



INTERNATIONAL UNION
OF RAILWAYS

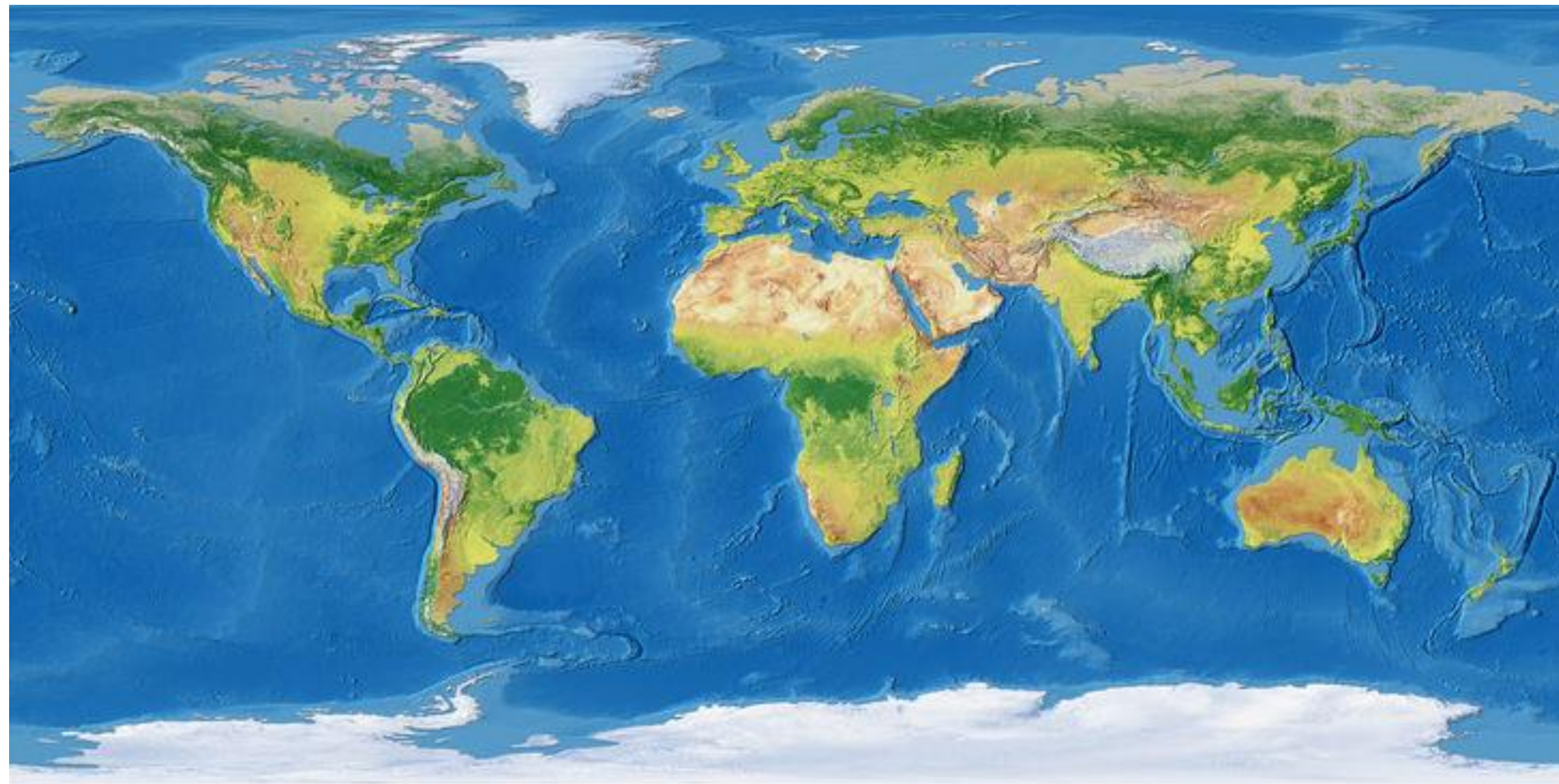
AFRICAN RAILWAY THURSDAYS

Standardisation UIC - Role and Benefits

Célia Levy , Chief Standardisation officer, UIC

1. A complex standardisation ecosystem

Overview of Railway Standardisation Organisations



unity, solidarity, universality



Standardisation...WHO is doing what ?



Institutional standardisation...

In a complex ecosystem, institutional standardisation is interfacing with:

European regulation



International treaties and conventions

Sectorial standardisation



Private industrial standards

Collaborative research



Charts and lables (environmental concerns, governance, ethical issues)

Cooperation between UIC and CEN/CENELEC/ISO/IEC

Organisations producing different types of deliverables must work together, in mutual respect and consistency for the benefit of the whole railway sector

Process-related standards

“Operator” responsible for the SYSTEM and the SERVICES



Product-related standards

“Manufacturer” responsible for the PRODUCTS



2. Standardisation... Why ?

Standardisation ...Definition

Standardization is defined as an activity of general interest, the purpose of which is to provide reference documents **drawn up in a consensual manner by all interested parties**, relating to rules, characteristics, recommendations, security, interoperability, requirements or examples of good practice, relating to products, services, methods, processes or organizations, aimed at encouraging economic development and innovation while taking into account the objectives of sustainable development.

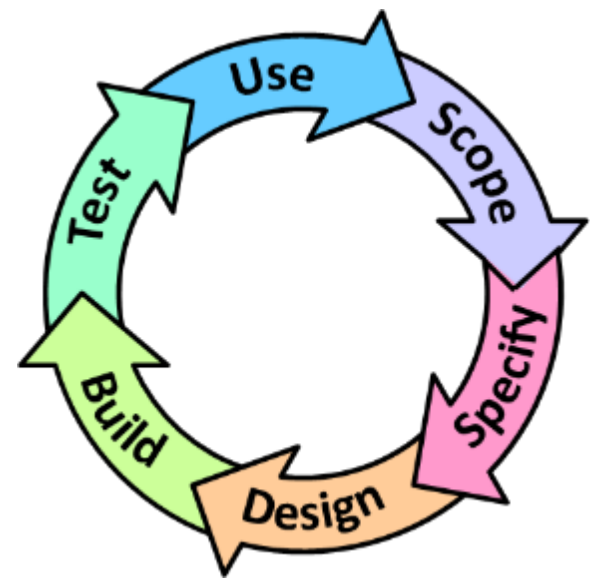
Why standardise?



Consistency

Simplicity

Efficiency



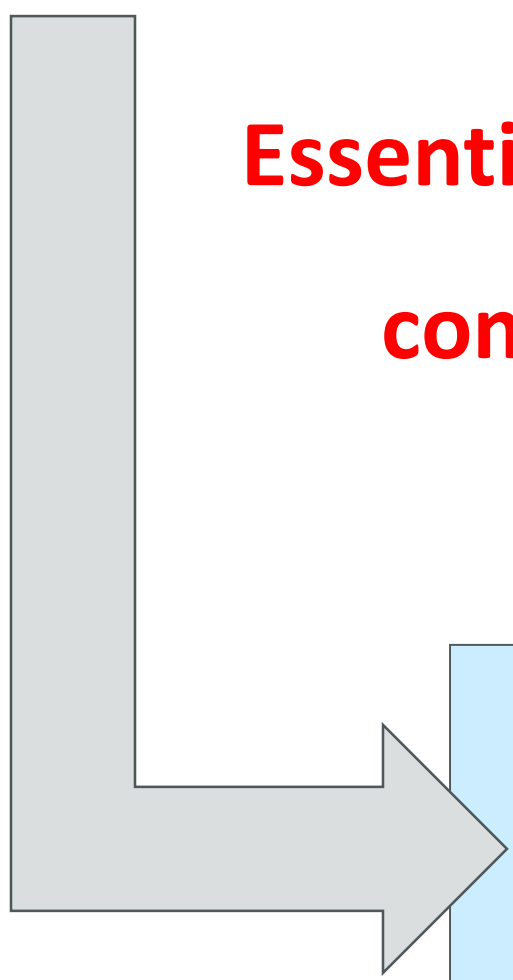
Essential component of competitiveness



Conditioning the market



Cost optimisation of total life cycle



Rail stakeholders need to **actively participate** in the development of standards!

Standardisation ...Which economic added value ?

