



**FIT FOR
FREIGHT**
Dangerous goods

UIC Freight – competence centres

**LOAD
SAFETY**

**WAGON
UTILISATION**

**DANGEROUS
GOODS**

**TRAIN
OPERATION**

**COMBINED
TRANSPORT**

**DATA
EXCHANGE**

**CORRIDOR
DEVELOPMENT**

**RAIL FREIGHT
FORWARD**

UIC Freight – new website



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ACTIVITIES ▾

REGIONS ▾

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Home / Freight

FREIGHT

Let's MODAL SHIFT to an environmentally sustainable future where rail plays a central role in mobility and, asserts itself as its unwavering backbone. To support this ambition, UIC is a key partner working with its members to drive modal shift. This is achieved by harmonising business, operational and information processes which are at the heart of rail freight's daily business activities.

WAGON UTILISATION

Wagons are a key asset in rail freight transport. UIC works in this area to ensure the interoperability, availability, and easy and safe hand over of wagons, which has a direct impact on operational capacity and overall cost. [Read more...](#)

ATTI Claim Settlement

Corrective Maintenance / Restoring fitness to run GCU

Technical Inspection Wagon Utilisation

COMBINED TRANSPORT

Combined transport (CT) is key to achieve a carbon neutral transport sector in the context of the European Green Deal. Combined Transport, presenting a range of benefits, contributes towards a better quality of life and proposes a seamless transport solution in order to improve the productivity of the entire chain. [Read more...](#)

CORRIDOR DEVELOPMENT

The development of intercontinental rail freight corridors opens extremely promising perspectives to the growth of rail transportation over long distance, as an alternative to other modes - maritime or road transport - or as an effective partner in the global logistic chain. [Read more...](#)

ECCO Freight Forwarders

DANGEROUS GOODS

The transport of dangerous goods is subject to specific regulatory measures stipulated by the competent international, European, or national authorities, as well as certain measures taken by companies themselves. Dangerous goods safety on the railways is based on general railway operations safety. This area is managed by UIC in close consultation with its members and in cooperation with other stakeholders. [Read more...](#)

TRAIN OPERATION

Harmonisation is the basis for a seamless international and border crossing freight traffic. UIC facilitates best practice sharing to ensure interoperability as well as increase commercial speed of train traffic. Key part of this competence centre is corridor development, ensuring that significant traffic flows are being prioritised and investments being put in place. [Read more...](#)

Exceptional Consignments Operations Quality

XBorder

DATA EXCHANGE

Digitalisation is key tool to facilitate business growth, reduce future costs and mitigate errors. UIC manages and develops a broad portfolio of transversal digital solutions, enabling efficient data exchange between supply chain partners. At utmost importance it the development of DP-RAIL, an RFF initiative to create an open European Digital Ecosystem to facilitate seamless interoperable information flows between all rail freight entities. [Read more...](#)

Border Points Coding DIUM DIUM/NHM GRU

IT working group NHM RailData

LOAD SAFETY

The safety of goods is pivotal in rail freight transport. Hence, UIC has produced Loading Guidelines to clearly outline the key principles and technical recommendations for loading methods, which will ensure that goods reach the intended destination unscathed. [Read more...](#)

Loading guidelines Loading Guidelines - Working group

UIC Pallets

RAIL FREIGHT FORWARD

Rail Freight Forward is a coalition of European rail freight companies that are committed to drastically reduce the negative impact of freight transport on the planet and mobility, through innovation and a more intelligent transport mix. UIC Freight acts as the overall coordinator of the RFF program and related technical projects. [Read more...](#)

