

Rolling stock approval process

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

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

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)
- Today:
update and more emphasis on implementation related to vehicle authorisation

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

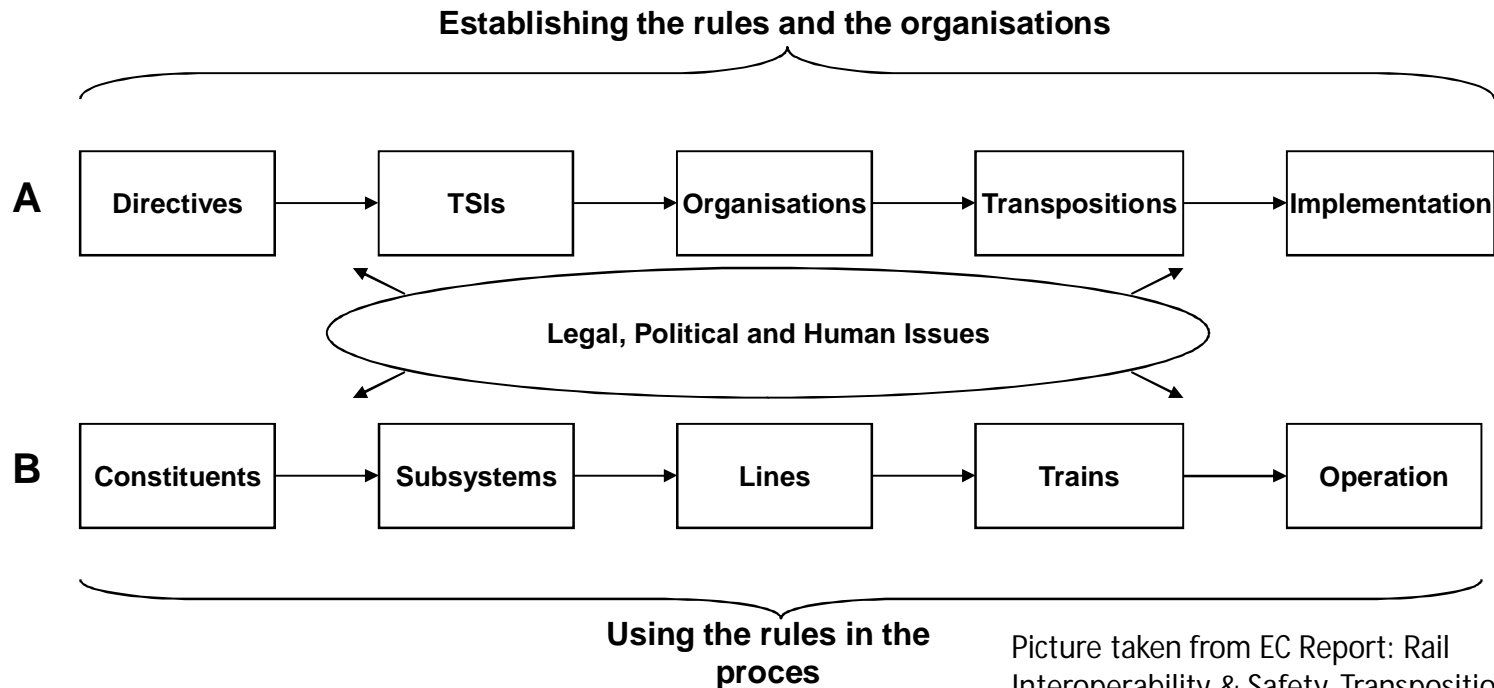
Two main reasons:

