the interoperability of the trans-European high-speed rail system

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(2006/C 332/08) - 30.12.2006

## Harmonised standards under the directive 96/48/EC

- CEN/EN ISO 3095:2005 - **SREN ISO 3095:2006** Railway applications — Acoustics — Measurement of noise emitted by railbound vehicles (ISO 3095:2005)
- CEN/EN ISO 3281:2005 - **SREN ISO 3281:2006** Railway applications — Acoustics — Measurement of noise inside railbound vehicles (ISO 3281:2005)
- CEN/EN 12663:2000 - **SREN 12663:2000** Railway applications — Structural requirements of railway vehicle bodies
- CEN/EN 13125-1:2002 - **SREN 13125-1:2004** Railway applications — Air conditioning for main line rolling stock — Part 1: Comfort parameters
- CEN/EN 13125-2:2004 - **SREN 13125-2:2005** Railway applications — Air conditioning for main line rolling stock — Part 2: Type tests
- CEN/EN 13230-1:2002 - **SREN 13230-1:2004 - RD** Railway applications — Track — Switches and crossings — Part 1: General requirements
- CEN/EN 13232-4:2005 - **SREN 13232-4:2006 - RD** Railway applications — Track — Switches and crossings — Part 4: Actuation, locking and detection
- CEN/EN 13232-5:2005 - **SREN 13232-5:2006 - RD** Railway applications — Track — Switches and crossings — Part 5: Switches
- CEN/EN 13232-6:2005 - **SREN 13232-6:2006 - RD** Railway applications — Track — Switches and crossings — Part 6: Fixed common and obtuse crossings
- CEN/EN 13232-7:2005 - **SREN 13232-7:2006** Railway applications — Track — Switches and crossings — Part 7: Crossings with movable part

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(2006/C 332/08) - 30.12.2006  
**Harmonised standards under the directive 96/48/EC**

- CEN/EN 13232-9:2006 – **SREN 13232-9:2006**  
 Railway applications — Track — Switches and crossings — Part 9: Layouts
- CEN/EN 13250:2003 – **SREN 13250:2003**  
 Railway applications — Wheelsets and bogies — Wheels — Product requirements
- CEN/EN 13252:2004 – **SREN 13252:2004**  
 Railway applications — Wheelsets and bogies — Wheels — Product requirements
- CEN/EN 13272:2003 – **SREN 13272:2003**  
 Railway applications — Electrical lighting for rolling stock in public transport systems
- CEN/EN 13483-1:2002 – **SREN 13483-1:2004-RO**  
 Railway applications — Track — Performance requirements for fastening systems — Part 1: General
- CEN/EN 13481-1:2002/A1:2006 – **SREN 13481-1:2004/A1:2007**  
 Railway applications — Track — Performance requirements for fastening systems — Part 2: Fastening systems for concrete sleepers
- CEN/EN 13481-2:2002/A1:2006 – **SREN 13481-2:2004/A1:2007**  
 Railway applications — Track — Performance requirements for fastening systems — Part 2: Fastening systems for steel track
- CEN/EN 13483-5:2002/A1:2006 – **SREN 13483-5:2004/A1:2007**

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(2006/C 332/08) - 30.12.2006  
**Harmonised standards under the directive 96/48/EC**

- CEN/EN 13674-1:2003 – **SREN 13674-1:2006-RO**  
 Railway applications — Track — Rail — Part 1: Vignole railway rails 46 kg/m and above
- CEN/EN 13674-2:2006 – **SREN 13674-2:2006**  
 Railway applications — Track — Rail — Part 2: Switch and crossing rails used in conjunction with vignole railway rails 46 kg/m and above
- CEN/EN 13674-3:2006 – **SREN 13674-3:2006**  
 Railway applications — Track — Rail — Part 3: Check rails
- CEN/EN 13716:2006 – **SREN 13716:2006**  
 Railway applications — Wheelsets and bogies — Wheels — Wheels tread
- CEN/EN 13846-1:2003 – **SREN 13846-1:2004-RO**  
 Railway applications — Track — Track geometry quality — Part 1: Characterisation of track geometry
- CEN/EN 14067-4:2005 – **SREN 14067-4:2006**  
 Railway applications — Aerodynamics — Part 4: Requirements and test procedures for aerodynamics on open tracks
- CEN/EN 14067-5:2005 – **SREN 14067-5:2007**  
 Railway applications — Aerodynamics — Part 5: Requirements and test procedures for aerodynamics on closed tracks
- CEN/EN 14363:2005 – **SREN 14363:2006**  
 Railway applications — Testing for the assessment of running characteristics of railway vehicles — Testing of running behaviour and stationary tests

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(2006/C 332/08) - 30.12.2006  
**Harmonised standards under the directive 96/48/EC**

- CEN/EN 14531-1:2005 – **SREN 14531-1:2006**  
 Railway applications — Methods for calculation of stopping distances, slowing distances and immobilization braking — Part 1: General algorithms
- CEN/EN 14535-1:2005 – **SREN 14535-1:2006**  
 Railway applications — Brake discs for railway rolling stock — Part 1: Brake discs pressed or shrunk onto the axle or drive shaft: dimensions and quality requirements
- CEN/EN 14601:2005 – **SREN 14601:2006**  
 Railway applications — Straight and angled end cocks for brake pipe and main reservoir pipe
- CEN/EN 14922:2005 – **SREN 14922:2006**  
 Railway applications — Body-side entrance systems
- CEN/EN 14813-1:2006 – **SREN 14813-1:2007**  
 Railway applications — Air conditioning for driving cabs — Part 1: Comfort parameters
- CEN/EN 14813-2:2006 – **SREN 14813-2:2007**  
 Railway applications — Air conditioning for driving cabs — Part 2: Type tests
- CEN/EN 50119:2001 – **SREN 50119:2003-RO**  
 Railway applications — Fixed installations — Electric traction overhead contact lines
- CEN/EN 50121-1:2000 – **SREN 50121-1:2000-RO**  
 Railway applications — Electromagnetic compatibility — Part 1: General
- CEN/EN 50121-2:2000 – **SREN 50121-2:2000-RO**  
 Railway applications — Electromagnetic compatibility — Part 2: Emission of the whole railway system to the outside world