DEEP DIVE INTO TRANSPORT OF **DANGEROUS GOODS**



JOOST OVERDIJKINK, UIC

TDG at UIC

OTIF membership RID application

SCOPE OF APPLICATION OF RID APPENDIX C TO THE COTIF

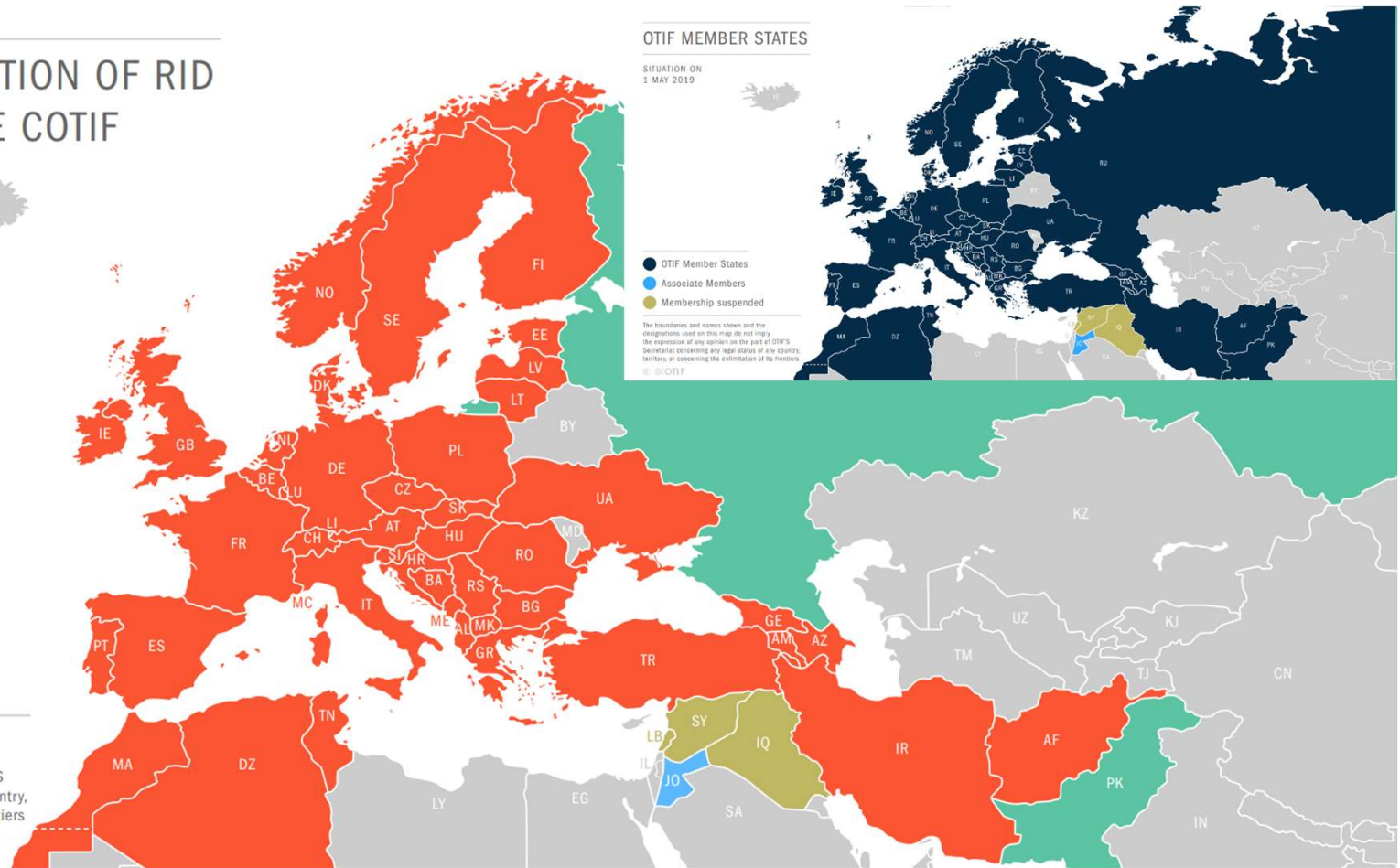
SITUATION ON
1 MAY 2019



- COTIF - RID
- COTIF Without RID
- Associate Members
- Membership Suspended

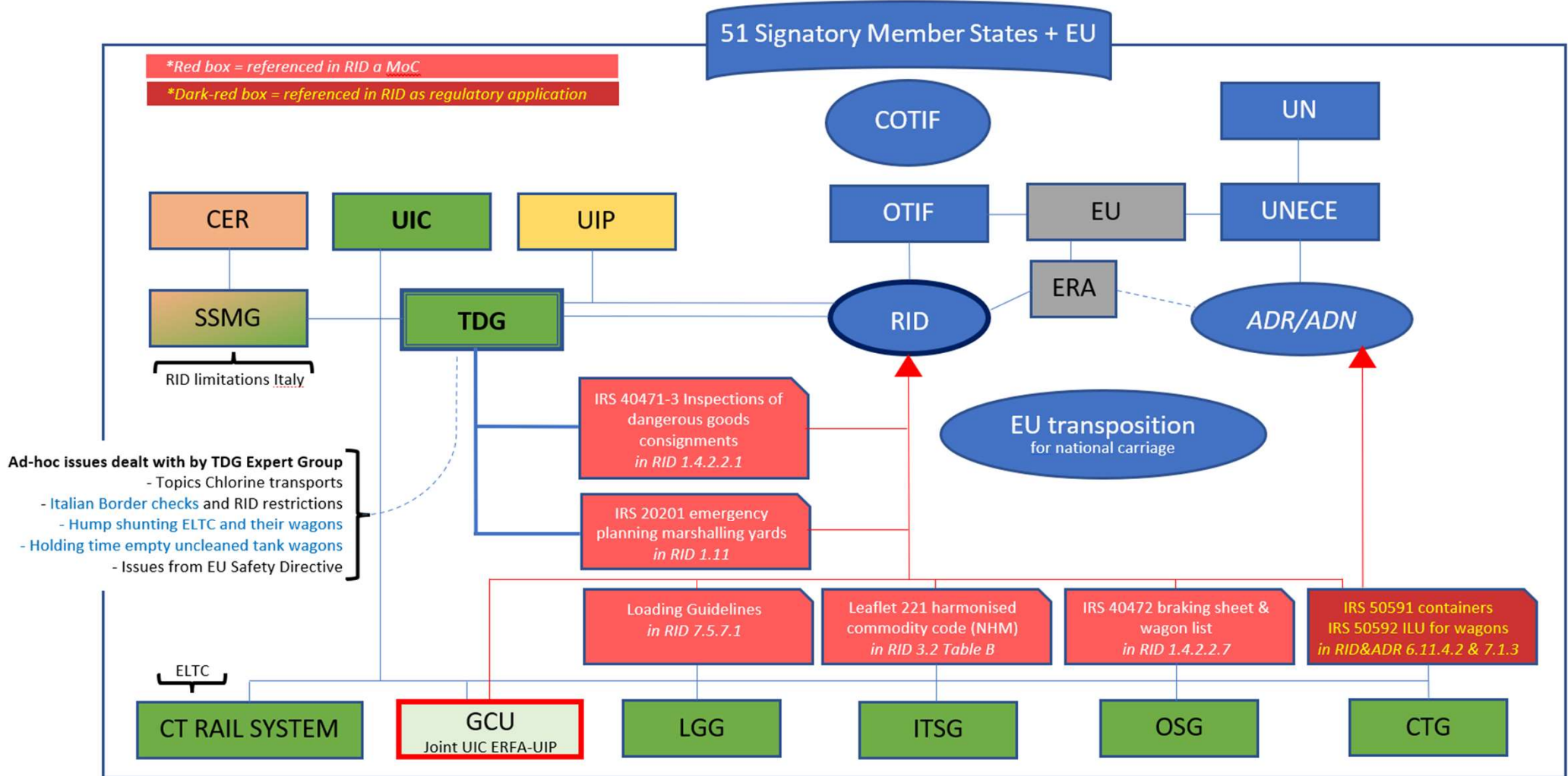
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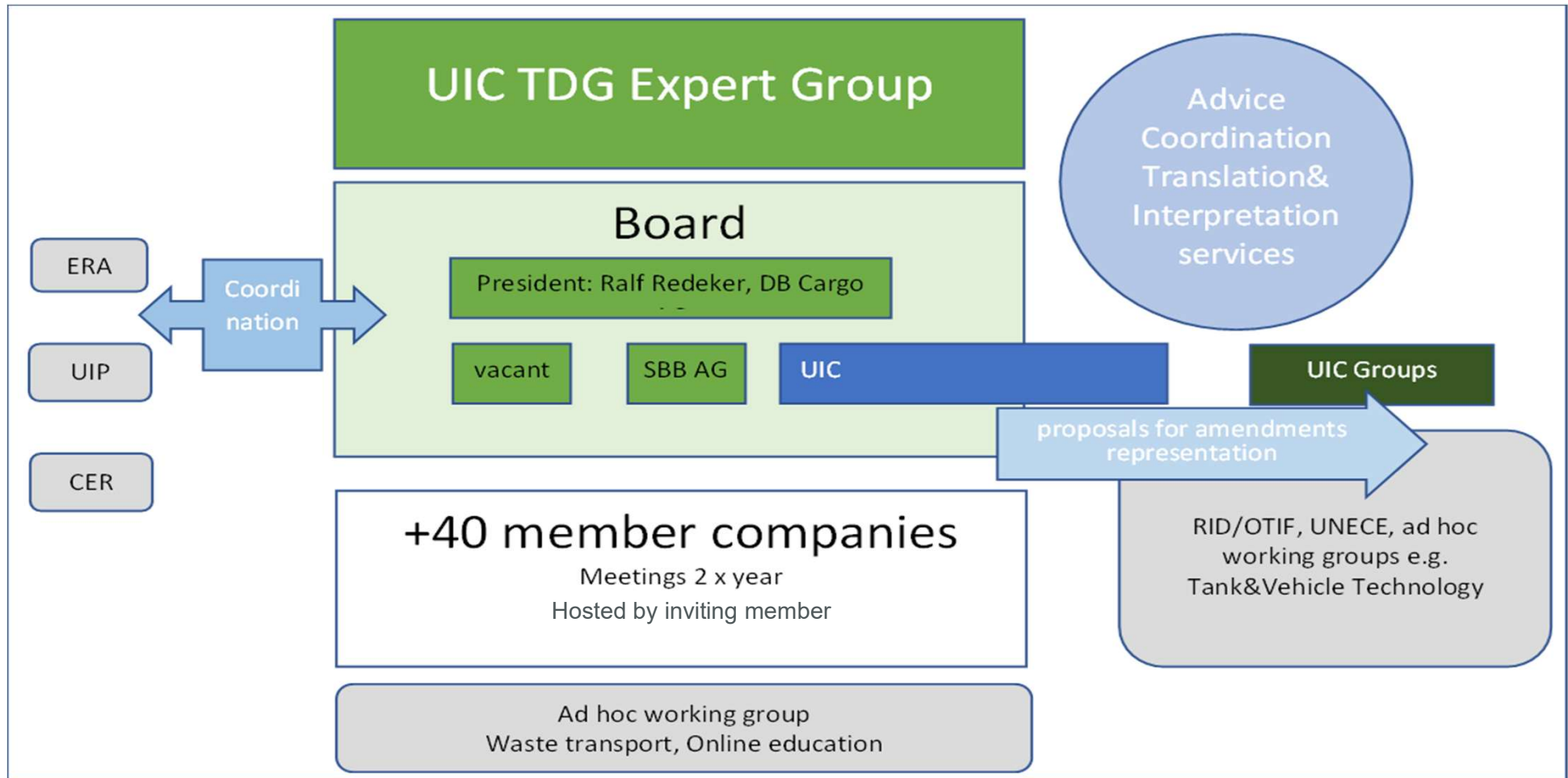


Source: OTIF website: <http://otif.org/fileadmin/new/2-Activities/2D-Dangerous-Goods/Scope%20of%20Application%20of%20RID.pdf> and <http://otif.org/fileadmin/new/1-About/OTIF%20-%20EU%20Member%20States.pdf>

UIC in the TDG landscape rail and intermodal



UIC TDG Expert Group simplified view



TDG within the UIC framework

The activities of the **TDG Expert Group** are carried out in consultation with other internal UIC committees, in particular those responsible for:

- Load safety rules
- Combined transport
- Railway operations
- NHM codification of goods
- Training of staff
- Safety management
- Emergency plans (safety)
- Rail security

UIC key assets & achievements

- continuously representing the rail sector at OTIF, UNECE and other international organisations
- supporting UIC members experience in handling TDG safely and economically
- aligning 40+ companies to a standardised set of checks in relation to RID
- uniting railway undertakings & infrastructure managers together
- keeping TDG commercially viable
- preventing (long-term) establishment of national rules, for example:
 - securing chlorine transport, safely and economically
 - eliminating limitation on dangerous goods trains in Italy
 - buffer wagons and other national initiatives that deviate from int'l law
- having a permanent eye on new developments, notably in risk-management area (CSM), to ensure viability of railway operations

