

Measure 8: Second railway package: ensuring a high level safety for the railway network

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Policy package:

2D: Rail Safety, Quality and Environment

Measure 8:

Second railway package: ensuring a high level safety for the railway network based on rules and regulations established independently and a clear definition of the responsibilities of each player involved

What is the problem being addressed ?

The provision of safety have been insufficiently addressed in the amended Directive 91/440/EEC, 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. Therefore differences between safety requirements between countries remains, and this affects the optimum functioning of rail transport in the Community.

The restructuring of European railways has led to the separation of functions between infrastructure managers and railways undertakings, a process that is still evolving. In this context, the proposed directive on the regulation of safety and investigation of accidents and incidents on the Community's railways addresses four main problem areas related to the development of safe railways in Europe:

- the first and most important task is to modernise and harmonise the safety regulatory structure and the content of safety rules in the Member States and at European level;
- the second problem addressed is the removal of barriers to further market opening introducing common requirements for and common elements of a safety management system. The safety certificate, granted to a the railway undertaking for operation on a specific network, is still recognised as the means to achieve access to infrastructure, but in the new setting a certificate granted in one Member State should be valid throughout the Community for equivalent rail transport operations;
- the third problem area addressed concerns transparency, information and the application of due process in railway regulation. In particular, Common Safety Indicators (CSI) are laid down and will be further developed through a committee procedure. These indicators will render it possible to monitor the development of railway safety in the Member States and at Community level (see second page);
- the fourth area addressed is investigation of accidents and incidents. There is a great variety in Member State legislation on rail accident investigations, while the creation of a single market for rail transport and railway equipment renders it more important to share information and learn lessons from accidents and incidents.

Measure's costs and/or benefits:

The cost of the implementation depends of the specific costs encountered by each country in order to:

- harmonise the content of safety rules;
- harmonise safety certification of railways undertakings;
- harmonise the tasks and roles of the safety authorities and the investigation of accidents.

Legislative implementation at the EU level:

COM (2002) 21 final, Proposal for a 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.

Directive 2004/49/EC 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). Directive 2004/49/EC needs to be implemented by Member States by adopting laws, regulations and administrative provisions necessary to comply with this Directive within two years after the entry into force of this Directive.

What are the objectives ?

Currently there are different national approaches to railway safety, different targets and different methods applied. Technical standards as well as requirements on staff and management organisation differ from Member State to Member State and the process to approve rolling stock or certify staff and railway undertakings has not been adapted to the needs of an integrated European rail system.

The aim of the directive is to change this state of things, but the migration from national rail networks to a single European rail system will take time and require great efforts from all involved and interested in the development. With simultaneous progress of market and safety performance the rail transport mode will be strengthened and given the possibility to exploit its inherent advantages on the transport market.

Interactions with other WP measures :

Measure 8 is linked to Measure 7 – Opening up the national and international freight market, as harmonised safety rules will be clearly helpful for the opening of markets, and to Measure 10 – European Railway Agency, as the latest is addressing the setting up of a Community structure for railway interoperability and safety. Somehow, Measure 8 is linked also to Measure 14, the latest being focused on improving quality of the rail freight services.

However, the safety directive should not be seen as an isolated piece of legislation, because it continues on a system level what the interoperability directives (see Measure 9) introduced on sub-system level and it relies on the same committee as is used for the development of the Technical Specifications for Interoperability (TSI) adopted under the interoperability directives. Thus interoperability and safety will be developed in a consistent and coherent way.

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Output indicators:

The achievement of this measure will be assessed by the European Railway Agency not later than four years after the entry into force of the Directive. At that stage the way in which national safety rules are published and made available shall be already assessed. Amongst the Common Safety Indicators (CSI) there are indicators specifically related to technical safety of infrastructure which may be considered as a way of measuring the direct output of the measure, and in particular the indicator:

- percentage of tracks with Automatic Train Protection (ATP) in operation and percentage of train kilometers on ATP equipped tracks

Implementation shall be measured in particular taking into account the share of harmonized ATP system.

Outcome indicators: intermediate impacts on transport markets

The harmonisation of the safety rules will be of real support for implementation of the interoperability and for the access of railway undertakings from one country to the domestic market of other country. In this respect, we can consider that the following indicators would, marginally, reflect the effect of implementing this Directive:

- Changes in transported ton, tkm by rail: at yearly level, for EU27 and at the country and region level. The EU27 and national aggregated figures could be provided by Eurostat and national statistics. Differentiation per domestic / international / transit and segment of the market is desired. Data at regional level could be provided by the national statistics.
- Changes in transported passenger, pkm by rail: at yearly level, for EU27 and at the country and region level. The EU27 and national aggregated figures could be provided by Eurostat and national statistics. Differentiation per domestic / international / transit and segment of the market is desired. Data at regional level could be provided by the national statistics.
- Changes in price levels for rail passenger and freight. Prices will be more competitive as a result of increased quality and reliability of rail transport. Changes in price will be differentiated per segment of the market. For example, in the TEN-STAC study rail freight tariff improvement have been considered

on the segment of the markets (defined by the high priority project relations, transport volume of specific goods, distance class) for services as *continental shuttle, port shuttle, wagon load*.

- Changes in customer service levels. This indicator addresses both passenger and freight. It is expected to have an improvement of the service level as effect of harmonising the safety rules.

Outcome indicators: final impacts on transport users and non users

The implementation of this Directive would improve the safety of rail mode relative to other modes of transport. Indeed, safety performance of the rail transport mode in Europe is already very good, in particular in comparison with its main competitor, road transport. Introduction of centralised traffic control, automatic train protection systems, more crashworthy vehicles and modern safety management has reduced fatality rates substantially during the last 30 years, and the results is that nowadays rail is the safer mode of transport, as illustrated in the table below:

Safety levels of rail as compared to other modes

Deaths per 100 million persons km		Deaths per 100 million hours	
Motorcycle/moped	16	Motorcycle/moped	500
Foot	7.5	Cycle	90
Cycle	6.3	Foot	30
Road (Total)	1.1	Car	30
Car	0.8	Air (public transport)	36.5
Ferry	0.33	Road (Total)	33
Air (public transport)	0.08	Ferry	10.5
Bus and coach	0.08	Bus and coach	2
Rail	0.04	Rail	2

Exposure data for travel risk assessment: current practice & future needs in the EU, ETSC, Brussels, 1999

Accidents happen however and whenever they occur they reveal weaknesses in railway safety and illustrate further risk reduction potentials. According to the Rail Safety Directive, railways undertakings and infrastructure managers will be obliged to submit annual reports on the development of safety to their national authority which in turn must publish a report each year and make it available to the European Rail Agency. Common Safety Indicators must be used including amongst others:

Indicators relating to accidents:

- Total and relative to train kilometres number of accidents and a break-down on the following types of accidents: collisions of trains; derailments of trains; level-crossing accidents; accidents to persons caused by rolling stock in motion; fires in rolling stock.
- Total and relative to train kilometres number of persons seriously injured and killed by type of accident divided into the following categories: passengers; employees; level-crossing users; unauthorised persons on railway premises; others.

Indicators relating to consequences of accidents:

- Total and relative to train kilometres costs in euro of all accidents where, if possible, the following costs should be calculated and included: deaths and injuries; compensation for loss or damages to property of passengers, staff or third parties, including damages caused to the environment; replacement or repair of damaged rolling stock and railway installations; delays, disturbances and re-routing of traffic, including extra-costs for staff.
- Total and relative to numbers of hours worked number of working hours of staff and contractors lost as a consequence of accidents.