



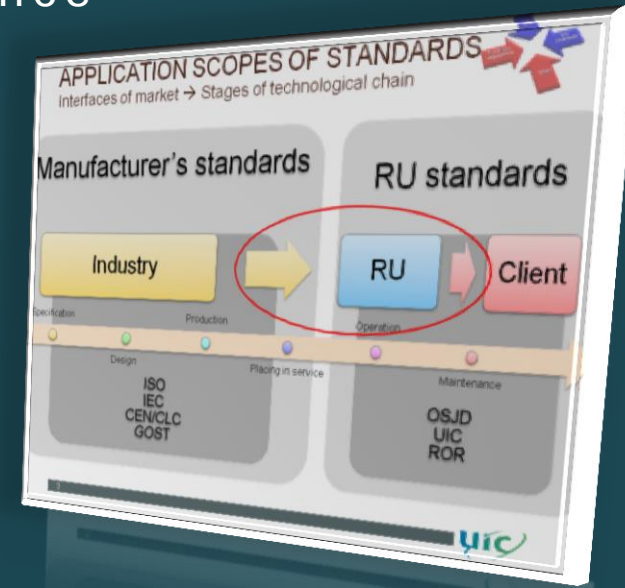
INTERNATIONAL UNION
OF RAILWAYS

unity, solidarity, universality

TOWARDS ENHANCED INTEROPERABILITY

International experience

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Coordinator for
Standardisation and East/West Relations
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TOWARDS ENHANCED INTEROPERABILITY

The content



Overview of UIC ASIA-PACIFIC:
UIC conceptual documents for regions



Pilot projects on Interoperability:
EU-10, EU-FS-1520, ERA-OSJD, 1520-Component → UIC-SP



Compatibility of Rail Administrative & Technical Regulations:
International Experience (Harmonisation)



Development of International Railway Standards (IRS):
UIC Standardisation Platform (SP)

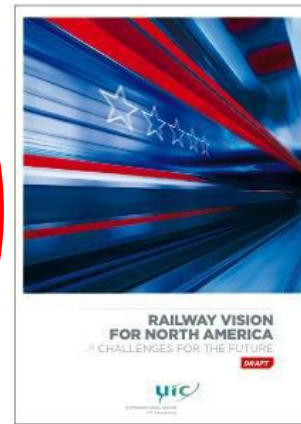
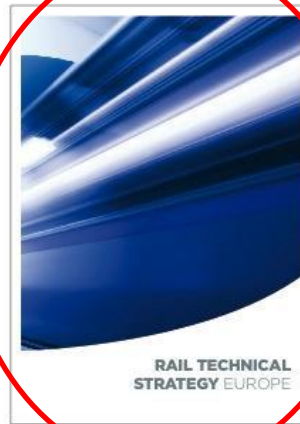
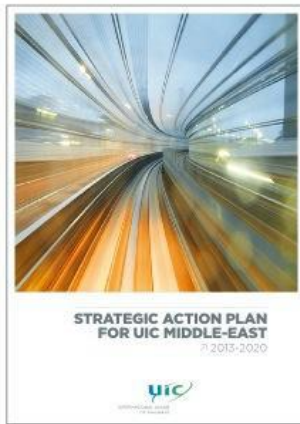
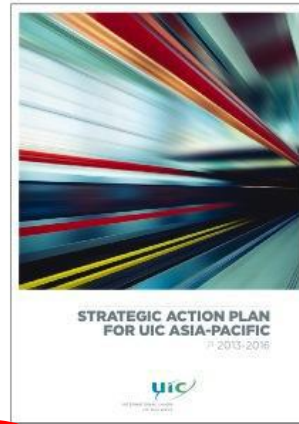
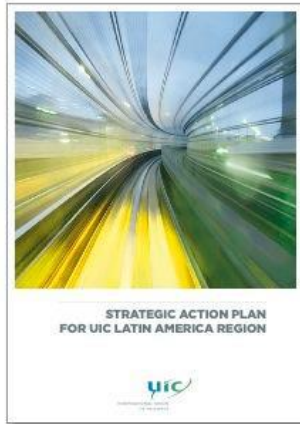


Project for CAREC:
Interoperability of Regional Standards within Corridors

OVERVIEW OF UIC ASIA-PACIFIC

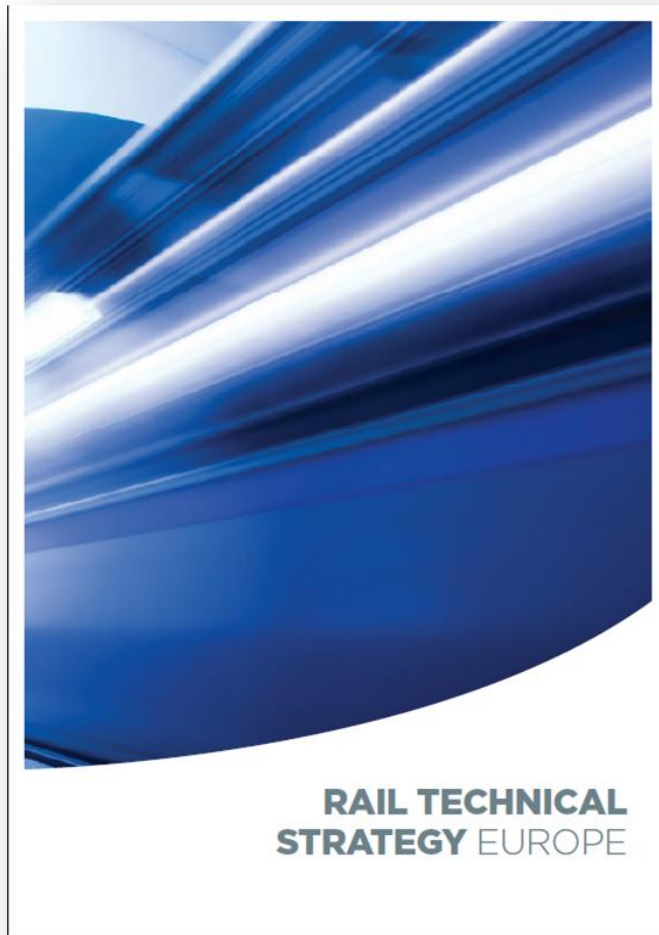
Global Vision for Railway Development (GVRD)

The GVRD based on UIC Regional documents, such as



RAIL TECHNICAL STRATEGY EUROPE

Interoperability – UIC



To attract more passenger & freight customers

consistently satisfy their requirements,

more innovative & cost-effective ways need to be found to increase capacity,

improve performance at a system level and

remove barriers to RAILWAY INTEROPERABILITY

RAIL TECHNICAL STRATEGY EUROPE

Interoperability – UIC



RTSE comprises the following key elements:

Control Command and Communication (CCC)

Infrastructure

Rolling Stock

Energy Supply and Consumption

Information Management

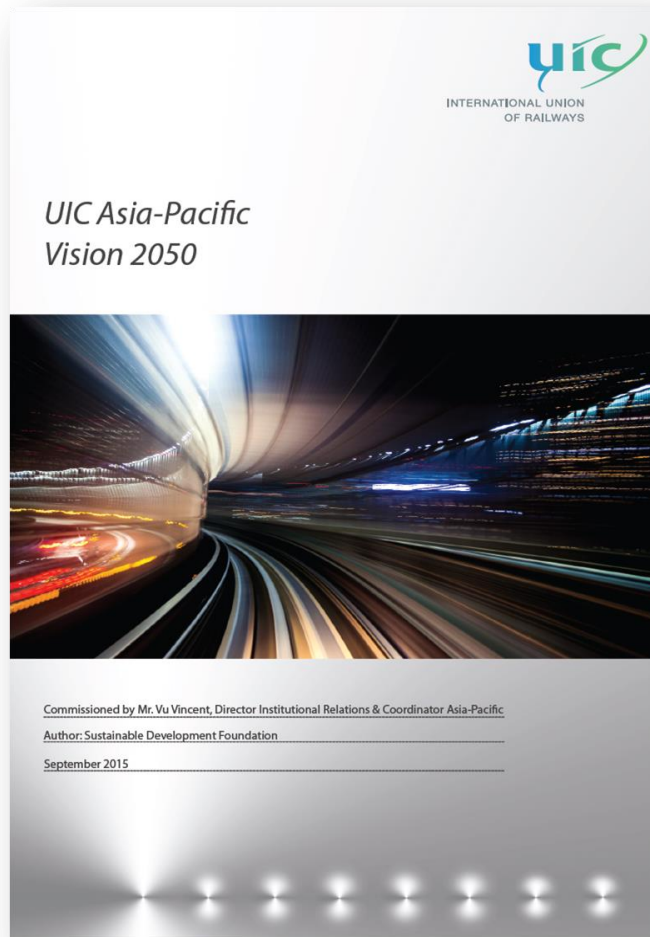
Railway People

Security

Safety

UIC ASIA-PACIFIC

Interoperability – UIC vision for 2050; **Corridors**



Corridors defined by Initiatives & Projects within the Region

UNESCAP – 4

- Operationalisation of international intermodal transport corridors in North-East and Central Asia

UNECE & UNESCAP – 9

- EATL – The Euro-Asian Transport Links

EU – 1

- TRACECA; 14 Asian States; optimal integration of Europe-Caucasus-Asia into TENS

