



Railway safety and interoperability

The EU has been working to maintain and improve railway safety standards through development and implementation of safety regulations and technical standards.

In the wake of the Viareggio tragedy which took place on June 29 2009, the European Commission has declared that it was appropriate to review existing rail safety rules and practices, as well as the quality of their implementation and to consider opportunities for improvement.

In a progress report on the railway safety performance in the EU published in September 2009, the Commission states that the segmentation resulting from national requirements is still a barrier to a Europe-wide rail area.

Following the recent tragedies, MEPs have asked the Commission to table plans to improve railway safety.

The Commission envisages two main actions: distance-based controls for wagons and a strengthening of the European Railway Agency.

Stakeholders are supportive of the European Commission's policy.



Source: © Aussierupe

In this briefing:

- Issue definition
- Current EU policies
- Railway safety performance in the EU
- European Parliament debate
- Commission's response
- Stakeholders' positions
- Main references

Issue definition

Under the Lisbon Treaty¹, transport policy is subject to the ordinary legislative procedure, in which the Council and the Parliament act together on Commission proposals.

Railway safety

The purpose of the common transport policy is to ensure safety on the EU's railways by developing common safety targets and common safety methods. This means greater harmonisation of national rules.

Railway interoperability

One of the aims of the European Union is the establishment and development of Trans-European Networks (TEN-T) in the area of transport. Interoperability is the ability of a rail system to facilitate safe and uninterrupted movement of trains across independent networks. This ability depends on meeting essential requirements concerning regulatory, technical and operational conditions.

Progress towards interoperability is slow. Because of the long lifetime of rail infrastructure and rolling stock and the need to keep investment costs for the sector at an acceptable level, radical changes towards harmonised solutions are not possible.

Current EU policies

Railway Safety Directive (RSD)

The Railway Safety Directive 2004/49/EC (RSD)² is the main piece of Community legislation ensuring that railway safety is maintained and improved.

The aim of the RSD is to ensure that safety concerns are not used as a barrier to a fully open market. The Directive recognises that safety levels in the EU are generally high, in particular compared to road transport.

The RSD introduces the concept that the operator of the railway system (i.e. the owner and/or operator of the track) are fully responsible for the safety of the system. However, individual undertakings operating, (for example, owners of wagons) are also fully responsible for their own individual parts.

The Rail Safety Directive sets out requirements for the establishment of independent National Safety Authorities aiming at awarding safety certificates to railway undertakings and safety authorisations to infrastructure managers, and ensuring supervision of railway undertakings and infrastructure managers' safety management systems.

The Directive also requires Member States to investigate certain serious accidents and incidents. 'National Investigation Bodies' are mandated to carry out independent investigation and to consider the lessons to be learned from accidents. They must also make recommendations for the National

Safety Authorities to consider safety improvements, where appropriate.

Safety Management Systems

Railway undertakings and infrastructure managers are obliged to implement risk control measures, where appropriate in cooperation with each other, and to establish safety management systems (SMS): these systems must provide for all the procedures and processes required to ensure the safe operation and maintenance of the railway.

Safety at the level of vehicles

The SMS of railway undertakings must also include processes for the control of contractors and the supply of maintenance and material. This is important for railway undertakings, particularly those which operate freight wagons (including those which transport dangerous goods), when they do not themselves carry out maintenance.

Entity in charge of maintenance

The Railway Safety Directive was amended in 2008 (Directive 2008/110/EC)³, and the responsibility for maintenance is now assigned to a new player, the entity in charge of maintenance (ECM), which needs to be certified. Since the railway undertaking is responsible for safe operation, it has to get an assurance that vehicles are maintained and safe to operate. The certification of ECM is designed to provide this assurance.

Railway Interoperability Directive (RID)

This Directive⁴ (Directive 2008/57/EC 19.7.2008) is a recast of Directive 2001/16/EC applicable to the conventional rail system and Directive 96/48/EC on the trans-European high-speed rail system. These acts will enter into force on 19 July 2010

The RID governs the conditions promoting the interoperability of the trans-European rail system, at the construction stage; launch

of service; renewal, operation and maintenance stages. Its provisions comply with Directive 2004/45/EC on railway safety and the health and safety of workers.

The goal of gradual achievement of rail system interoperability is pursued through the harmonisation of technical standards.

This Directive covers:

- Essential requirements with regard to safety, reliability, human health, environmental protection, technical compatibility and operation of the system ;
- The technical specifications for interoperability (TSIs) adopted for each subsystem or part of subsystem pursuant to this Directive;
- The corresponding European specifications.

The railway network is broken down into structural subsystems (energy, control-command and signalling, rolling stock) or functional subsystems (operation and traffic management, maintenance and telematics applications). Member States may request that the Commission grant derogations and the Commission may decide to exclude certain measures from the scope of the Directive.