- 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

Overall Processes and Application

Global railway rules and regulations approach



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

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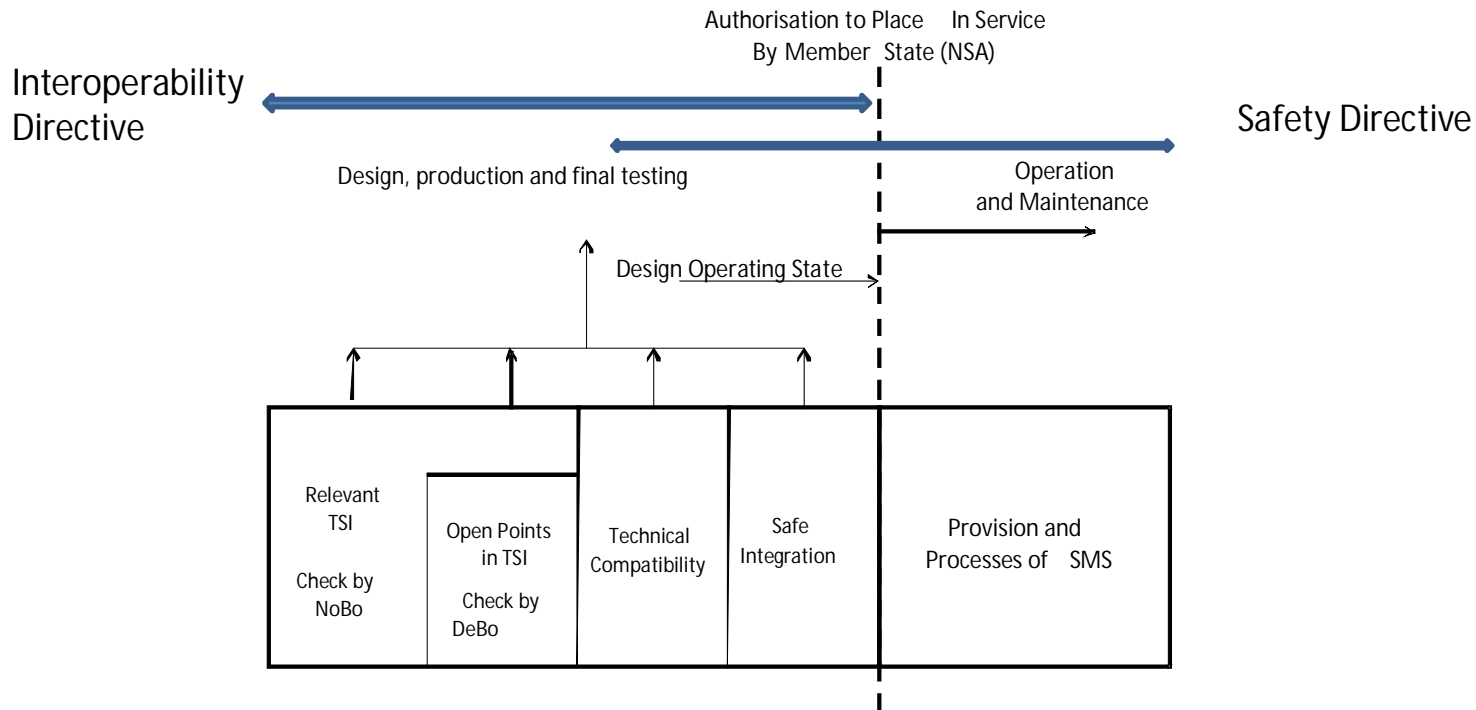
EU Legislation

Areas of legislation (relevant for vehicle authorisation):

- Interoperability
- Safety

Safety

Relation between the Interoperability Directive and the Safety Directive



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

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

Directives

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

Interoperability: TSI's

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)

Interoperability: TSI's

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

Interoperability: TSI's

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

Interoperability: TSI's

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

Interoperability: Standards

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>

Interoperability: Standards

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

Safety

Levels of European Regulations

Mandatory (=law):

- Safety Directive
- Common Safety Methods (CSM)

