UIRR
INTERNATIONAL UNION FOR ROAD-RAIL COMBINED TRANSPORT

UNECE - WP.24 WORKSHOP

Towards a resilient and sustainable door-to-door intermodal freight transport digital data sharing ecosystem

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1. **UIRR: who we are**

2. **The European digital policy framework**

3. **The intermodal digital freight ecosystem**

   - The spirit of the TAF TSI Rotterdam clause
   - The key digital exchange
   - The necessity of standards and reference files

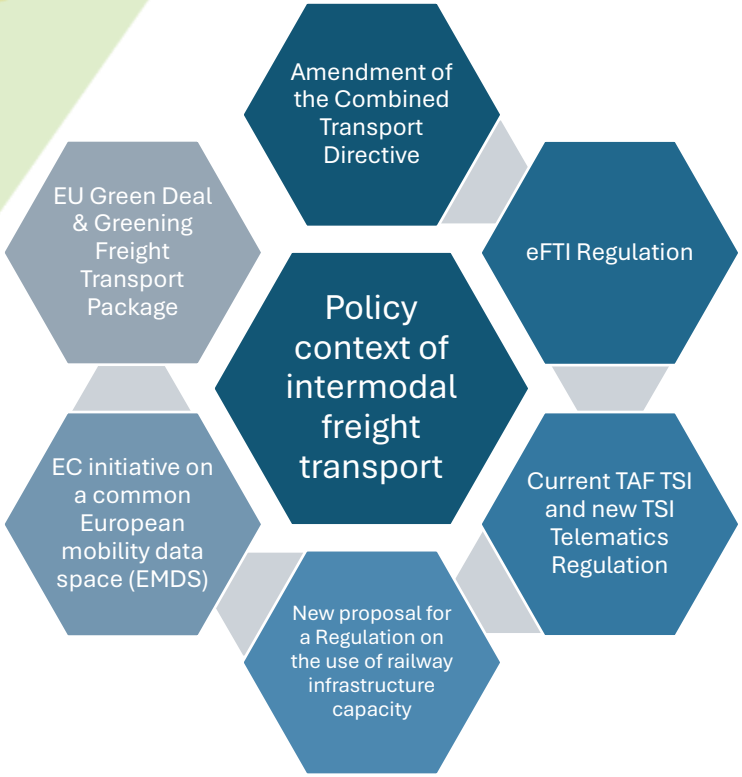
4. **Current initiatives**

   - The KV4.0 Data Hub
   - CEF project BRIDGE

5. **Barriers to effective digital data sharing**

UIRR – the voice of intermodal freight transport - **network of +100**

The policy context

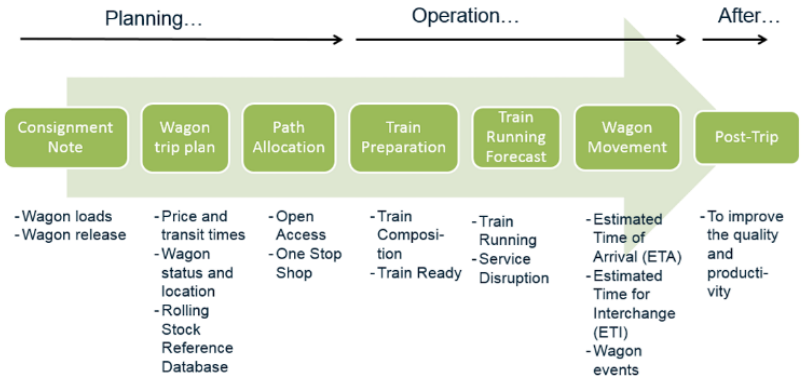


- Intensive **promotion an increased use of intermodal** (railway) services (fewer external costs of rail compared to unimodal road)
- Re-enforcement of the **digital obligations and requirements towards the intermodal freight community**
- Obligation for the **operators of rail service facilities,** such as terminals**, to cooperate with infrastructure managers** to provide specific information on available service facility capacity in a digital format
- Improvements in the digital exchange with authorities (**B2A exchange)**