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(2006/C 332/08) - 30.12.2006  
**Harmonised standards under the directive 96/48/EC**

- CEN/EN 50121-3:1:2000 – **SREN 50121-3-1:2000-RO**  
 Railway applications — Electromagnetic compatibility — Part 3-1: Rolling stock — Train and complete vehicle
- CEN/EN 50121-3-2:2000 – **SREN 50121-3-2:2000-RO**  
 Railway applications — Electromagnetic compatibility — Part 3-2: Rolling stock — Apparatus
- CEN/EN 50121-4:2000 – **SREN 50121-4:2000-RO**  
 Railway applications — Electromagnetic compatibility — Part 4: Emission and immunity of the signalling and telecommunication apparatus
- CEN/EN 50121-5:2000 – **SREN 50121-5:2000-RO**  
 Railway applications — Electromagnetic compatibility — Part 5: Emission and immunity of fixed power supply installations and apparatus
- CEN/EN 50121-1:1997 – **SREN 50121-1:2000-RO**  
 Railway applications — Fixed installations — Part 1: Protective provisions relating to electrical safety and earthing
- CEN/EN 50124-1:2001 – **SREN 50124-1:2002-RO**  
 Railway applications — Insulation coordination — Part 1: Basic requirements — Clearances and creepage distances for all electrical and electronic equipment
- Amendment A1:2003 to EN 50124-1:2001 – **SREN 50124-1:2002/A1:2006-RO**
- CEN/EN 50124-2:2001 – **SREN 50124-2:2001-RO**  
 Railway applications — Insulation coordination — Part 2: Overvoltages and related protection

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(2006/C 332/08) - 30.12.2006  
**Harmonised standards under the directive 96/48/EC**

- CEN/EN 50125-1:1999 – **SREN 50125-1:2000-RO**  
 Railway applications — Environmental conditions for equipment — Part 1: Equipment on board rolling stock
- CEN/EN 50125-3:2003 – **SREN 50125-3:2000-RO**  
 Railway applications — Environmental conditions for equipment — Part 3: Equipment for signalling and telecommunication systems
- CEN/EN 50126-1:2000 – **SREN 50126-1:2000-RO**  
 Railway applications — The verification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS) — Part 1: Basic requirements and generic process
- CEN/EN 50128:2001 – **SREN 50128:2001-RO**  
 Railway applications — Communication, signalling and processing systems — Software for railway control and protection systems
- CEN/EN 50129:2003 – **SREN 50129:2003-RO**  
 Railway applications — Communication, signalling and processing systems — Safety related electronic systems for signalling
- CEN/EN 50149:2002 – **SREN 50149:2002-RO**  
 Railway applications — Fixed installations — Electric traction — Copper and copper alloy ground contact wires
- CEN/EN 50155:2002 – **SREN 50155:2002**  
 Railway applications — Electric equipment on board rolling stock
- CEN/EN 50155:2001/A1:2002 – **SREN 50155:2002/A1:2004**  
 Railway applications — Electric equipment on board rolling stock
- CEN/EN 50159-1:2001 – **SREN 50159-1:2000-RO**  
 Railway applications — Communication, signalling and processing systems — Part 1: Safety-related communication in closed transmission systems

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(2006/C 332/08) - 30.12.2006  
**Harmonised standards under the directive 96/48/EC**

- CEN/EN 50159-2:2001 – **SREN 50159-2:2000-RO**  
 Railway applications — Communication, signalling and processing systems — Part 2: Safety-related communication in open transmission systems
- CEN/EN 50163:2004 – **SREN 50163:2006**  
 Railway applications — Safety voltages of duction systems
- CEN/EN 50206-1:1998 – **SREN 50206-1:2000-RO**  
 Railway applications — Rolling stock — Pantographs: Characteristics and tests — Part 1: Pantographs for main line vehicles
- CEN/EN 50238:2003 – **SREN 50238:2006**  
 Railway applications — Compatibility between rolling stock and train detection systems
- CEN/EN 50317:2002 – **SREN 50317:2003-RO**  
 Railway applications — Current collection systems — Requirements for and validation of measurements of the dynamic interaction between pantograph and overhead contact line
- CEN/EN 50317:2001/A1:2004 – **SREN 50317:2003/A1:2005-RO**  
 Railway applications — Current collection systems — Technical criteria for the interaction between pantograph and overhead line (to achieve free access)
- CEN/EN 50367:2006 – **SREN 50367:2006**  
 Railway applications — Power supply and rolling stock — Technical criteria for the coordination between power supply (substation) and rolling stock to achieve interoperability

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## 2. Railway Safety Standard

(2006/C 243/02) - 10.10.2006 - Commission communication in the framework of the Directive 2001/16/EC of the European Parliament and of the Council of 19 March 2001 on the interoperability of the trans-European conventional rail system