Each level gives more details

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

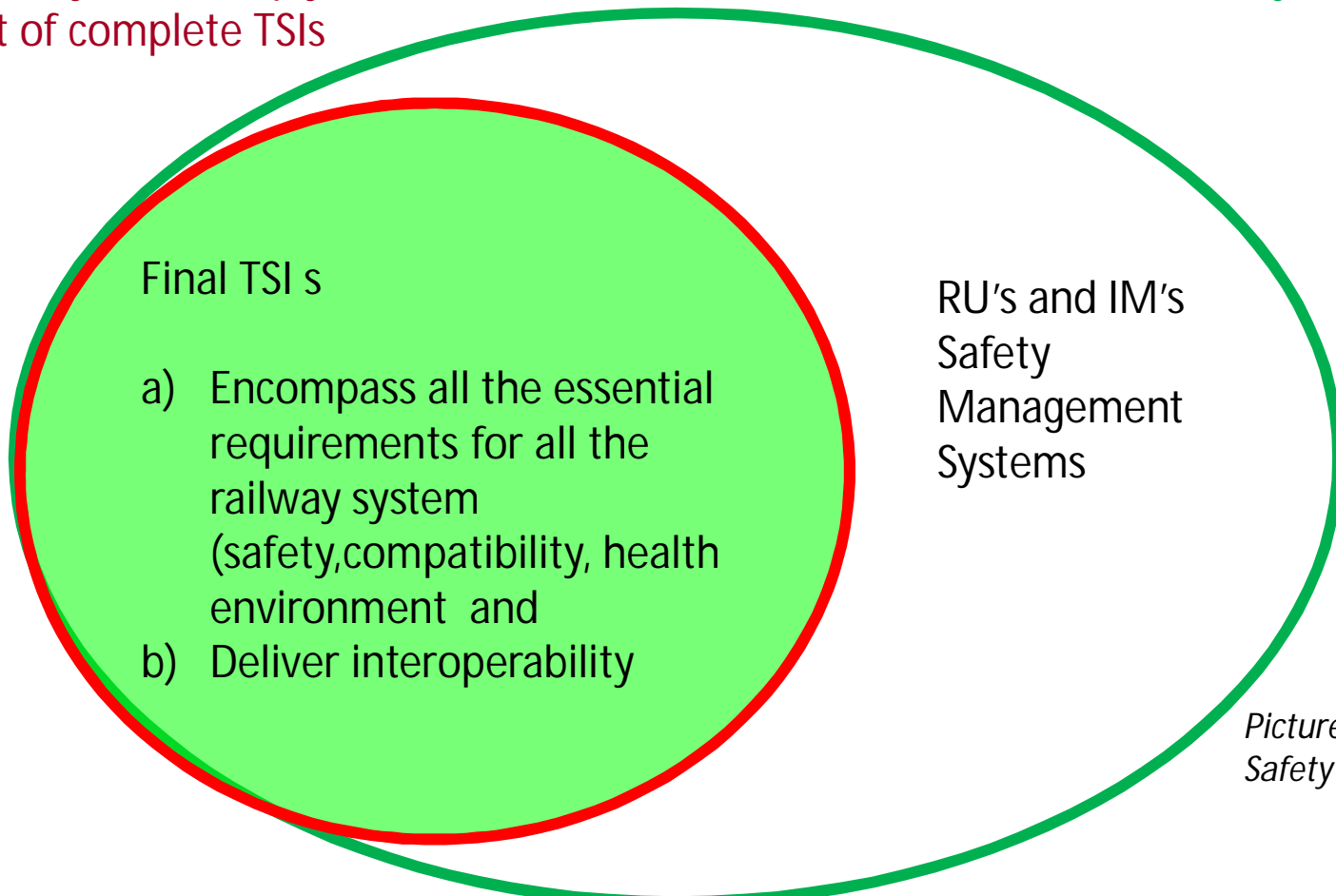
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Final Goal of the railway regulations

