

## Rolling stock approval process

Presentation to SEETO Working  
Group by Frank Walenberg  
Skopje 2 December 2011

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## Introduction

- Walenberg Rail Assessment started as an independent company in July 2010
- Integrates a long time railway and railway assessment experience
- High degree of professionalism in the execution of the activities performed
- Working at the forefront of European railway assessment
- More information [www.walenberg-rail.eu](http://www.walenberg-rail.eu)

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## Introduction

- In October 2010 details of the vehicle authorisation process were presented to SEETO Meeting
- Presentation of October 2010 available on request (and on website [www.walenberg-rail.eu](http://www.walenberg-rail.eu))
- Today:  
update and more emphasis on implementation related to vehicle authorisation

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## Overview

- Global Process Approach
- Status quo of interoperability and safety
- Status quo of cross acceptance
- Practical vehicle authorisation
- Tasks of the National Safety Authority in vehicle authorisation

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## Need for the approval process

Two main reasons:

- Formal reasons based on the legal requirement to receive an authorisation to operate a railway vehicle on a railway network
- Contractual reasons to verify that the contractual requirements from the customer are met by the supplier

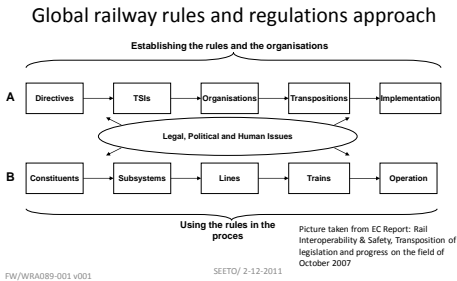
In this context only the first reason will be investigated

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## Overall Processes and Application



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## EU Legislation

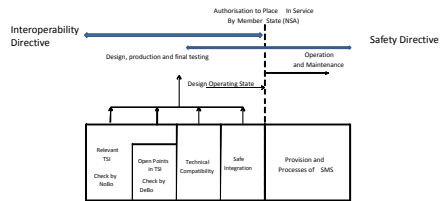
Areas of legislation (relevant for vehicle authorisation):

- Interoperability
- Safety

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## Safety

### Relation between the Interoperability Directive and the Safety Directive



Picture from Commission document 08/57 DV29 of 23-09-2010

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## Interoperability

### Levels of European Regulations

Mandatory (=law):

- Interoperability Directive
- Technical Specifications for Interoperability (TSI)

Voluntary:

- European Harmonised Standards (EN Norms)

Each level gives more details

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## Directives

- 2008/57/EC: Current High Speed + Conventional Rail Interoperability Directive
- 2004/49/EC: Current Safety Directive + amendment 2008/110/EC

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## Interoperability: TSI's

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Technical Specifications for Interoperability are arranged by subsystem or apply at system level:

- Structural Subsystems (as parts of the High Speed and Conventional Rail network)
- Functional Subsystems
- Transversal TSI's (both high speed and conventional rail network)

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## Interoperability: TSI's

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### TSI's for high speed network

New since Oct 2010

Subsystem	Type	Reference	Publ. Date
Maintenance (MAI)	F	2002/730/EC	30-05-2002
Infrastructure (INF)	S	2008/217/EC	30-05-2002
Energy (ENE)	S	2008/284/EC	30-05-2002
Rolling Stock (RST)	S	2008/232/EC	26-03-2008
Operations (OPE)	F	2008/231/EC 2010/640/EU	01-02-2008 26-10-2010
Control, Command & Signalling (CCS)	S	2006/860/EC 2010/79/EC	07-11-2006 10-02-2010

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## Interoperability: TSI's

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### TSI's for conventional rail network

New since Oct 2010

Subsystem	Type	Reference	Publ. Date
Operation (OPE)	F	2011/314/EU	31-05-2011 (in force 01-01-2012)
Locomotives and Passenger Coaches (LOC & PAS)	S	2011/291/EU	26-05-2011
Infrastructure (INF)	S	2011/275/EU	14-05-2011
Energy (ENE)	S	2011/274/EU	14-05-2011
Noise (NOI)	S	2011/228/EU	04-04-2011
Telematic Applications for Freight (TAF)	F	EC/62/2006	23-12-2006
Control, Command & Signalling (CCS)	S	2006/679/EC 2010/79/EC	28-03-2006 19-10-2010
Freight Wagons (WAG)	S	2006/861/EC	28-07-2006

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## Interoperability: TSI's

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### Transversal TSI's

### High speed and conventional rail network

New since Oct 2010

Subsystem	Type	Reference	Publ. Date
Telematic Applications for Passenger service (TAP)	F	EC/454/2011	12-05-2011
Persons of Reduced Mobility (PRM)	S	2008/164/EC	07-03-2008
Safety in Railway Tunnels (SRT)	S	2008/163/EC	07-03-2006