CAREC – 6

- 107 CAREC-related transport projects

OSJD & CCTT – 1

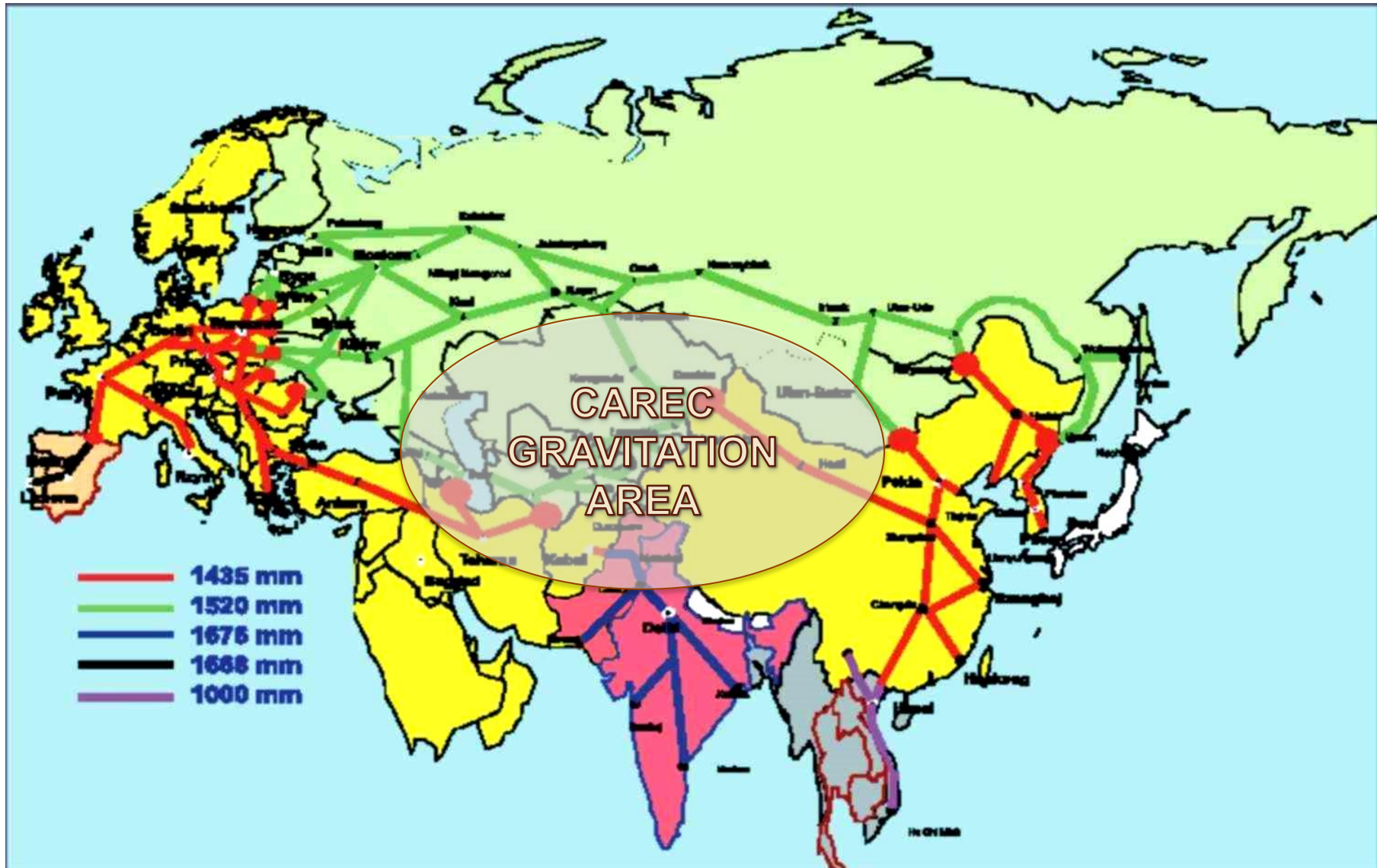
- TransSib Railway

GMRA – 1

- Great Mekong SubRegion Program

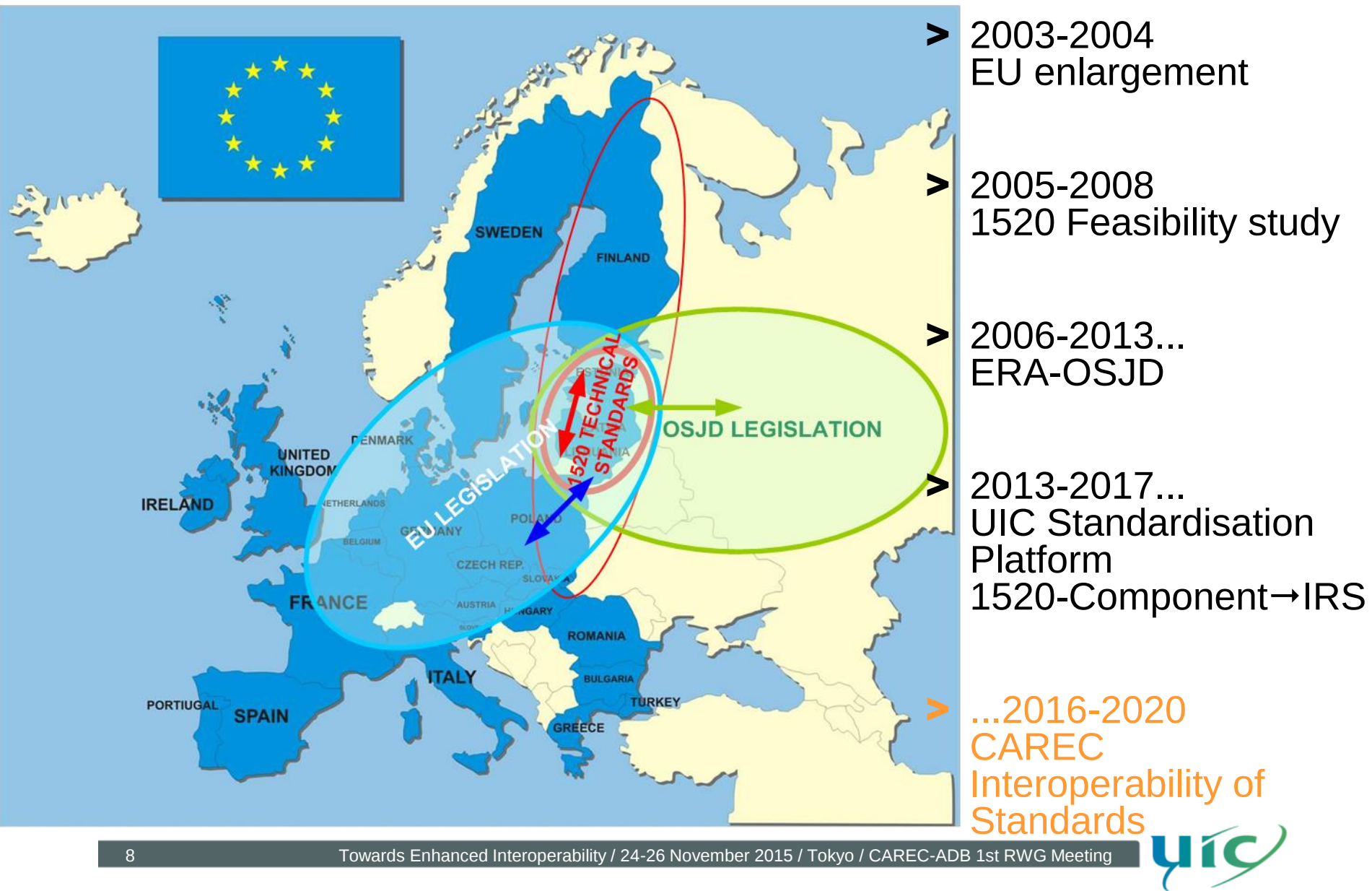
EURASIAN RAILWAY NETWORK

CAREC Gravitation Area



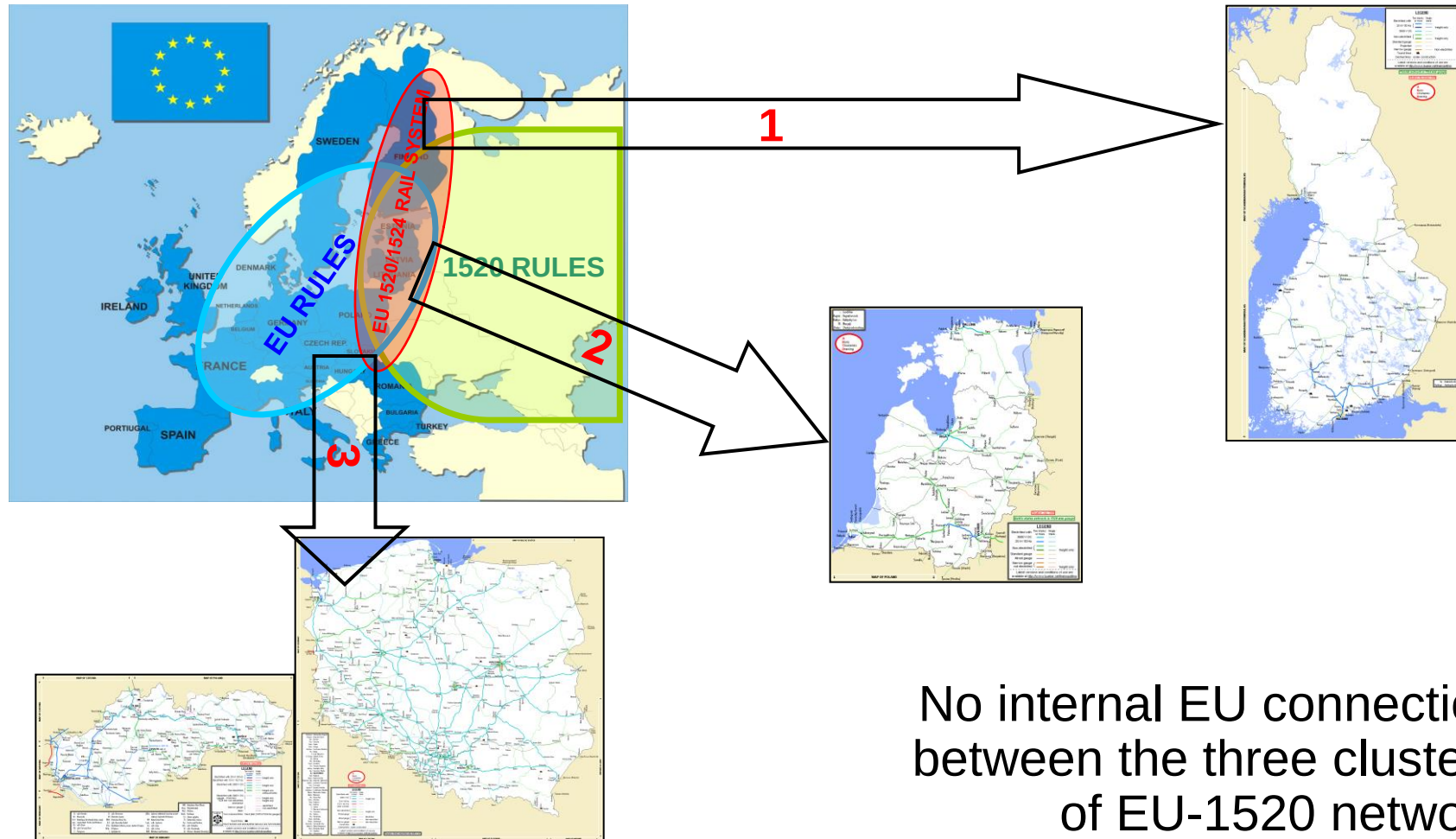
PILOT PROJECTS ON INTEROPERABILITY

1520-1435



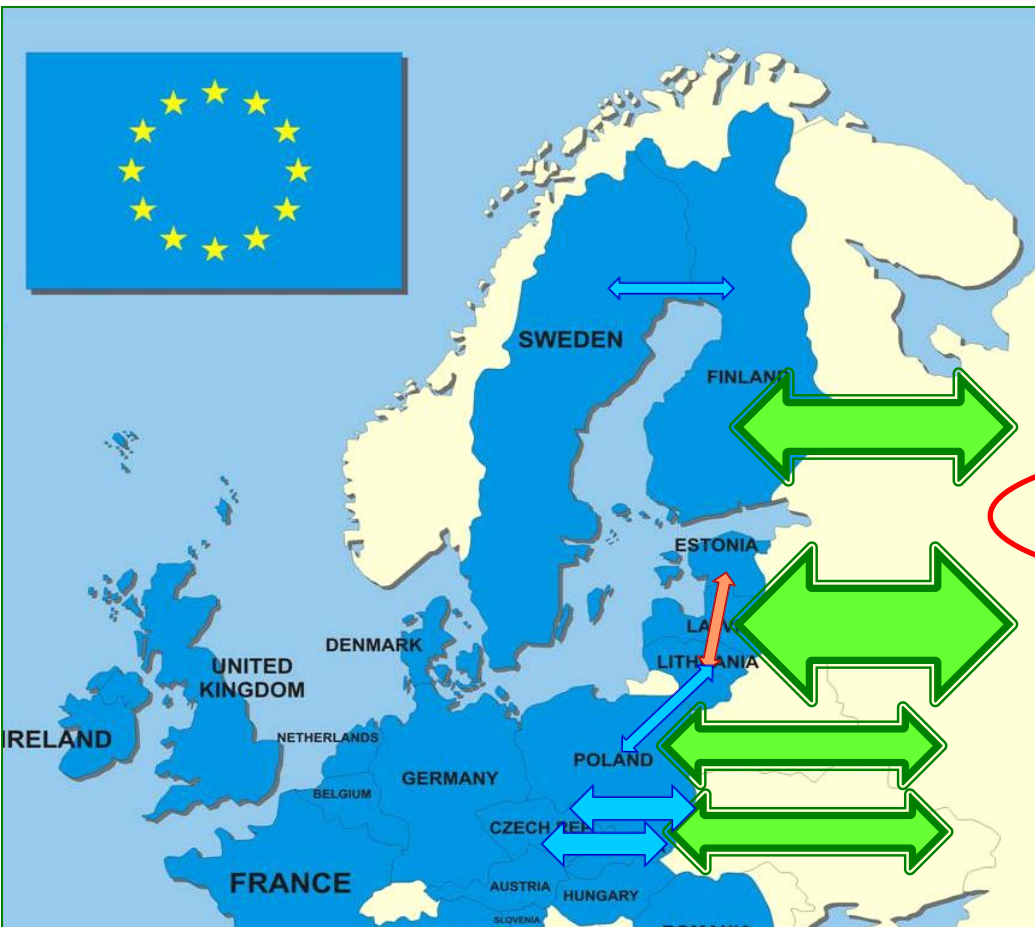
PILOT PROJECTS ON INTEROPERABILITY

1520-1435; Conclusions; Clusters of EU-1520 network



PILOT PROJECTS ON INTEROPERABILITY

1520-1435; Conclusions; Traffic flows



1) EU-1520 ↔ EU-1520

2) EU-1520 ↔ EU-1435

3) EU-1520 ↔ non-EU-1520

4) non-EU-1520 ↔ non-EU-1520
(transit to Kaliningrad)

■ Improving “2” may be conflicting with “3” & “4”

PILOT PROJECTS ON INTEROPERABILITY

1520-1435; Our Experience & Know-How

7 documents:

Analysis of parameters on subsystems

Infrastructure

Energy

CCS

Locomotives

Passenger rolling stock

Freight wagons

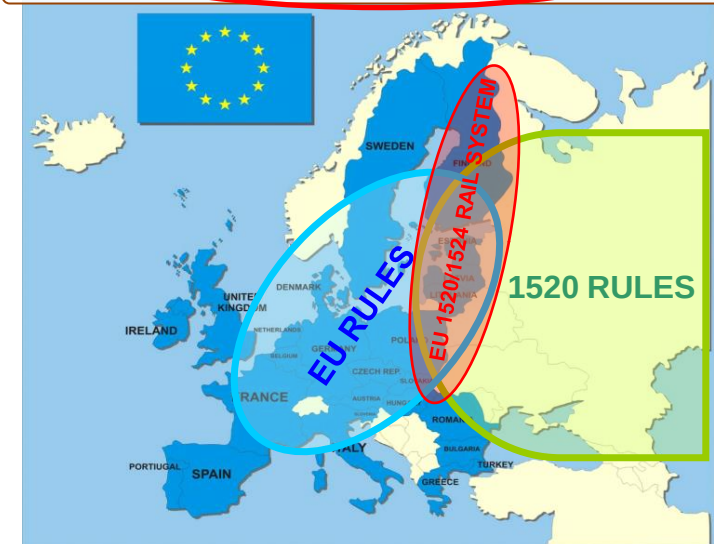
Operation

2 documents:

Analysis of measures for preserving & improving interoperability on EU/CIS border

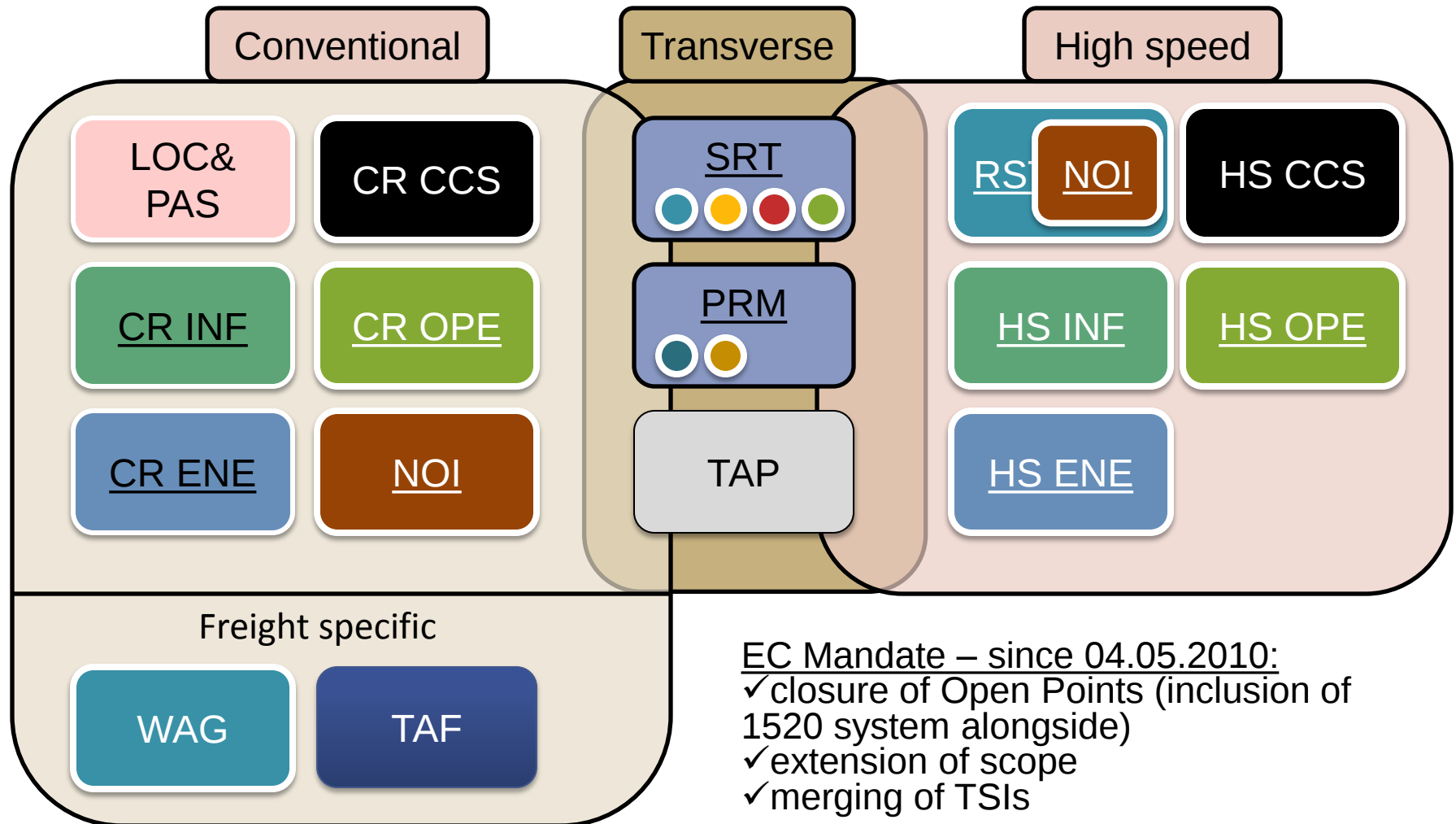
Border 1435/1520

Border 1520/1520



PILOT PROJECTS ON INTEROPERABILITY

1520-1435; Our Experience & Know-How in use



EC Mandate – since 04.05.2010:

- ✓ closure of Open Points (inclusion of 1520 system alongside)
- ✓ extension of scope
- ✓ merging of TSIs

HARMONIZATION – TODAY

1520-Component for UIC Standardisation Platform



INTERNATIONAL UNION
OF RAILWAYS

unity, solidarity, universality

82nd GENERAL ASSEMBLY

PARIS – 27 JUNE 2013

Document 3cExB-GA

STANDARDISATION

DEVELOPMENT OF 1520-COMPONENT FOR UIC STANDARDISATION
PLATFORM

82nd General Assembly – Paris – 27 June 2013 – 3cExB-GA



THE LONG TERM VISION ("Project/Process" below in text)

Contents

1. Project phases / Process stages:
2. Project/Process participants, their interests, objectives:
3. Terminology and treatment:
4. Geographical scope of 1520-CU-CIS Technical Regulations:
5. Why UIC Standardisation Platform (UIC-SP)?
6. UIC Standardisation Platform – CU-CIS/OSJD and EU:
7. Scenarios of harmonisation of IRS-1435 and IRS-1520:
8. International calls for tenders – application of 1520-IRS:
9. Auspicious moment to launch the Project:
10. Establishment of CU – the new balance:
11. Technical remarks to Project implementation:
12. Conclusive remarks: Why? What? Who? When? How?

82nd General Assembly – Paris – 27 June 2013 – 3cExB-GA



recognised by both 1520 and 1435 communities as an acceptable project
manager with given level of credence.

12. Conclusive remarks: Why? What? Who? When? How?

- 12.1. **WHY it has to be done?** Because (1) despite unquestionably large-scale of whole 1520 railway system, nonetheless, there is a need of 1520 railway system to be recognised on the international level as the equal right system having its own Standards/Norms as it has happened at EU level due to the result of OSJD-ERA collaboration and (2) a misbalance has to be eliminated when 1435 interoperability requirements happen to be integrated into international platforms but the 1520 ones not yet.
- 12.2. **WHAT has to be done?** Integration of 1520-CU-CIS Technical Regulations into IRS and elaboration of 1520-IRS. Separation between 1435-IRS and 1520-IRS at first will make it clearer for both 1520 and 1435 representatives and therefore may cause EU support to produce such a juristically transparent tool to access to 1520 market.
- 12.3. **WHO has to do it?** The UIC-SP as for the time being the platform of 1520 and 1435 ROCs which Members commit to any activities linked to development, maintenance and further synchronisation of IRS.
- 12.4. **WHEN it has to be done?** Since 2014 – at the best option, development of 1520-IRS has to be synchronised with putting in force and further development of 1520-CU-CIS Technical Regulations.
- 12.5. **HOW it has to be done?** In noncontroversial way while involving of all relevant parties: 1520 and 1435 communities, OSJD as well as representative structures of CU, CIS and EU where necessary. It is preferably to capture "governing body" position since very beginning of the Project within railway community opinion. That position has to be supported by an exclusive agreement with 1520 system validated by its top management (decision-makers).