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

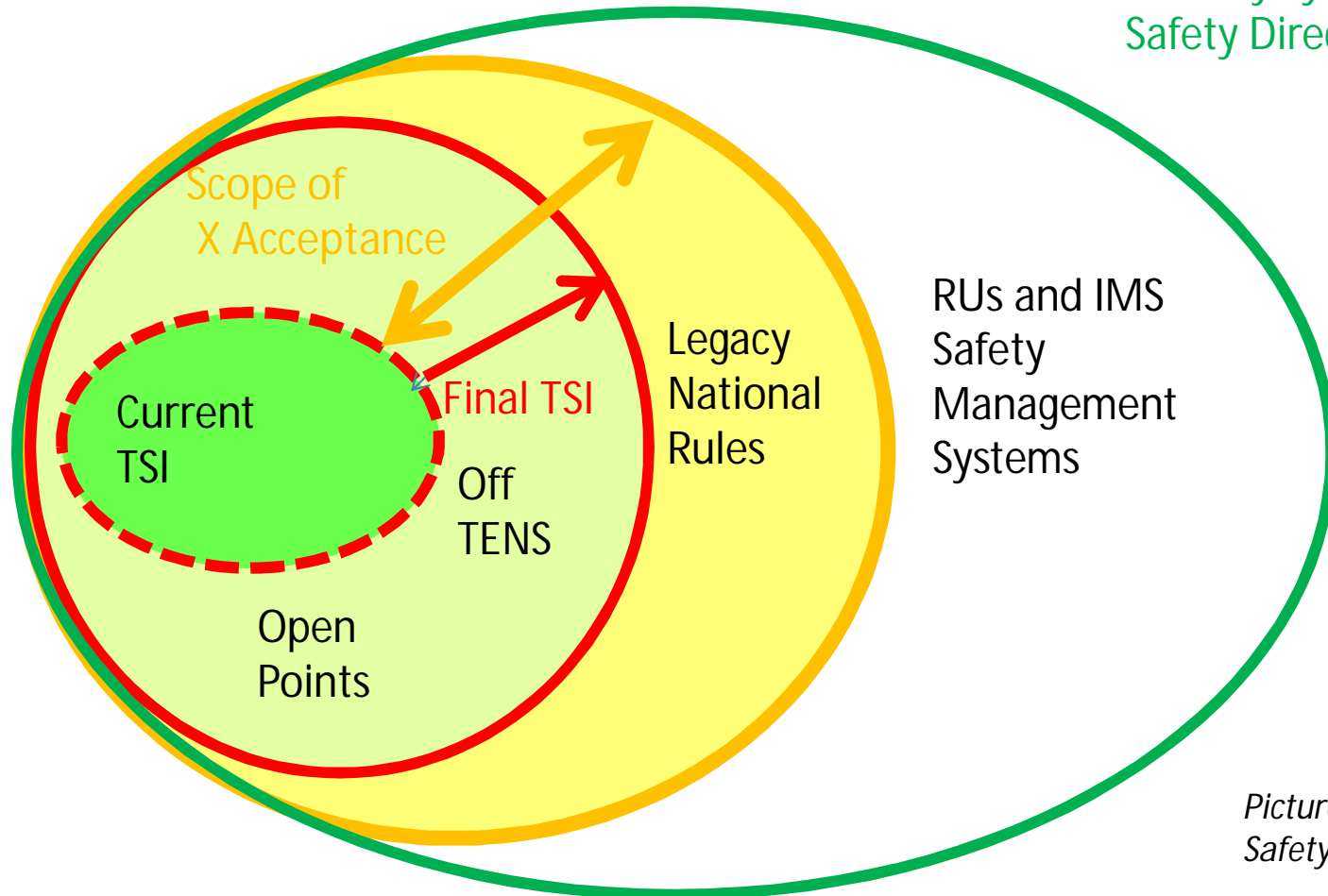
Safety Directive



Picture courtesy ERA Safety Unit

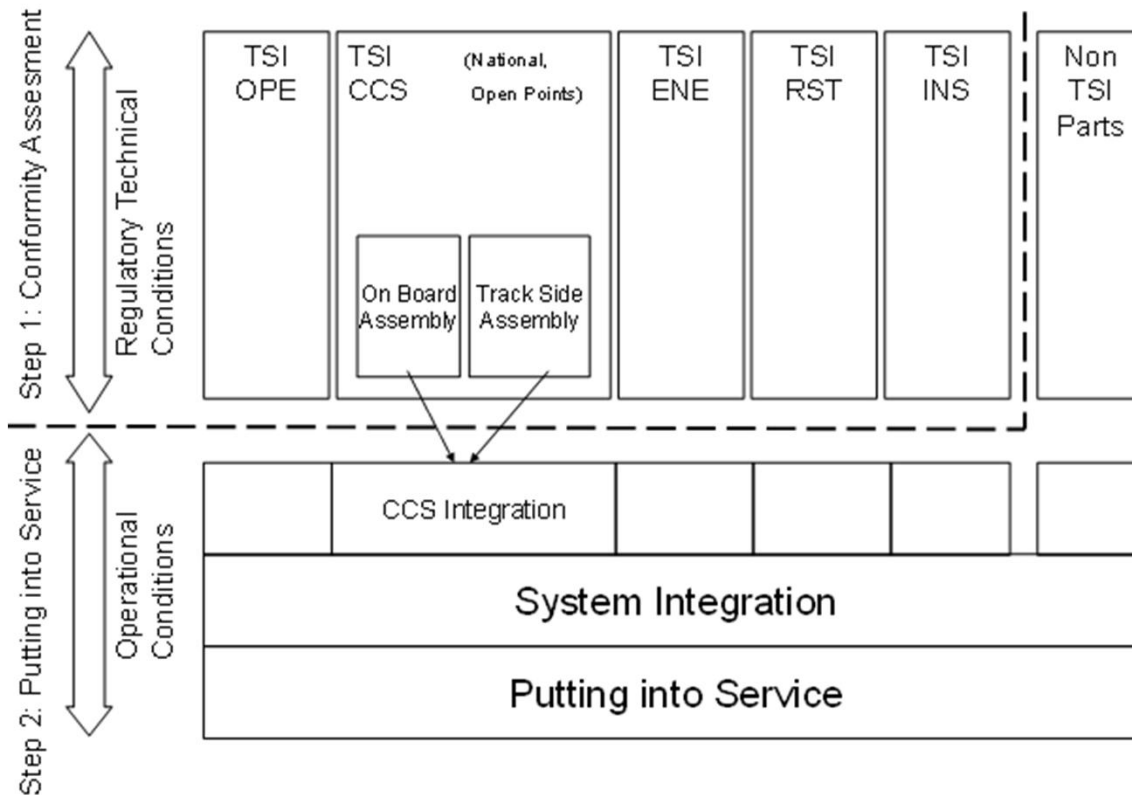
Current situation of the railway regulations

The Railway System
Safety Directive



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

Interoperability

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

Notification of National Rules

- 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

Cross acceptance activities

- 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 1st August 2011

*Picture courtesy ERA
Safety Unit*

Cross acceptance activities

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

*Picture courtesy ERA
Safety Unit*

Cross acceptance activities

- 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
Safety Unit*

Cross acceptance activities

- 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

*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.

