UIC: Paving the Way for Seamless Multimodal Travel

Transport Ticketing Global – London - 4th March 2025

Bertrand MINARY

UIC Passenger Director – Coordinator of Middle East and Latin America region

Agenda

1 **Rail as backbone of mobility for climate change**

2 **UIC community is committed to issue multimodal Ticketing solutions**

3 **Multimodality as the main trend**

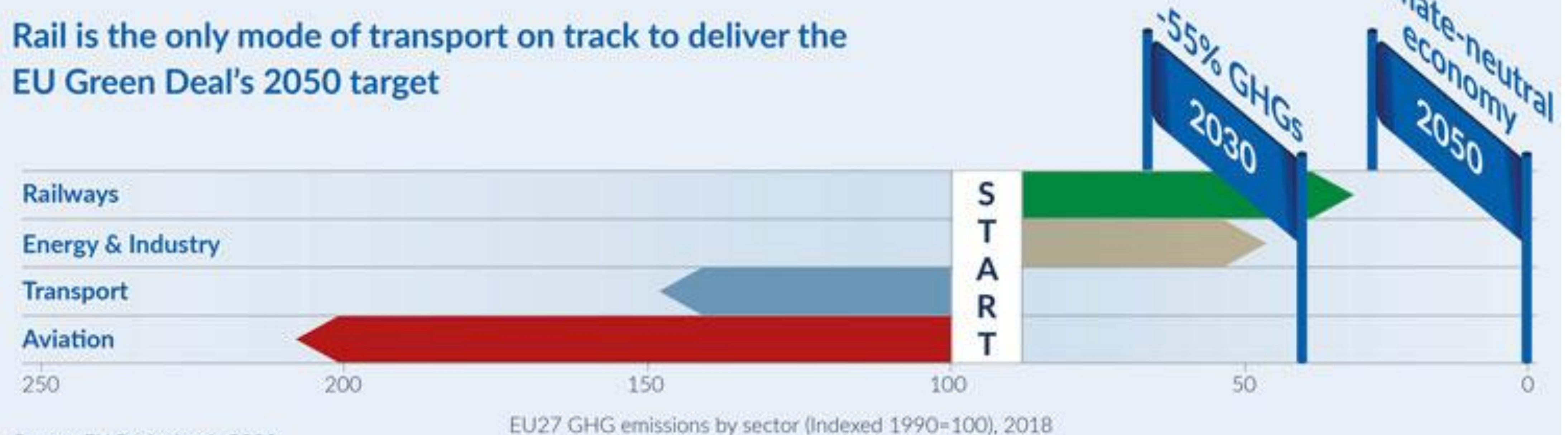**4** **Solutions need to be interoperable**

5 **Q & A**

The background and our goal

Transport is key to achieving the EU climate targets

Transport represents 27% of the EU's greenhouse gas (GHG) emissions. The sector's emissions continue to grow while rail's emissions have fallen 32% in 30 years.

Rail is the only mode of transport on track to deliver the EU Green Deal's 2050 target

-55% GHGs 2030

climate-neutral economy 2050

Railways
Energy & Industry
Transport
Aviation

START

250   200   150   100   50   0

EU27 GHG emissions by sector (Indexed 1990=100), 2018

Source: EU Pocketbook, 2020

Rail as backbone of mobility

RAIL 2050 VISION
RAIL - THE BACKBONE OF EUROPE'S MOBILITY

ERRAC
The European Rail Research Advisory Council

Establishing rail as the backbone of future mobility

Society expects an efficient, reliable, seamless, accessible, safe and green transportation system. UNIFE's Director General, *Philippe Citroën*, believes the future of rail lies in flexibility and how it can adapt and incorporate future technical advances.