The Telematics Application for Freight (TAF) TSI

Objectives

- To improve communication between railway undertakings (RUs) and infrastructure managers (IMs)
- To support intermodal freight transport by integrating terminals, intermodal operators, and their customers
- to set mandatory technical and functional rules for exchanging freight transport data in a harmonised format



Relevance for intermodal freight transport

- Planning and train preparation
- Real-time tracking capabilities
- Monitoring and quality improvement

under the principles of the so-called **Rotterdam clause**

TAF TSI Rotterdam Clause

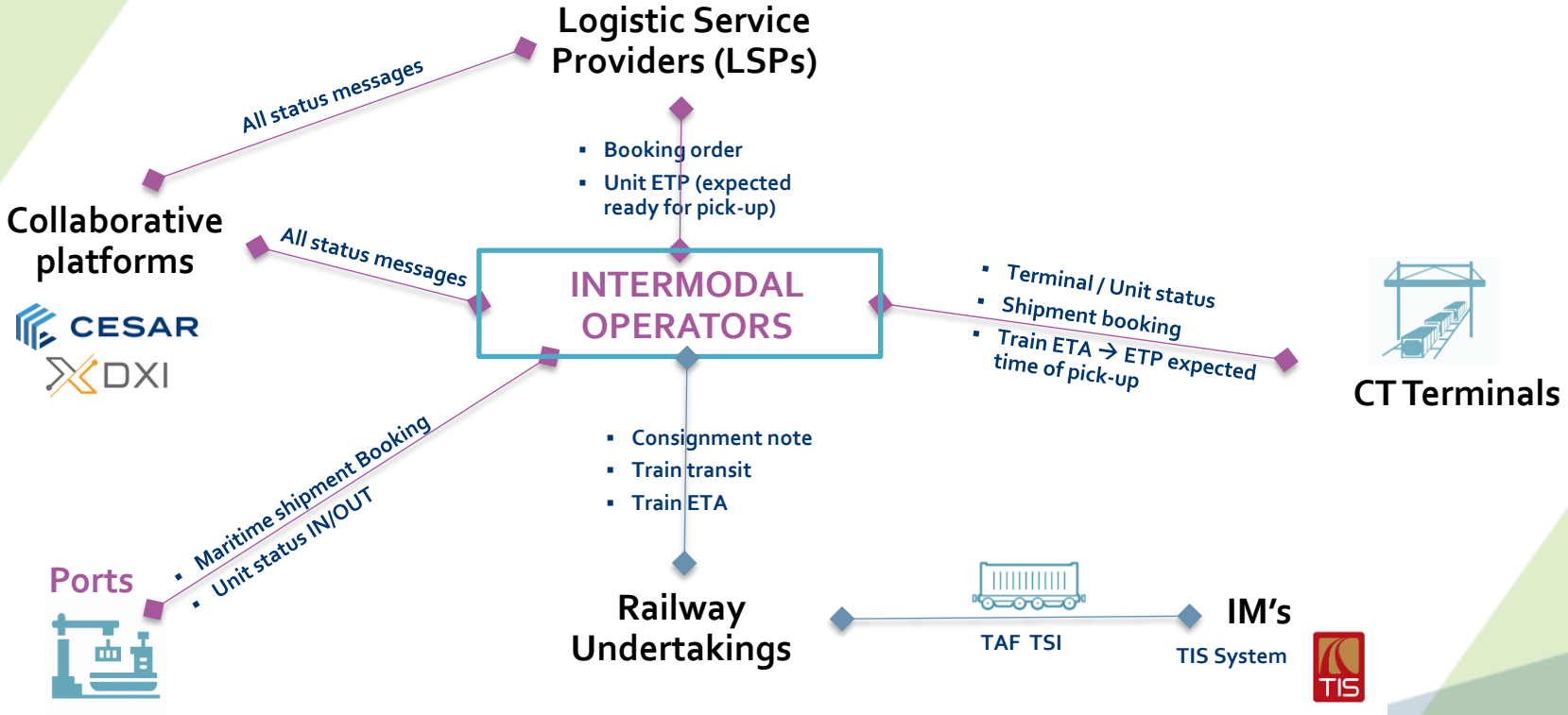
Chapter 4.2

*..... **every stakeholder may exchange** the messages according to Chapters 4.2.2.3 (only during operation or preparation of train operation), 4.2.4.2, 4.2.4.3, 4.2.5.2, 4.2.6.3 and 4.2.6.4 **with other stakeholders involved in the same freight service, under the condition that the stakeholders are identifiable**. These exchanges of messages may be charged by the sender.*