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(2006/C 243/02) - 10.10.2006  
**Harmonised standards under the directive 2001/16/EC**

- CEN/EN 13715:2006 – **SREN 13715:2006**  
 Railway applications — Wheelsets and bogies — Wheels — Wheels tread
- CEN/EN 14531-1:2005 – **SREN 14531-1:2005**  
 Railway applications — Methods for calculation of stopping distances, slowing distances and immobilization braking — Part 1: General algorithms
- CEN/EN 14535-1:2005 – **SREN 14535-1:2006**  
 Railway applications — Brake discs for railway rolling stock — Part 1: Brake discs pressed or shrunk onto the axle or drive shaft: dimensions and quality requirements
- CEN/EN 14601:2005 – **SREN 14601:2005**  
 Railway applications — Straight and angled end cocks for brake pipe and main reservoir pipe

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### ERTMS Documents

Year	Reference	Document Name / Comments	Version
01	EN 50121-1	Railway applications - Electromagnetic compatibility - Part 1: General	1.0000
02	EN 50121-2	Railway applications - Electromagnetic compatibility - Part 2: Emission of the whole railway system to the outside world	1.0000
03	EN 50121-3-1	Railway applications - Electromagnetic compatibility - Part 3-1: Rolling stock - Train and complete vehicle	1.0000
03	EN 50121-3-2	Railway applications - Electromagnetic compatibility - Part 3-2: Rolling stock - Apparatus	1.0000
04	EN 50121-4	Railway applications - Electromagnetic compatibility - Part 4: Emission and immunity of the signalling and telecommunication apparatus	1.0000
04	EN 50121-5	Railway applications - Electromagnetic compatibility - Part 5: Emission and immunity of fixed power supply installations and apparatus	1.0000
04	EN 50124-1	Railway applications - Insulation coordination - Part 1: Basic requirements - Clearances and creepage distances for all electrical and electronic equipment	1.0000
04	EN 50124-2	Railway applications - Insulation coordination - Part 2: Overvoltages and related protection	1.0000
04	EN 50125-1	Railway applications - Environmental conditions for equipment - Part 1: Equipment on board rolling stock	1.0000
04	EN 50125-3	Railway applications - Environmental conditions for equipment - Part 3: Equipment for signalling and telecommunication systems	1.0000
04	EN 50126-1	Railway applications - The verification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS) - Part 1: Basic requirements and generic process	1.0000
04	EN 50128	Railway applications - Communication, signalling and processing systems - Software for railway control and protection systems	1.0000
04	EN 50129	Railway applications - Communication, signalling and processing systems - Safety related electronic systems for signalling	1.0000
04	EN 50149	Railway applications - Fixed installations - Electric traction - Copper and copper alloy ground contact wires	1.0000
04	EN 50155	Railway applications - Electric equipment on board rolling stock	1.0000
04	EN 50155/A1	Railway applications - Electric equipment on board rolling stock	1.0000
04	EN 50159-1	Railway applications - Communication, signalling and processing systems - Part 1: Safety-related communication in closed transmission systems	1.0000
04	EN 50159-2	Railway applications - Communication, signalling and processing systems - Part 2: Safety-related communication in open transmission systems	1.0000
04	EN 50163	Railway applications - Safety voltages of duction systems	1.0000
04	EN 50206-1	Railway applications - Rolling stock - Pantographs: Characteristics and tests - Part 1: Pantographs for main line vehicles	1.0000
04	EN 50238	Railway applications - Compatibility between rolling stock and train detection systems	1.0000
04	EN 50317	Railway applications - Current collection systems - Requirements for and validation of measurements of the dynamic interaction between pantograph and overhead contact line	1.0000
04	EN 50317/A1	Railway applications - Current collection systems - Technical criteria for the interaction between pantograph and overhead line (to achieve free access)	1.0000
04	EN 50367	Railway applications - Power supply and rolling stock - Technical criteria for the coordination between power supply (substation) and rolling stock to achieve interoperability	1.0000

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## 2. Railway Safety Standard

The basis for safety assessment and verification activities are EN 50126, EN 50128 and EN 50129 standards.

These European standards have become international standards IEC 62278, IEC 62279 resp. IEC 62425 and are therefore now applicable also outside Europe.

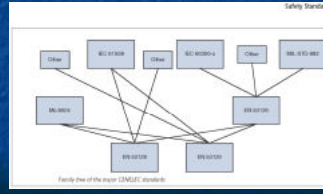
Also, it could be provided certifications according to IEC 61508.

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## 2. Railway Safety Standard



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## 2. Railway Safety Standard

- **EN 50126-1:1999** - Railway applications - The specification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS) - Part 1: Basic requirements and generic process
- **CEN TR 50126-2: 2007** - Railway applications - The specification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS) - Part 2: Guide to the application of EN 50126-1 for safety
- **CEN TR 50128-1:2006** - Railway applications - The specification and demonstration of Reliability, Availability, Maintainability and Safety (RAMS) - Part 3: Guide to the application of EN 50128-1 for rolling stock RAM
- **EN 50128:2001** - Railway applications - Communication, signalling and processing systems - Software for railway control and protection systems
- **EN 50129:2003** - Railway applications - Communication, signalling and processing systems - Safety related electronic systems for signalling
- **CEN TR 50129** - Railway applications - Communication, signalling and processing systems - Application Guide for EN 50129 (at draft stage)
- **CEN TR EN 50126-1:2001** - Railway applications - Communication, signalling and processing systems - Part 1: Safety related communication in base
- **CEN TR EN 50129-1:2001** - Railway applications - Communication, signalling and processing systems - Part 2: Safety related communication in open transmission systems