#ConnectingEurope

Connecting Europe by train:
10 EU pilot projects to boost cross-border rail

— Day train
······ Night train
····· Potential services

European Commission

Shift2Rail
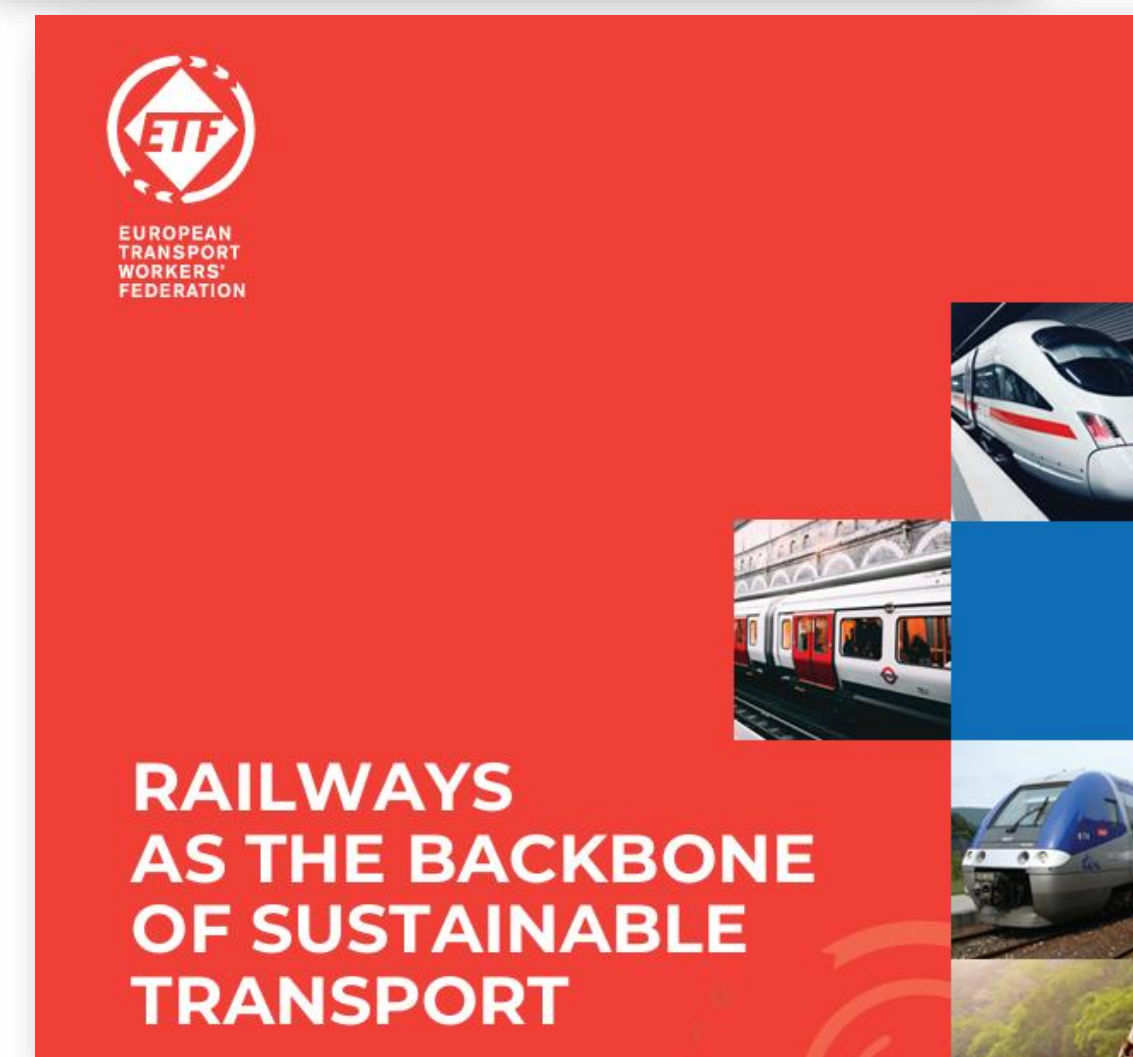
TRAINS: THE BACKBONE OF MOBILITY

Carlo Borghini
Executive Director
Shift2Rail Joint Undertaking

2021, the European Year of Rail, acquires a particular meaning taking place in the middle of a pandemic, when restrictions to mobility are imposed around Europe. When the idea started taking shape, all hopes of a faster return to normality were up.

2021 is really the occasion to celebrate rail: during the past months and year, in an unprecedented situation, rail has demonstrated what it means

R&I activities and many more were successfully performed around Europe by multiple companies.