UIRR experiences

- **Harmonisation of data sharing rules**: the current patchwork of 30,000+ individual data-sharing agreements contradicts the intent of the Rotterdam Clause. The legal framework should move towards standardised, open-access principles.
- **Ensuring Interoperability:** data exchange should not be limited to direct contractual partners but should extend to all relevant transport actors, including logistics service providers and terminal operators.
- **Legal Basis for default data sharing:** by fully implementing the Rotterdam Clause, the agreement would align with best practices in other EU transport sectors where data exchange is standardised by default.

The intermodal digital freight ecosystem

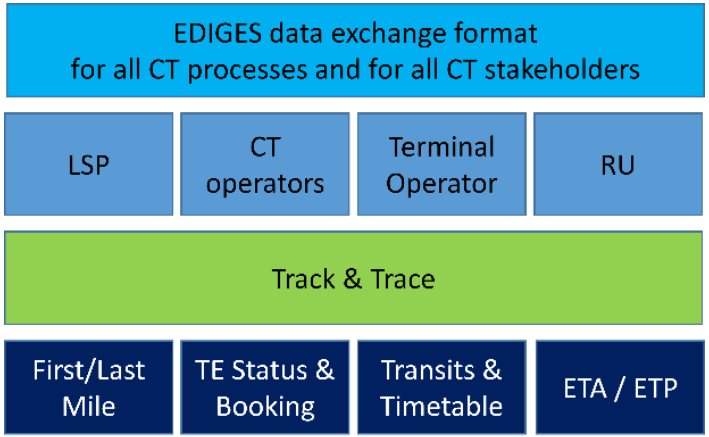


EDIGES the data exchange format in the intermodal freight sector

1. End customers such as **shippers expect complete visibility of every single movement** in a door-to-door combined transport including all actors like Logistic Service Providers (LSP), Terminal Operator, Intermodal Operators, Railway Undertakings and Infrastructure Managers

2. All players within the supply chain need to **exchange real time and standardised information**.

3. **Missing or different EDI and information standards do not allow a full integration of every single transport** information into a unique visible platform for all involved partners



1. The **EDIGES technical consortium,** composed by key intermodal stakeholders, is responsible for the technical management of the data exchange format.