UIC TDG supporting its members

Seamless border crossings

Delivering smooth exchange of Dangerous Goods between RUs

Safety

Ensuring safe transport through references in RID

Added value to business

Guarding against uneconomical developments and foreseeing new developments

Quality of load and Contingency Planning Themes

RID requirements integration into safety & quality management system

UIC documentation <i>Leaflet, IRS etc.</i>	Title	Referencing in Regulations		Status of UIC document referenced (in full or in part)	UIC body responsible for document content management
		RID	ADR (road)		
40471-3 (Edition 3)	Inspections of dangerous goods consignments	1.4.2.2.1		Best practices Reference to point 5 of the IRS IRS “inspections”, as way of complying to regulation RID 1.4.2.2.1	RID Group of Experts (UIC/Freight) Point 5 of the IRS is published on the UIC website: Freight activity/Dangerous goods. The text is provided in FR, DE and EN (as is the IRS).
20201 (Edition 1)	Carriage of dangerous goods - Emergency planning guidance for rail marshalling yards	1.11		Best practices Reference to this IRS as way of complying to regulation RID 1.11	RID Group of Experts (UIC/Freight) IRS in FR, DE, EN

Quality of load and other UIC assets in RID

RID requirements integration into safety & quality management system

UIC documentation <i>Leaflet, IRS etc.</i>	Title	Referencing in Regulations		Status of UIC document referenced (in full or in part)	UIC body responsible for document content management
		RID	ADR (road)		
40472 (Edition 1)	Braking sheet, consist list for locomotive drivers and requirements for the exchange of data necessary to the operation of freight rail services	1.4.2.2.7		Best practices (which are deemed to comply with RID regulations) Reference to Appendix A and Appendix B of the UIC IRS	“Operations” group (UIC/freight)? The reference relates to the DG information to be provided to the driver. In principle, the provisions of the UIC IRS are compliant with the OPE TSI and with the appendices to COTIF.
221 (Edition 5) Reference to the publicly accessible version on the UIC website	NHM (Harmonised Commodity Code)	3.2 Table B		Table B is informative. It establishes a link between UN coding for dangerous goods and the NHM classification used in the rail sector	NHM Commission (UIC/Freight) Table B was included in the RID in the past at UIC’s request. It is updated by UIC/Freight/TDG in conjunction with OTIF.
50591 (Edition 1) and 50592 (Edition 2)	Containers (Roller units for horizontal transshipment; Intermodal Loading Units (other than semi-trailers) for vertical transshipment and suitable for carriage on wagons)	6.11.4.2 and 7.1.3	6.11.4.1 and 7.1.3	Regulatory application	Combined transport. Is handled by UIC in the context of the RID/ADR/ADN Joint Meeting (UNECE)
Public version of the Loading Guidelines accessible on the UIC website	UIC Loading Guidelines	7.5.7.1		Best practices	“Loads” committee
GCU	General Contract of Use for wagons	1.2.1 1.3.2.2.2 5.4.1.4.1		Best practices (Based on the international convention COTIF 1999 and Annex CUV.)	Wagon User Study Group represents UIC in Joint Committee with UIP.

JOCHEN CONRAD, OTIF

OTIF - RID



**RID (Appendix C to COTIF)
Regulation concerning the International
Carriage of Dangerous Goods by Rail**



Jochen Conrad

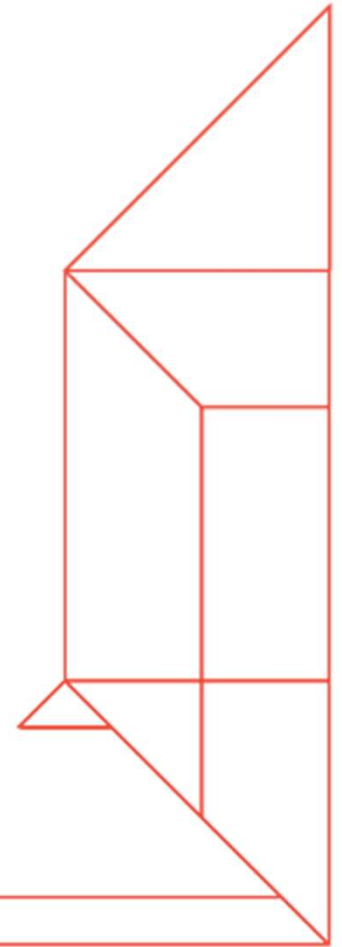
Head of Dangerous Goods Department

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Carriage by Rail

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Agenda

- COTIF
- What are dangerous goods?
- Dangerous goods regulations – worldwide and mode specific




Agenda

- **COTIF**
- What are dangerous goods?
- Dangerous goods regulations – worldwide and mode specific



COTIF 1999

Convention concerning International Carriage by Rail



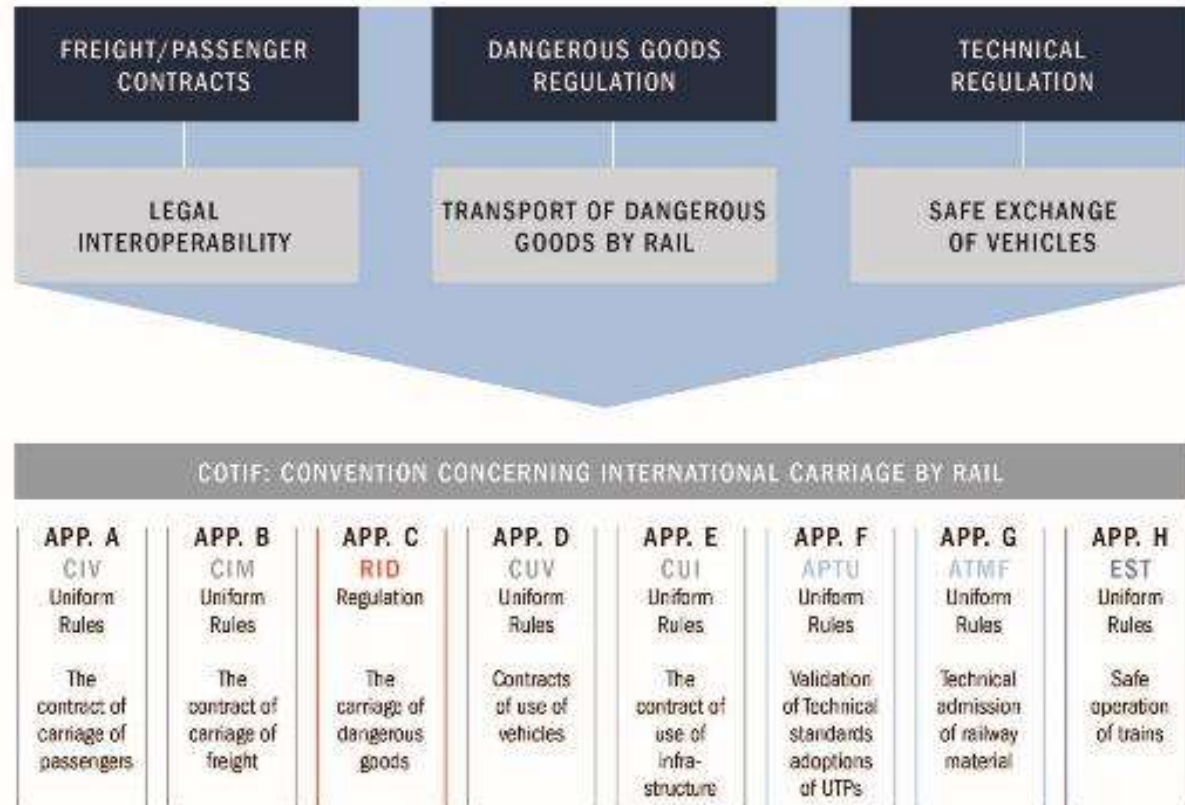
Organisation intergouvernementale pour les transports internationaux ferroviaires
Zwischenstaatliche Organisation für den internationalen Eisenbahnverkehr
Intergovernmental Organisation for International Carriage by Rail

COTIF 1999

Convention concerning International Carriage by Rail

Unofficial consolidated version

version 1.3.2019





RID

- RID = **R**egulations **C**oncerning the **I**nternational **C**arriage of **D**angerous Goods by Rail
- First edition: 1893
- Harmonised structure since 2001
- 47 RID Contracting States
- Revision every two years
- Responsible OTIF Committee: RID Committee of Experts