The European Year of Rail is the opportunity to show to policy makers, decision makers but also commuters, tourists, and millennials how rail is ready to engage with them to leverage its unique strengths to match their needs: safety and security of operations, low environmental impact of the

EUROPEAN TRANSPORT WORKERS' FEDERATION

RAILWAYS AS THE BACKBONE OF SUSTAINABLE TRANSPORT

Press release
Brussels, 30 September 2021

CER
The Voice of European Railways

Railways are the backbone of sustainable mobility & key to delivering EU climate objectives

The European Commission is holding a conference today entitled "*Building up a network of European long-distance rail services*", on the occasion of the arrival of the Connecting Europe Express in Berlin. Speaking at the event, Dr Alberto Mazzola, Executive Director of the Community of European Railway and Infrastructure Companies (CER), will stress that the long-term vision of the railway sector is the creation of a seamless European high-speed network, linking European capitals and major cities, supporting the development of an international passenger service market in order to deliver the EU's climate objectives.

# Long-distance cross-border passenger rail services MOVE/2020/OP/0013 study published in October 2023
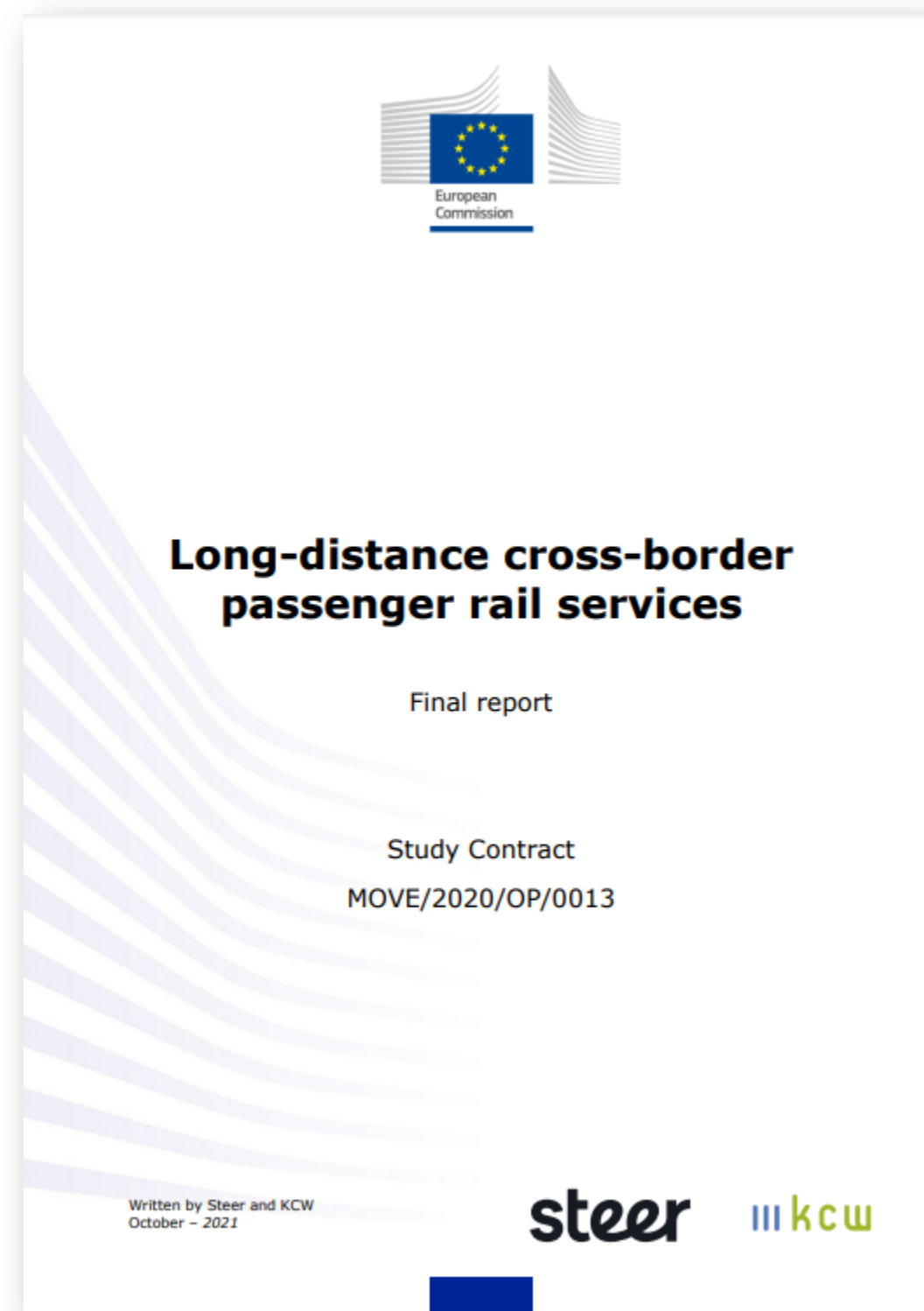
"The obstacles we identified can be categorised as: infrastructure charges; infrastructure capacity and capacity allocation; rolling stock; **ticketing and rights for connecting passengers;** *creating cross-border PSOs; and other technical and operational barriers"*