- *In a world of many complexities and challenges – economic, social, safety, security... - standards are needed for consistency, simplicity and efficiency*
- *An essential component of the **competitiveness** of a sector and its stakeholders*
- *Influencing the standard means **conditioning the markets** and establishing modes of governance to overcome competition*
- *The manufacturers focus mainly on the optimisation of their production costs, whereas the end user's interest is to **optimise the costs over the total life cycle of the product**. In particular for railway products, e. g. locomotives, with life cycles of 40 years and more, those two concepts can lead to very different results.*
- *Crucial for cost optimisation, warranty periods, total life cycle, **Safety Management System guarantees**..*

 *Rail stakeholders need to actively participate in the development of standards*

 *This cannot be left only to the suppliers – or there will be a risk of significantly higher life cycle costs*

3. The UIC role in standardisation

Standardisation for the ROC - fundamental principles :

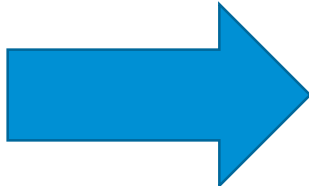
UIC is divided into 6 regions. These all have their own governance but undertake their business around the corporate nucleus in Paris

The European region is the most developed in terms of experts and investment

It must be noted that:

1. **UIC is NOT a Standardisation Body.** It is however an **SSO** that works on behalf of the ROC and develops a range of solutions for the railway system
2. UIC has a Standardisation Platform which is supervising the relationship with SBs in Europe and beyond and oversees the transposition programme of the leaflets to IRSs
3. UIC's main standardisation work today is **design** (the services to the customer...), **construction** (the timetable....), **operations** (processes, cybersecurity, S&SMS...) and **maintenance** (fleet, infrastructure....) of the components of the railway system

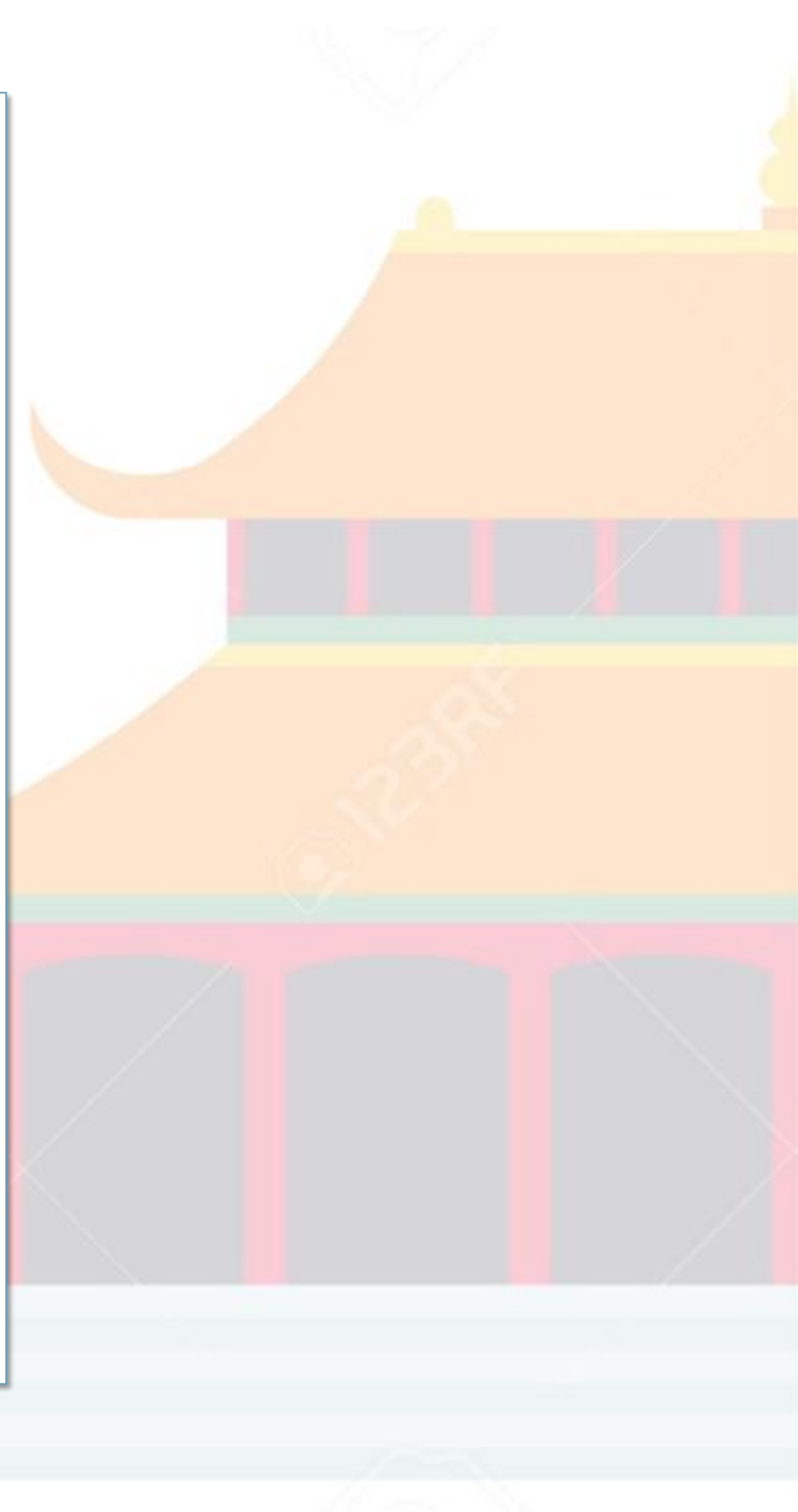
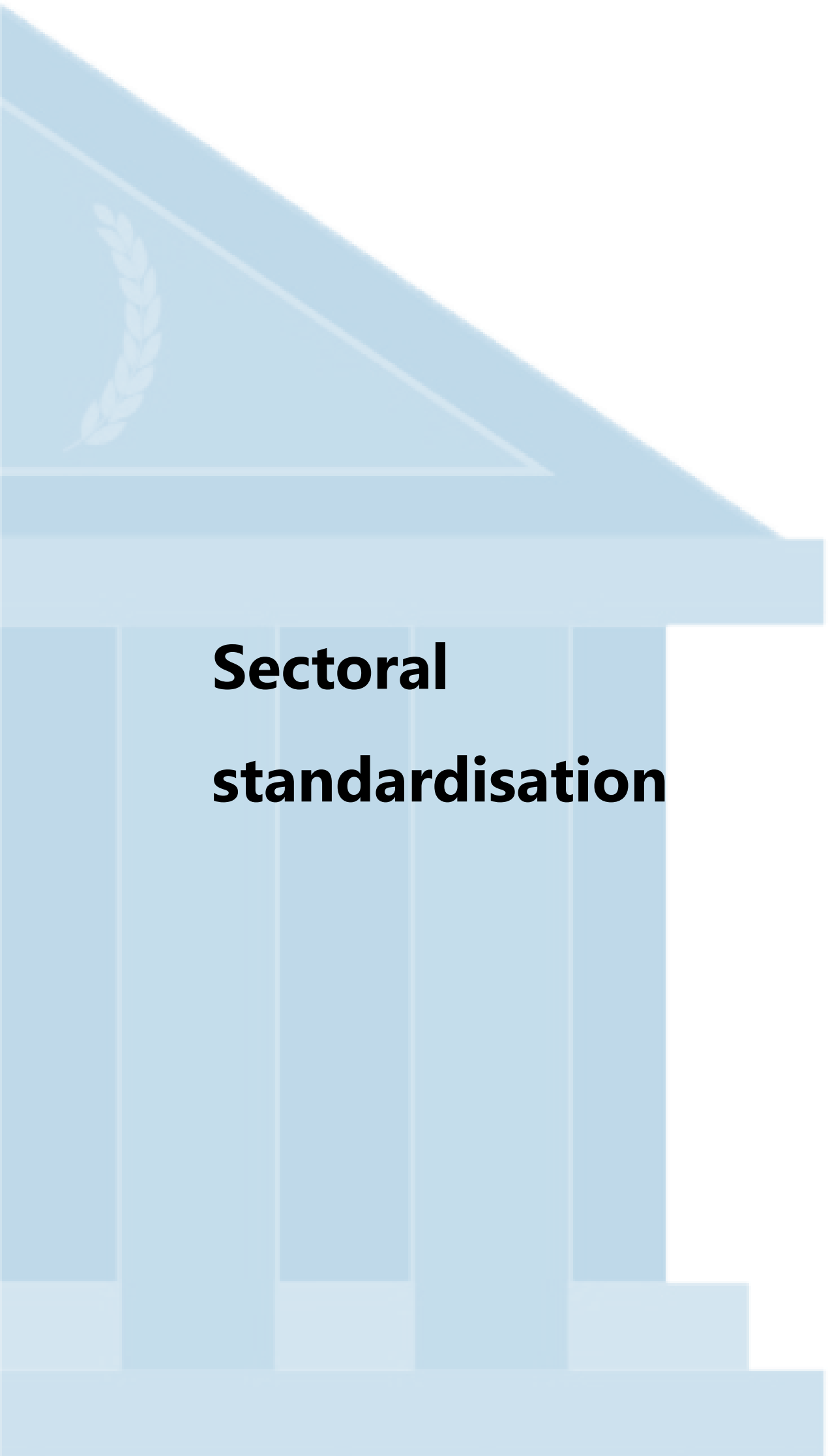


- Ongoing task ever since the first **UIC leaflet** was published in 1928.
- Many railway systems around the world have been constructed and are still operated today using the standards that have been produced by the UIC
- Modernisation programme - Leaflets  **International Railway Solution (IRS)**

The logo for the International Railway Solution (IRS), featuring the letters 'IRS' in a stylized, bold, teal font.