2. **The promotion activities is ensured by UIRR**

3. The EDIGES format covers **all CT processes** for all involved CT stakeholders including the end-users such as LSPs.

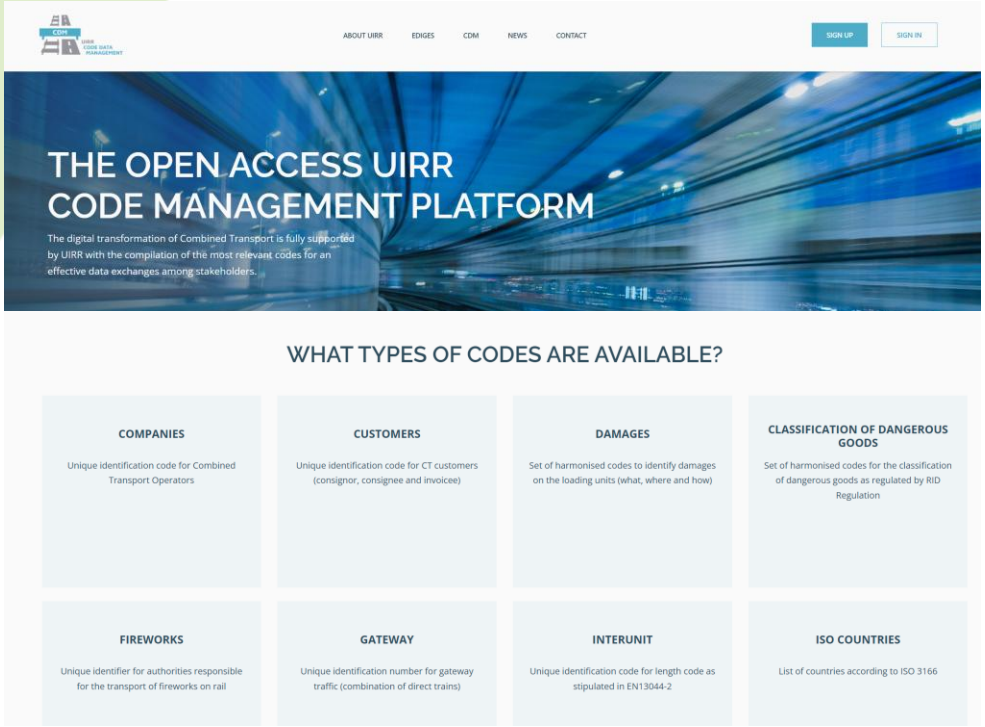
the catalogue of message codes

Code (main/cancel)	Description	Flow	IO	TE	RU	LSP	AP
10/11	Transport Booking from Customer to Operator	Customer LSP -> Intermodal Operator -> Terminal	x			x	3
20/21	Delivery of unit at departure terminal (Gate-in)	Terminal -> Intermodal Operator	x	x			4
23/24	Wagon in train composition	Terminal -> Intermodal Operator	x	x			4
25/26	Loading of unit on wagon	Terminal -> Intermodal Operator	x	x			4
27	Consignment note generation	Terminal -> Intermodal Operator -> RU	x	x			4
30/31	Train departure from departure terminal (Departed)	Terminal -> Intermodal Operator	x	x			4
32	Consignment note exchanged at train closure	Intermodal Operator -> RU	x		x		5
34	Train/Wagon transit control	RU -> Intermodal Operator	x		x		5
35	Transport information update	Intermodal Operator <-> Terminal	x	x			4
36	Train ETA / Terminal forecast unit ready for pickup	RU -> Intermodal Operator	x		x		5
37	Unit ETP expected time of pick-up at arrival terminal	Intermodal Operator -> Customer LSP	x				4
38/39	Train arrival and content verification, wagons/units	Terminal -> Intermodal Operator	x	x			4
40/41	ITU ready for pick-up by road or for re-expedition by train	Terminal -> Intermodal Operator	x	x			4
50/51	Picking-up of the ITU (Pick-up)	Terminal -> Intermodal Operator	x	x			4
13	Pre-carriage	Customer LSP -> Intermodal Operator -> Terminal	x			x	8
18	Terminal lead time	Terminal -> Intermodal Operator -> Others	x	x			7
43	Post-carriage	Customer LSP -> Intermodal Operator -> Terminal	x			x	8
70/71	HLR	Terminal -> Intermodal Operator -> RU	x	x			4
72/73	MAD RU	Terminal -> Intermodal Operator -> RU	x	x			4
74/75	Transfer of liability from the RU to the terminal	Terminal -> RU	x		x		4
60	Item position	Terminal -> Intermodal Operator	x	x			4
80	Terminal slot data	Terminal -> Intermodal Operator -> Others	x	x			7
82	Terminal info	Terminal -> Intermodal Operator -> Others	x	x			7
88	Pin code	Intermodal Operator -> *	x				
99	Generic Message	Intermodal Operator -> *	x				4
RS	Response message	Intermodal Operator -> *	x				3
CT	Timetable commercial	Intermodal Operator -> Customer LSP	x				2
OT	Timetable operational	RU -> Intermodal Operator	x		x		2
PT	Public timetable	Intermodal Operator -> Customer LSP	x				2
TM	Terminal master data	Terminal -> *	x	x			2
TD	Train disruption	RU -> Intermodal Operator	x		x		5
ND	Network disruption	RU -> Intermodal Operator	x		x		5
15 (NOT IMPLEMENTED)	Verification of the physical status of unit (Check-in)	Terminal -> Intermodal Operator	x	x			4
29 (NOT IMPLEMENTED)	Train loading closure	Terminal -> Intermodal Operator	x	x			4
55 (NOT IMPLEMENTED)	Wagon loading proposal (Loading forecast)	Intermodal Operator -> Terminal	x				4