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## 2. Railway Safety Standard

- **EN 60300-3-1:2004** - Dependability management - Part 3-1: Application guide - Analysis techniques for dependability - Guide on methodology (IEC 60300-3-1:2003)
- **EN 61508-2:2001 (series)** - Functional safety of electrical/electronic/programmable electronic safety-related systems (IEC 61508 series)
- **IEC 60300-3-4:1995** - Dependability management - Part 3: Application guide, Section 9: Risk analysis of technological systems
- **IEC 60812:1995** - Analysis techniques for system reliability. Procedure for failure mode and effects analysis (FMEA)
- **IEC 61028:1990** - Fault tree analysis (FTA)
- **IEC 61165:1995** - Application of Markov techniques
- **IEC 61882:2001** - Hazard and operability studies (HAZOP studies). Application guide
- **ISO/IEC Guide 51:1999** - Safety aspects. Guidelines for their inclusion in standards

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## 2. Railway Safety Standard

- **Federal German Railways Office (EBA), MB 8004**: Anleitung zu den technischen Anforderungen für die Zulassung von Sicherungsanlagen (Principles of Technical Approval for Signalling and Communications Technology in German).
- **VDM 331, 1994**: Anforderungsklassen für Signal- und Zugbeeinflussungsanlagen gemäß BStRahV (Requirement categories for signalling and automatic train protection systems according to the Tram Construction and Operation Ordinance in German).
- **Ministry of Defence (UK), Def Stan 00-55**: Requirements for Safety Related Software in Defence Equipment, 1997.
- **Ministry of Defence (UK), Def Stan 00-56**: Safety Management Requirements for Defence Systems, 1996.
- **Department of Defense (US), MIL-STD-882**: System Safety Program Requirements, 1993 (version C), 2000 (version D) (sometimes called the "mother of all safety management standards").
- **IEEE 1482-2000**: Standard for the Verification of Vital Functions in Processor-Based Systems Used in Rail Transit Control, March 20, 2000.
- **IEEE 1012-1998**: Standard for Software Verification and Validation, IEEE Computer Society, July 20, 1998.

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## 2. Railway Safety Standard Technical Specifications for Interoperability

- **(2002/770/EC)** - COMMISSION DECISION of 30 May 2002 concerning the technical specification for interoperability relating to the maintenance subsystem of the trans-European high-speed rail system referred to in Article 6(1) of Directive 96/48/EC
- **(2002/771/EC)** - COMMISSION DECISION of 30 May 2002 concerning the technical specification for interoperability relating to the control-command and signalling subsystem of the trans-European high-speed rail system referred to in Article 6(1) of Council Directive 96/48/EC
- **(2002/772/EC)** - COMMISSION DECISION of 30 May 2002 concerning the technical specification for interoperability relating to the infrastructure subsystem of the trans-European high-speed rail system referred to in Article 6(1) of Council Directive 96/48/EC
- **(2002/773/EC)** - COMMISSION DECISION of 30 May 2002 concerning the technical specification for interoperability relating to the energy subsystem of the trans-European high-speed rail system referred to in Article 6(1) of Council Directive 96/48/EC
- **(2002/774/EC)** - COMMISSION DECISION of 30 May 2002 concerning the technical specification for interoperability relating to the telecommand and signalling subsystem of the trans-European high-speed rail system referred to in Article 6(1) of Directive 96/48/EC
- **(2002/775/EC)** - COMMISSION DECISION of 30 May 2002 concerning the technical specification for interoperability relating to the rolling stock subsystem of the trans-European high-speed rail system referred to in Article 6(1) of Directive 96/48/EC

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## 2. Railway Safety Standard Technical Specifications for Interoperability

- **Commission Decision 2002/770/EC of 30 May 2002** concerning the technical specification for interoperability relating to the maintenance subsystem of the trans-European high-speed rail system referred to in Article 6(1) of Directive 96/48/EC
- **Commission Decision 2002/771/EC of 30 May 2002** concerning the technical specification for interoperability relating to the control-command and signalling subsystem of the trans-European high-speed rail system referred to in Article 6(1) of Council Directive 96/48/EC
- **Commission Decision 2002/772/EC of 30 May 2002** concerning the technical specification for interoperability relating to the infrastructure subsystem of the trans-European high-speed rail system referred to in Article 6(1) of Council Directive 96/48/EC
- **Commission Decision 2002/773/EC of 30 May 2002** concerning the technical specification for interoperability relating to the energy subsystem of the trans-European high-speed rail system referred to in Article 6(1) of Council Directive 96/48/EC
- **Commission Decision 2002/774/EC of 30 May 2002** concerning the technical specification for interoperability relating to the telecommand and signalling subsystem of the trans-European high-speed rail system referred to in Article 6(1) of Council Directive 96/48/EC
- **Commission Decision 2002/775/EC of 30 May 2002** concerning the technical specification for interoperability relating to the rolling stock subsystem of the trans-European high-speed rail system referred to in Article 6(1) of Directive 96/48/EC

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## 2. Railway Safety Standard Technical Specifications for Interoperability

- **(2004/446/EC)** - COMMISSION DECISION of 29 April 2004 specifying the basic parameters of the 'Noise', 'Freight Wagons' and 'Telematic applications for freight' Technical Specifications for Interoperability referred to in Directive 2001/16/EC
- **(2004/447/EC)** - COMMISSION DECISION of 29 April 2004 modifying Annex A of the Commission Decision 2002/731/EC of 30 May 2002 and establishing the main characteristics of Class A system (ERTMS) of the control-command and signalling subsystem of the trans-European conventional rail system referred to in Directive 2001/16/EC