Institutional standardisation...

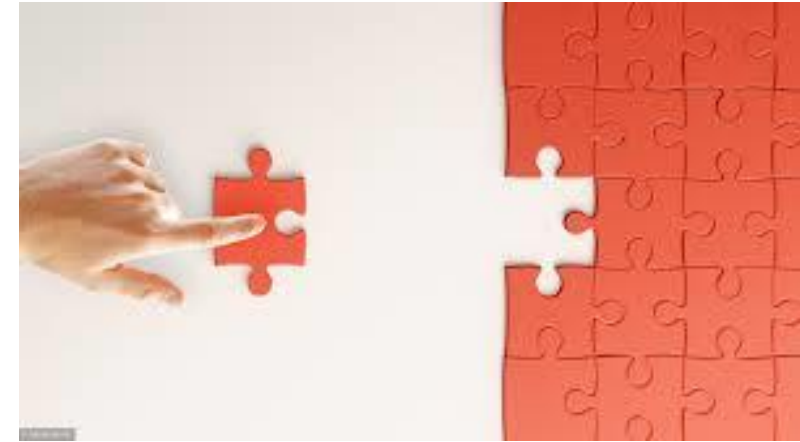
In a complex ecosystem, railway standardisation is interfacing with:



The added value of



Why UIC Standards in addition to ENs, ISO,...?



“Delta” not incorporated into the general standards.

Interoperability



Oriented to ROC Business needs, daily operations and legal responsibilities

Share good practices with colleagues from all over the world



Optimising life cycle costs

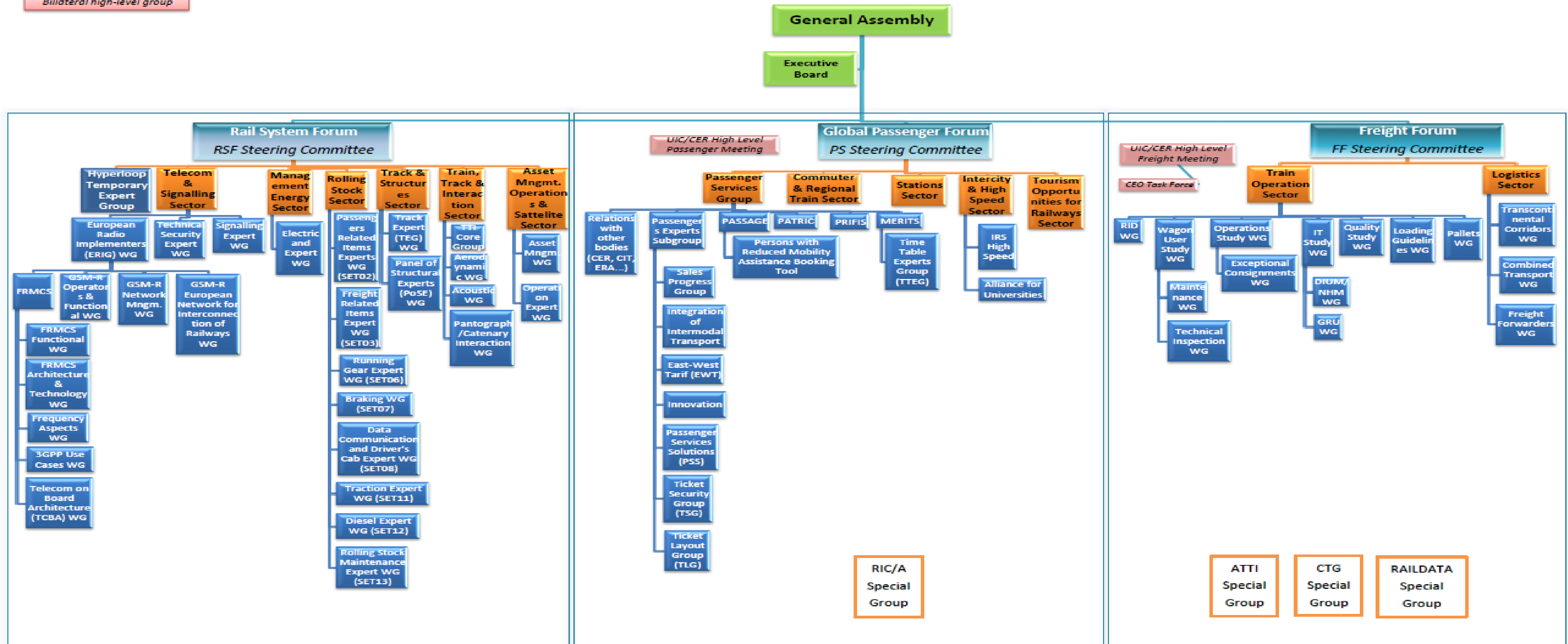
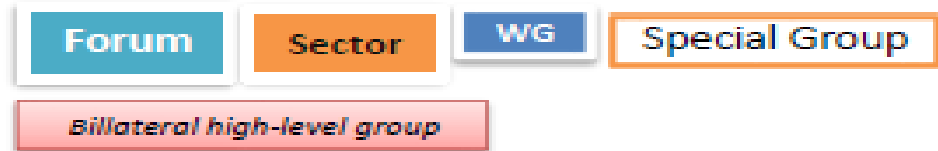


Avoid any suggestion of double-work

4. UIC ORGANISATION

UIC Chart

UIC TECHNICAL WORKING BODIES – FORUMs – WITH THEIR SECTORS, WORKING GROUPS and SPECIAL GROUPS



NEED TO IDENTIFY WHERE TO BE ACTIVE...

- Standardisation **work programme** available
- Analyse ongoing and proposed work to **position experts**

*UIC extranet provides informations – **forums and platforms** – Working bodies and UIC project managers*

Answer call for experts and/or collect information and assess which group is in interest

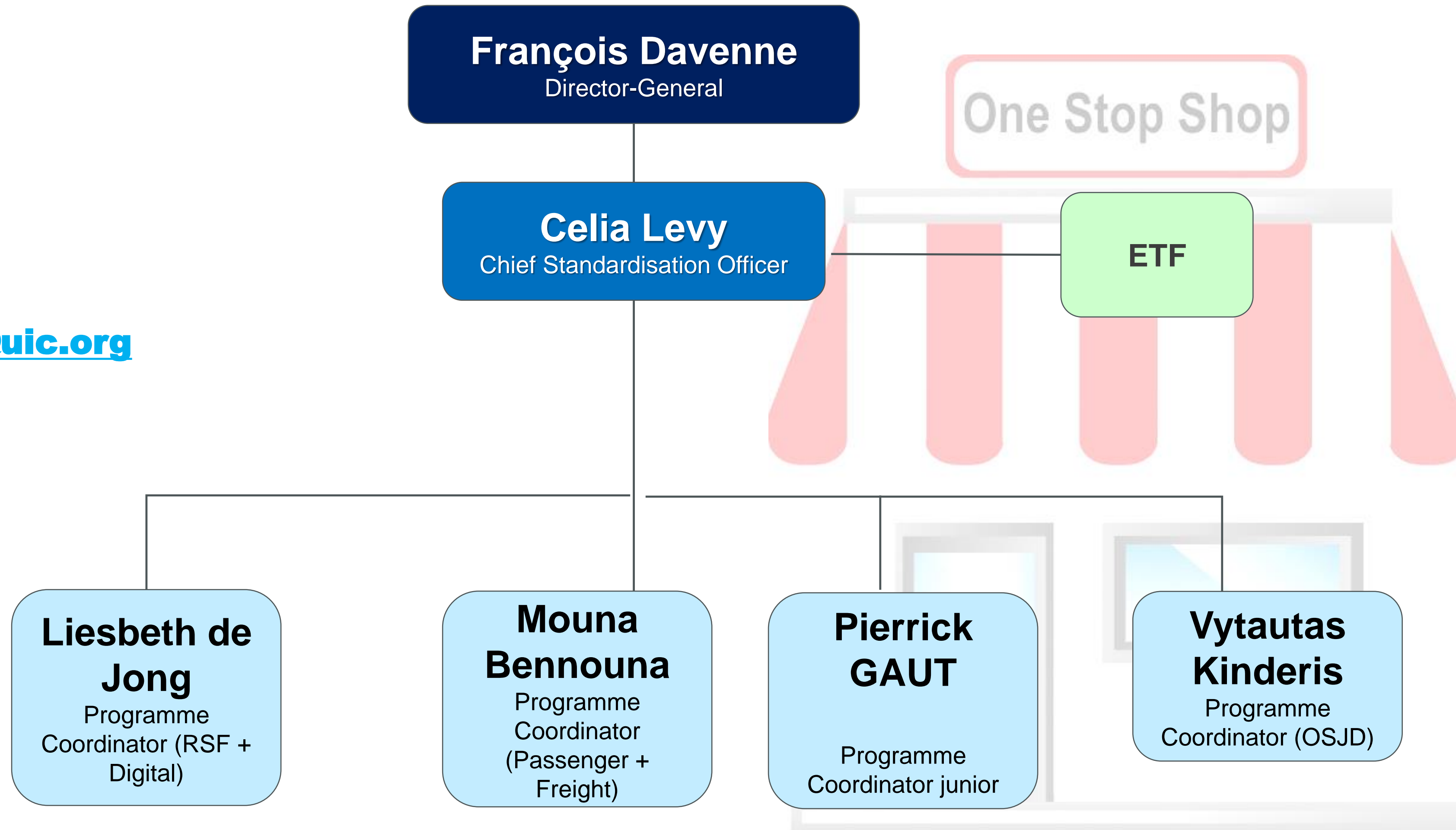
- Identify **which expert** is ready to actively participate to the drafting of an IRS
- Contact UIC project managers and **nominate experts**