OTIF

Intergovernmental Organisation
for International Carriage by Rail

RID | 2023

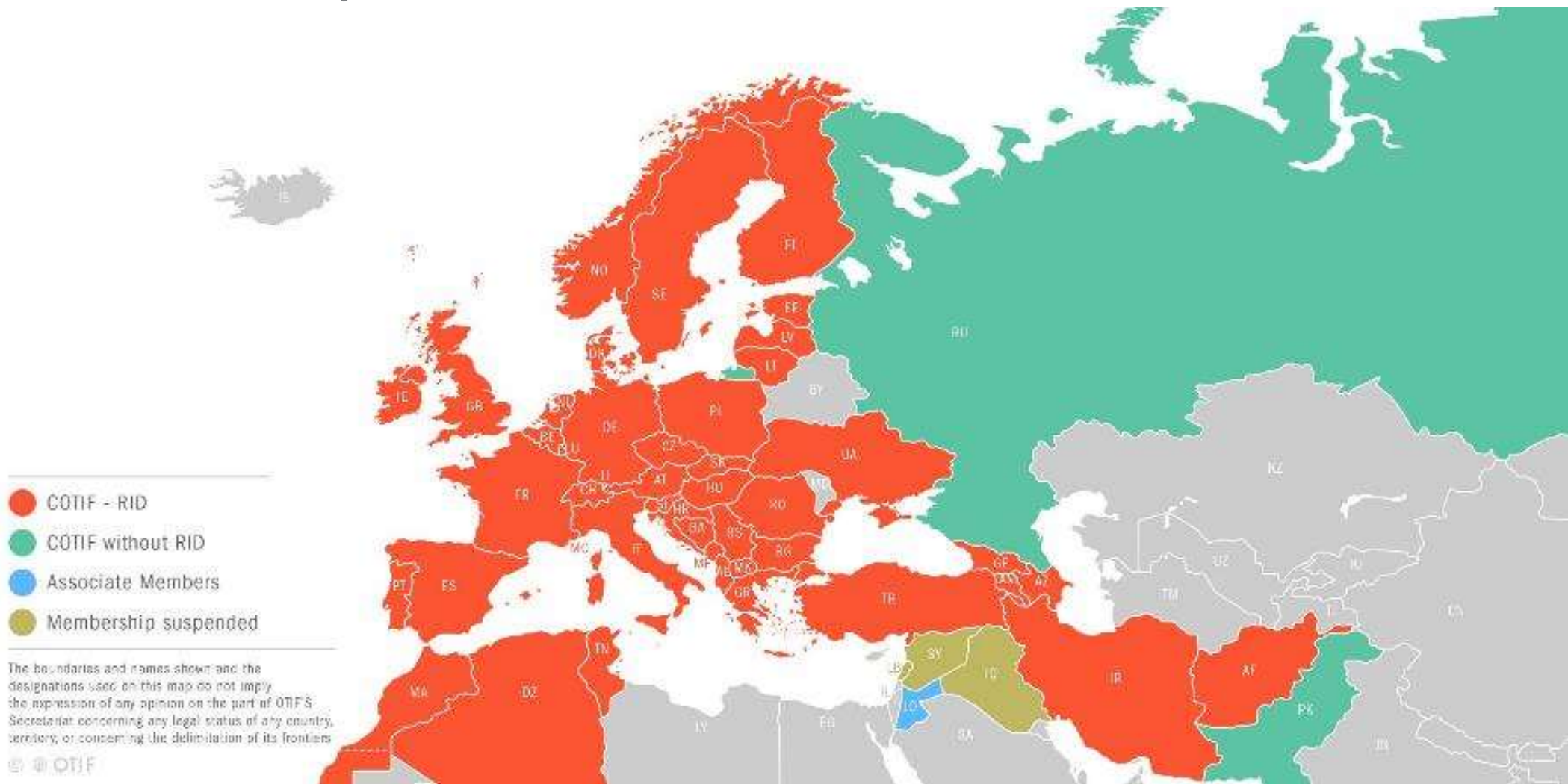
Regulations concerning
the International
Carriage of Dangerous
Goods by Rail

- Actual version: RID 2023
- Applicable since 01.01.2023
- Transitional period until 30.06.2023
- Mandatory application of RID 2023 from 01.07.2023



Scope of application of RID - Appendix C to COTIF

Situation on 1 May 2023



OTIF – EU Member States

Situation on 1 May 2023





Agenda

- COTIF
- **What are dangerous goods?**
- Dangerous goods regulations – worldwide and mode specific
- Closer look on RID



RID

What are dangerous goods?

Substances or articles that when carried may pose a risk to people, property or the environment, due to their chemical or physical properties.

Examples of dangerous goods

Explosives substances and articles:

- TNT, dynamite, fireworks



Flammable gases:

- Natural gas compressed (CNG) or liquified (LNG)
- Liquefied Petroleum Gases (LPG) – propane, butane





Examples of dangerous goods

Flammable liquids:

- Gasoline (petrol), kerosene, diesel, acetone

Toxic substances:

- Pesticides



Radioactive substances





Examples of dangerous goods

Corrosive substances:

- Acids, alkalis

Miscellaneous dangerous substances and articles:

- Lithium batteries, asbestos, air-bag inflators, dry ice, etc.