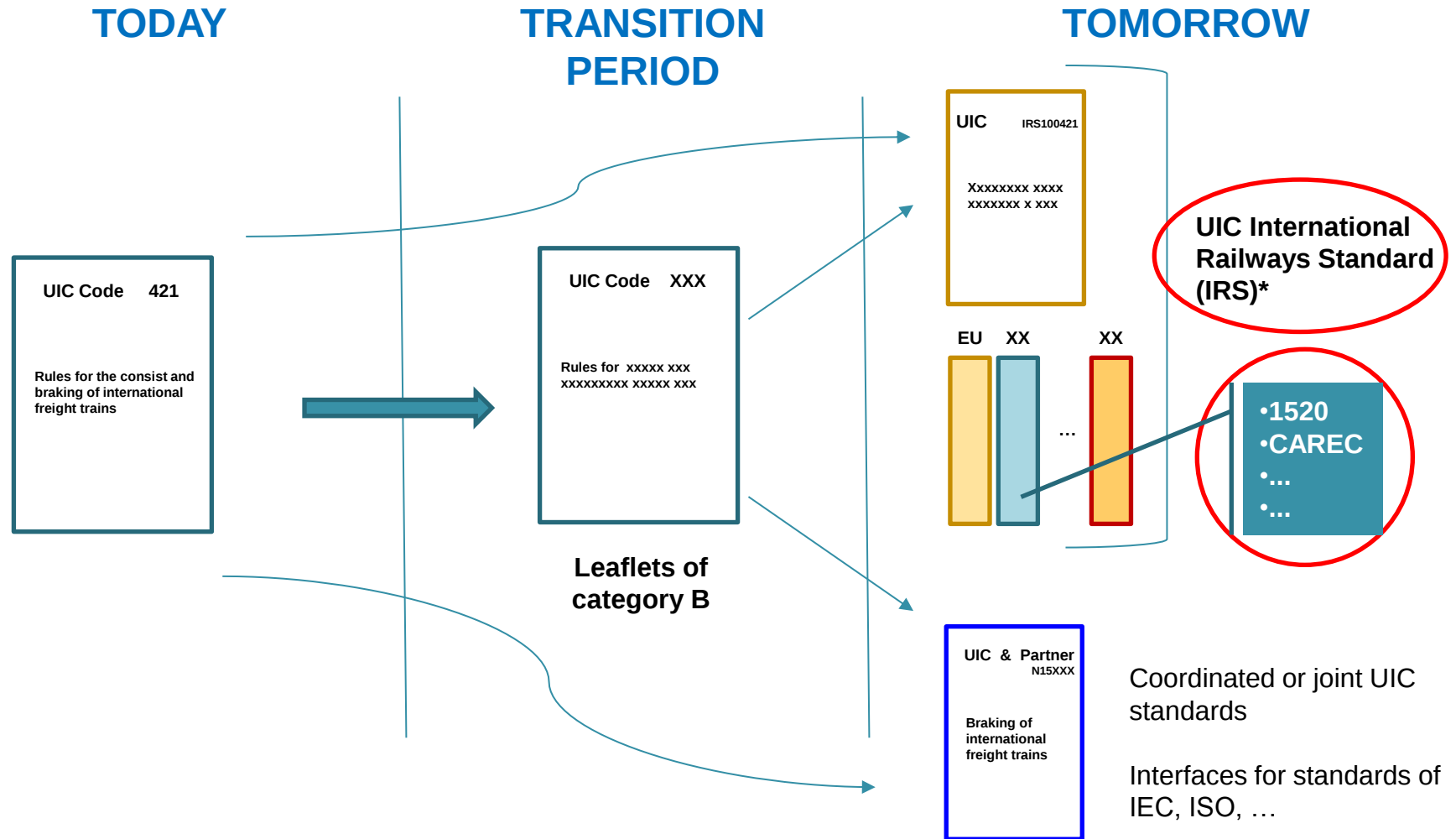
HARMONIZATION – WHY?

1520-Component for UIC Standardisation Platform

	EAEU (1520)	UIC	EU
Interest	Reflection	Distribution	Expertise
Target	Status	Integration	Synchro
Advantage	Competition	Intensification	Facilitation

STANDARDIZATION PLATFORM

UIC Leaflets evolution into IRS (International Railway Standards)

