The need for harmonization of technical standards in international railway transport

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International Union of Railways (UIC)
The Worldwide Organisation for Railway Cooperation

➤ UIC members may be:

- Railway companies.
- Infrastructure managers.
- Railway or combined transport operators, rolling stock and traction companies.
- Service providers: rail catering, night trains, public transport, shipping lines.

➤ 200 members across 5 continents

➤ UIC activities focus on:

- **Standardisation**
- Customer attractiveness / new services
- Environment, Sustainable Development
- Safety & Security
- Freight / Freight corridors
- Signalling
- Research & Innovation
• **Promoting rail transport around the world** with the aim to meet current and future challenges of mobility and sustainable development.

• **Promoting interoperability, creating new world standards for railways**, including common standards with other transport modes.

• **Developing and facilitating all forms of international cooperation** among members, facilitating the sharing of best practices (benchmarking).

• Supporting members in their efforts to **develop new business and new areas of activity**.

• Proposing new ways to **improve technical and environmental performance of rail transport**, boosting competitiveness, reducing costs and being always more attractive towards rail customers.

**More information:** [www.uic.org](http://www.uic.org)
Integration with other modes – rail freight

> **Intermodal transportation** is the movement of goods in one and the same loading unit or road vehicle, using successively two or more modes of transport without handling the goods themselves in changing modes.

> The **combined transport** segment is the segment which is growing most rapidly compared to the other freight businesses.

> Between 1988 and 2008 international unaccompanied **combined transport** (in tonnes) increased by 215% and between 2002 and 2015 it is expected to grow by 135% *(Source: Study On Infrastructure Capacity Reserves For Combined Transport By 2015).*
Integration with other modes – passenger rail

> **Rail and integrated ticketing**
  Cities across the world have integrated rail into their Smartcard public transport ticketing systems (Singapore, London, Paris, Sydney)

> **Rail stations are transport hubs**
  Rail stations provide interchange with other modes - bus, taxi, car, cycle and pedestrian

> **Links with other modes**
  Rail links to airports and ports provide congestion-free, low-carbon access for passengers and services
UIC Leaflets - Railway Standards
UIC Standardisation - Overview

Since 2012 within UIC the Standardisation issues have been managing by the Standardisation Platform - its working body, created by the General Assembly from which it depends.

The Standardisation Platform implements the guidelines and the strategies decided by the UIC General Assembly.

**Mission**

1. Coordination of the International Railway Standards developed by and asked to the UIC Forums (Statutory working bodies)
2. Identification and coordination of the Clusters business cases oriented
3. Coordination of the updating of the UIC Leaflets
4. Identification and coordination of the standardisation of the Railway Operating Rules
5. Definition and negotiation of the Cooperation Agreement with the other Standardisation Organisations
UIC Standardisation - Status

- Standardisation at UIC is progressing in a phase where studies, strategies and constructions are now producing the expected results.

- The Standardisation Platform (SP) is working hard to connect railway standards in a fully integrated and functional system vision and in their possibility of use for the products of the Railway Operating Community.

- The initiatives that underlines these approach are ongoing and involve all UIC Forums and the Platforms; their integration, thank to the coordination given by the SP, is relevant and this allows to anticipate and to map the needs of the UIC Members.
UIC Leaflets updating

2015 - 2017

- A reasonable draft *programme to finish* was already proposed to the relevant Forums in order to commit to the time goals and to facilitate the overall control of the project (see the documentation pack for details).

- To each Working Group a list containing the remaining leaflets to update and a proposal containing their allocations in the years 2015-2016-2017 has been provided.

Summary

1. The project for the updating of the leaflet is producing the planned documents with the expected **level of quality**

2. The updating process is performed using the **EUTREQ** system

3. Up to now the **average time to update a leaflet is higher than 1 year**, but the estimated **budget is always in line** with the available and allocate resources

4. The consensus finding and the approval of the updated leaflets introduce a delay that sometimes affects considerably the process.
EUTREQ - State of the project

The EUTREQ project was launched in its operative phase in December 2012 with 2 different workshop dedicated to the use of this tool; these workshops were addressed to the UIC staff and to all the Experts.

Up to now about 200 Leaflets (80% of the UIC Leaflets available on electronic support) are available in EUTREQ and they are stored in the EUTREQ databank.

For 2014 it has been planned to store in the EUTREQ format ALL the UIC Leaflets (including the ones only available in paper).
INTERNATIONAL RAILWAY STANDARDS (IRS)

1. **A Common Part**

   It contains all the elements agreed by everybody.