Danger Labels

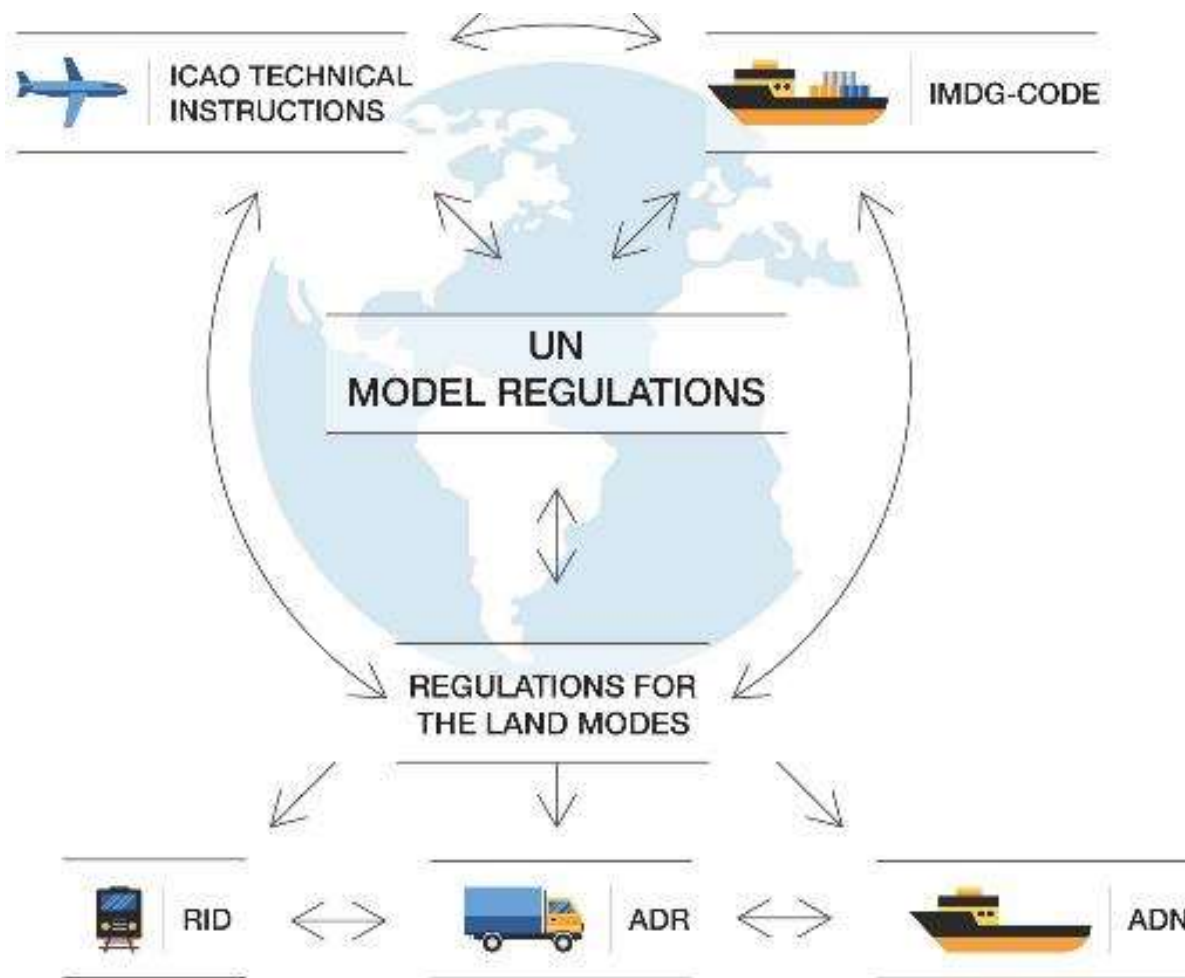




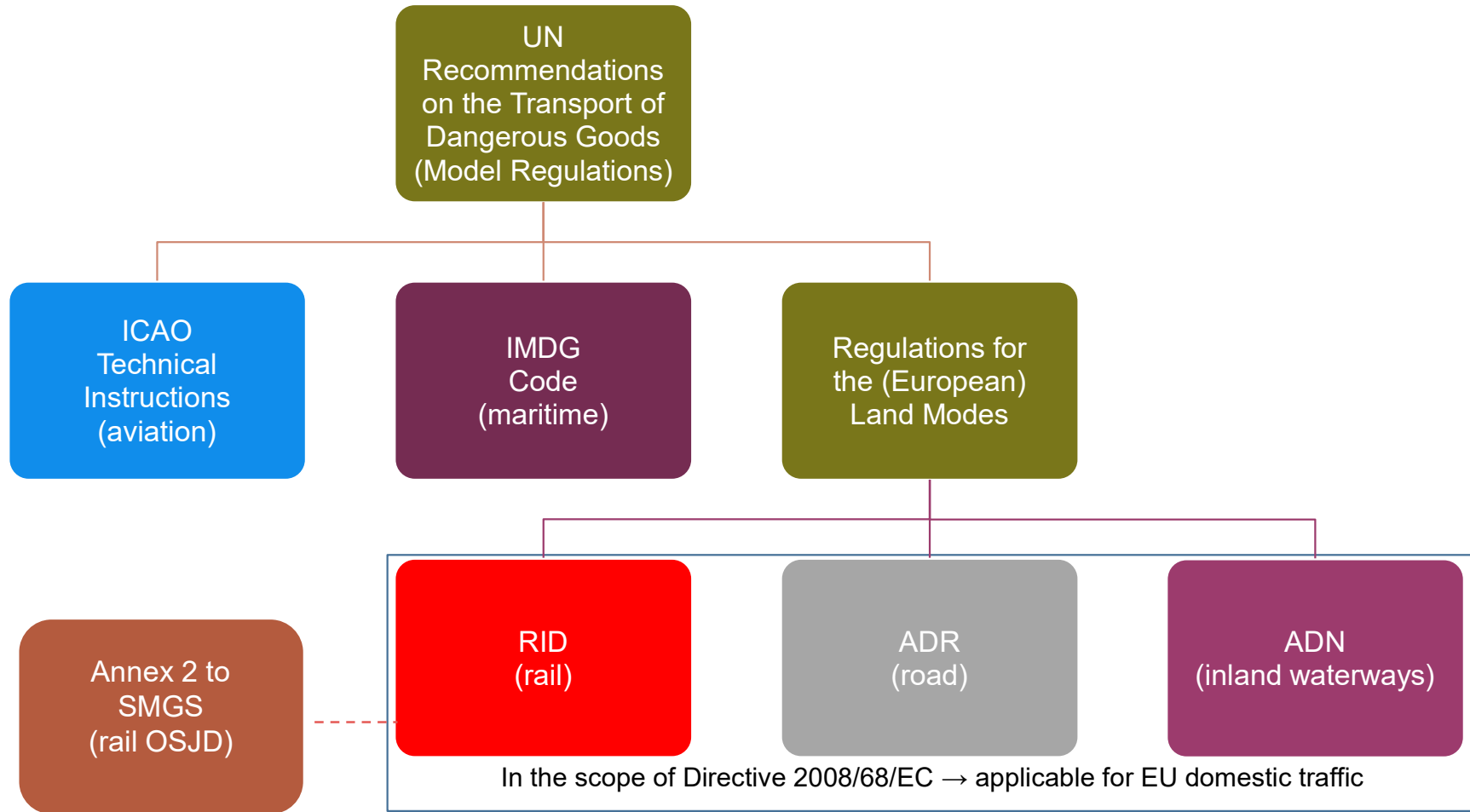
Agenda

- COTIF
- What are dangerous goods?
- Dangerous goods regulations – worldwide and mode specific

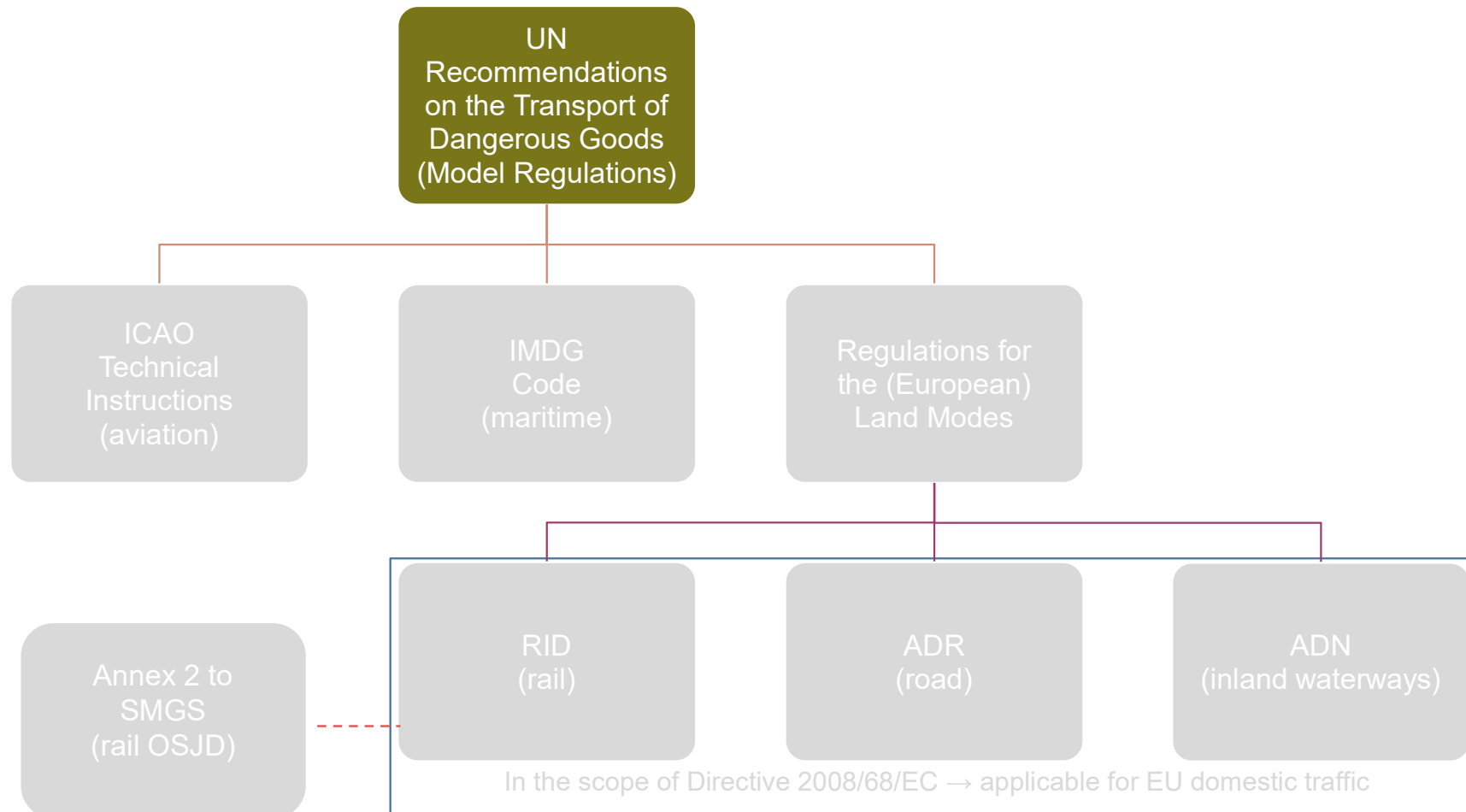
Regulations for the Transport of Dangerous Goods