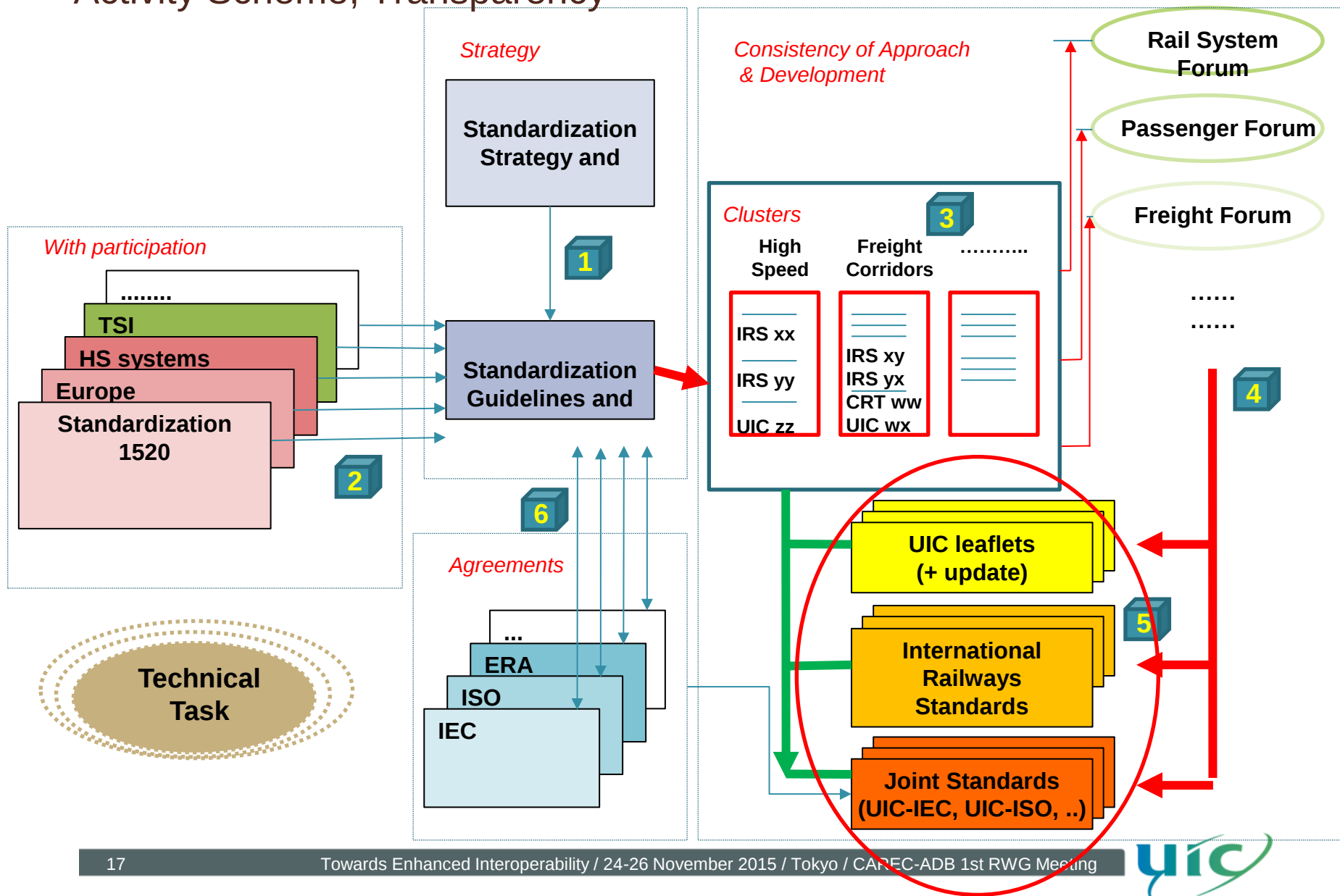


IRS evolution



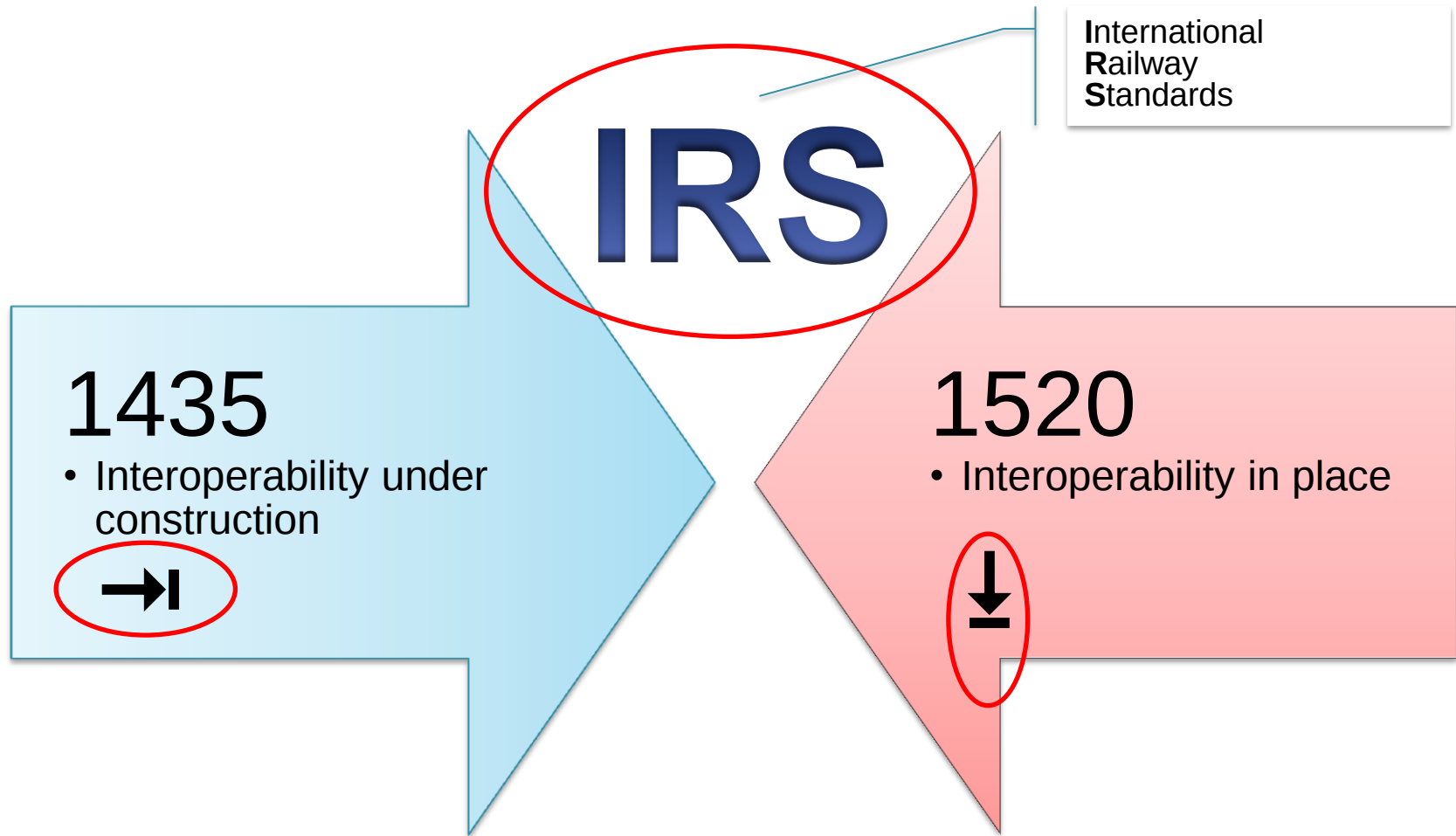
STANDARDIZATION PLATFORM

Activity Scheme; Transparency



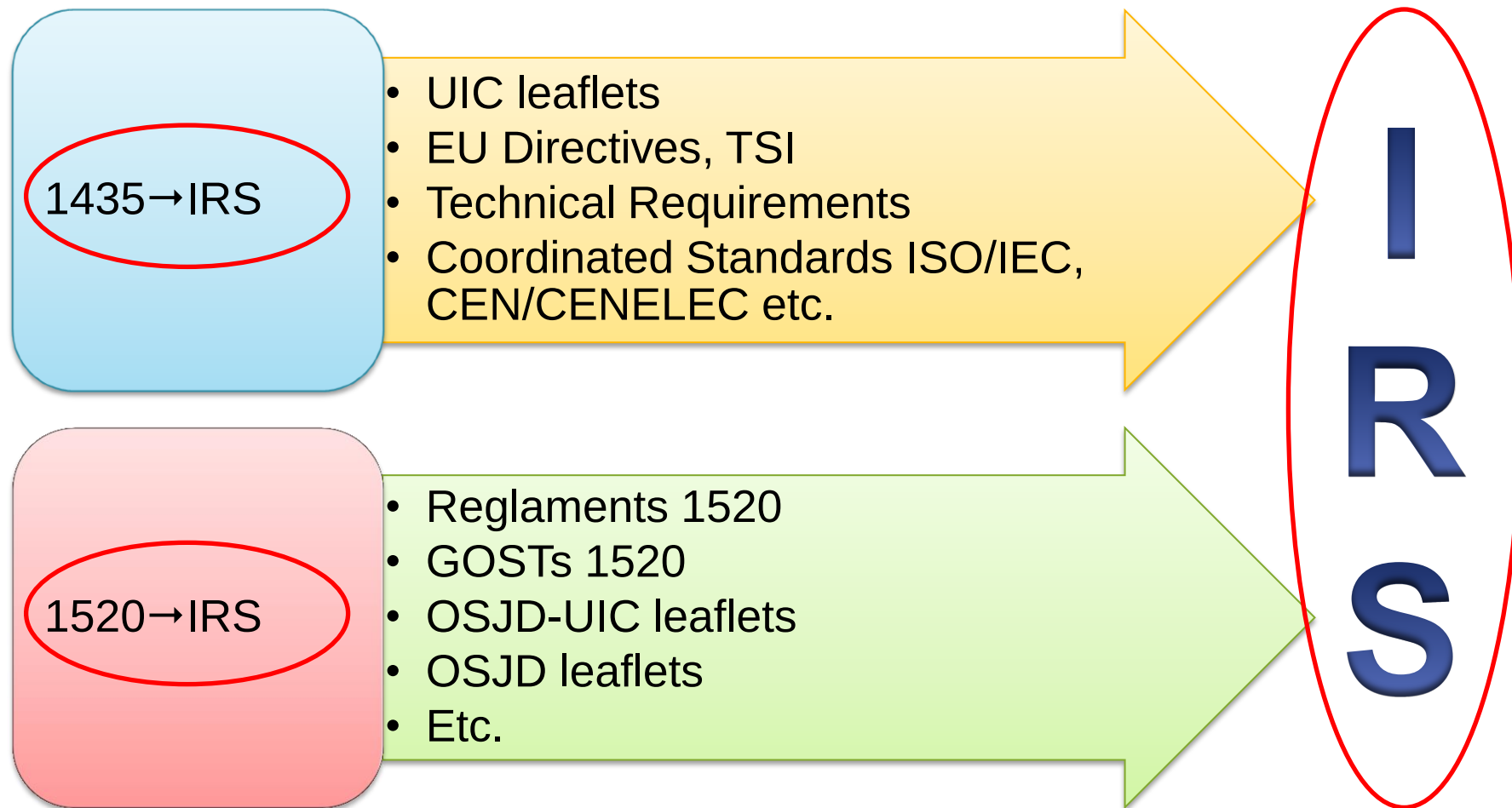
HARMONIZATION – YESTERDAY

Directions



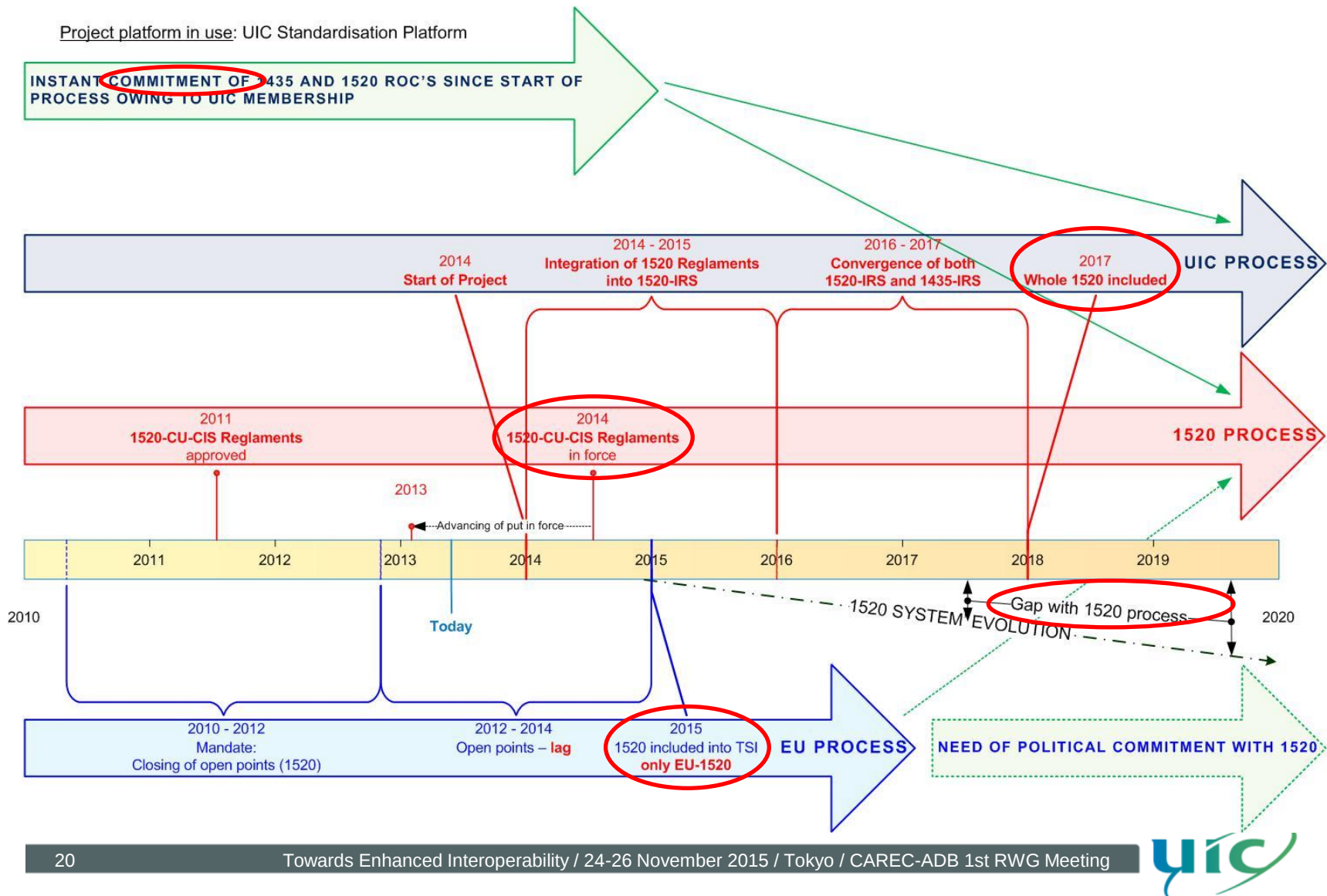
HARMONIZATION – TODAY

Sources



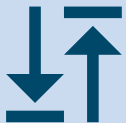
HARMONIZATION – TOMORROW

Long-term perspective



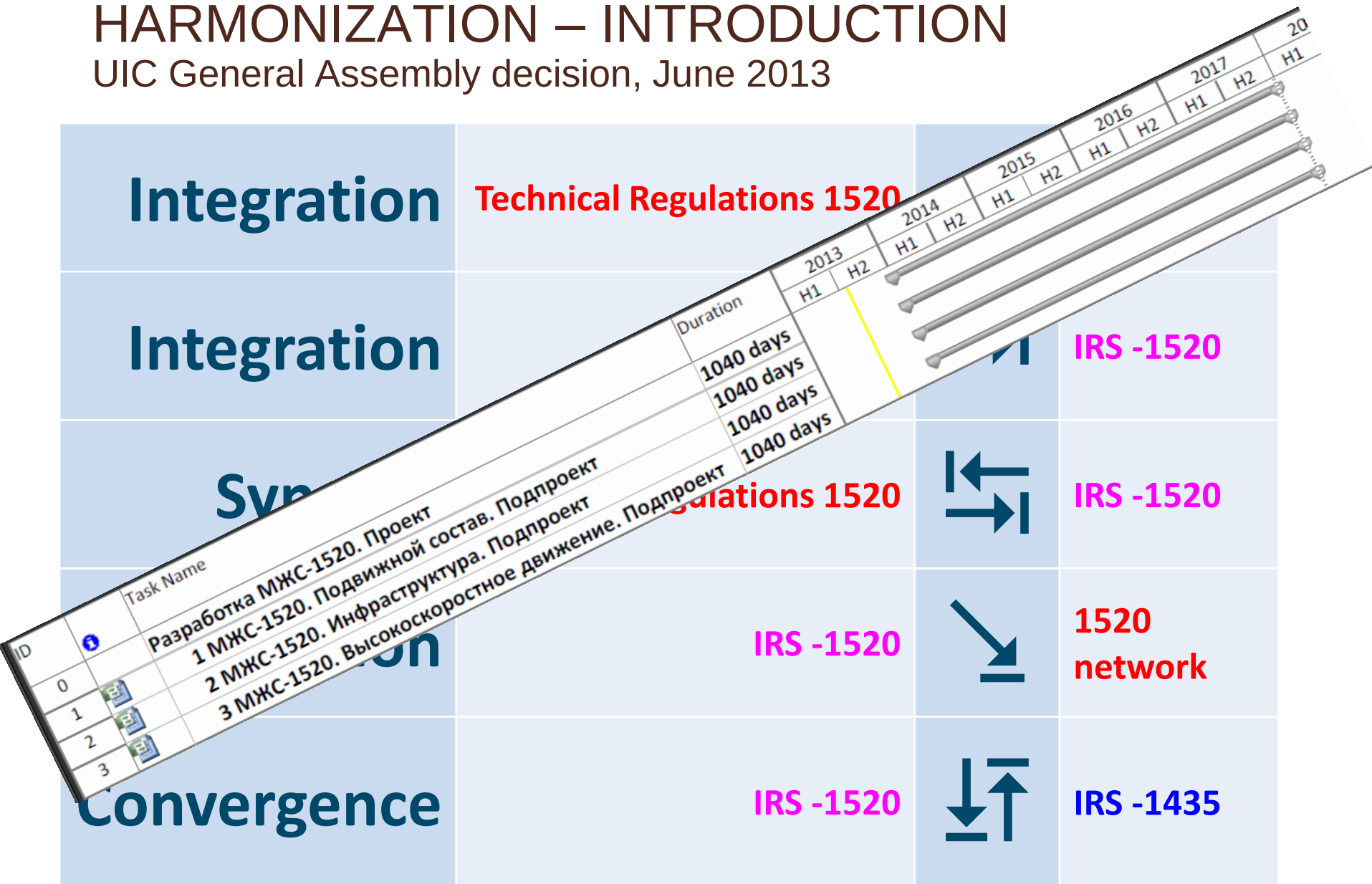
HARMONIZATION – WHAT IS NEXT?