UIC Standardisation Unit is your ONE STOP SHOP for any assistance

Structure

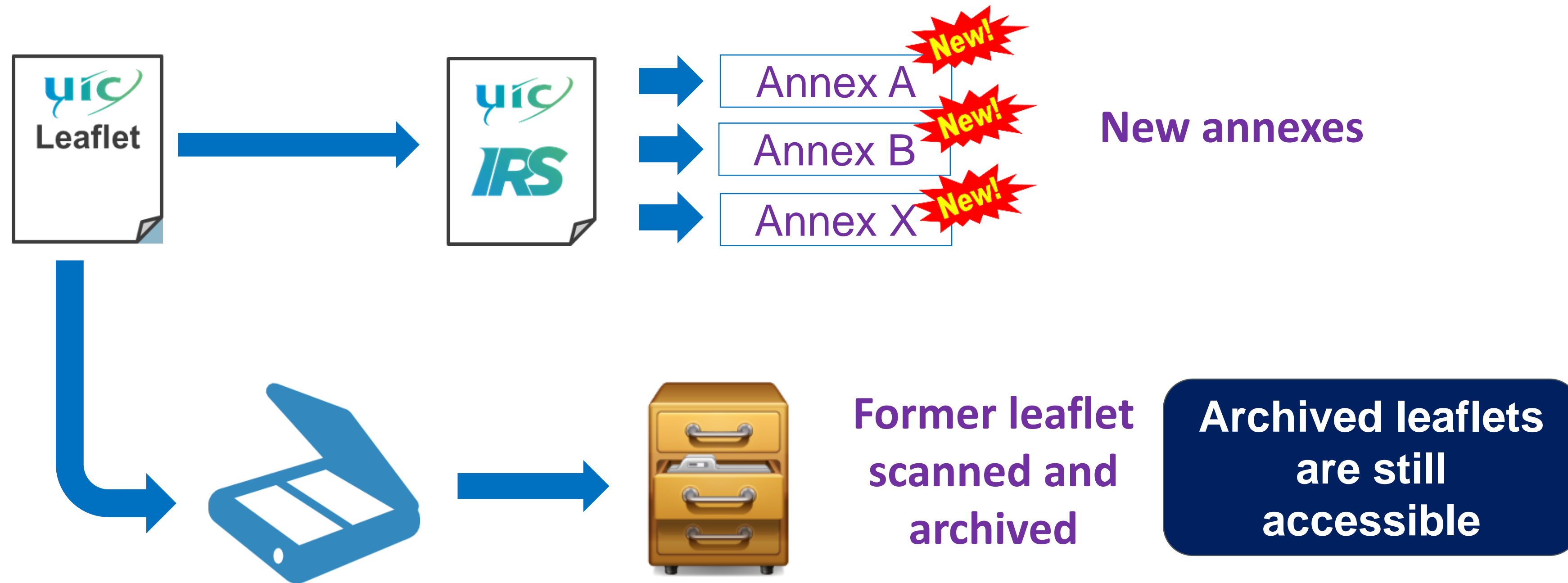


standardisation@uic.org



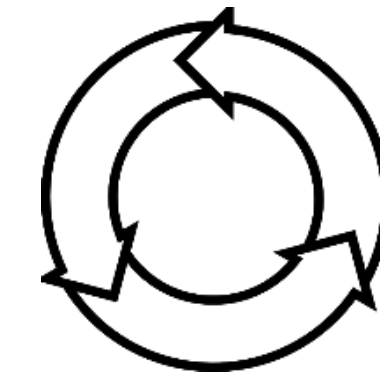
5. Migration from leaflet to IRS

Migration principles



A Leaflet should not be referenced / used anymore in any new document (commercial, regulatory, etc.) once withdrawn and the replacing IRS is published

Systematic review

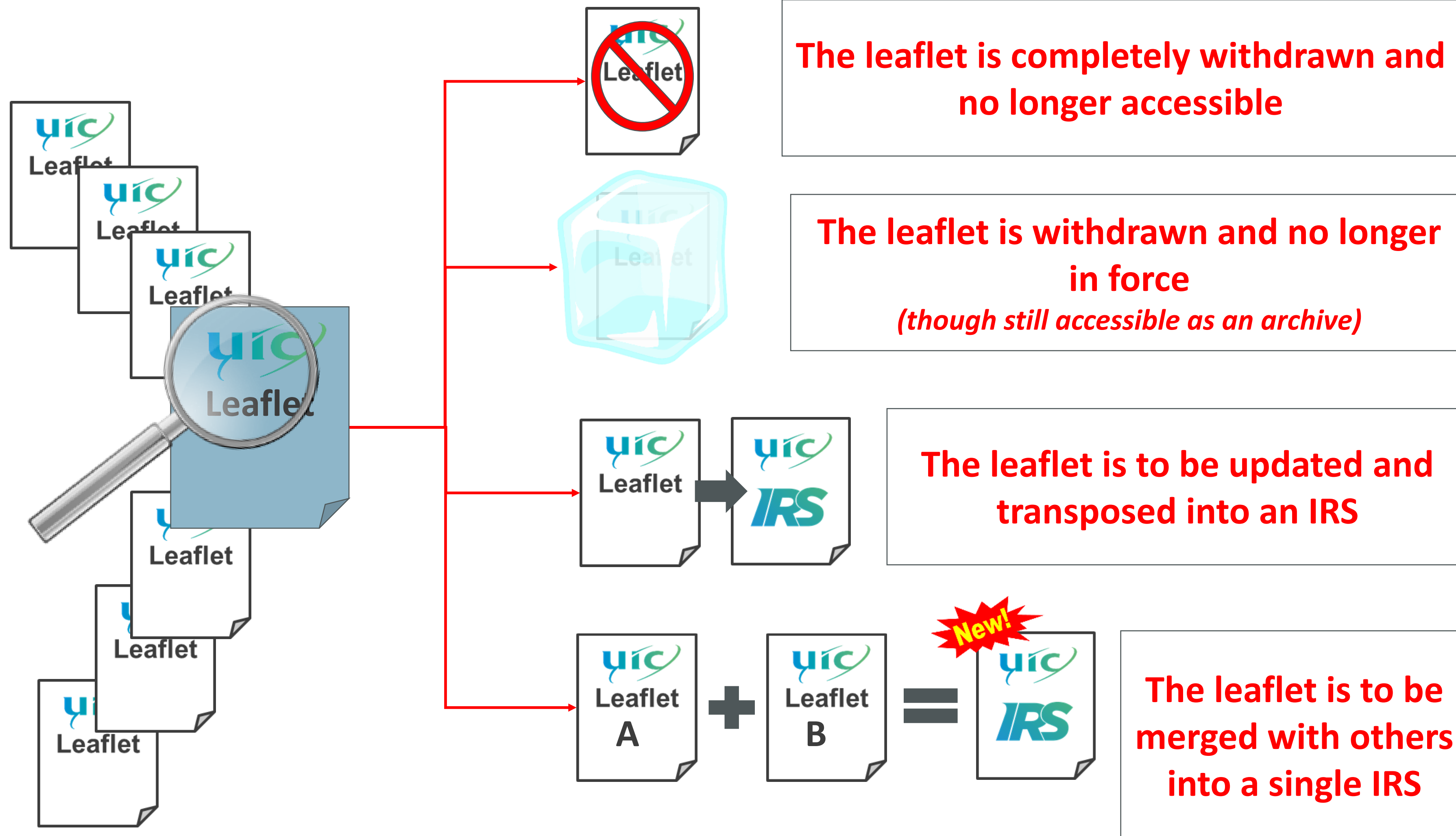


- All residual leaflets will have been either withdrawn or migrated to an IRS within the next 3 – 5 years maximum
- IRS will systematically be reviewed after maximum 5 years
- This revision can of course take place sooner should the need arise!