The European Railway Agency (ERA)

The European Railway Agency was set up under EC Regulation No 881/2004⁵ to help create an integrated railway area by reinforcing safety and interoperability. Its main task is to develop economically viable common technical standards and approaches to safety, working closely with railway sector stakeholders, national authorities and other concerned parties, as well as with the European institutions.

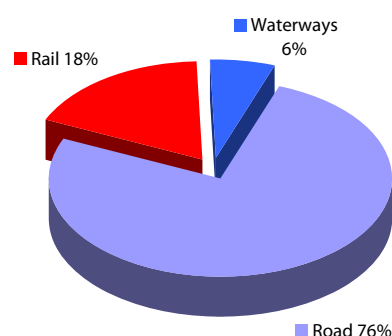
The Agency also acts as the system authority for the European Rail Traffic Management

System project, which has been set up to create uniform signalling standards throughout Europe.

Railway safety performance in the EU

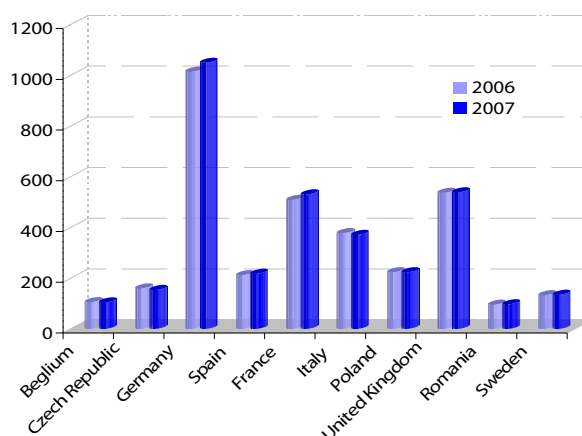
In the EU, inland freight transport amounts to 2500 billion tons/kilometre per year. On average, distances covered by rail transport operations are longer than in road transport. In 2007, transport of dangerous goods accounted for 5.8% of all inland freight transport. Due to the organisation of railway transport, more than 60% of freight trains include at least one wagon carrying dangerous goods.

Figure 1 - EU Inland freight transport



Source: European Commission 2009

Figure 2 - Rail track in select EU countries (millions km)



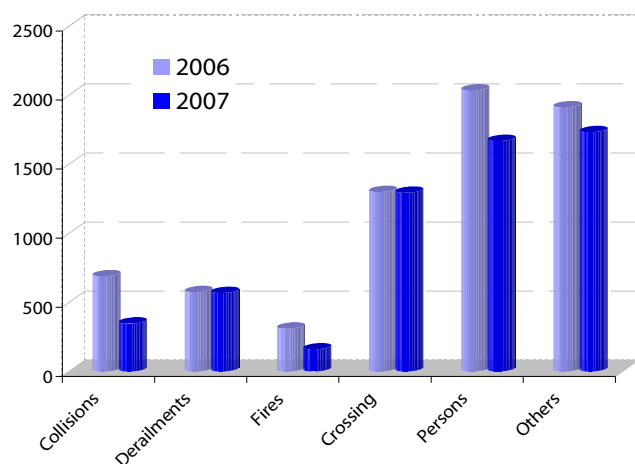
Source: European Railway Agency 2009

According to the European Rail Agency's historical database, from 1990 to 2005, 38 railway accidents involving dangerous goods caused 27 fatalities and 75 injuries. These 27 fatalities were caused by: level crossing accidents (62%), collisions with trucks carrying dangerous goods (19%) and derailments (19%).

The Viareggio accident in Tuscany on 29 June 2009 represented one of the most serious rail accidents in two decades. Following a derailment a 14-wagon freight train overturned. One of the wagons was carrying dangerous goods; specifically liquefied petroleum gas. It exploded, causing 22 fatalities and a further 27 serious injuries.⁶

Because the individual freight cars were owned and registered in different Member States, the incident raised the issue of safety and interoperability.

Figure 3 - Reported number of accidents per accident type (2006 - 2007)



Source: European Railway Agency 2009

The European Railway Agency's report

The most recent ERA report⁷ indicates that the number of significant collisions, derailments and fires is low compared to accidents that occur at level crossings or relate to accidents to persons caused by

rolling stock in motion. There is a 15% decrease in the total number of accidents between 2006 and 2007. This is mainly due to a decrease in reported number of collisions and fewer accidents to persons caused by rolling stock in motion.

The railways are generally safe but, with the implementation of the RSD, Member States will need to consolidate the requirements into their existing legal frameworks, a process that will take some time.

The Progress report on the implementation of the Community rail safety and interoperability directives

On 8 September 2009 the European Commission published a report on the implementation of the Community rail safety and interoperability directives⁸

The report indicates that the railway system in the EU is very safe and the organisational changes introduced under Community law not only had no negative impact on safety, but are expected to raise safety levels in the short and medium terms.

For this reason, the Commission intends to concentrate efforts on implementing technical specifications that will deliver significant benefits in the short and medium term, such as telematics applications in signalling, freight and passenger transport.