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## 2. Railway Safety Standard Technical Specifications for Interoperability

- **(2006/62/EC)** - COMMISSION REGULATION of 23 December 2005 concerning the technical specification for interoperability relating to the telematic applications for freight subsystem of the trans-European conventional rail system
- **(2006/66/EC)** - COMMISSION DECISION of 23 December 2005 concerning the technical specification for interoperability relating to the subsystem rolling stock — noise of the trans-European conventional rail system

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## 2. Railway Safety Standard

### Technical Specifications for Interoperability

- **(2006/679/EC)** - COMMISSION DECISION of 28 March 2006 concerning the technical specification for interoperability relating to the control-command and signalling subsystem of the trans-European conventional rail system
- **(2006/861/EC)** - COMMISSION DECISION of 28 July 2006 concerning the technical specification of interoperability relating to the subsystem "rolling stock - Freight wagons" of the trans-European conventional rail system
- **(2006/860/EC)** - COMMISSION DECISION of 11 August 2006 concerning the technical specification of interoperability relating to the subsystem Traffic Operation and Management of the trans-European conventional rail system
- **(2006/860/EC)** - COMMISSION DECISION of 7 November 2006 concerning a technical specification for interoperability relating to the control-command and signalling subsystem of the trans-European high speed rail system and modifying Annex A to Decision 2006/679/EC concerning the technical specification for interoperability relating to the control-command and signalling subsystem of the trans-European conventional rail system

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## 2. Railway Safety Standard

### Technical Specifications for Interoperability

- **(2007/153/EC)** - COMMISSION DECISION of 6 March 2007 modifying Annex A to Decision 2006/679/EC concerning the technical specification for interoperability relating to the control-command and signalling subsystem of the trans-European conventional rail system and Annex A to Decision 2006/860/EC concerning the technical specification for interoperability relating to the control-command and signalling subsystem of the trans-European high speed rail system

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## 2. Railway Safety Standard

### Technical Specifications for Interoperability

- Technical Specification for Interoperability People with Reduced Mobility (**TSI-PRM**),
- Technical Specifications for Interoperability Telematic Applications for Passengers (**TSI-TAP**) will be available after 2009.

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## 2. Railway Safety Standard

### ASRO - ROMANIAN STANDARDS ASSOCIATION

ASRO Represents Romania in the European organizations for standardization:

- **CEN** - European Committee for Standardization - **full member** (01.01.2006)
- **CENELEC** - European Committee for Electrotechnical Standardization - **full member** (01.02.2006)
- **ETSI** - European Telecommunications Standards Institute - ASRO represents Romania as NSO - National Standardization Body (observer member)

ASRO is full member of the following international organizations for standardization:

- **ISO** - International Organization for Standardization
- **IEC** - International Electrotechnical Commission

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## 2. Railway Safety Standard

### ASRO - ROMANIAN STANDARDS ASSOCIATION

Railway Standardization Activity:

**Technical Committee No. 4 - Electrical Traction**  
Corresponding to **GENELC TIGs**:

- **CLC/TC 8X** - Electrical and electronic applications for railways
- **CLC/TC 8VA** - Communications, signalling and processing systems
- **CLC/TC 8VB** - Electromechanical material on board rolling stock
- **CLC/TC 8VC** - Electric supply and earthing systems for public transport equipment and ancillary systems (Traction substations)
- **CLC/TC 8VD** - Protection against corrosion by stray current from DC systems

Corresponding to **IEC T/Cs**:

- **IEC/TC 9** - Electrical equipment and systems for railways

**Technical Committee No. 146 - Railway Transport**  
Corresponding to **GEN T/Cs**:

- **CEN T/C 256** - Railway applications

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## 3. Railway Quality Standard

- **ISO 9000:2005**  
Quality management systems - Fundamentals and vocabulary
- **ISO 9001:2000**  
Quality management systems - Requirements
- **ISO 9004:2000**  
Quality management systems - Guidelines for performance improvements
- **ISO 14001:2004**  
Environmental management systems - Requirements with guidance for use

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## 3. Railway Quality Standard

### OHSAS 18001:1999

Occupational health and safety management systems. Specification

### OHSAS 18002:2000

Occupational health and safety management systems - Guidelines for the implementation of OHSAS 18001

### OHSAS 18001:1999 - Amendment 1:2002

Occupational health and safety management systems. Specification

### ILO-OHS:2001

Guidelines on occupational safety and health management systems

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## 3. Railway Quality Standard

### EFQM - European Foundation for Quality Management Excellence Model

If you are not familiar with the Business Excellence Model (BEM), you will be in the near future. British and European Governments are committed to encouraging organisations to use it.