Long-distance cross-border passenger rail services

Final report

Study Contract
MOVE/2020/OP/0013

Written by Steer and KCW
October – 2021

steer |||kcw

		stock				
Ticketing and rights for connecting passengers	TP1	Encourage access to sell railway undertakings' tickets on fair, reasonable and non-discriminatory (FRAND) principles, including through Open Sales and Distribution Model (OSDM)		●		
	TP2	Define and publish minimum connecting times within and between stations	●			
	TP3	Offer passengers the option to request longer connecting times	●		●	
	TP4	Use, refine or extend the Agreement on Journey Continuation (AJC) to ensure that industry assists and re-routes passengers as much as possible	●		●	
	TP5	Record and publish delays and their attribution to causes and parties	●			
	TP6	Link the rationale of Regulation (EU) 2021/782 on rail passenger rights to ensure journey connection, easy booking and lower prices and promotions resulting therefrom			●	
	TP7	Reform the regulatory framework for passenger rights for all modes			●	●

Conclusions of the study $\Rightarrow$ goals of the EU Railways Ticketing Roadmap

The Ticketing Roadmap (2025 and 2030 framework) at one glance
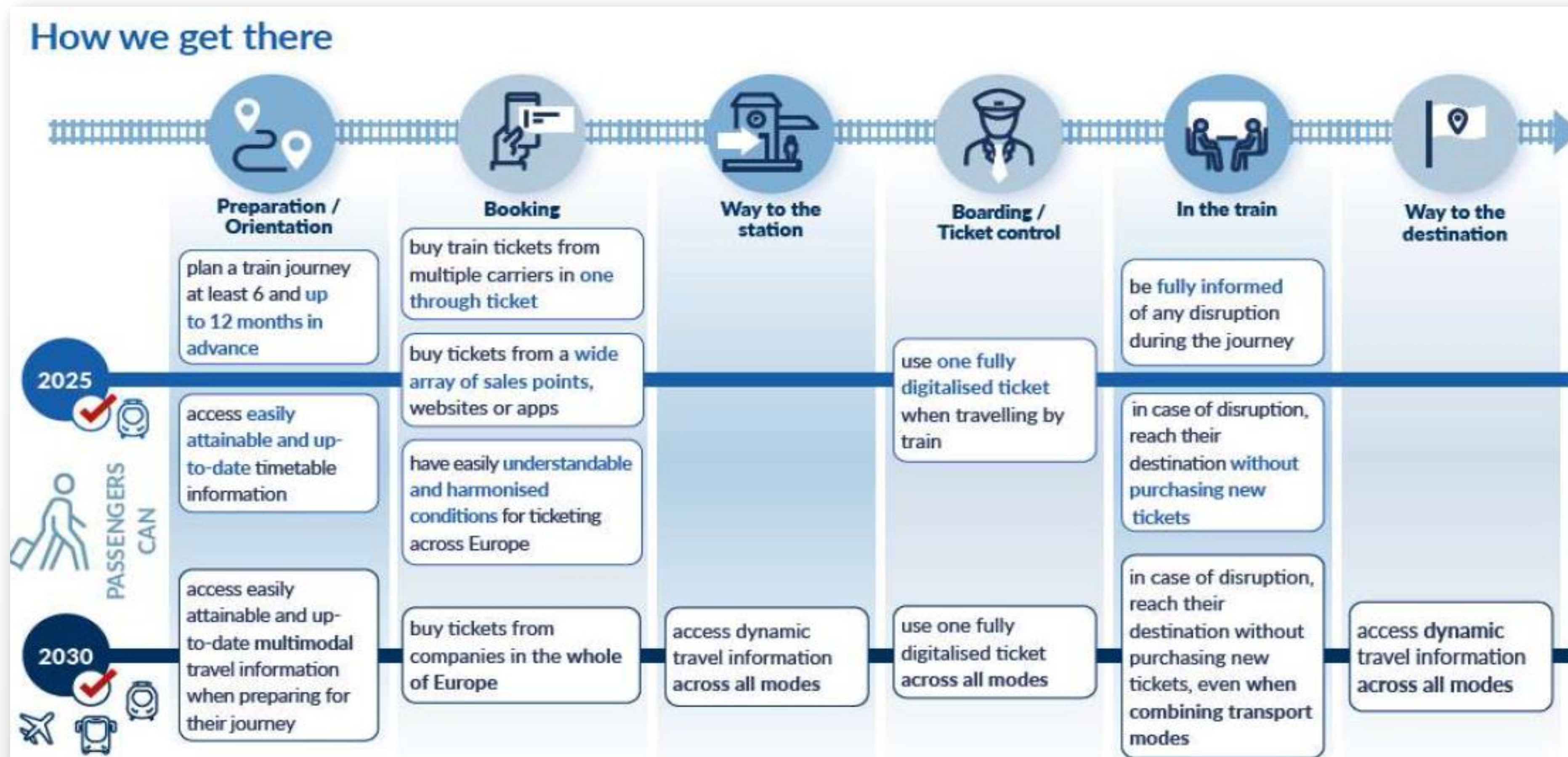
Multimodality: seamless and global experience for Passengers
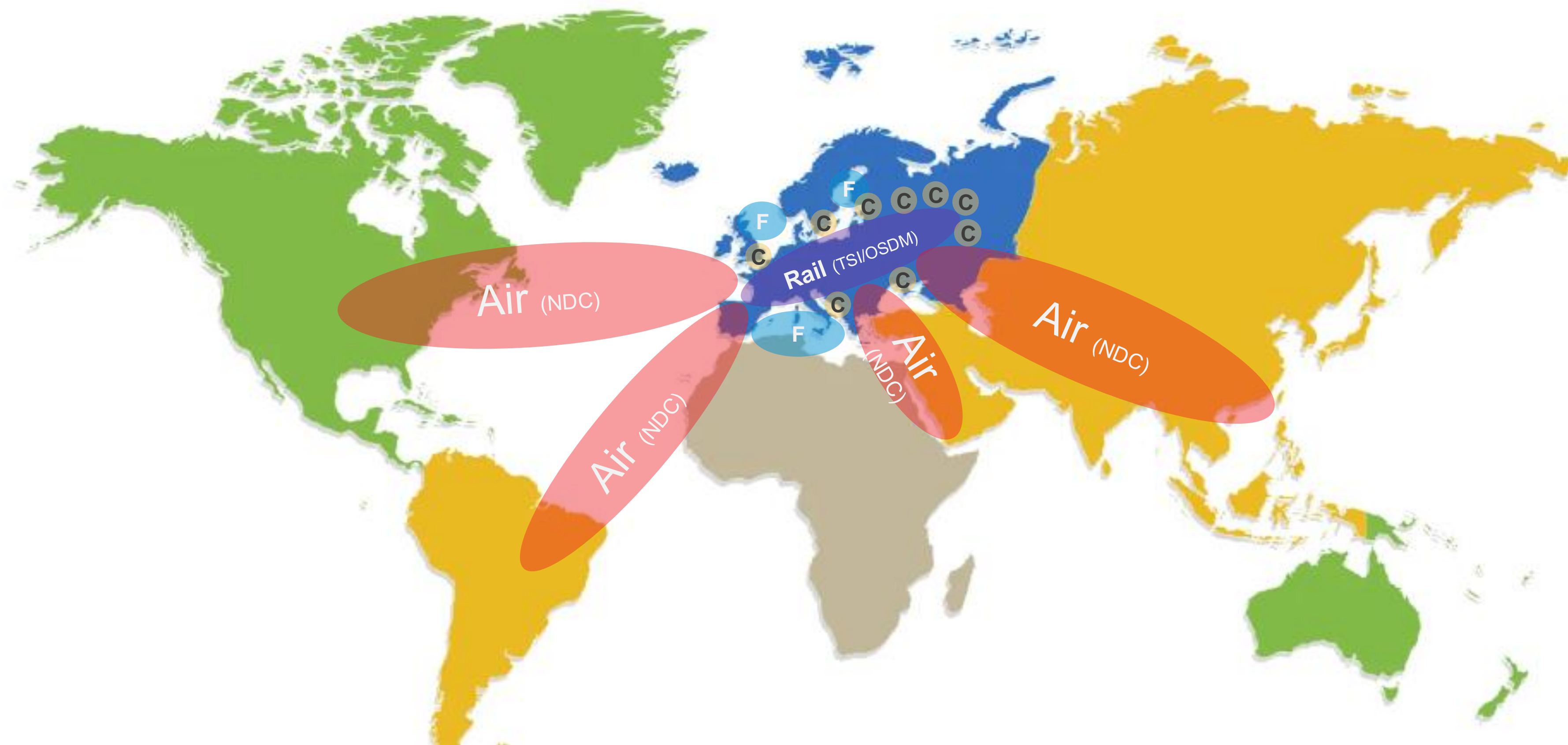
To global!