Short-term Perspective

Integration	1520 Technical Reglaments		IRS -1520
Integration	1520 Standards		IRS -1520
Synchro	1520 Technical Reglaments		IRS -1520
Adoption	IRS -1520		1520 network
Convergence	IRS -1520		IRS -1435

HARMONIZATION – INTRODUCTION

UIC General Assembly decision, June 2013

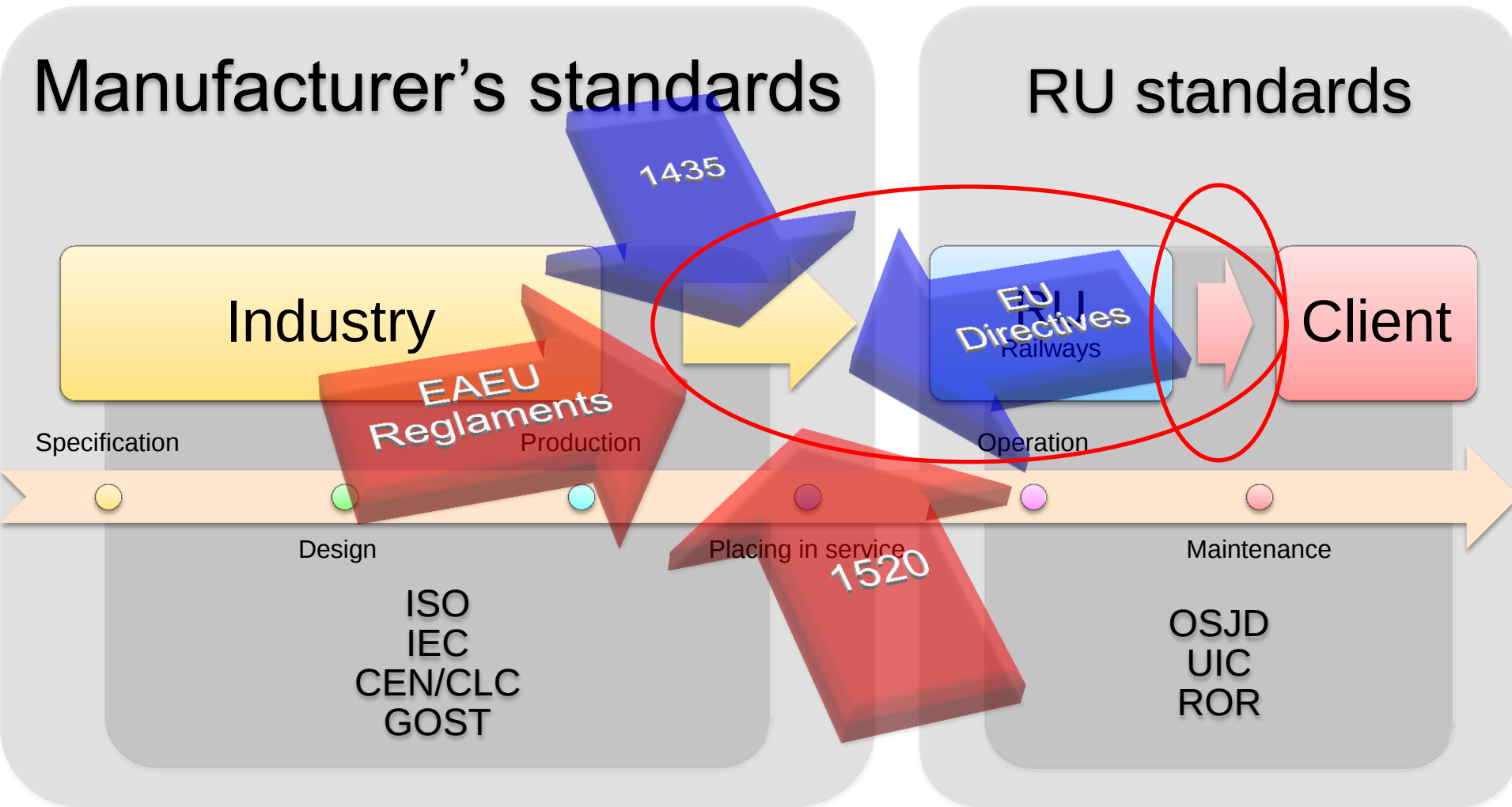


APPLICATION SCOPES OF STANDARDS

Interfaces of market → Stages of technological chain

Manufacturer's standards

RU standards



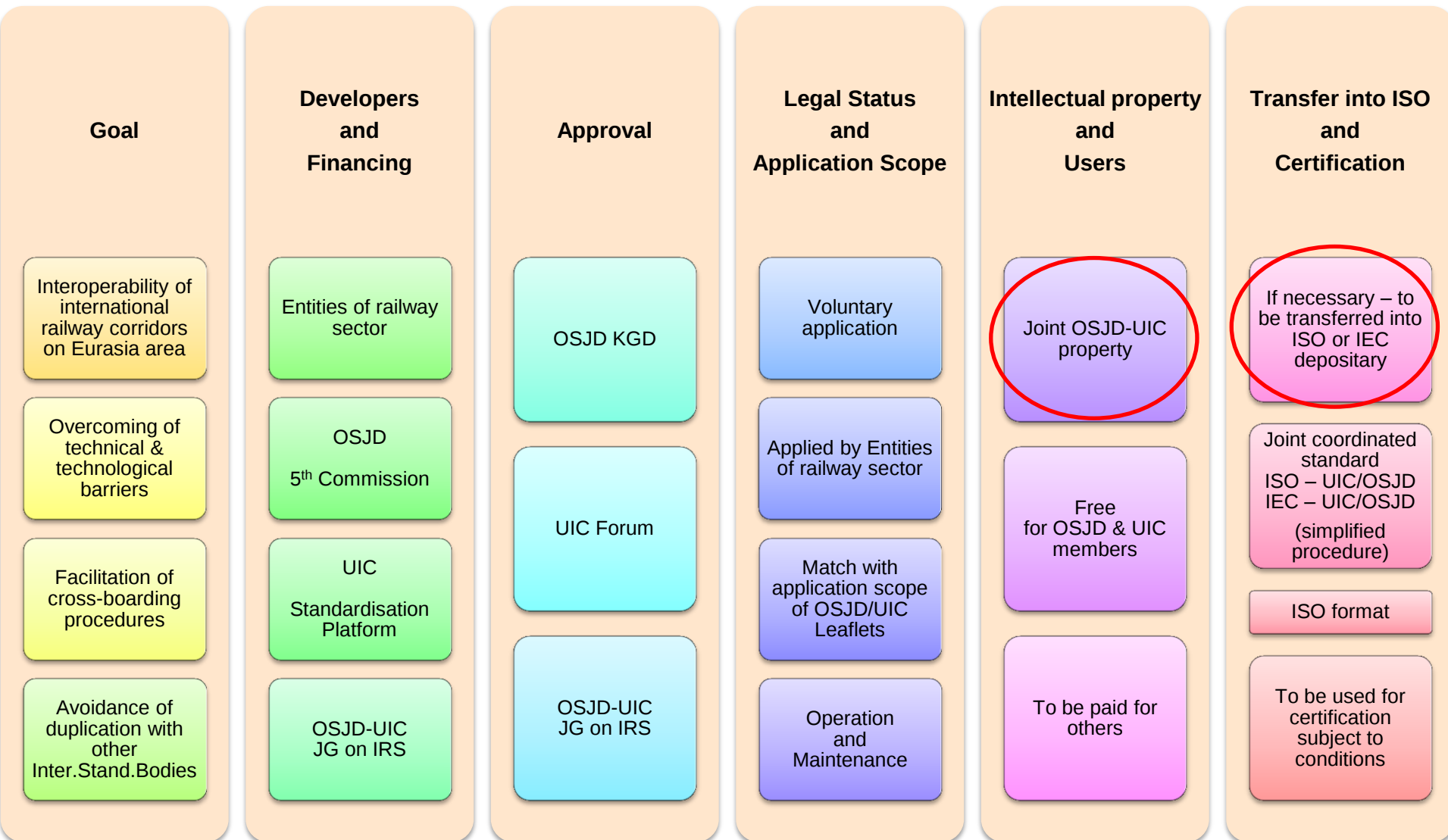
UIC STANDARDISATION PLATFORM

Updating of Common UIC-OSJD Leaflets

OSShD-Merkblatt	OSShD-Nr.	Genehmigt am	UIC-Merkblatt	UIC-Nr.	Ausgabe vom	Kommentar
Vorschriften für den Austausch und die Benutzung von Güterwagen der neuen Generation im Verkehr zwischen den EVU der Spurweite 1435 mm und 1520 mm	V-402 1. Ausg.	26/04/2002	Vorschriften für den Austausch und die Benutzung von Güterwagen der neuen Generation im Verkehr zwischen den EVU der Spurweite 1435 mm und 1520 mm	430-5 1. Ausg.	Februar 2003	Selber Titel
Allgemeine Regeln für Fahrzeugbegrenzungslinien im interoperablen (umlade/umsteigefreien) grenzüberschreitenden Verkehr zwischen de UIC- und OSShD-EVU	V-500 1. Ausg.	28/04/2006 ergänzt: 24/04/2009 23/04/2010	Allgemeine Regeln für Fahrzeugbegrenzungslinien im interoperablen (umlade-/umsteigefreien) grenzüberschreitenden Verkehr zwischen den UIC- und OSShD-EVU	505-6 2. Ausg.	August 2010	Neue UIC-Ausgabe wird genehmigt Selber Titel
Lösung zu den grundlegenden Bedingungen für die Anwendbarkeit von Güterwagen Typ B bei der Beförderung mit der Fähre	V-502 1. Ausg.	19/08/1967 ergänzt: 20/07/1980	Beförderung von Außergewöhnlichen Sendungen im internationalen Verkehr zwischen Eisenbahnen der Spurweite 1435 mm und 1520 mm	502-3 Projekt	Neues Projekt wird genehmigt	<i>Ist das wirklich dasselbe Dokument?</i>
Güterwagen im Verkehr zwischen den EVU der Spurweite 1435 mm und 1520 mm. Technische Vorschriften und Bedingungen für die Zulassung der Wagen	V+E-516 1. Ausg.	01/01/1999	Güterwagen. Verkehr zwischen Bahnen der Spurweite 1435 mm und Bahnen der Spurweite 1520 mm. Technische Vorschriften und Zulassungsbedingungen	430-4 1. Ausg.	August 2002	Similäres Titel
Reisezugwagen im Verkehr zwischen den EVU der Spurweite 1435 mm und 1520 mm. Technische Vorschriften und allgemeine technische Bedingungen	V+E 520 1. Ausg.	29/04/2005	Allgemeine Regeln für Fahrzeugbegrenzungslinien im interoperablen (umlade-/umsteigefreien) grenzüberschreitenden Verkehr zwischen den UIC- und OSShD-EVU	505-6 2. Ausg.	August 2010	Neue UIC-Ausgabe wird genehmigt <i>2 verschiedene OSShD für ein einziges UIC-MB?</i>
Technische Bedingungen, denen die selbsttätige Kupplung der Mitgliedsbahnen der UIC und der OSShD entsprechen muss	V-522/1 5. Ausg.	23/04/2010	Technische Bedingungen, denen die selbsttätige Kupplung der Mitgliedsbahnen der UIC und der OSShD entsprechen muss	522 4. Ausg.	Januar 1990	Selber Titel
Reisezugwagen - Allgemeine Anforderungen für Laufwerke mit Spurwechselradsätzen für die Eisenbahnen der Spurweiten 1 435 mm und 1 520 mm	V+E 524 2. Ausg.	24/04/2009	Reisezugwagen - Allgemeine Anforderungen für Laufwerke mit Spurwechselradsätzen für die Eisenbahnen der Spurweiten 1 435 mm und 1 520 mm	508-3 1. Ausg.	Januar 2010	Selber Titel