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.

What assessments and Certifications?

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

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

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

Cross acceptance

Where existing vehicles need to be authorised

Cross acceptance shall be applied

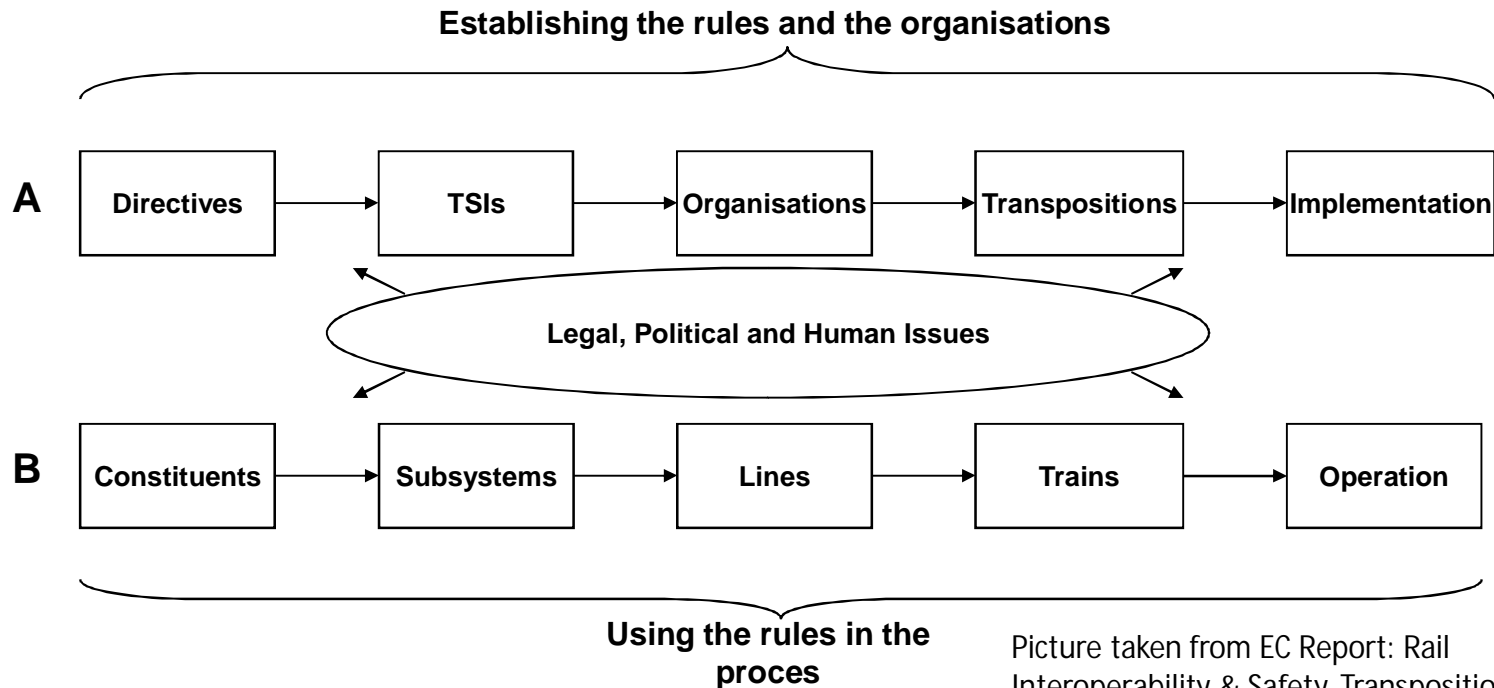
- National Reference documents will be primordial
- Assessment and certification against national reference documents “fills in the gap” in the EC verification process

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Processes and Application

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

NSA roles and responsibilities

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

NSA Roles and responsibilities

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

Processes and Application

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>

Processes and Application

Useful addresses:

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

Questions?

Thank you for your attention

For questions you can also contact:

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