Regulations for the Transport of Dangerous Goods



Regulations for the Transport of Dangerous Goods





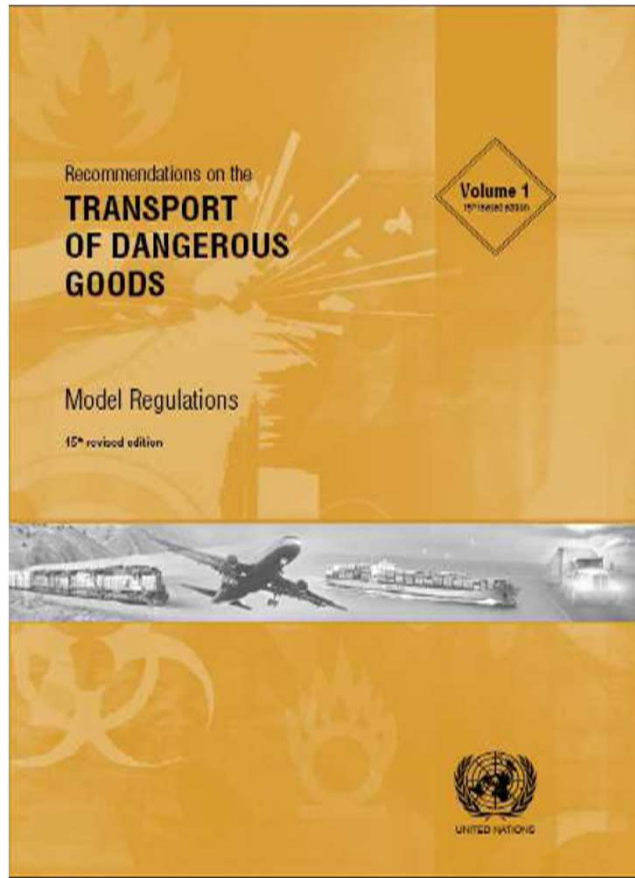
UN Model Regulations

- UN Sub-Committee of experts on the transport of dangerous goods
- Tasks: Common provisions for all modes, in particular classification, packing provisions



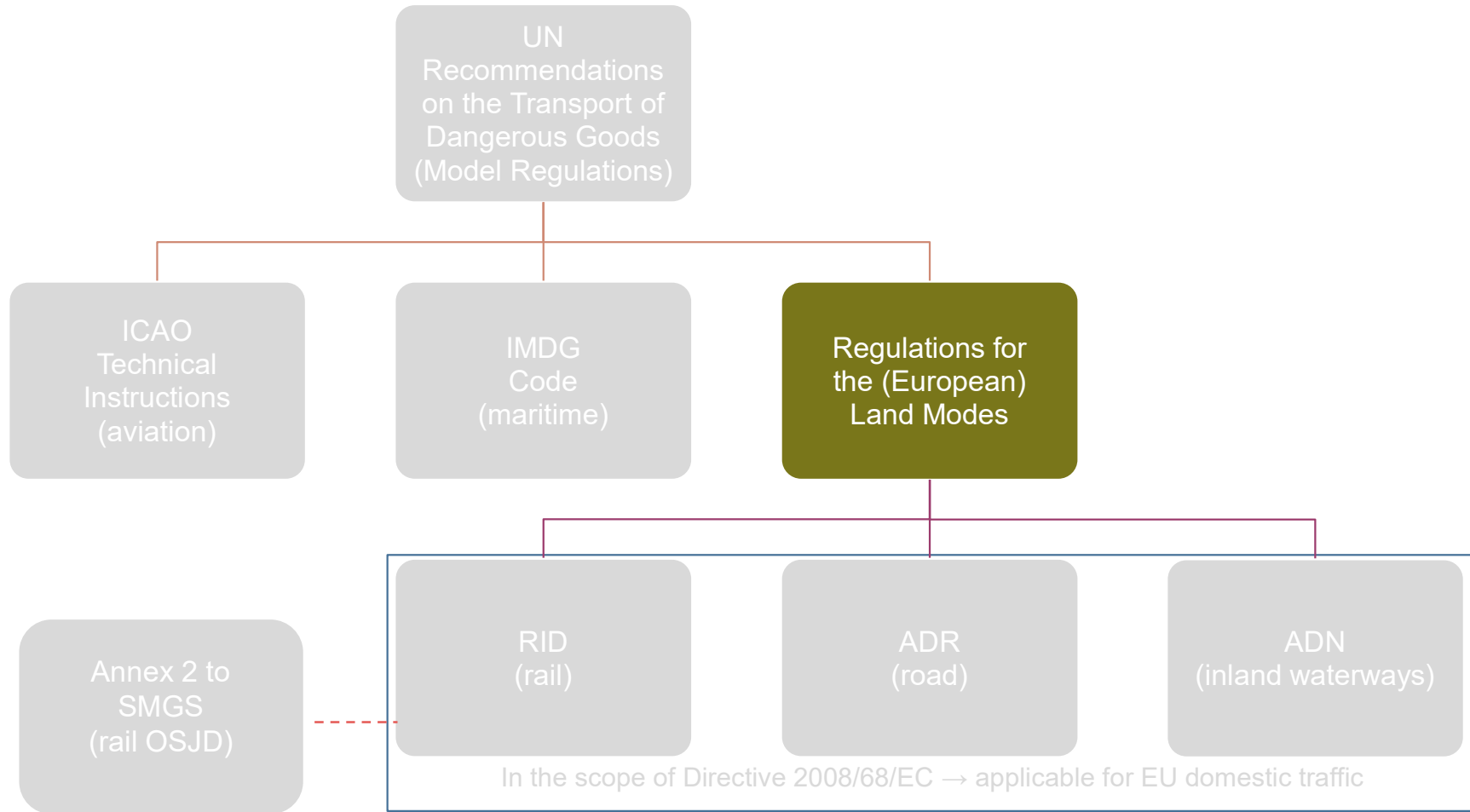
Regulations for the Transport of Dangerous Goods

UN Model Regulations



Orange
Book

Regulations for the Transport of Dangerous Goods





Organisation of RID/ADR/ADN Joint Meeting

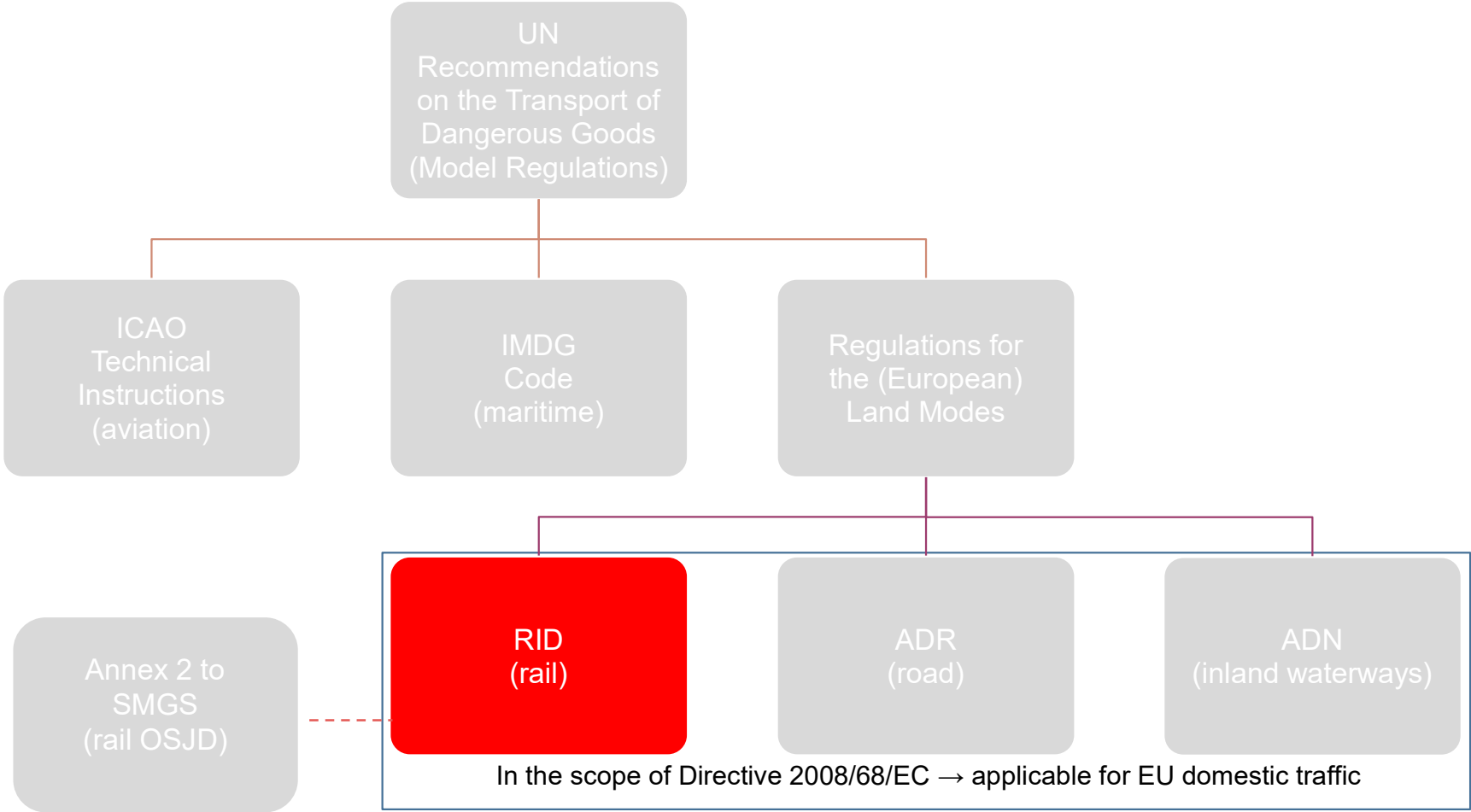
- Working group of UNECE and OTIF for common provisions in RID, ADR and ADN
- No final decision-making power
- Sessions twice a year (March and September)