European Parliament debate

In November 2009⁹, the Committee for Transport tabled an oral question with plenary debate. After the Viareggio tragedy, MEPs asked the Commission to explain how it plans to ensure that EU rail freight safety standards are fully upheld.

The debate took place on 24 November 2009 and was not closed by the adoption of a resolution.

Commission's response

During the EP's plenary debate, the European Commission announced that it will review rail safety rules and practices as well as the quality of their implementation and will consider all opportunities for improvement, where necessary.

Commission implementing legislation on interoperability (the so-called Technical Specifications for Interoperability, or TSIs) is expected to be completed in 2010 as far as the Trans-European Transport Network (TEN-T) is concerned. The increasing amount of interoperable infrastructure and rolling stock and the limited number of derogations requested by Member States indicate that overall the existing TSIs are being successfully implemented.

The Commission intends to concentrate efforts on implementing those technical specifications that will deliver significant benefits in the short and medium term, such as telematics applications in signalling, freight and passenger transport.

Vice-President Antonio Tajani¹⁰ has insisted on two important elements to further improve the safety level; firstly, a move towards a system that includes distance-based controls for train wagons. Secondly, the need to strengthen the powers of the European Railway Agency by allowing it to take part in national investigations of accidents".

At present, railway infrastructure is shared for both freight and passenger services, for both practical and economic reasons. Mixed traffic, says the Commission, needs to be managed in the safest possible way, and infrastructure and rolling stock must be properly maintained.

For this reason, the Commission intends to concentrate efforts on implementing technical specifications that will deliver

significant benefits in the short and medium term, such as telematics applications in signalling, freight and passenger transport

Stakeholders' positions

The Community of European Railway and Infrastructure Companies (CER)¹¹ support the European Commission's and the European Railway Agency's approach to improve railway safety through harmonised measures at European level. For the CER, only this will bring a relevant contribution to safety without causing damages to the railway business.

The CER believes it is absolutely necessary to follow a European approach towards safety and to discourage individual Member State initiatives which aim to introduce more severe rules on the maintenance of axles and safety checks. This would be ineffective on the safety side and threaten the survival of the rail freight business due to additional costs.

To further improve safety of what is already by far the safest mode of land transport, the European Commission and the European Railway Agency should continue to promote the overall maintenance quality of rail freight axles and wheel sets in Europe.

CER also supports the set-up of a task force on wheel set and axle maintenance for freight wagons, guided by the European Railway Agency. The task force should focus on European harmonisation of acceptable minimum criteria for wheel sets and axles.

CER furthermore proposes to strengthen the role of the European Railway Agency as the auditing and supervising body of the national safety authorities. Strong and precise certification processes including the entities in charge of maintenance and workshops must be set up.

UNIFE¹² - the Association of the European Rail Industry and the European freight forwarders' association CLECAT support both the Railway Directive on Safety and on Interoperability. However, they believe that powerful state-run companies tend to overcharge operators for using infrastructure. The fact that EU 'priority corridor' projects are often built according to short-term national political interests seriously hampers the development of a competitive European rail freight industry.

CLECAT¹³ notes that "non-discriminatory access to infrastructure" is indeed a key means of promoting efficient use of the European rail network infrastructure and a precondition of full and fair competition.

Main references

European Commission (2009) [Commission Report on Railway Safety and Interoperability](#) IP/09/1282, Brussels, 8 September 2009

[Communication from the Commission to the Council and the European Parliament on a progress report on the implementation of the railway safety directive and of the Railway interoperability directives](#) (COM (2009) 464(final), 8 September 2009)

Disclaimer

This Briefing is a short overview of the subject, and is not intended to take the place of more complex original research. The document does not in any way reflect the opinion or position of the author or of the European Parliament.

Endnotes

¹ Chapter IV of the Lisbon Treaty

² [Directive 2004\(49\)EC on safety on the Community's Railways](#)

³ UK Office of Rail Regulation [Explanatory note on the Railway Safety Directive](#)

⁴ [Railway Interoperability Directive](#)

⁵ Regulation establishing the [European Railway Agency](#) (2004)

⁶ ERADIS (2009) [Accident description for Viareggio](#)

⁷ [Railway Safety Performance, September 2009](#)

⁸ [Commission's report on safety and interoperability, September 2009](#)

⁹ [EP oral question with debate](#)

¹⁰ [Antonio Tajani Vice-President della Commissione europea responsabile per i Trasporti Conferenza "Railway Safety – The way forward". Discorso d'apertura Conferenza "Railway Safety – The way forward" Bruxelles, 8 settembre 2009 \[SPEECH/09/367\].](#)

¹¹ [Railways safety needs a European approach., CER, 8 September 2009.](#)

¹² [UNIFE's press release 23 April 2009.](#)

¹³ [CLECAT's position on a European rail network for a competitive freight](#)