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## 3. Railway Quality Standard

- What is the Business Excellence Model?
- The Business Excellence Model is a nine-box model, originally developed by the European Foundation for Quality Management (EFQM). Its purpose is to "**support the management of Western European organisations in accelerating the process of making quality a decisive influence for achieving global competitive advantage**"

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### 3. Railway Quality Standard

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### 3. Railway Quality Standard

#### ERTMS Programme

GSM-R & Integration of Fixed Telecommunications network

Specifications:

- ERSIS Functional Requirements Specification - V07 - May 2006
- ERSIS System Requirements Specification - V15 - May 2006

Normative Documents:

- Radio Transmission FFFS for EUR-ORADO - V12 - Mar 2004
- MORANE FFFS for Functional Addressing - V04 - Jan 2007
- MORANE FFFS for Location Dependent Addressing - V06 - Jan 2007
- MORANE FFFS for Confirmation of High Priority Calls - V09 - Jan 2007
- MORANE FFFS for Presentation of Functional Numbers to Called and Calling Parties - V08 - Jan 2007
- MORANE FIS for Functional Addressing - V05 - Jan 2007
- MORANE FIS for Location Dependent Addressing - V03 - Jan 2007
- MORANE FIS for Confirmation of High Priority Calls - V04 - Jan 2007
- MORANE FIS for Presentation of Functional Numbers to Called and Calling Parties - V04 - Jan 2007
- MORANE FFFS for GSM-R SIM Cards - V04 - Jan 2007
- MORANE A SCI Options for Interoperability - V01 - Dec 2000
- MORANE Specification on Usage of the UUE in the GSM-R Environment - V02 - Aug 2000
- 0-2647 1 - GPH / OPH Functional tests & Validation - V00 - Jan 2007

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### GSM-R & Integration of Fixed Telecommunications network

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### 3. Railway Quality Standard

#### ERTMS Programme

#### European Train Control System Specifications

- ETCS Functional Requirements Specification - V4.50 - Feb. 2006
- ETCS System Requirements Specifications (SRS)
- ETCS Limited Supervision Functional Requirements Specification - V3.1 - Jan. 2005

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### 3. Railway Quality Standard

#### ERTMS Programme

#### ERTMS REGIONAL - ETCS LowCost Specs

- ETCS-LC Operational Requirements Specification - V1.01 - Nov. 2000
- ERTMS Regional - Functional Requirements Specification - V3.0 - Oct. 2003
- ERTMS Regional - Operational Scenarios - V1.0 - Oct. 2003

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### 3. Railway Quality Standard

#### Euro-Interlocking: European Signaling Interface Standardisation (ESIS) & European Interlocking Functional Requirements (GENEJIS)

Although the Euro-Interlocking project is separate from the ERTMS/ETCS and GSM-R projects, its common interests and interfaces require close co-ordination with these projects. The ERTMS/ETCS project has focused primarily on the train side of traffic control. However, at least in ERTMS/ETCS Levels 1 and 2, interlockings still perform the key functions for train safety and control on the infrastructure side. Furthermore, the Euro-Interlocking standards allow the use of interfaces and components with ERTMS/ETCS Level 3 as required for migration and implementation.

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### 3. Railway Quality Standard

#### GALILEO: Railway Application Group

#### DEFINITION OF APPLICATIONS:

- 1 INFRASTRUCTURE OPERATION APPLICATIONS
- 2 TRAIN-BORNE APPLICATIONS
- 3 PROTECTION APPLICATIONS
- 4 TRAIN CONTROL CENTRE APPLICATIONS
- 5 ADDITIONAL APPLICATIONS
- 6 PASSENGER INFORMATION
- 7 MANAGEMENT INFORMATION

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### 3. Railway Quality Standard

#### Satellite Navigation Safety Applications:

- Satellite Positioning - Final draft - May 2000
- GNSS Location for ETCS - Virtual balise - Functional Requirement Specification (A 254 DT) - Draft - Sep. 2002
- GNSS Location for ETCS - Virtual balise - Architecture and sub-system Requirement Specification (A 254 DT2) - Draft - Sep. 2002
- GNSS Location for ETCS - Virtual balise - Reference scenarios for implementation (A 254 DT3) - Draft - Sep. 2002

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### 3. Railway Quality Standard

#### UIC 140 - 2001

#### EUROSTATIONS - Accessibility to stations in Europe

This leaflet addresses aspects affecting accessibility and the standards governing achievement thereof. It also defines the EUROSTATIONS concept. The body of the leaflet comprises a compilation of sketches and diagrams setting out the standards to be met by equipment and facilities. These form the cornerstone of an accessible Eurostation and serve as a benchmark. The norms and standards given in this leaflet shall not supersede but rather complement national standards, which in some cases are more stringent.

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## 4. Railway Certification

### Safety Management System

requires to mainline railway operators and infrastructure managers to maintain a Safety Management System (SMS) and have it accepted by the railway safety authority through a certification process.

## 4. Railway Certification

### SAFETY MANAGEMENT SYSTEMS

**Basic elements of the safety management system:**

- a safety policy approved by the organization's chief executive and communicated to all staff;
- qualitative and quantitative targets of the organization for the maintenance and enhancement of safety and plans and procedures for reaching these targets;
- procedures to meet existing, new and altered technical and operational standards or other prescriptive conditions;
- procedures and methods for carrying out risk evaluation and implementing risk control measures whenever a change of the operating conditions or new material imposes new risks on the infrastructure or on operations;
- provision of programmes for training of staff and systems to ensure that the staff's competence is maintained and tasks carried out accordingly;
- arrangements for the provision of sufficient information within the organization and, where appropriate, between organisations operating on the same infrastructure;
- procedures and forms for how safety information is to be documented and designation of procedure for configuration control of vital safety information;
- procedures to ensure that accidents, incidents, near misses and other dangerous occurrences are reported, investigated and analysed and that necessary preventive measures are taken;
- provision of plans for action and safety information in case of emergency, signed upon with the appropriate public authorities;
- provisions for recurrent internal auditing of the safety management system.