1. **35 status messages** have been defined.
2. **All status messages** may be submitted by **an intermodal operator (IO).**
3. **18 status messages** may be submitted **by the terminal entities (TE).**
4. **7 status** messages may be submitted **by Railway Undertaking (RU).**
5. **3 status messages** may be submitted **by LSPs.**

The reference files

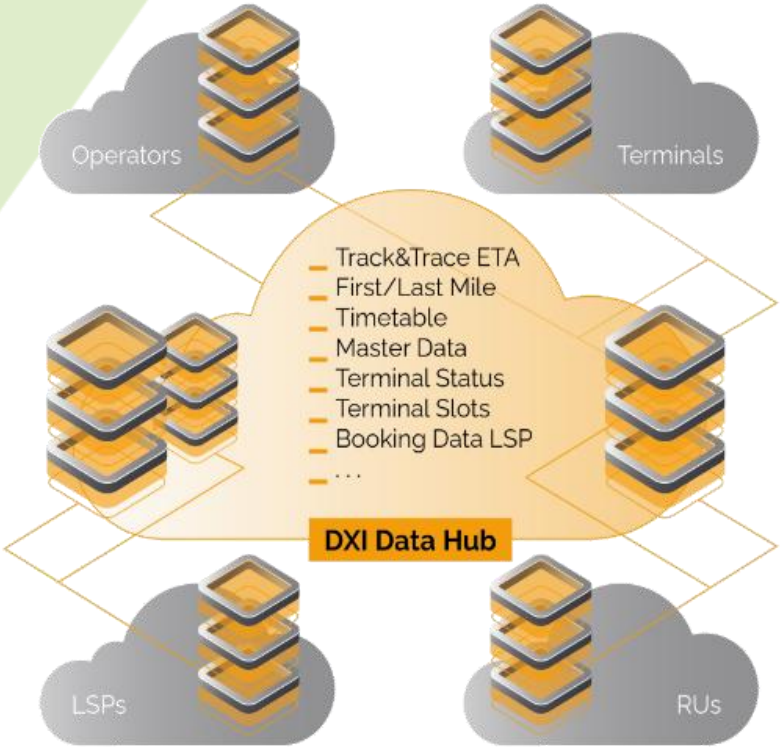
harmonised codes are used to identify unequivocally some key elements such wagons, loading units, railway locations, goods, damages…



UIRR CDM application

- **Neutral platform** for all CT stakeholders (cdm.uirr.com)
- Collection of **standardised codes used in operational data exchanges** (17 codes: terminals, customers, damages, waste, dangerous goods,)
- **UIRR as the Administrator** and Facilitator
- Download in Excel files
- Multilanguage (DE, EN, FR, IT)

KV4.0 data hub: the overall concept



1. The **targeted stakeholders** for the hub are the intermodal operators, terminals, LSPs and Railway Undertakings.

2. All **intermodal processes** are covered.

3. All **EDIGES status messages** can be exchanged through the KV4.0 data hub.

4. **TAF TSI messages** such as TRI can also be exchanged through the hub.

KV4.0 data hub: key aspects

…is in full production since February 2023 with now more than 25 customers (LSPs, TOs, IOs, RUs)

…has exchanged 16,5 million messages between May 2023 and October 2024

…may accept and exchange all EDIGES 4.1 status messages

…has integrated new status messages to cover additional operational processes such as gate-out pick-up, disruption events and gateway sequences

…has implemented the Common Interface to offer a SaaS solution to the terminals willing to share terminal status messages with the RNE TIS application