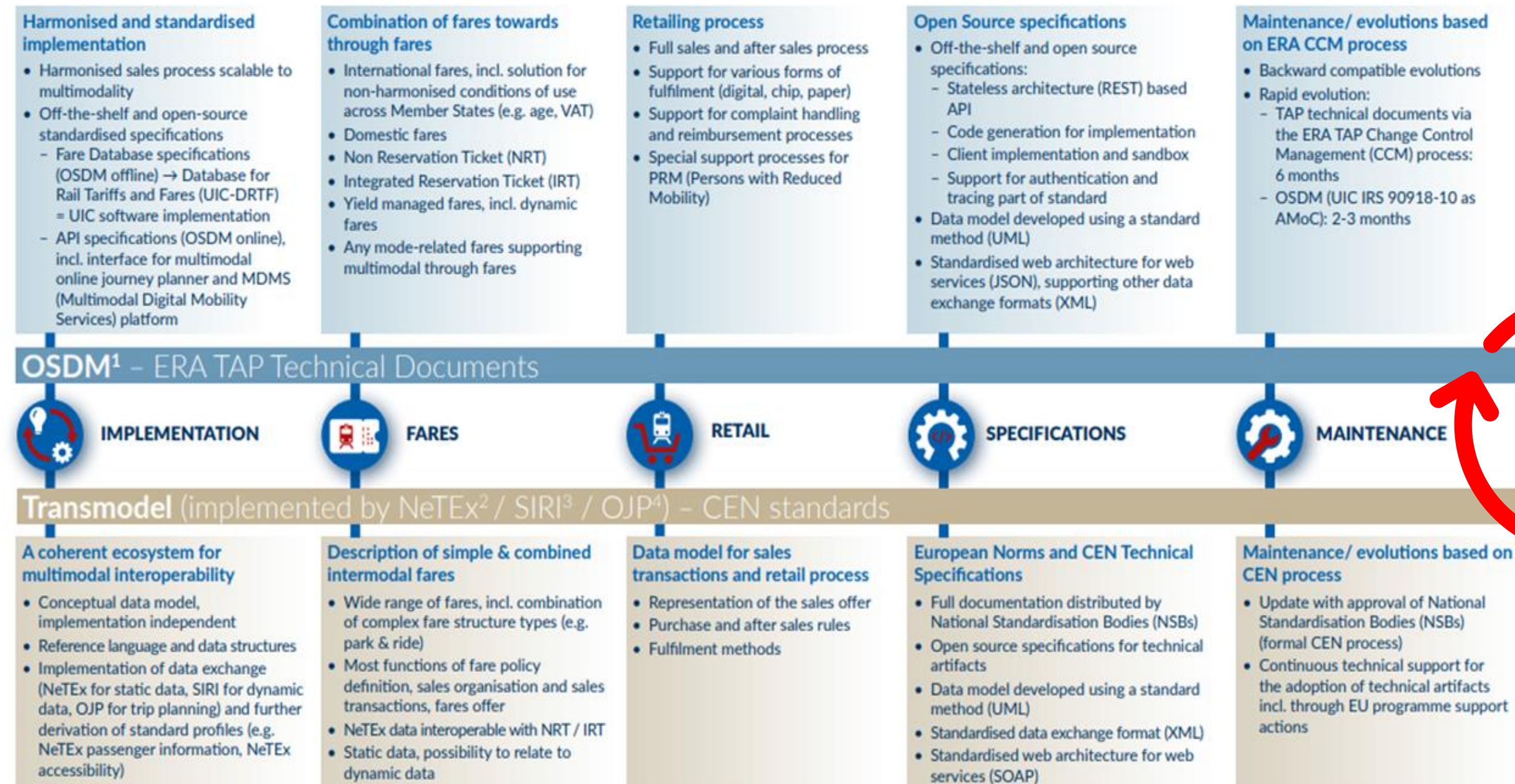|	
A	**Air - NDC**
F	**Ships & Ferry – IMO / HIO**
R	**Rail – TAP/TSI & OSDM**
C	**Commuters & Urban – Transmodel / NeTEx / SIRI**

From local...