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## Interoperability: Standards

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### Harmonised EN-Standards

- Where TSIs refer to EN standards directly, these become mandatory
- Normally TSIs do not need to refer to harmonised EN-standards in order to make them voluntarily applicable
- Use of harmonised EN-standards leads to the principle of presumption of conformity
- ERA offers support with the list of applicable standards: <http://www.era.europa.eu/Core-Activities/Interoperability/Pages/STND.aspx>

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## Interoperability: Standards

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### Specific situation for Control, Command & Signalling

- For CCS subsystems (track side and on board) the use of the CENELEC RAMS standards is mandatory
- This implies that Independent Safety Assessment (based on safety case approach) shall be conducted as part of the assessment and certification for systems with higher level than SIL-0

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# Safety

## Levels of European Regulations

Mandatory (=law):

- Safety Directive
- Common Safety Methods (CSM)

Each level gives more details

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# Safety: CSM's

## Relevant CSM's for Vehicle Authorisation

New since Oct 2010

Subject	Reference	Publ. Date
CSM on Risk Evaluation and Assessment	EC/352/2009	24-04-2009
CSM on Conformity Assessment for Railway Safety Certificates (Railway Undertakings)	EC/1158/2010	10-12-2010
CSM on Conformity Assessment for Railway Safety Authorisations (Infrastructure Managers)	EC/1169/2010	11-12-2010

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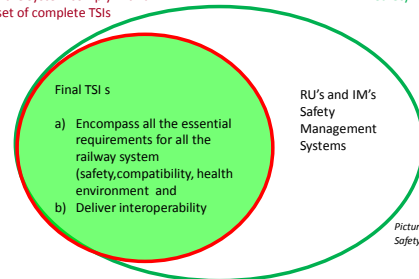
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# Final Goal of the railway regulations

All parts of the system comply with a complete set of complete TSIs

Safety Directive



Picture courtesy ERA Safety Unit

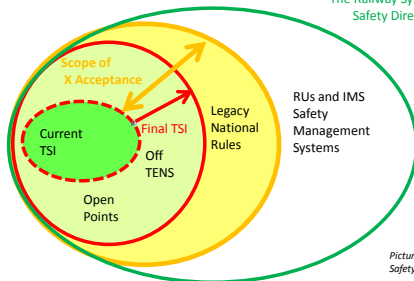
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# Current situation of the railway regulations

The Railway System  
Safety Directive



Picture courtesy ERA Safety Unit

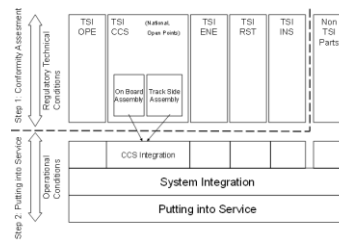
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# Interoperability

## Interoperability Certification



Generic certification process as defined in Interoperability Directive 2008/57/EC

Picture taken from EC Report: Rail Interoperability & Safety, Transposition of legislation and progress on the field of October 2007

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## Interoperability

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### Completeness of TSIs

- The TSIs are not necessarily complete:
  - The scope is limited (technically, geographically and in time)
  - A TSI may have some “open points”
  - There are specific cases where requirements (Basic Parameters) in certain Member States differ from the TSI
  - There can be derogations

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## Notification of National Rules

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- Member States have to Notify their National Rules that are different from the TSI requirements
- Member States must designate the body/bodies (DeBo) that can perform the verification and certification for their Notified National Rules

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## Cross acceptance activities

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- Step 1- The list of parameters to be checked for vehicle authorisation
  - Came into force July 2010
- Step 2 – List all the national rules for each parameters
  - 27 National Reference Documents required to be published 1<sup>st</sup> August 2011

*Picture courtesy ERA  
Safety Unit*

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## Cross acceptance activities

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- Step 3 – Evaluate equivalence
  - Geographical Interest Groups (GIGS) e.g.
    - Nordic
    - Benelux
    - BeLuxDE
    - Corridor A
    - Eastern
  - Pending
    - Poland, Baltic states, UK

*Picture courtesy ERA  
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## Cross acceptance activities

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- Commission Decision on the on the publication and management of the reference document
  - Agreed by RISC October 2010
  - 27 National Reference Documents
- Roles and Responsibilities
  - NSAs supply the rules and agree equivalence
  - Ministries “sign them off”
  - Agency publish them

*Picture courtesy ERA  
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## Cross acceptance activities

