The Railway Interoperability Directives

Screening
Chapter 14 – Transport Policy
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A system approach

- **Safety directive deals with system aspects**
  - Role and responsibilities of the actors, regulatory structure, safety levels and methods

- **Interoperability directives deal with subsystem aspects**
  - Rolling stock, operational rules, staff requirements, signalling, infrastructure, etc.
The interoperability Directives

  - Trans-European high-speed rail system

  - Trans-European conventional rail system
Interoperability

- The ability of the trans-European rail system to allow the safe and uninterrupted movement of trains which accomplish the specified levels of performance.
- This ability rests on all the regulatory, technical and operational conditions which must be met in order to satisfy the essential requirements.
Interoperability Directives

A layer structure to reach interoperability
TSI – elaboration and approval process

Commission

TSI Proposal

TSI Mandate

Art. 21 Committee

TSI

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European Commission

European Railway Agency

Technical subjects

Cost-benefit Analysis

TSI Project

- Decision 2002/730/EC - Maintenance
- Decision 2002/731/EC - Control-Command and Signalling
- Decision 2002/732/EC - Infrastructure
- Decision 2002/733/EC - Energy
- Decision 2002/734/EC - Operation
- Decision 2002/735/EC - Rolling Stock

Their 1st revision has received a favorable opinion by the Rail Interoperability Committee on 21 June 2006.
State of play - 2

- Notified Bodies: coordination
- Mandate to CEN/CENELEC/ETSI in 1999: adoption of 100 standards by 2005 (more than 60 standards already available) (30 still pending on RST)
- National law implementation: 15/15 done + acquis for the others
- TSI Implementation Guide published in three languages and available on Europa site

- Basic parameters of four TSIs of the first TSIs group (Noise, Freight Wagons, Telematic Applications for Freight, Operations and Traffic Management)


- Basic parameters of a fifth TSI of the first TSIs group (Control-Command and Signalling)
First group of CR TSIs:


- Freight wagons (likely to be adopted by July 2006)

- Traffic operation and management (incl. Staff qualifications) (likely to be adopted by July 2006)
Second group of CR TSIs:

- Safety of railway tunnels (Adoption expected by end 2006)

- Accessibility to persons with reduced mobility (Adoption expected by end 2006)
Third group of CR TSIs to be adopted by 2007-2008 (mandated to the European Railway Agency):

- Infrastructure
- Rolling Stock
  - Locomotives & Traction Units
  - Passenger Coaches
- Energy
- Telematics for passengers
The Second Railway Package


Modifies Directives 96/48/EC and 2001/16/EC:

- Updates the provisions of these two directives in line with the directive on safety and the role of the new agency.
- States the principle of interoperability for the whole railway system, to be implemented progressively as of 2008. This shall be based on a program established according to cost/benefit analysis.
- Aligns the two directives.
Impact for Member States

Directives 96/48/EC and 2001/16/EC (as modified by Directive 2004/50/EC)

- Article 6: notification of the list of associations and bodies to be consulted during the drafting of the TSIs
- Article 7: notification of the intentions to derogate to the provisions of one or more TSIs
- Article 8: verification on placing on the market of the interoperability constituents + market surveillance
- Article 14: authorisation of placing into service a subsystem + numbering of rolling stock
- Article 16(3): notification of the standards and technical specifications by 30 April 2005
- Article 20: notification of the Notified Bodies
- Article 22 (96/48/EC) or Article 24 (2001/16/EC): publication and annual update of infrastructure and of rolling stock registers
- Article 23 (96/48/EC): implementation in national law by 13 February 1999 (96/48/EC)
- Article 26 (2001/16/EC): implementation in national law by 20 April 2003
Impact for Member States

Technical Specifications for Interoperability (TSIs)

Notification of:

- The list of the applicable technical rules
- The conformity assessment and checking procedures to be applied with regard to the application of these rules
- The bodies appointed by the Member State for carrying out those conformity-assessment and checking procedures
- The same as the three items above for the national « specific cases »
- The projects / subsystems / interoperability constituents still falling under the previous version of the TSI, in case of revision of the TSI
- Various types of national, bilateral or multilateral agreements concluded between Member States and / or Railway Undertakings / Infrastructure Managers
- For some TSIs (example: Control-Command and Signalling, Operations & Traffic Management): National implementation plans
An integrated telematic backbone across Europe
What is ERTMS?

• The ERTMS (European Rail Traffic Management System) features two basic components:
  
  — GSM-R: Radio system used to exchange information (voice and data) between trackside and on-board
  
  — ETCS (European Train Control System): the computer based European system to control the train speed

• Future control command system for interoperable railways:
  
  — Today: Level 1 and 2
  
  — Long term: Level 3 and connection with Galileo
ERTMS is important for:

- Improved interoperability: lowers the barrier created by national signalling and safety systems
- Reduced risk of train accidents
- Better and safer working conditions for train drivers
- Possibility for further infrastructure capacity increase
- Equipping new infrastructure lines and trains and rehabilitating existing ones by an advanced and cost effective technology
- Increased capability to generate information for all stakeholders, in particular for customers
ERTMS is available

— ERTMS is a fully developed and tested system, available on the market – several suppliers

— ERTMS specifications are stabilised – future evolution under the responsibility of ERA

— ERTMS is already in commercial use in several parts of the European network and its large scale deployment has started
Migrating towards ERTMS

- Migration is the biggest challenge for all parties involved: Member States, infrastructure managers, railway undertakings, manufacturers

- Use a coherent approach with all stakeholders to speed it up:
  - Define an integrated migration programme with Member States
  - Get active support for project and execution from infrastructure managers and railway undertakings on basis of business plans
  - Structure the adequate financing resources

- Full benefits of ERTMS only become visible with reaching critical mass

- EU Financial support is critical
Migrating towards ERTMS

- **High speed lines:**
  - New: obligatory
  - Existing: cross-border as first priority

- **Freight:**
  - Implementation on major freight corridors
  - Necessity to include hubs, terminals and accesses

- **New Member States:**
  - Renewal or upgrading of railway network

- **Entire network scheduled in some countries**
  - Medium-size networks
GSM-R deployment in EU-25
ETCS – Eyeshot on implementation

European Commission

Oresund-Stockholm-Nyland 2015
Botnia Line 2009

HSL-Zuid 2007

Cambrian Line 2007
East Coast Main Line 2010

TGV-Est 2007
Paris Lyon 2010
LGV Sud Europe Atlantique 2015

Wien-Budapest 2005
AT Network 2014

Roma-Napoli 2005
Roma-Firenze 2010
Firenze-Milano 2008
Torino-Milano 2008
Thank you for your attention!