## 4. Railway Certification

### European Railway Agency - 31/07/2006

### (ERA / REC / INT / 01 - 2006) RECOMMENDATION ON REGISTRATION OF ROLLING STOCK

- Registration of rolling stock should be performed under the responsibility of each Member State national safety authority. This task can be effected by another entity such as a registration provider but not a railway undertaking.
- The registration process takes place once the rolling stock has been successfully authorised for putting into service.

## 4. Railway Certification

- A standard form should be used for:
  - Application for vehicles registration
  - Confirmation of registration
  - Application for changing one or more registration item(s)
  - Confirmation of the change(s)
- According to Article 19(1) of Regulation (EC) No 881/2004 the Agency shall keep a public list of the authorisation for putting into service. The confirmation of registration should be considered as authorisation for putting into service and should be sent or made available to the Agency by the national safety authority.
- In accordance with recital (14) of Directive 2004/50, each Member State must leave the registers opened to consultation by all Member States and by certain Community economic players. The registers should be consistent as regards the data format. They should therefore be covered by common operational and technical specifications. The functional specification described in Section 3 of the final report of the Agency requires for each Member State to establish an IT based National Vehicle Register (NVR) which should be linked to a Virtual Vehicle Register (VVR) managed by the Agency.

## 4. Railway Certification

### EUROPEAN RAILWAY AGENCY - 2006/07/27

### IU-REG-060727 - INTEROPERABILITY UNIT

### REGISTRATION OF ROLLING STOCK

## 4. Railway Certification

### DESCRIPTION OF THE RECOMMENDED SOLUTION

The concept is to implement a search engine on distributed data, using a common software application, which allows Users to retrieve data from all the LR in the MS.

NVR data is stored at national level and will be accessible by using a web-based application (with its own web address).

The European Centralized Virtual Vehicle Register (EC VVR) is composed of two sub-systems:

- the Virtual Vehicle Register (VVR), which is the central search engine in ERA
- the National Vehicle Register(s) (NVR), which are the LR in the MS.

## 4. Railway Certification

### PURPOSE OF THE PROPOSED SYSTEM

The proposed system is based on two complementary sub-systems that enable searches on data which are stored locally in all MS. The proposed consists of:

- establishing computerised registers at the national level and opening them to cross-consultation; this is an improvement compared to the current situation;
- replacing paper registers by computerised records. This will allow the MS to manage and share information with other MS;
- allowing connectors between the NVRs and the VVR, using common standards and terminology.

The main principles of the system are:

- all NVRs will become part of the computer based, network system;
- all MS when accessing the system will view the common data;
- the electronic system should support daily operations;
- double registration of data and the related possible errors will be avoided;
- up-to-date data.

## 4. Railway Certification

### PROPOSED FUNCTIONALITY

This section provides an overall description of the proposed system, and its sub-components:

- Virtual Vehicle Register – VVR;
- Standard National Vehicle Register – sNVR;
- National Vehicle Register and Translation Engine – NVR-TE;
- Standard National Vehicle Register and Synchronisation Engine – sNVRSE.

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## ANNEX C - COMMON CHECKLIST FOR REGISTRATION

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## ANNEX C - COMMON CHECKLIST FOR REGISTRATION OF A1

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## 4. Railway Certification

Guideline For Cross Acceptance of Rolling Stock - 05.12.2005

### Common and International rules

- There are 3 number of common and international rules and legislations that provide procedures for the cross acceptance of assets of rolling stock.
- RTD/ETC** - The RTD and ETC System are agreements between Railway Undertakings for cross acceptance of freight wagons and passenger wagons.
- UIC-Loftas** - Common and standardised rules issued by UIC for freight.
- ICDTP** - ICOTF will develop mutual recognition on the basis of the APTU document that need to be developed on the basis of the TSI, however the implementation of ICOTF on EU territory is still under discussion.
- TSI for High Speed and Conventional Rail** - TSI for high speed and conventional rail are expected to be in place within the next few months.
- CEP Standards** - CEP standards are expected to be in place within the next few months.
- CEP Standards** - CEP standards are expected to be in place within the next few months.
- Directive 2004/49/EC Art 14** - The Directive 2004/49/EC provides framework for the authorisation of rolling stock in one Member State and its use in other Member States, when the rolling stock is already authorised in one Member State and is used in other Member States. The Directive 2004/49/EC provides for the possibility of mutual recognition of the authorisation of rolling stock in one Member State and its use in other Member States.

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## 4. Railway Certification

Setting up the common check list

- The Task Force strongly recommends the use of the common check list (Annex C) for cross acceptance projects by all Member States. The objective of the common check list should not be to replace the national check lists, but to provide a common framework for the cross acceptance of rolling stock. The common check list should be developed in three groups: A, B and C.
- Group A** contains international requirements that are needed by all member states, but need not further comply with any specific national requirements. This group is used for the development of the common check list and high speed rolling stock. TSI, such as the cross acceptance of issue, new build vehicles, freight, might be for cross acceptance.
- Group B** contains requirements that are currently used in specific countries and that might need further adaptation to meet specific A, B, C, new or later, in general or for a specific country. This group is used for the development of the common check list and high speed rolling stock. TSI, such as the cross acceptance of issue, new build vehicles, freight, might be for cross acceptance.
- Group C** contains requirements that are currently used in specific countries and that might need further adaptation to meet specific A, B, C, new or later, in general or for a specific country. This group is used for the development of the common check list and high speed rolling stock. TSI, such as the cross acceptance of issue, new build vehicles, freight, might be for cross acceptance.