2. **Several optional Specific Parts**

   Each of them, is mandatory only for a specific service or geographic application.
International Railway Standards Work-plan

Now

1. International Railway Standard
   “Homologation of High-Speed Lines” v. 1.0

2. International Railway Standard
   “Maintenance of High-Speed Lines” v. 1.0

3. International Railway Standard
   “Maintenance guidelines for overhead contact lines” v. 1.0

(Drafts to be elaborated in the Forums)

In the draft Programme

1. IRS on High Speed subject

2. IRSs on “Overhead Contact line”

3. IRSs on Rolling Stock and Fixed Installations

4. IRSs considering the 1520 Components

5. IRS on security of Railways

6. IRS on Infrastructure Asset Management

7. UIC Leaflets updated in 2014/15
IRS Coveres Activities

Strategy

Guidelines on Standardisation

System View & Production

Clusters

High Speed

Freight Corridors

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International Railway Standards

Joint Standards (UIC-IEC, UIC-ISO, ..)

UIC Leaflets (plus UPDATING)

Rail System Forum

Passenger Forum

Freight Forum

Contributions

TSI

High Speed Systems

Application Europe

Standardisation 1520

Agreements

ERA

ISO

IEC

Term Of Reference

Strategy of Standardisation

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Example of Cluster segment - Rolling Stock

5.1 Bogie
- GOST 1205 → IRS 1705
- IRS 1708

5.2 Brake
- GOST 1105 → IRS 1602
- IRS 1608
- UIC 541-3 → IRS 1604
- UIC 541-4 → IRS 1607

5.3 Car Body
- GOST 1404 → IRS 15zz
- UIC xxx → IRS 15yy
International Railway Standards and other relevant ones are connected by the cluster structures that allows the implementation of specific services and considers boundary conditions.
UIC cooperation with OSJD on the 1520 gauge system

- **Strategic Topic**

1. give a concrete and rapid answer to the needs in facilitating the development of international freight corridors
2. increasing the speed in freight and passenger transportation
3. integrating railway transport into modern logistic schemes and multimodal transport chains
4. expanding innovative cooperation between the railway companies and harmonising technical standards and regulations at international level
5. diffuse the technical expertise on 1520 safety and interoperability requirements
6. facilitate the access to 1520 market at global international level.
EXAMPLE: INTEGRATION UIC – OSJD

Today 🔄 Tomorrow

UIC Code 541-3

Brakes - Disc brakes and their application - General conditions for the approval of brake pads

GOST 1203-75

IRS N. 2013_01

International Railway Standard
Series 1 - Number 2013_01
Rolling Stock - Brake Components
Version 1.0

EU Part

OSJD Part

Cover

Pages 2 - xx

Existing common requirements (from UIC Code 541-3 and GOST 1203-75 )

Requirements from UIC Code 541-3 not in pages 2-xx

Requirements from GOST 1203-75 not in pages 2-xx
UIC Standardisation Strategy

**UIC LEAFLETS AND GOST STANDARDS INTEGRATION**

- **UIC**
  - Leaflets: 100, 200, 900
- **GOST**
  - Norms: 1000, 2000, 3000
  - IRS: n. XXXX

1435, 1520
UIC Standardisation Strategy

TSI AND “REGLAMENTS” INTEGRATION

UIC

PROJECTS
TSI Scope expansion
• RS
• ENE

IRS n. XXXX
ROLLING STOCK
1435 1520

IRS n. YYYY
FIXED INSTALLATIONS
1435 1520

REGLAMENTS

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Cooperation Agreement with IEC

- The Cooperation Agreement (CA) with IEC was signed on the 11th June 2014 in Genève.

- After the first Standardisation Liaison Group meeting, UIC convened the first joint UIC - IEC group of experts to define the common programme of activities.

- UIC was requested by IEC (mostly by the manufacturers) to reactivate and lead the “UIC Trainbus Steering Committee” (active from 1992 to 2008).

- This group, unanimously renamed TRAINET Steering Committee, takes also in charge the full harmonisation of the interfaces between IEC and UIC standards.

- TRAINET met on 19th November 2014 in Berlin, in parallel to the IEC TC9 plenary meeting.

- The common UIC-IEC work plan includes other topics; harmonisation of overhead contact lines interfaces will start in 2015.
Cooperation Agreement with ISO

- Based on the IEC experience and strategy, on September 2014 UIC wrote to ISO to:
  - propose definition of concrete actions of collaboration between ISO and UIC around a structured programme
  - consider the possible signature of a draft cooperation agreement completely similar to the IEC one;
  - In order to be as much as possible proactive, UIC has followed several meetings with ISO high representatives, hoping to agree upon the cooperation within this year.
UIC claims to be an Unification Body of Railway Operating Rules

> Currently no Standardisation Organisation that releases unified Railway Operating Rules exists at world level although they are essential for everyday operations.

> A strong set of unified Railway Operating Rules, their organisation and their application are however the conditions to design the next generation of railway transport.

> The Railway Operating Rules contain the harmonised rules of railway operations. These standards are grouped in families and allow an interoperable exploitation of the railway system. The objective is to define the human operations connected to the railway system while specifying common interfaces to it.

> A number of Railway Operating Rules have to be written as legal standards and it will not be done via the mere rearrangement of UIC leaflets into IRSs, but a strong technical basis already exists within UIC’s assets.
Thank you for your kind attention

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