…is currently tested by more than 50 potential new users

…has been enhanced to also exchange some specific TAF TSI messages

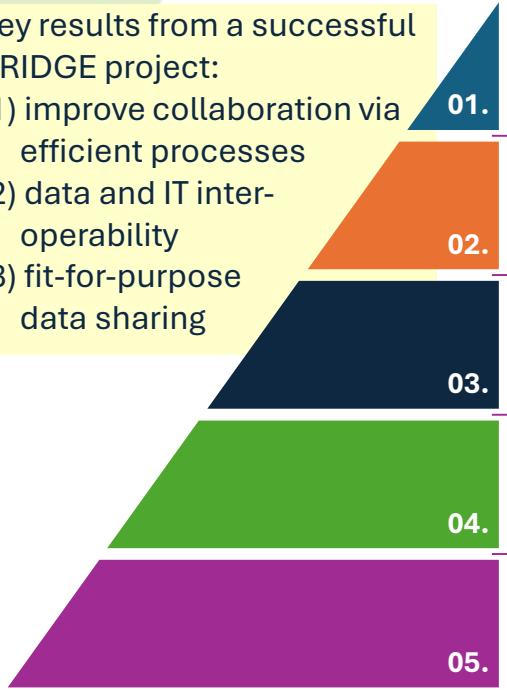
…has integrated a mapping module for EDIGES and TAF TSI messages

…is constantly promoted at various dissemination events

DX Intermodal GmbH (in short DXI) is a joint venture of companies with many years of experience in intermodal transport

BRIDGE: digitalisation of door-to-door intermodal freight transport

Key results from a successful BRIDGE project:
(1) improve collaboration via efficient processes
(2) data and IT inter-operability
(3) fit-for-purpose data sharing



Roadmap for easier digitalisation and processes to win or keep customers
Fine tuned CT business ecosystem that is more responsive and transparent for customers. Digital transformation (incl. AI), automation and interoperable processes and IT systems. The road-map lays out the future co-opetitive development of the CT sector.

Practical demonstrators to facilitate data sharing & demonstrate service quality
Improvements on selected TEN-T lines for specific customers or groups of customers to proof viability and define roll-out conditions

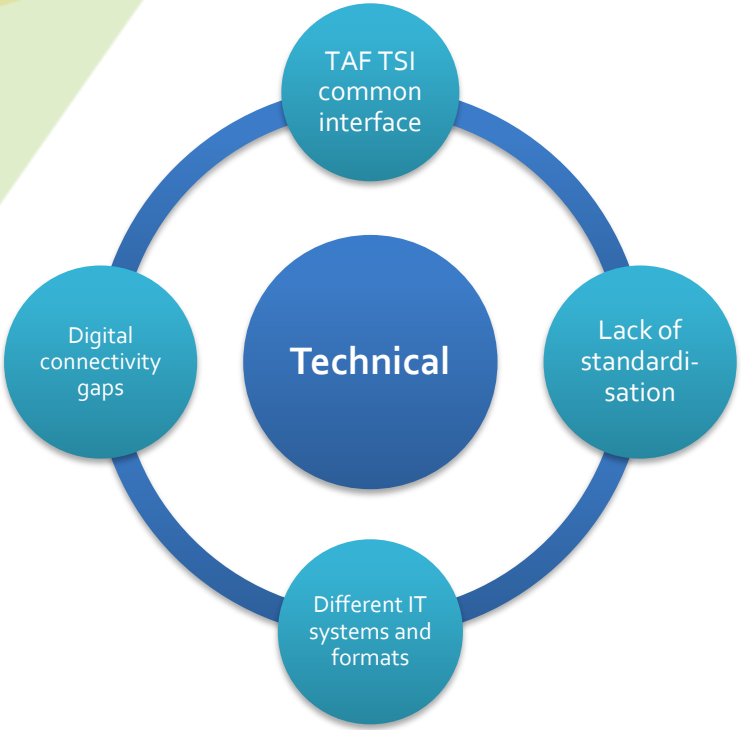
Door-to-door data sharing standards development
EDIGES 5.0 enhancements, integration of RUs and IMs including RNE TIS, deblocking TSI Telematics discussion for Combined Transport, eFTI, minimum viable data set between all stakeholders up to consignor and consignee

SME terminal integration enabling
Develop access possibilities for SME terminals to digitalise faster and more cost-efficient via suitable contracts, standards and IT platforms. Faster harmonised and standardised offering for CT customers achieved.

Compliance facilitation and shaping
Explore and challenge regulatory requirements together and shape the discussion with regulators and IT solution providers likewise (TSI).

Co-funded by the European Union

Barriers to Effective Digital Intermodal Freight Integration



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THANK YOU FOR YOUR ATTENTION

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