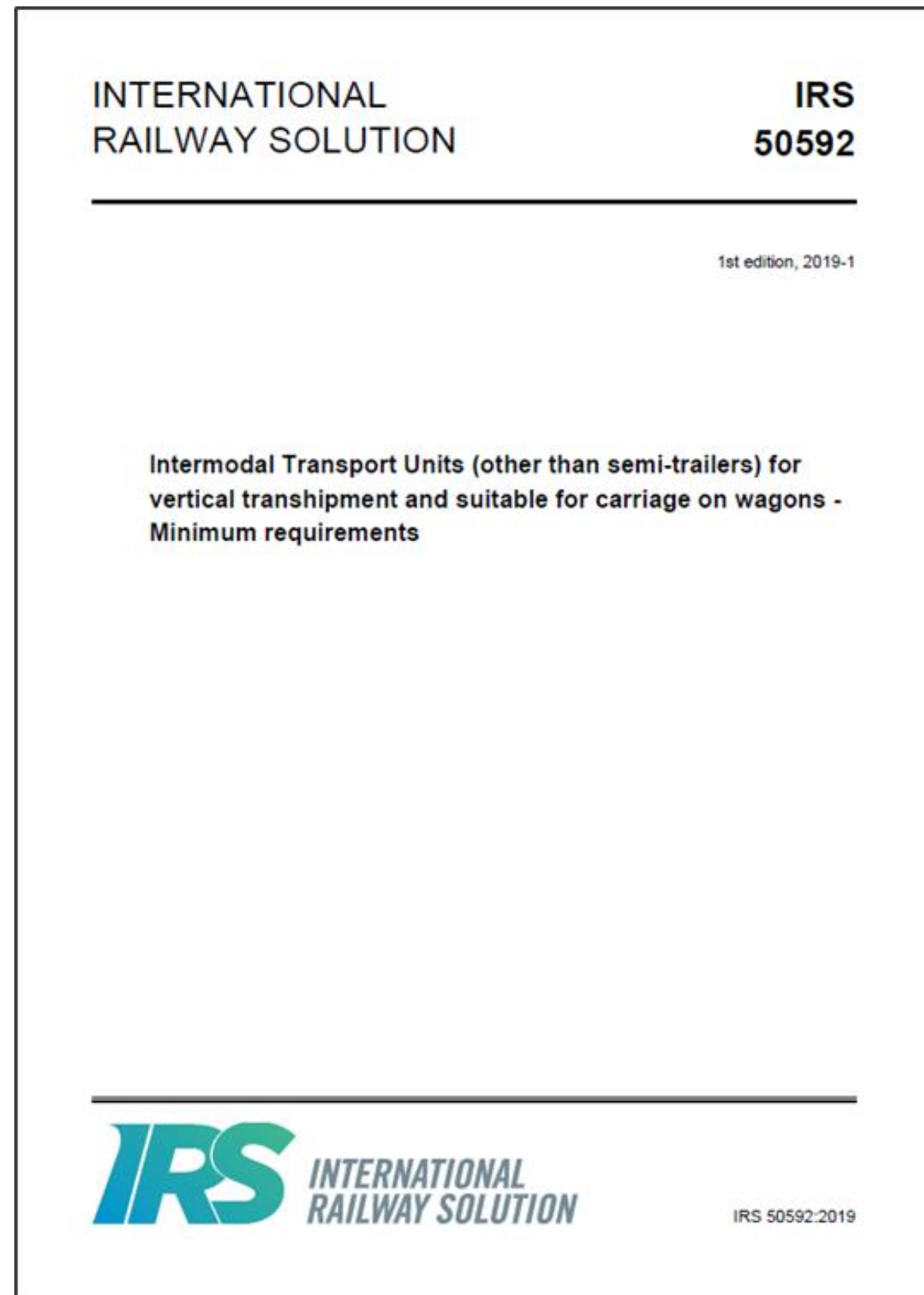
Identification of obsolete leaflets

All leaflets have to be reviewed and their fate decided by the relevant WG / Forum / Platform

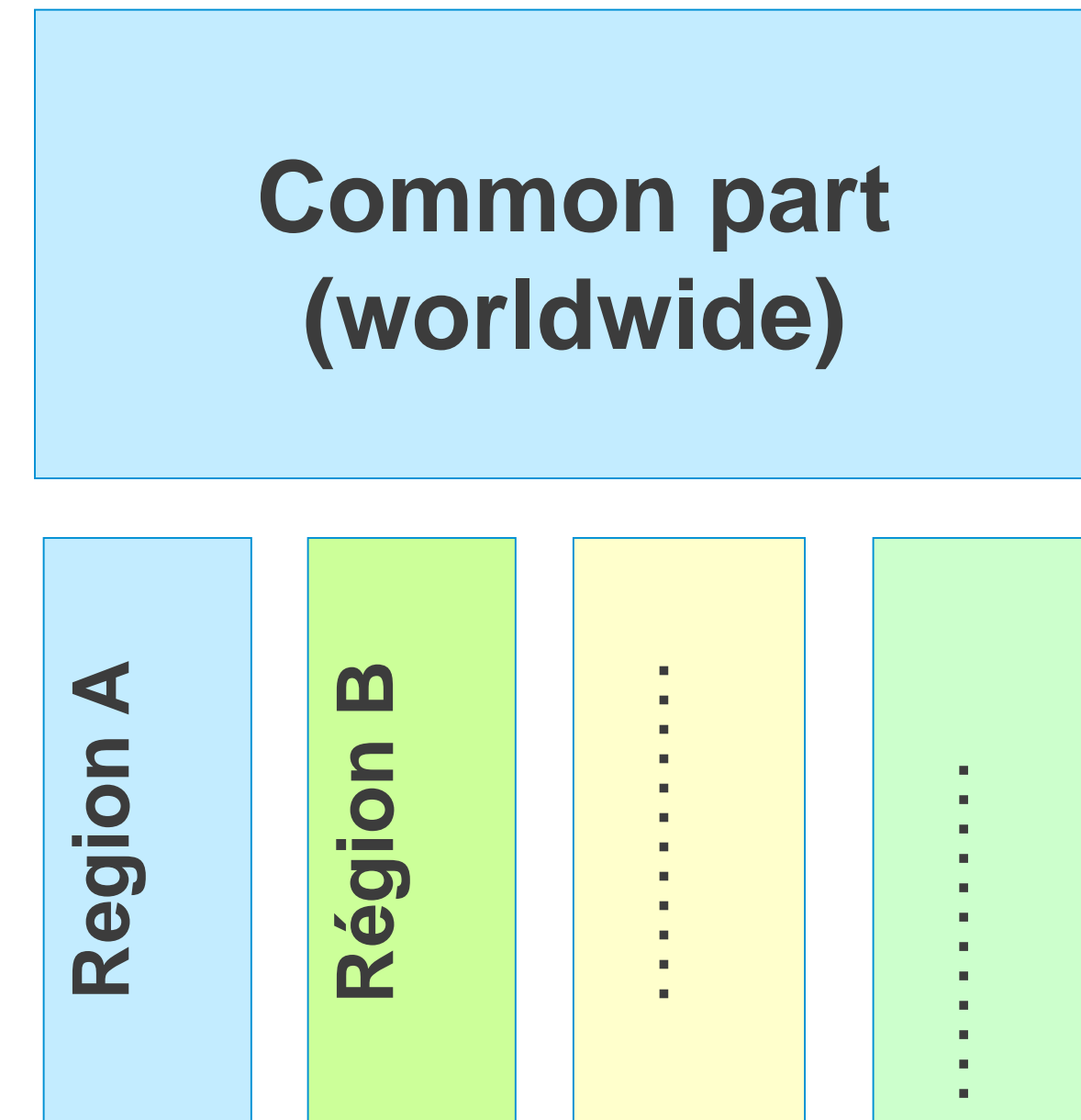


How is an IRS structured?