Tasks of the RID/ADR/ADN Joint Meeting

- Harmonisation with UN Model Regulations
- Common provisions for RID, ADR and ADN
 - RID/ADR tanks
 - References to European standards
 - Integration of European Union Directives
 - Transport conditions for inland transport
- Permanent working groups of the Joint Meeting
 - on tanks
 - on standards
- Other current working groups of the Joint Meeting
 - on the transport of wastes containing dangerous goods
 - on the improvement of transport of dangerous goods occurrence reporting

Regulations for the Transport of Dangerous Goods





Organisation RID Committee of Experts

- Once a year (November) standing working group of the RID Committee of Experts (preparatory working group)
- Every two years just before the notification of the new amendments RID Committee of Experts meeting
- Every two years, notification of the new amendments to RID at least 5 months before entry into force



Tasks of the RID Committee of Experts

- Prepared by the RID Committee of Experts' standing working group (one one-week meeting per year (November))
- Endorsement of the decision of the RID/ADR/ADN Joint Meeting
- Interpretation of RID
- Consideration of the general European Union railway law
- Limited provisions on the construction of wagons
- Training provisions
- Operational provisions
- Provisions for hand luggage and registered luggage
- Accident analysis
- Working group on tank and vehicle technology



Languages

- UN Model Regulations:
 - English, French, Russian, Spanish, **Arabic**, Chinese
- ADR, ADN:
 - English, French, Russian (in addition available in all official languages of the EU Member States)
- RID:
 - English, French, German, (Russian), (in addition available in all official languages of the EU Member States)

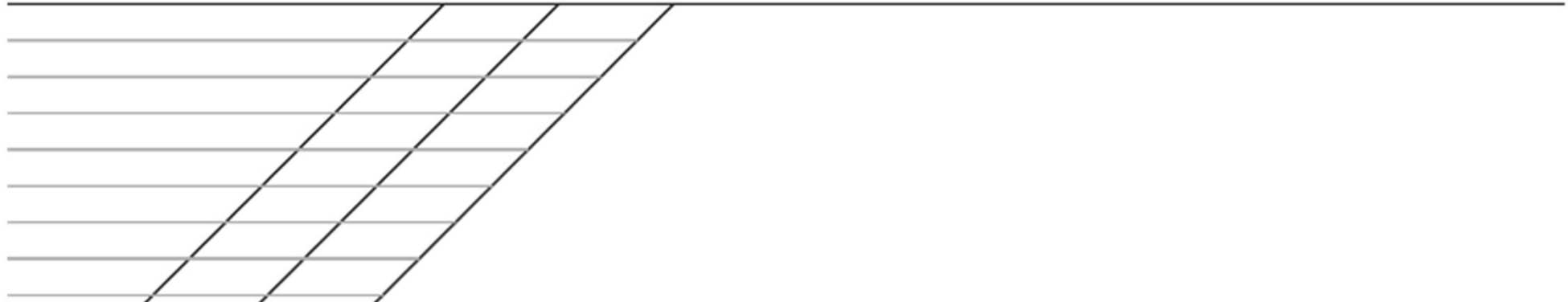


**Thank you
very much for
your attention!**





Unified railway law to connect Europe, Asia and Africa



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OTIF

Organisation intergouvernementale pour les transports internationaux ferroviaires
Zwischenstaatliche Organisation für den internationalen Eisenbahnverkehr
Intergovernmental Organisation for International Carriage by Rail

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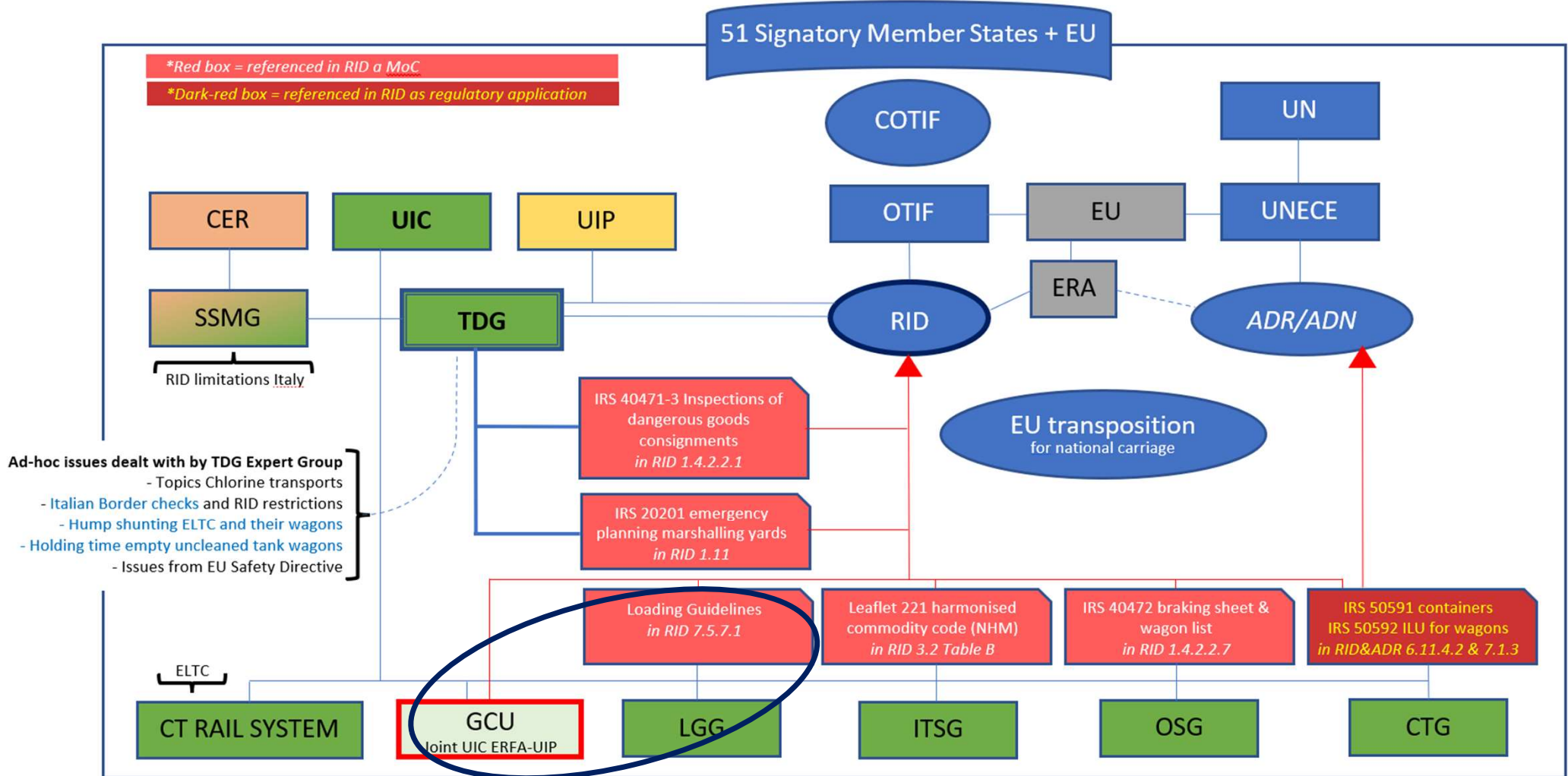
Phone : + 41 (0)31 359 10 10 | Fax : + 41 (0)31 359 10 11 | info@otif.org | www.otif.org



JOOST OVERDIJKINK, UIC

**LOAD SAFETY - QUALITY OF
SHIPMENTS**

Recap: UIC in the TDG landscape rail and intermodal



- RID Chapter 1.4 on **participants' safety obligations** requires the carrier (RID 1.4.2.2) to verify the conformity of the consignment before accepting them for transport. This obligation is specific, but it is part of the regulatory obligation of **load safety of freight** in general, for which the UIC proposes recommendations:

[Load safety | UIC - International union of railways](#)

- In this regard, it is also important to note the checks to be carried out by the railway undertakings provided for in the General Contract of Use for Wagons (GCU) during exchanges of wagons:

<https://gcubureau.org/?lang=en>

- This contract is multilateral. It is based on the International Convention COTIF 1999 and its Appendix CUV. The GCU sets out the mutual rights and obligations of wagon keepers (K) and railway undertakings (RU) when using railway wagons as a means of transport in Europe and beyond. The GCU refers to the RID when the wagon is loaded with dangerous goods.