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## 4. Railway Certification

Additional railway specific requirements, e.g. such as

- com\_checklist\_part\_01\_general\_information\_0501\_E\_guideline.doc
- com\_checklist\_part\_02\_vehicle\_dynamics\_0409\_E\_guideline.doc
- com\_checklist\_part\_03\_vehicle\_superstructure\_0501\_E\_guideline.doc
- com\_checklist\_part\_04\_bogie\_0409\_E\_guideline.doc
- com\_checklist\_part\_05\_wheels\_0409\_E\_guideline.doc
- com\_checklist\_part\_06\_brake\_system\_0409\_E\_guideline.doc
- com\_checklist\_part\_07\_technical\_systems\_requirements\_monitoring\_0501\_E\_guideline.doc
- com\_checklist\_part\_08\_gantry\_0409\_E\_guideline.doc
- com\_checklist\_part\_09\_windload\_0409\_E\_guideline.doc
- com\_checklist\_part\_10\_doors\_0409\_E\_guideline.doc
- com\_checklist\_part\_11\_lighting\_0409\_E\_guideline.doc
- com\_checklist\_part\_12\_power\_supply\_and\_PSC\_0409\_E\_guideline.doc
- com\_checklist\_part\_13\_control\_systems\_software\_0409\_E\_guideline.doc
- com\_checklist\_part\_14\_driving\_under\_controlled\_conditions\_0409\_E\_guideline.doc
- com\_checklist\_part\_15\_fire\_protection\_0409\_E\_guideline.doc
- com\_checklist\_part\_16\_occupational\_health\_and\_safety\_0501\_E\_guideline.doc
- com\_checklist\_part\_17\_occupational\_health\_and\_safety\_0501\_E\_guideline.doc
- com\_checklist\_part\_18\_vehicle\_gauge\_0409\_E\_guideline.doc
- com\_checklist\_part\_19\_miscellaneous\_safety\_requirements\_0501\_E\_guideline.doc
- com\_checklist\_part\_20\_wagon\_tank\_0409\_E\_guideline.doc
- com\_checklist\_part\_21\_pressure\_discharged\_high\_container\_0501\_E\_guideline.doc
- com\_checklist\_part\_22\_load\_secure\_0409\_E\_guideline.doc
- com\_checklist\_part\_23\_marking\_0501\_E\_guideline.doc
- com\_checklist\_part\_24\_swinging\_technology\_0409\_E\_guideline.doc

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## 4. Railway Certification

**Annex (Issued on May 21, 2007 - By courtesy of EEA)**  
The Memorandum of Understanding on the implementation of approval procedures for rolling stock and cross acceptance of approval procedures of the competent regulatory authorities, in the Netherlands, Germany, Switzerland, Austria and Italy.

**1. Scope**  
The Memorandum of Understanding refers to the approval of the placing into service of locomotives, tractors as well as passenger coaches. It applies to new vehicles for which a joint uniform procedure has to be carried out in the countries mentioned above and to vehicles and vehicle types which are already in service in one of the Participatory States, in the Netherlands, in the Federal Republic of Germany, Switzerland, Austria and Italy, and need to be approved in the other countries.

**2. Principle**  
The competent authorities of the Participatory States use a list of common approval requirements called checklist.  
The competent authorities will adjust the checklist by mutual agreement, if changes to the requirements on which it is based occur.  
The procedure does not affect the compliance with infrastructure-related requirements which are in line with the non-discriminatory access to the network determined by the competent infrastructure manager.

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## 4. Railway Certification

**IRIS - International Railway Industry Standard**  
**The New Global Quality Standard For Railway Industry**

- Promoted by UNIFE and supported by system, IT, coaches and equipment manufacturers, IRIS (International Railway Industry Standard) intends to complement the internationally recognized ISO 9000 quality standard. IRIS is unique to the railway industry and to be an extension of ISO 9000.
- The UNIFE initiative is modelled on similar quality standards already in place in the aerospace, automotive and food industries.
- IRIS intends to develop and establish an internationally recognized standard that encompasses the actual evaluation process as well as an audit and scoring methodology.
- To ensure independence, equipment manufacturers will be able to apply for the IRIS certificate from the certification body of their choice. An equipment manufacturer is thus able to seek certification based on the new standard. This certificate will replace individual evaluation by at least the four founders of the initiative (Bosch Transport, AnsaldoBreda, Siemens Transportation and Bombardier Transportation).

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## 4. Railway Certification

**IRIS Certification - What makes the difference to ISO?**

**1. Additional railway specific requirements, e.g. such as**

- Knowledge management
- Requirements management
- Competence, awareness and training
- Infrastructure management
- Tender management
- Risk and opportunity management
- Management of multi sites projects
- Integration management
- Scope management
- Time management
- Cost management
- Communication management
- RMS/ITC
- Configuration management
- Outsourcing (Make/Buy)
- Supply chain management
- Full cycle inspection
- Commissioning / Customer service
- Customer waiver
- Disaster recovery management

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## 4. Railway Certification

Certification Bodies may only carry out audits in the areas of the particular railway equipment in which its Auditors are approved:

- 1 Car body
- 2 Car body fittings
- 3 Guidance (Bogies and running gear)
- 4 Power System
- 5 Propulsion
- 6 Auxiliary systems
- 7 Braking System
- 8 Interiors
- 9 On board vehicle control
- 10 Passenger Information Systems
- 11 Communication systems
- 12 Cabins and Cabsets
- 13 Door System
- 14 HVAC
- 15 Traction System
- 16 Lighting
- 17 Coupler

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Many Thanks  
for Your Attention!



Valentin Berca

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