Example:



International Railway Solution



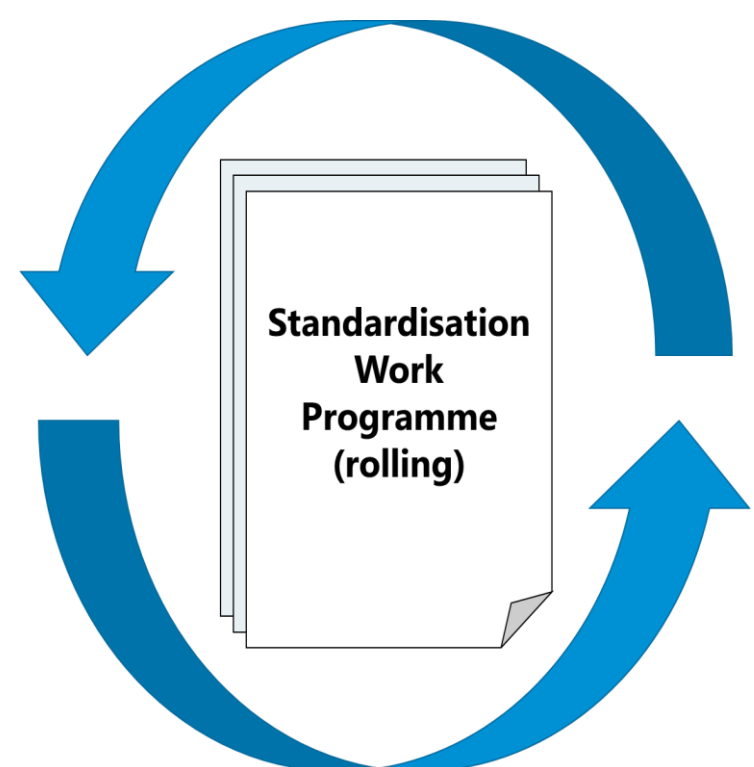
Respecting all contexts of applicability...

6 - UIC Tools

IRS Database & Rolling 3 Year Work Programme

- The **IRS Work Programme** is an extract of the **IRS database**

IRS		IRS Work Programme						
N° IRS	Area	Responsible	Body	Title	Status	Estimated date	Overall	
2020								
50596-6 (596-6)	ROLLING STOCK	SCHERRER	SET 3	Conditions for coding intermodal transport units in combined transport, combined transport lines and wagons.	Under publication	Mar 2020		
70719 (719)	INFRASTRUCTURE	RESUSTA	T&S - TEG & PoSE	Railway Application - Track & Structure "Earthworks and track bed construction for railway lines"	Under publication	Mar 2020		
70723 (723)	INFRASTRUCTURE	RESUSTA	SLU-TEG	Railway Application - Technical aspects of vegetation and tree risk management. Guidance and Recommendations	Under publication	Mar 2020		
541-4*	ROLLING STOCK	BOUVRESSE	SET 7	Brakes - Brakes with composite brake blocks - General conditions for certification of composite brake blocks	Under publication	Dec 2020		
90918-6 (918-6)*	PASSENGERS	SARFATTI	PSS	Electronic reservation of assistance for persons with reduced mobility - Exchange of messages	Under publication	Dec 2020		
50571-4 (571-4)	ROLLING STOCK	SCHERRER	SET 3	Standard Wagons - Wagons for combined transport - Characteristics	Under approval	Mar 2020		
50560-1	ROLLING STOCK	SCHERRER	SPG	Door System Functionalities, Communication Interface and Application Profiles Requirements	Under approval	May 2020		
50596-5 (596-5)	ROLLING STOCK	SCHERRER	SET 3	Transport of road vehicles on wagons - Technical Organisation - Conveyance of semi-trailers with P coding or N coding on recess wagons	Under approval	Sep 2020		
70779-10 (779-10)	INFRASTRUCTURE	RESUSTA	PoSE	Maintenance of tunnels	Under approval	Nov 2020		
50541-7	ROLLING STOCK	SCHERRER	SET 7	Brakes - Direct electro-pneumatic braking system - Requirements	Being drafted	Feb 2020		
xx	DIGITALISATION	BEDEL		Clear station	Being drafted	Feb 2020		
90930 (930)	ENVIRONMENT	STEFANOS	Rev of Leaflet 930	Exchange of data for cross-border railway energy settlement	Being drafted	Mar 2020		



Dynamic, evolving document

Comprehensive, formal and operative view of any IRS/leaflets status

Official periodic report to the General Assembly and the Standardisation PT

Enable the concerned Forums and Platforms to be appraised of progress not only within their area of responsibility but also across the entire range of UIC business areas

IRS database



- First step for a shared workspace development
- Data accessible : Transparency
- IRS database now opened to UIC active members
(and possible others member's category on a case by case basis)
- Members were invited to list experts for this access. They've received a link by mail to create their identification & password
- IRS database will be included into the future shared workspace which will offer additional functionalities

The Concept of the IRS database

- Detail of all **leaflets being migrated**, the IRS number and the number of the corresponding former leaflet,
- **IRS title, UIC department responsible, the name of the UIC technical manager responsible,**
- **The working group in charge, the current stage of the migration process,**
- **The estimated date of publication,**
- **Countries using the relevant leaflets as a reference for their national law (if information and source known),**
- **TSI(s) or other regulations using the leaflet as a reference (if information and source known),**
- **Including synchronisation with external partners (OTIF, OSJD...).**

- Creation of a **new collaborative shared workspace** (*SU administrator*)

• For 500 Users:

✓ **Senior Advisor UIC**

✓ **UIC Members**

✓ **external partners** (*Restricted Acces*)

• **Cross-functional standardisation Programme** in accordance with the UIC Code : **SU database** enriched with new functionalities.

• This tool will be:

✓ more efficient and reliable because the leading SPOCS / project managers / WGs will be able to directly enter their data and download useful documents

✓ More flexible and modern, thanks to general digitilisation (online consultation, downloadable documents, shared work online, digitilisation off all data, advanced search personal calendar etc.)

The platform will be:

Active



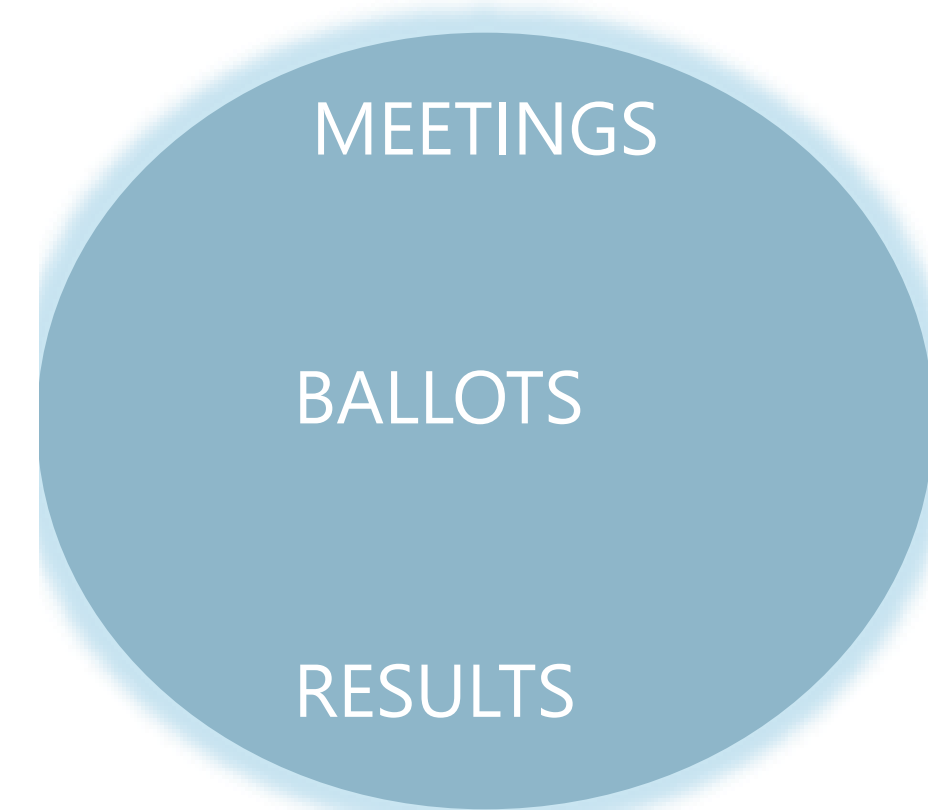
Dynamic



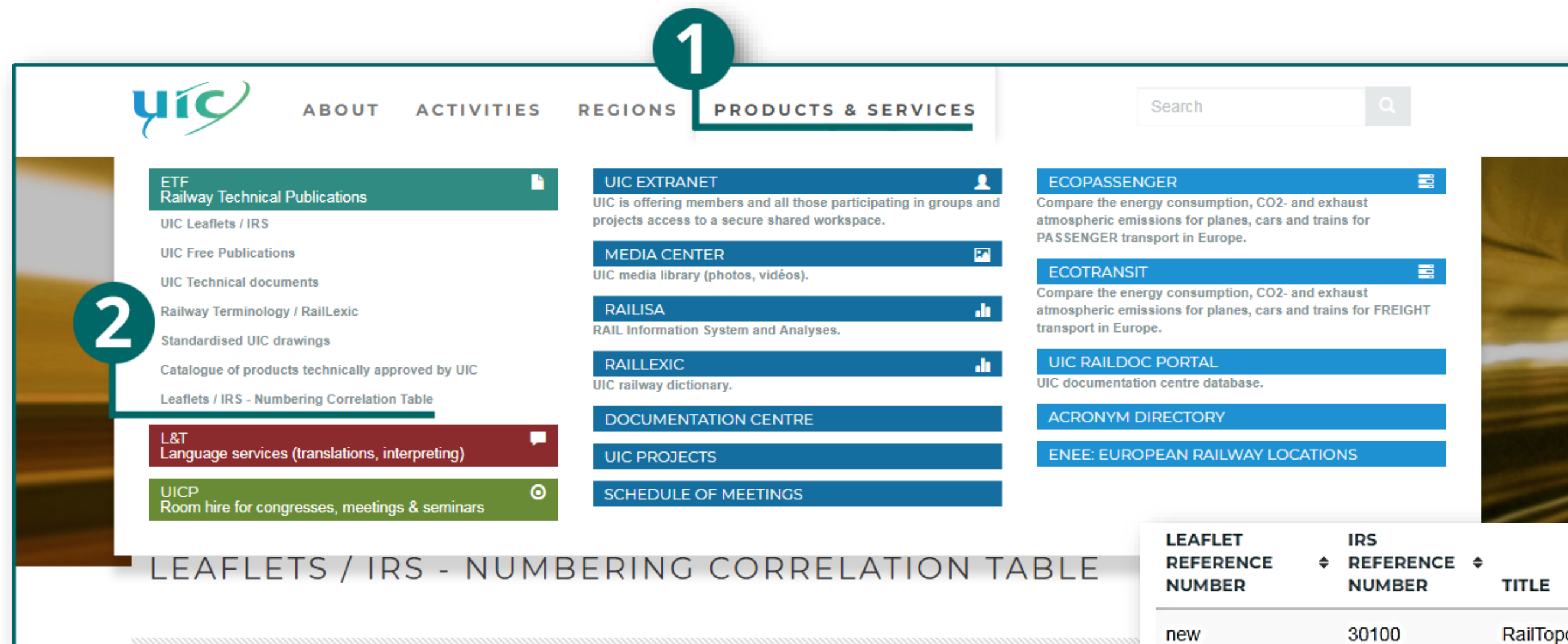
Transparent



Collaborative



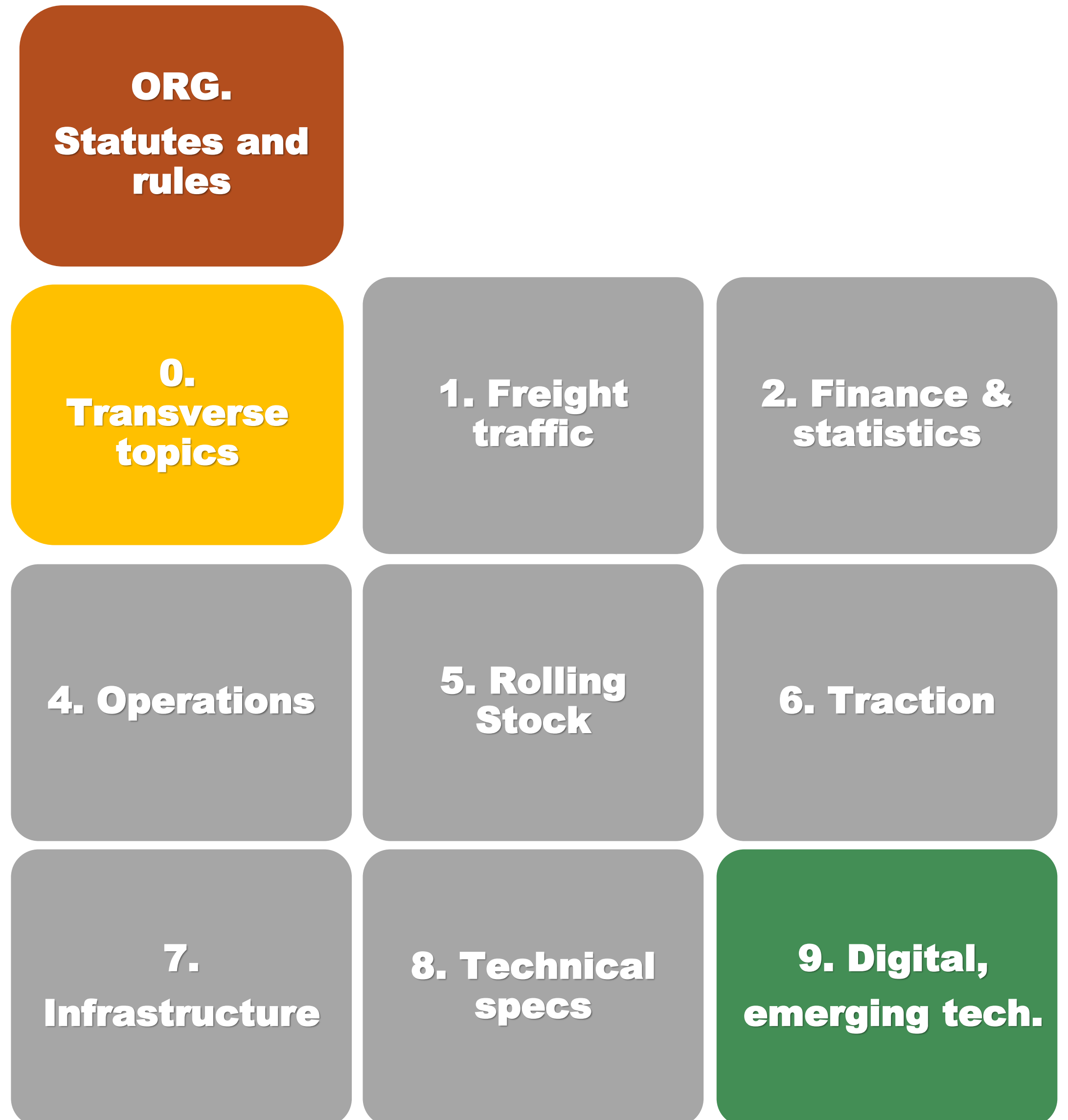
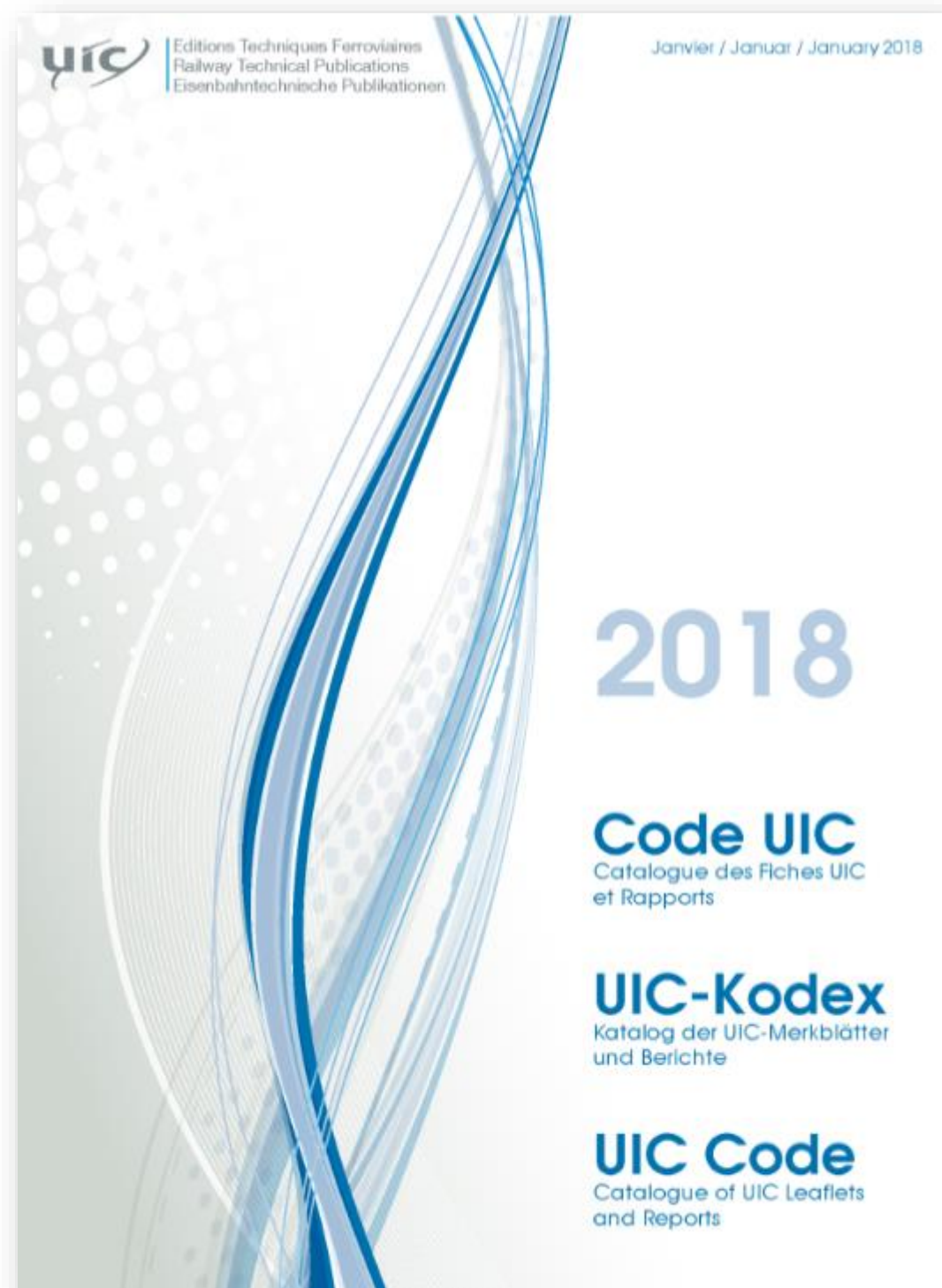
Leaflet/IRS Numbering correlation table Available on UIC web site "UIC.org"