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- Thanks to efforts of NSAs and MS the European Railway Agency received by the 5th of August 2011 25 National Reference Documents + Norway
- National Reference Documents published as pdf files by the Agency
- [http://www.era.europa.eu/Document-Register/Pages/National\\_Reference\\_Documents.aspx](http://www.era.europa.eu/Document-Register/Pages/National_Reference_Documents.aspx)

*Picture courtesy ERA  
Safety Unit*

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## Vehicle Authorisation steps

- The Safety Directive gives a general procedure for rolling stock which is not fully covered by TSIs.
- The Interoperability Directive gives detailed procedures and distinguishes between:
  - TSI conform vehicles
  - Non-TSI conform vehicles
  - Vehicles which conform to an already authorised type (in other Member States)
- Further development of Cross Acceptance improves the processes. ERA and EC have been working on this.

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## Interoperability

Application of the Interoperability Directive and TSIs:

- Generally applicable for all new subsystems within the geographical and technical scope

But .....

- Only for the phases of development, design and construction/implementation of the subsystems, up to the moment of the putting into operation.
- In some cases of upgrading and renewal, if the Member State decides that the TSIs are applied (or partly applied)

And ...

- To cover other life cycle phases the Safety Directive must be considered.

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## What assessments and Certifications?

Levels of assessment and verification, top down overview (for the case of a CCS subsystem)

- Authorisation by NSA to put the integrated system into operation based on CSM Assessment by IA
- CSM Assessment by Independent Assessor, based on Risk Analysis according to CSM-REA
- Certification of the subsystem, based on NoBo certification, which includes QMS certification, DeBo certification and ISA assessment. The ISA assessment includes again QMS assessment and also SMS assessment
- Certification of the interoperability constituents of the subsystem, based on NoBo certification, which includes QMS certification and ISA assessment. The ISA assessment again includes QMS assessment and also SMS assessment
- Basic EC certification for "other Directives"
- Basic SMS certification by NSA for the Contracting Entity/Initiator to obtain its safety authorisation or safety certification

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## What assessments and Certifications?

Vehicle authorisations after the first authorisation also specified in the interoperability Directive 2008/57/EC

- In other Member States: further National Verifications (specific cases and open points)
- In the same Member State and in other Member States further vehicle authorisations

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## Cross acceptance

Where existing vehicles need to be authorised  
Cross acceptance shall be applied

- National Reference documents will be primordial
- Assessment and certification against national reference documents "fills in the gap" in the EC verification process

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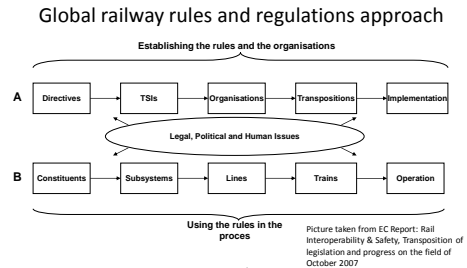
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## Overall Processes and Application

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## Processes and Application

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Vehicle Authorisation: part of process B

- All organisational requirements from the Railway Directives must be met: NSA, RU, IM, NIB, Regulator etc. (Process A)
- Infrastructure requirements are specified and met
- National Rules are Notified

➤ Vehicle Authorisation is based on the application of all Directive requirements by the parties in Process B

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## NSA roles and responsibilities

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Based on the vehicle authorisation steps

- SMS certification of RU's and IM's
- Authorisations to Put into Service
- Supervision of Assessment and certification bodies (NoBo, DeBo, IA)
- Supervision of RU's and IM's

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## NSA Roles and responsibilities

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Further task elements

- The Vehicle Numbering system
- The National Vehicle Registers
- The European Register of Authorised Vehicles
- Maintenance of Vehicles and Entity in Charge of Maintenance

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## Processes and Application

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Guidance

- Guidance is/will be given by EC:
  - Guide for the application of the Interoperability Directive
  - Guides for the application of specific TSI
  - Guide for the application of relevant EN-standards
  - Guidance in the application and interpretation of the Interoperability Directive with document 2011/217/EC (was DV29)
  - ERA publishes guidance with the list of applicable standards: <http://www.era.europa.eu/Core-Activities/Interoperability/Pages/STND.aspx>

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## Processes and Application

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Useful addresses:

- EC Interoperability and Safety web site:  
[http://ec.europa.eu/transport/rail/interoperability/interoperability\\_safety\\_en.htm](http://ec.europa.eu/transport/rail/interoperability/interoperability_safety_en.htm)
- ERA web Site:  
<http://www.era.europa.eu/Core-Activities/Pages/home.aspx>

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## Questions?

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Thank you for your attention

For questions you can also contact:

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