- RID 1.4.2.1 assigns the obligation of load compliance to the **shipper**.
- The carrier is required to perform **checks**. They contribute to the quality of shipments and thus to the safety of transportation (**quality and safety go hand in hand in TDG**). These audits are also intended to reduce the risk of anomalies being remarked during transit and thus disrupting railway operations (including “passengers”).
- The checks to be carried out by the carrier (RID 1.4.2.2.1) are deemed to be satisfied if **point 5 of IRS 40471-3 “Inspections of dangerous goods consignments”** is applied. Since point 5 is referenced in RID 1.4.2.2.1, it is the subject of a public document (in FR, DE or EN) which can be consulted on the UIC website:

https://uic.org/IMG/pdf/irs40471-3_point5_en_ed3.pdf

- Point 5 of IRS 40471-3 is sometimes used by the **national competent authorities** when carrying out **checks** in accordance with RID 1.8.

- In addition to point 5 on the checklist, IRS 40471-3 deals more broadly with the **management of anomalies** and **non-conformances** found during the movement of dangerous goods, including the tracking of defects found. A **typology** of defects is proposed according to their nature, their severity...
- The application of IRS 40471-3 is a central and systematic agenda item for the semi-annual meetings of the RID Expert Group.
- Since its introduction in 2000, this document has been the subject of 13 versions, including 10 in its former UIC 471-3 status. Its **evolution is justified by the needs of businesses and the lessons learned from operations. Point 5 of this document must be in accordance with RID 1.4.2.2.1** and therefore also evolves accordingly with RID. Any new version is subject to prior examination by the intergovernmental RID Committee of Experts (and through preparation in the Standing Working Group).

- Divergences in the assessment of anomalies or non-conformities may exist when applying point 5 of IRS 40471-3 in the same company. This creates difficulties in ensuring the quality of shipments and the movement of goods. These difficulties may arise when goods (a wagon loaded with..) are transported by several successive companies, whether domestic or international. Finally, undertakings must be able to explain themselves when differences of interpretation arise during checks carried out by the administrative authorities (RID 1.8).
- An in-depth internal discussion to mitigate these difficulties based on concrete case studies was conducted by the RID Expert Group. The quality of the checks depends in particular on the quality of staff training (RID 1.3) to which each company is obliged (RID 1.3).
- The work of the RID Expert Group has resulted in a work document at this stage called the GUIDELINES FOR INSPECTIONS AS PER IRS 40471-3 SECTION 5. This document is explicitly reserved for members of the RID Expert Group in order to assist them in fulfilling their duties as security advisors (RID 1.8.3). It can be consulted by TDG Experts of UIC members via the UIC extranet.
- Excerpts from this guide will be shown later by the Chairman of the group, Mr Redeker.

Comments on the establishment and use of UIC guides

- The decision to draw up recommendations or create a UIC guide is taken in **plenary session of the group of experts**. A proposal to produce a guide may not be accepted. This was the case in the past for a proposal to establish a UIC guide for the implementation of safety plans (RID 1.10).
- The design and use of a guide presupposes a thorough examination of the situations to be controlled. The guide must be able to meet the regulatory requirements and the interests of the company, under acceptable technical and economic conditions, on the understanding that the user **cannot oppose them to the applicable regulations**.
- Companies develop quite different activities while using all or part of the same railway infrastructure. **The management of the quality of the shipments or the emergency dispositions must therefore be proportionate to the interests of safety and quality**.
- Example: A company which transports only liquid petroleum fuels in whole trains must be able to organize itself different from a company which transports all goods authorized by the RID. The guide must be able to respond to such a situation. And what if the company is limited to a “domestic activity” (national network), without providing international transport or contributing to international transport? Of course, RID is applicable to EU internal transport.

Emergency planning guidance for marshalling yards 1/2

- In 2003, the UIC published a "Carriage of dangerous goods – Emergency planning guidance for rail marshalling yards". The detailed synopsis of the guide identified IRS 20201 is presented in Appendix 2.
- This guide is the result of many years of reflection and exchange between the railways and the competent authorities for transport, environmental protection and civil safety. While rail freight traffic was in sharp decline in the early 1990s, issues related to the safety of the transport of dangerous goods **had been at the heart of the concerns of certain national public authorities responsible for civil safety and environmental protection.**
- The varying concerns from one State to another stemmed mainly from the **simultaneous presence of a large number of dangerous goods cars in the marshalling yards.** These stations were similar to industrial sites with major risks. A consensus gradually emerged to provide a specific response to security issues. Thus, RID 1.11 prescribes the establishment of emergency plans for these stations. The management of disturbed situations was seen as an essential part of TDG safety, in addition to the measures taken upstream to prevent incidents and accidents.

Emergency planning guidance for marshalling yards 2/2

- Rail marshalling yards are **an integral part of the rail system**.
- Emergency provisions for dangerous goods in yards must be consistent with those for the entire railway system, including those for railway operations in general. (This requirement has various reasons, including management of internal and external resources to the railway system.)
- **The guide refers to the general principles applied in emergency management in industry and at seaports. It incorporates requirements related to railway specificities**
- Emergency situations (TDG or non-TDG) can occur at **any point in the rail network** and are generally responded to by **public emergency services** (external). The **infrastructure manager** is involved and the safety of other trains may be concerned. The organization of the emergency system is determined by **many factors specific to the transport activity**, but also by the national (but also local) regulatory and institutional framework, particularly in terms of **civil safety** or **environmental protection**.
- The approach proposed by the IRS 20201 is based on internationally proven principles. Its objective is to be compatible with the existence of national and local particularities.



**RALF REDEKER, DB CARGO
CHAIRMAN UIC TDG EXPERT GROUP**

GUIDELINES - IRS 40471-3

Explanatory notes and liability disclaimer

General

This guideline is intended to ensure uniform implementation of the provisions of Point 5 of IRS 40471-3. It was adopted at the meeting of the Dangerous Goods Expert Group on 07 March 2023.

Content

The guideline contains decisions taken by the expert group based on examples from transport practice as well as further recommendations for dealing with findings/situations during the transport of dangerous goods. In this context, it also serves - in the sense of the general safety provision in accordance with subsection 1.4.1.1 RID - to comply with the provisions of paragraphs 1.4.2.2.1, 1.4.2.2.3 and 1.4.2.2.4 RID.

Aim

The aim of the document is to provide the Railway Undertakings (RU) and Infrastructure Managers (IM) with directions that enables them to comply with the provisions of dangerous goods law, considering safety (including security) in accordance with the requirements of daily transport practice, and in particular to minimize delays during transport.

The examples are neither intended to call into question the provisions of Dangerous Goods law, nor to undermine them. Rather, the legal regulations always remain the highest measure for all involved parties. This also applies to the criteria for the creation of RID reports and to the performance of quality inspections according to the appendices of IRS 40471-3.

Target group

The guideline is particularly suitable for dangerous goods safety advisors and employees of the RU/IM involved in the transport of dangerous goods with tasks in the field of

- Creation of internal regulations and instructions for the operational staff
- Preparation of documents for training and further education of staff
- Supervision of the execution of work by the operational staff
- Planning

Feedback

Please send feedback on the application of the document or requests / recommendations for further regulatory matters to the secretariat of the UIC Expert Group "Transport of Dangerous Goods": tdg@uic.org.

Liability disclaimer

The International Union of Railways UIC does not guarantee the correctness of the guide. Any liability for damage caused by its application is fully excluded.

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Guidelines for inspections as per Section 5

➤ Goals:

- To achieve a uniform understanding regarding all inspections performed as per IRS 40471-3 Section 5 and 1.4.2.2.1 RID
- To avoid misinterpretations
- To give all parties involved certainty in how to conduct inspections
- To ensure a uniform approach to inspections

➤ References:

- Minutes of UIC Group of Experts and QAS Working Group meetings
- Results of the internal survey conducted among Working Group members on 5 February 2020
- Outcomes of discussions held at UIC Group of Experts meetings

Closing words

These were examples of international cooperation promoted within the TDG working group, which have the potential for long-lasting success and increased significance as we continue to improve based on our experiences.

UIC, as the coordinator for railway undertakings on the TDG, has been dedicated to serving the interests of its members.

For questions after the webinar:

Joost OVERDIJKINK, UIC Senior Advisor Freight - ECCO coordinator
overdijkink@uic.org

Fit for Freight – Dangerous goods podcast





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Thank you for your kind attention.