LEAFLET REFERENCE NUMBER	IRS REFERENCE NUMBER	TITLE	DATE OF PUBLICATION	EDITION NUMBER
new	30100	RailTopoModel - Railway infrastructure topological model	2016-09	1
559	50405	Railway application - Rolling Stock - Specification "#Diagnostic Data Transmission"# from Railway vehicles	2016-09	1
	50507	Railway Application - Rolling Stock - Wagons - Conditions governing wagons conveyed on ferries	2016-11	1
	50530	Railway Application - Rolling Stock - Rolling Stock Maintenance	2017-07	1
	50536	Railway application - Rolling stock - Towing hooks for wagons - Standardisation	2016-11	1
	50537	Railway Application - Rolling Stock - Pipe connections for wagons equipped for pneumatic discharge	2016-11	1
	50558	Railway Application - Rolling Stock - Remote control and data cables interfaces - Standard technical features	2017-07	1
	50561	Railway Application - Rolling Stock, Interconnecting gangway systems between vehicles	2016-05	1
	50569	Railway Application - Rolling Stock - Regulations to be observed in the construction of coaches and vans suitable for conveyance by train ferry	2016-11	1
571-4	50571-4	Standard wagons - Wagons for combined transport - Characteristics	2018-04	1
571-5	50571-5	Wagons for combined transport - Roller units for horizontal transshipment - Characteristics	2018-02	1
571-6	50571-6	Wagons for combined transport - Low-loader wagons for the conveyance of road vehicles	2018-04	1


The UIC Code

- The catalogue of all our standardisation products
- Reviewing and adding categories Digital, Telecoms, Automation ...)
- Focus on the new generation IRSs




Standardisation Guidelines

ONGOING REVISION



A GUIDE TO STANDARDISATION

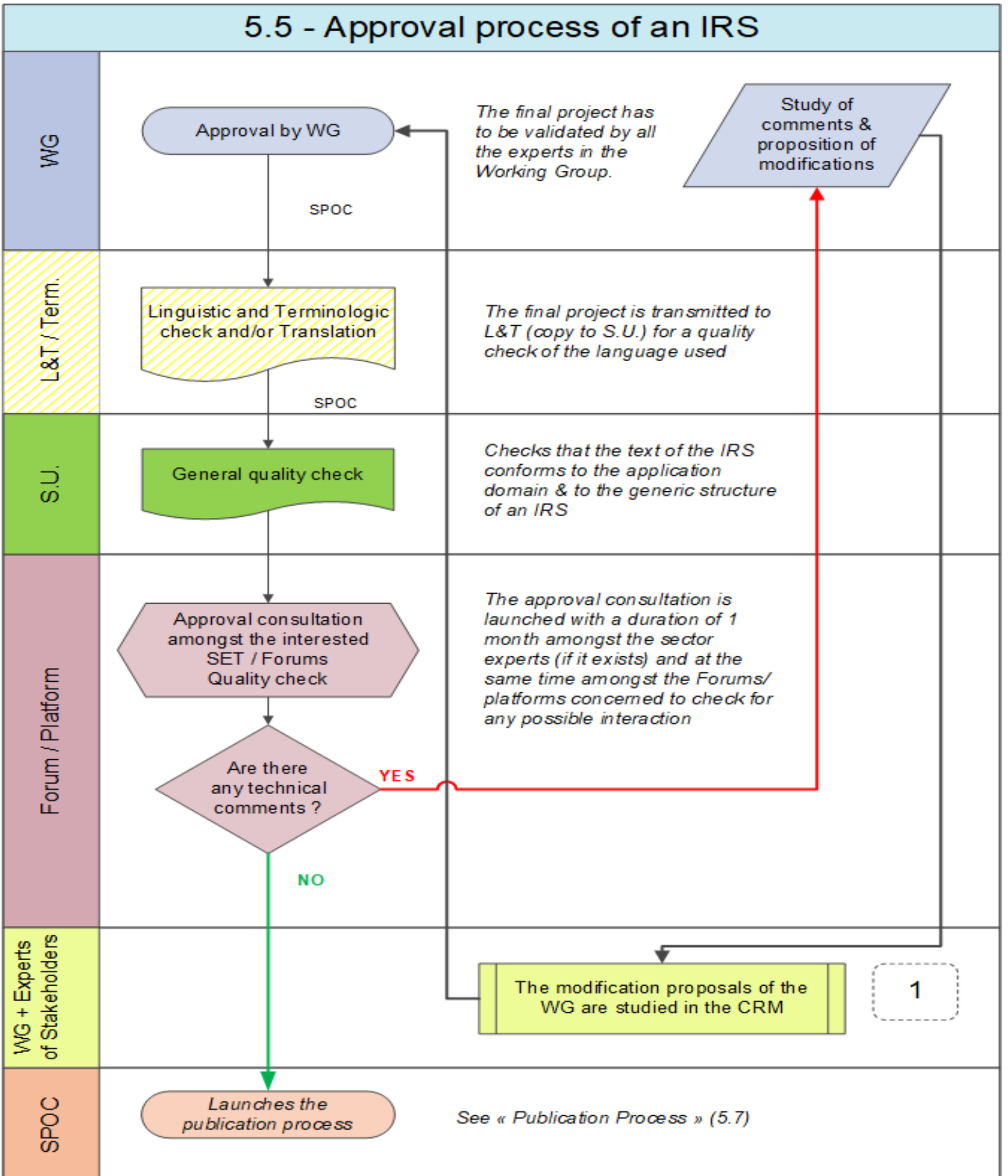
How IRS are developed and where they fit in the world of standardisation



IRS

Structure

- ✓ simplified flowcharts
- ✓ process description
- ✓ issuing / updating / approving / withdrawal of the leaflets and IRSs and the related activities
- ✓ who does what, when



M2 = A Standard to draft an IRS

The **standard for writing a UIC standard** (*i.e. the template for former leaflets, now IRS*) has been thoroughly revised

English, German and French version available

IRS templates at your disposal into 3 languages



UIC's Online term bank

1957: *The General Dictionary of Railway Terms*

2020: **23 languages online**

= language tool for engineers & translators

-> harmonise terms and definitions

-> facilitate international cooperation

=> standardise working language



4- Next Standardisation Events

Standardisation Conference

16 March 2021

36

- The 3rd International Railway Standardisation Conference will be developed around the theme.....

“How can standardisation help to evolve a sustainable railway”



<https://uic.org/events/3rd-international-railway-standardisation-conference>

UIC EXCELLENCE IN STANDARDISATION AWARDS 2021

- Will be held during the International Standardisation conference on **16 March 2021 Webinar**
- Through these awards, it is the UIC's objective to support and promote excellence in user-friendly, business-sensitive documents that support the efficiency of railway operations including new IRS and/or the migration from Leaflets to IRSs



AWARD CATEGORY

- Business Oriented
- Innovative with value added
- Standardisation Interfaces
- Proficiently developed

Targets

- Forums and Platforms and their Working groups
- Working with external partners
- Excellence in the evolution of the railway system.

STANDARDISATION AWARDS



For more information: <https://uic.org/events/uic-excellence-in-standardisation-awards>

Stay in touch with UIC!

www.uic.org



#UICrail

standardisation@uic.org