Fact Sheet

OSDM[1] & Transmodel: two complementary solutions for multimodal passenger services

CER and UITP jointly support leaving the choice to stakeholders to use either:
- **Transmodel** (NeTEx[2] / SIRI[3] / OJP[4]) as a harmonised reference **for public transport stakeholders**, or
- **OSDM** – the Open Sales and Distribution Model – as an interoperable standardised sector solution **for regional, long distance rail and multimodal operators and ticket vendors** part of the Single European Railway Area (SERA).

Compare the two models below and read more in our joint statement 'Data models and standards for multimodal passenger services'

Harmonised and standardised implementation
- Harmonised sales process scalable to multimodality
- Off-the-shelf and open-source standardised specifications
  - Fare Database specifications (OSDM offline) → Database for Rail Tariffs and Fares (UIC-DRTF) = UIC software implementation
  - API specifications (OSDM online), incl. interface for multimodal online journey planner and MDMS (Multimodal Digital Mobility Services) platform

Combination of fares towards through fares
- International fares, incl. solution for non-harmonised conditions of use across Member States (e.g. age, VAT)
- Domestic fares
- Non Reservation Ticket (NRT)
- Integrated Reservation Ticket (IRT)
- Yield managed fares, incl. dynamic fares
- Any mode-related fares supporting multimodal through fares

Retailing process
- Full sales and after sales process
- Support for various forms of fulfilment (digital, chip, paper)
- Support for complaint handling and reimbursement processes
- Special support processes for PRM (Persons with Reduced Mobility)

Open Source specifications
- Off-the-shelf and open source specifications:
  - Stateless architecture (REST) based API
  - Code generation for implementation
  - Client implementation and sandbox
  - Support for authentication and tracing part of standard
- Data model developed using a standard method (UML)
- Standardised web architecture for web services (JSON), supporting other data exchange formats (XML)

Maintenance/ evolutions based on ERA CCM process
- Backward compatible evolutions
- Rapid evolution:
  - TAP technical documents via the ERA TAP Change Control Management (CCM) process: 6 months
  - OSDM (UIC IRS 90918-10 as AMoC): 2-3 months

OSDM[1] – ERA TAP Technical Documents

🔧 IMPLEMENTATION   🚆 FARES   🛒 RETAIL   ⚙ SPECIFICATIONS   🔧 MAINTENANCE

Transmodel (implemented by NeTEx[2] / SIRI[3] / OJP[4]) – CEN standards

A coherent ecosystem for multimodal interoperability
- Conceptual data model, implementation independent
- Reference language and data structures
- Implementation of data exchange (NeTEx for static data, SIRI for dynamic data, OJP for trip planning) and further derivation of standard profiles (e.g. NeTEx passenger information, NeTEx accessibility)

Description of simple & combined intermodal fares
- Wide range of fares, incl. combination of complex fare structure types (e.g. park & ride)
- Most functions of fare policy definition, sales organisation and sales transactions, fares offer
- NeTEx data interoperable with NRT / IRT
- Static data, possibility to relate to dynamic data

Data model for sales transactions and retail process
- Representation of the sales offer
- Purchase and after sales rules
- Fulfilment methods

European Norms and CEN Technical Specifications
- Full documentation distributed by National Standardisation Bodies (NSBs)
- Open source specifications for technical artifacts
- Data model developed using a standard method (UML)
- Standardised data exchange format (XML)
- Standardised web architecture for web services (SOAP)

Maintenance/ evolutions based on CEN process
- Update with approval of National Standardisation Bodies (NSBs) (formal CEN process)
- Continuous technical support for the adoption of technical artifacts incl. through EU programme support actions

1 Open Sales and Distribution Model   2 Network Timetable Exchange   3 Service Interface for Real time Information   4 Open Journey Planner