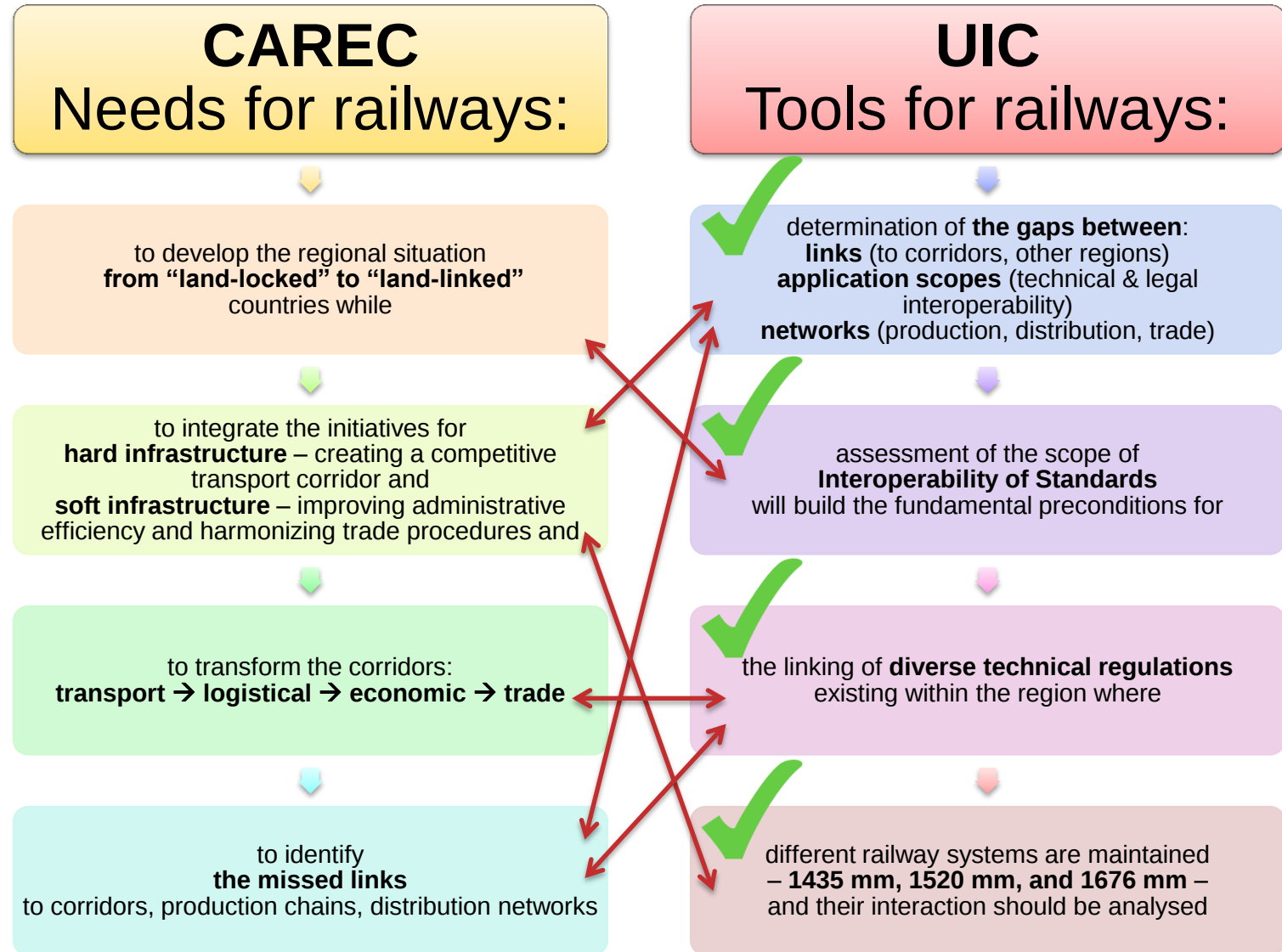
IRS DEVELOPMENT

OSJD-UIC JG on IRS development (OSJD KGD; 2015 April, Prague)



CAREC (BASIC CONCEPTS) ↔ UIC (SP)

UIC Project for CAREC: Interoperability of Regional Standards within Corridors



INTEROPERABILITY OF STANDARDS

Project: 1) Looking for initial balance of conditions

OSJD (8) –

Azerbaijan, China, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan, Turkmenistan and Uzbekistan.

UIC (6) –

Mongolia, China, Kazakhstan, Georgia, Armenia and Azerbaijan

+ 1 associated Member Middle East – Afghanistan.

Constructive coordination, implementation complementarities and sharing of experience

Complex conditions prevent the promotion of IRS for its regional application.

Railways of every region participate in numerous regional cooperation agreements & institutions.

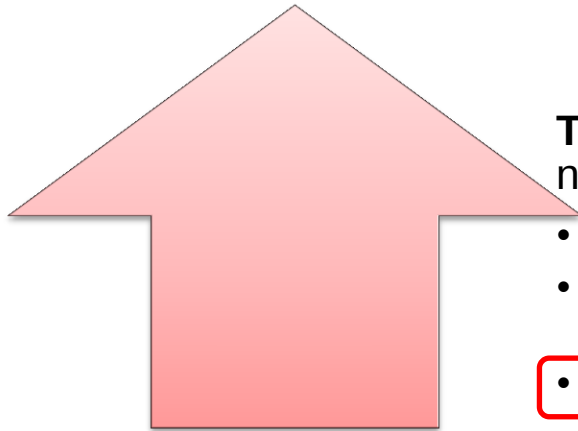
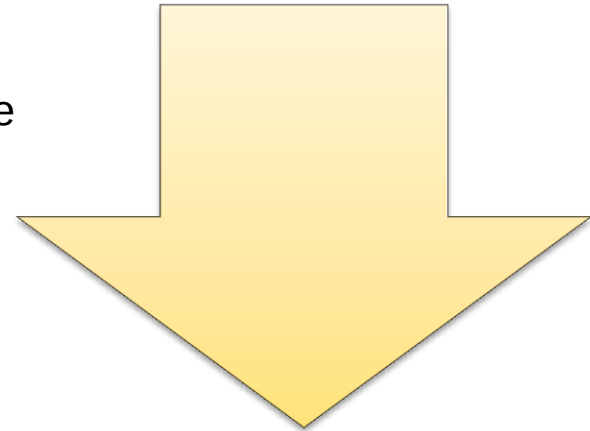
OSJD countries act in the scope of technical prescriptions or regulations developed by OSJD itself or in cooperation with UIC, OTIF, Custom Union (EAEU), and CIS (Commonwealth of Independent States).

INTEROPERABILITY OF STANDARDS

Project: 2) What needs to be done? Risks if not done?

The outcome of the project will be:

- the **UIC Guidelines** which summarise the constructive **coordination with regional groupings**.
- Such Guidelines will facilitate **implementation of IRS** in most efficient way and **in coordination with national laws**.



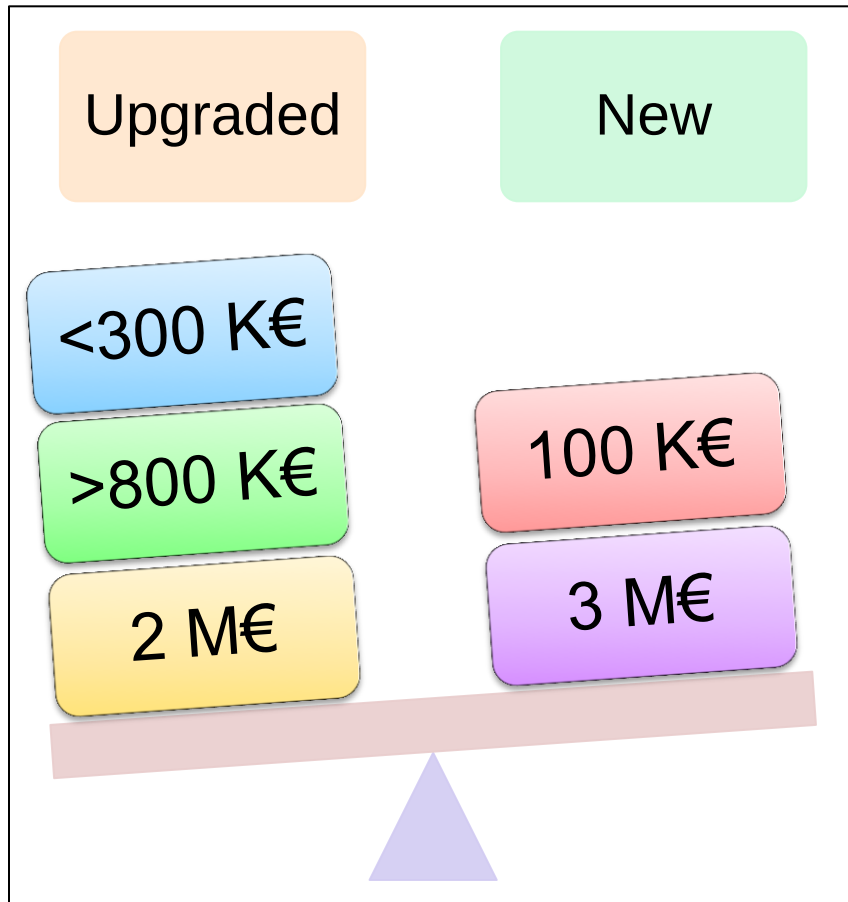
The lack of the Interoperability of Standards in national and regional application brings the **obstacles**:

- for the **efficient operation** of railways,
- development of **freight/trade/economic corridors** and border crossing **procedures**.
- It causes **non-detectability of missing links**.