September 2022   1

Aligned with European regulatory framework

Leaving the choice to stakeholders to use appropriate model(s)
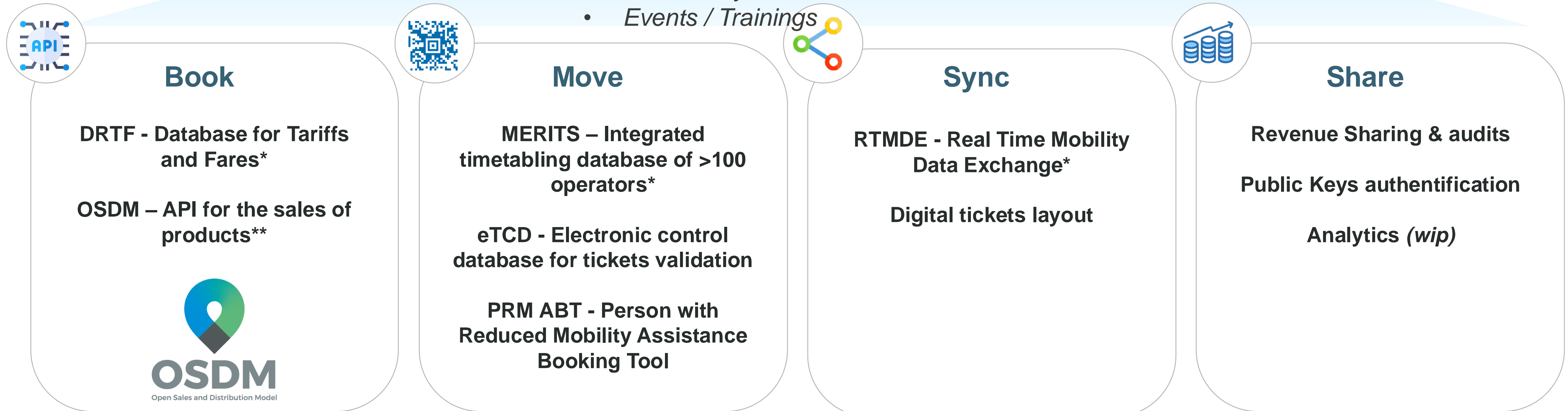
The goal: interoperability of the solutions

UIC provides worldwide multimodal solutions, already implemented, to operators, authorities, distributors, IT providers, ticket vendors, …

96,5% of Passenger trafic by rail covered
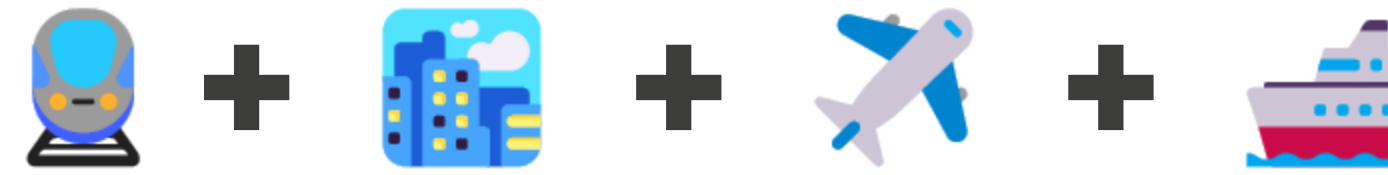22 EU countries MS + partners (UK, Norway…)

Supported by a community of experts
- *>15 technical groups, like Multimodality*
- *Some open to 3rd parties*
- *Community of users*
- *Events / Trainings*

Book

DRTF - Database for Tariffs and Fares*

OSDM – API for the sales of products**

Move

MERITS – Integrated timetabling database of >100 operators*

eTCD - Electronic control database for tickets validation

PRM ABT - Person with Reduced Mobility Assistance Booking Tool

Sync

RTMDE - Real Time Mobility Data Exchange*

Digital tickets layout

Share

Revenue Sharing & audits

Public Keys authentification

Analytics *(wip)*

* Progressively interoperable with Transmodel (NeTEx, SIRI)

** To be interoperable with NDC

To sum up

🚆 + 🏙️ + ✈️ + 🚢

Rail is the backbone of multimodal mobility

Multimodal integration means eliminating technical and operational barriers

We need seamless; **customer-friendly**; **affordable; compatible** to not increase distribution costs; **Flexible**, to address all markets and use-cases and facilitate competition; **Evolutive**, using modern technologies (API).

UIC community already use opened Multimodal distribution & ticketing systems

UIC is engaged to **be interoperable with standards like Transmodel or GTFS, aiming to tackle issues (profiles, …)**