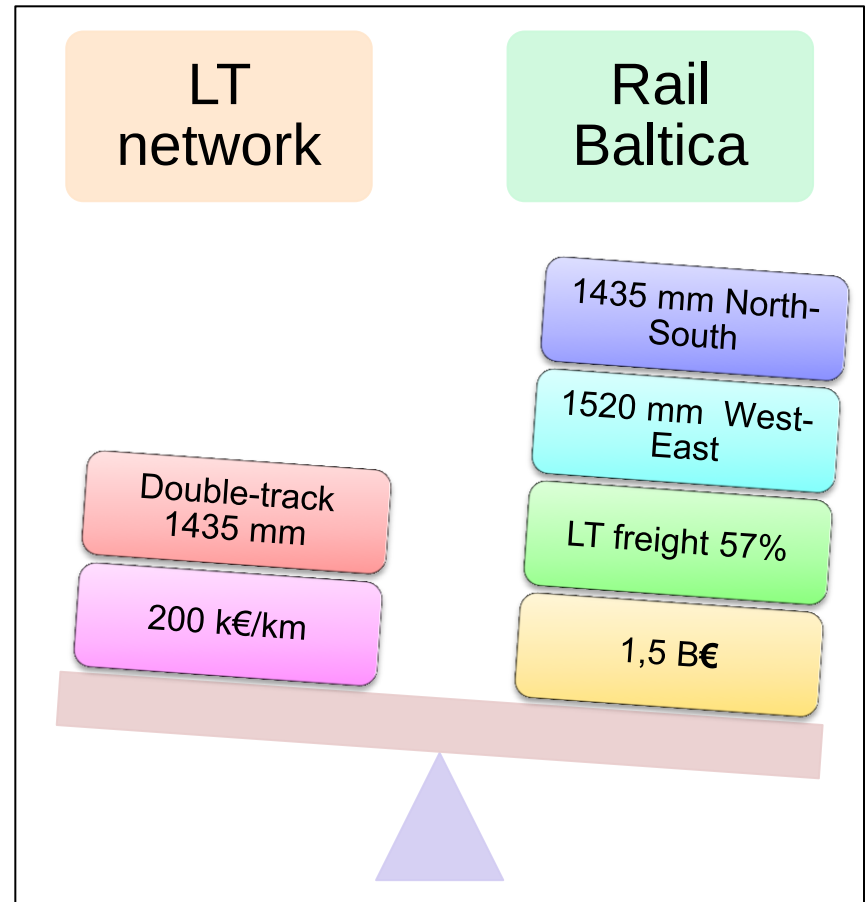
INTEROPERABILITY OF STANDARDS

Project: 3) Cost-benefit assessment (examples)

ETCS Locomotives



ETCS Infrastructure



INTEROPERABILITY OF STANDARDS

Project: 4) How will the project be executed?

The project consists of:

• 4 working packages:

1 – 12 months

• **Analysis of systems of standardisations and technical regulations** within CAREC countries

Where?

2 – 12 months

• **Assessment of interoperability necessary for standards and technical regulations** in national and regional applications

Why?

3 – 6 months

• **Development of Guidelines** which will establish the roadmap for Interoperability of Standards within the CAREC region.

What?

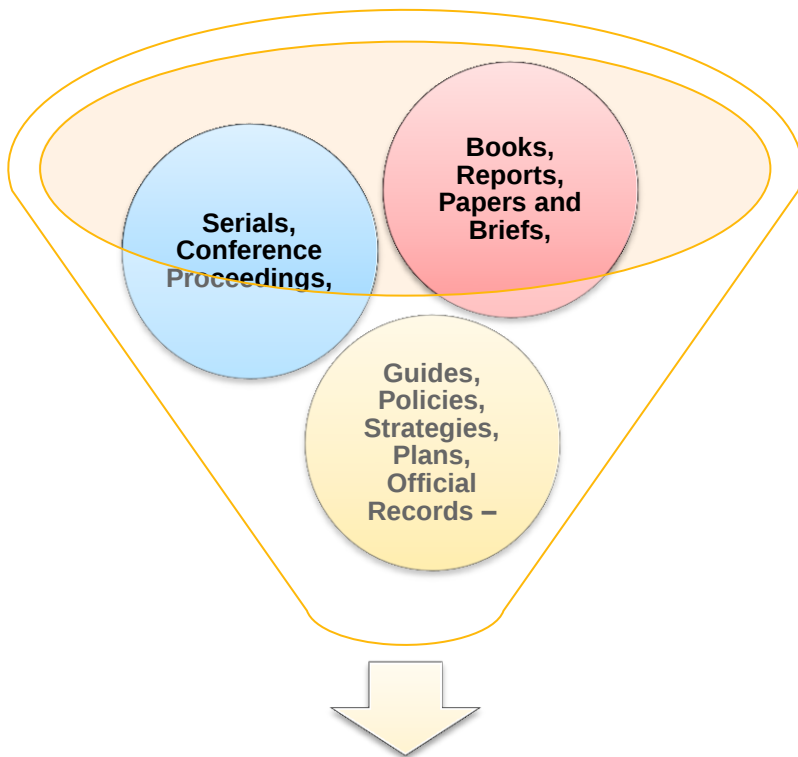
4 – 6 months

• **Elaboration of Recommendations** for standardisation activities to be proposed for implementation in the framework of CAREC Program.

How?

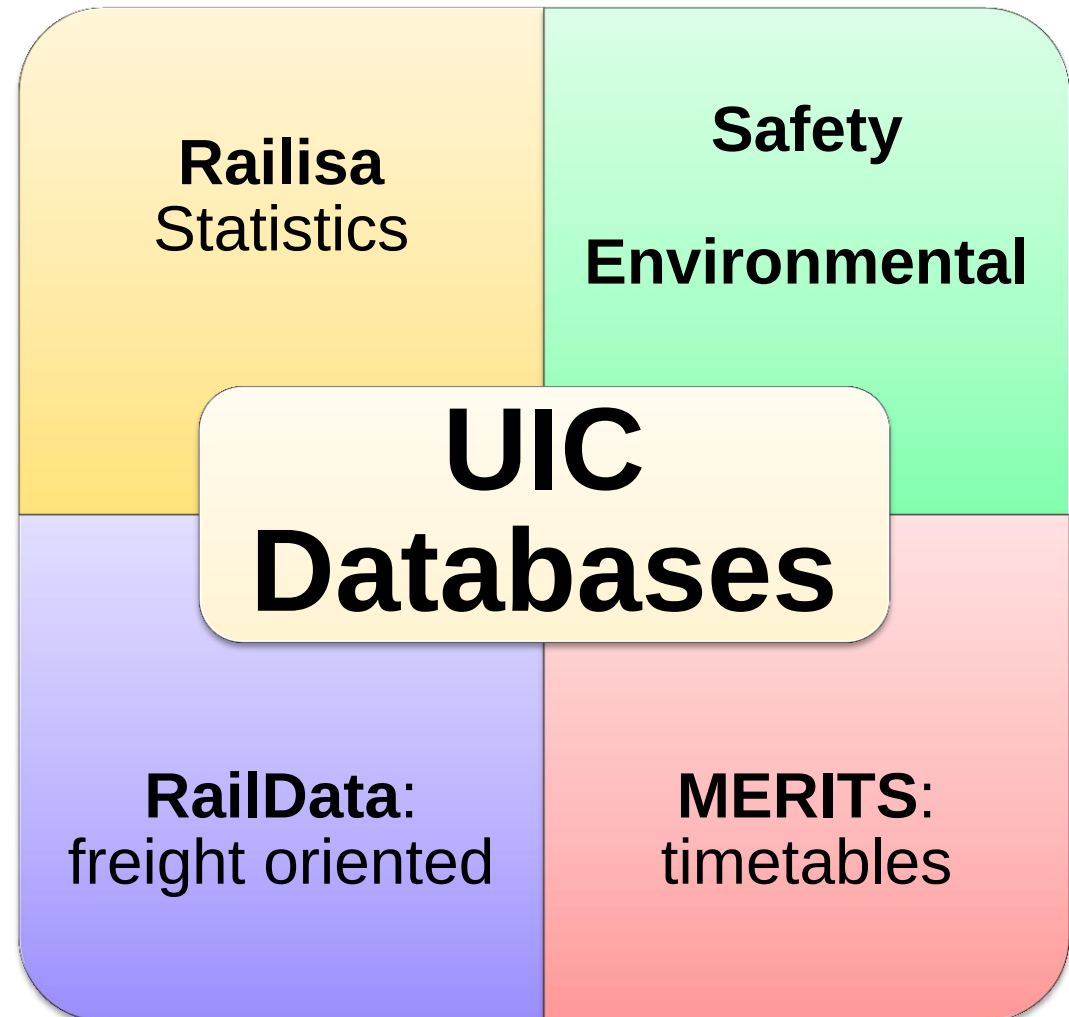
INTEROPERABILITY OF STANDARDS

Project: 5) Is the scope of database sufficient enough?



available on:

- **ADB** site
- various **UIC** databases
- number of **OSJD** registers & passports



INTEROPERABILITY OF STANDARDS

Project: 6) Reports & Guidelines & Recommendation



1 – Report (analysis) on Critical differences among standardisation and technical regulation systems within CAREC countries.



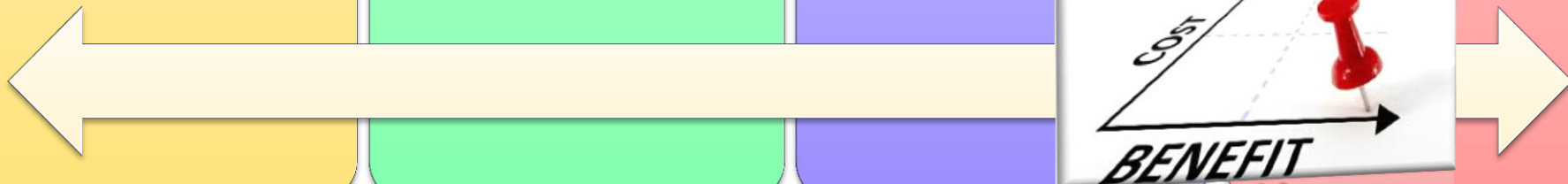
2 – Report (assessment) on Interoperability necessary for Standards and technical regulations in national and regional applications.



3 – Guidelines on the Roadmap for Interoperability of Standards within the CAREC region.

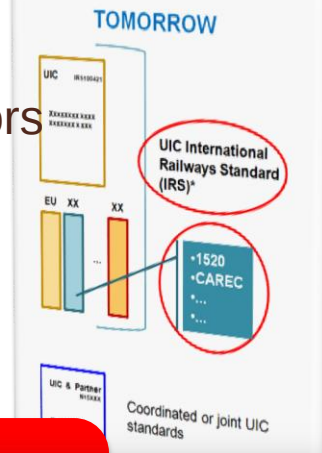


4 – Recommendations for Standardisation activities to be implemented in the framework of CAREC Program.



CAREC Global Partnership

Project: Interoperability of Regional Standards within CAREC Corridors



CAREC

UIC

APPLICATION
Interfaces of m

STANDARD
chain

INTEROPERABILITY OF STANDARDS

Project: 4) How will the project be executed?

The project consists of:

• 4 working packages:

1 – 12 months

• Analysis of systems of standards, regulations and technical regulations within CAREC corridors

2 – 12 months

• Assessment of interoperability necessary for standards and technical regulations in national and regional applications

3 – 6 months

• Development of Guidelines which will establish the roadmap for interoperability of standards within the CAREC region.

4 – 6 months

• Elaboration of Recommendations for standardisation activities to be proposed for implementation in the framework of CAREC Program.

Where?

Why?

What?

How?

Manufacture

RU s

Industry

RU
Railway

Specification

Production

Operat

Design

Placing in service

ISO
IEC
CEN/CLC
GOST