

# TRADE

## **UN standards for the digitalization of multimodal data exchange, using the UN/CEFACT Multimodal Transport Reference Data Model (MMT RDM)**

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# UN Development Account project

## *Transport and Trade Connectivity in the Age of Pandemics*

Upgrading existing and developing data exchange standards for key documents accompanying cargo in different modes of transport

Based on UN/CEFACT Multimodal Transport Reference Data Model

Pilot applications: e.g. in a digital multimodal transport corridor or documents (FIATA B/L, air cargo, IWT)

<https://unttc.org>

# Cooperation and teamwork needed

- **Challenges: Digitalization efforts fragmented between modes of transport and sectors. Need to stop contacts & COVID-19 infection**
- **UNECE offers solution: interoperability in data and document exchange between modes & sectors using UN/CEFACT's Multimodal Transport Reference Data Model (MMT RDM)**
- **EU eFTI Regulation uses MMT RDM**
- **Working with organizations (ICAO, IMO, FIATA, OSJD, CIT, RailData, UIC, OTIF, etc.), countries, and the business community**

# Seamless multimodal supply chain

## The transport chain

Transportation of a consignment through various modes

Supported by UN/CEFACT standards

shipper, forwarder

transport operator,  
freight forwarder

captain, operator,  
driver, pilot

regulatory controls

Consignment information

Information  
for goods  
control



Trip 1:  
sea

Trip 2:  
rail

Trip 3:  
road

Trip 4:  
air

Ship

Train

Truck

Airplane

Sea

Port community system

airport

Country 1, 2

Country 2

Export and import declarations, transit documents

**For example:  
the CIM-SMGS railway consignment note referenced to the UN/CEFACT Multi-Modal Transport Reference Data Model, according to the prepared XML schema for CIM-SMGS.**

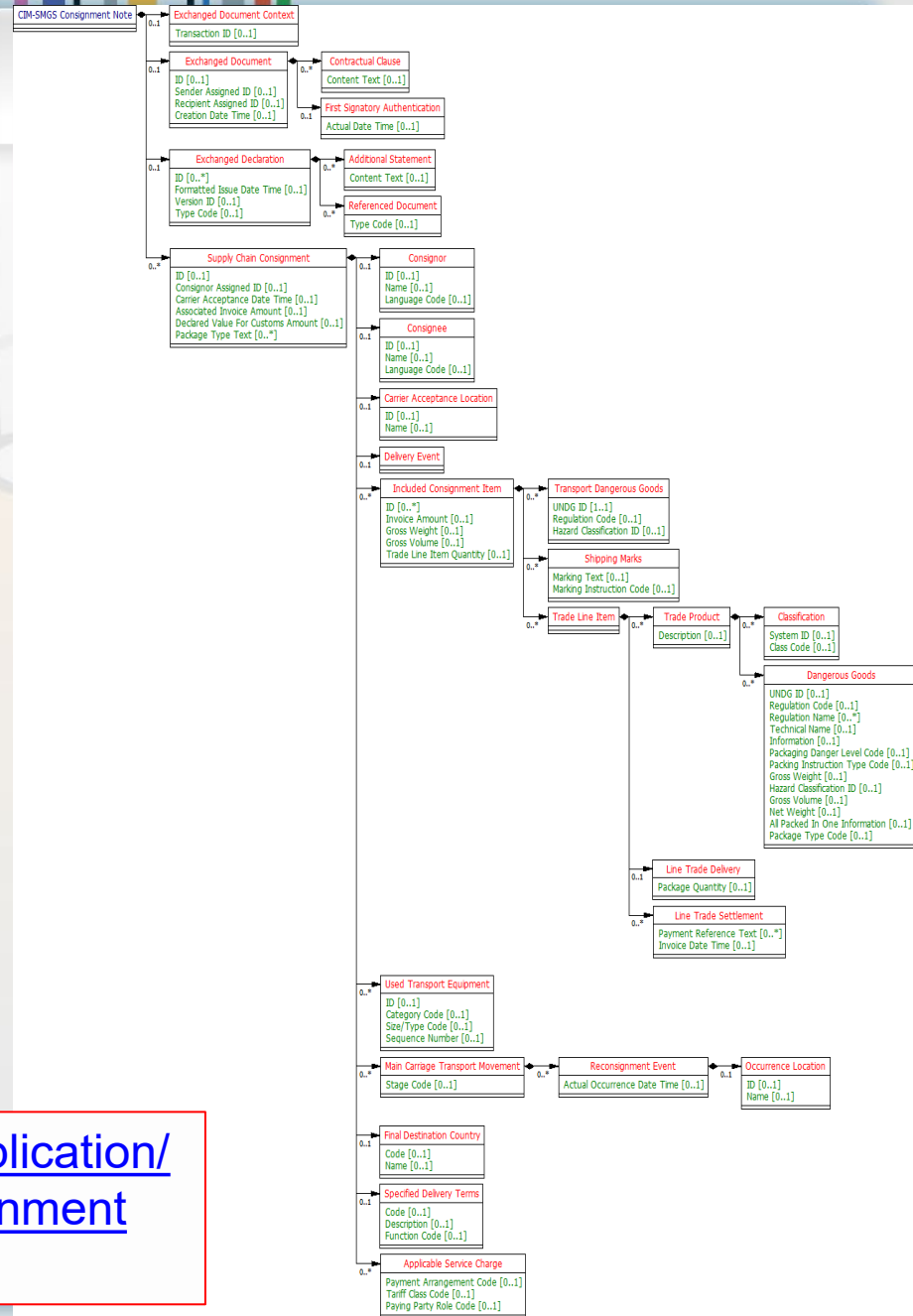
**The same was prepared for the SMGS consignment note.**

**Subsets for the CIM-SMGS and SMGS consignment notes and the consignment note under UNECE's work on a Unified Railway Law (URL) developed**

**MS Excel and UML diagram, XSDs and html publication prepared**

**Standards for CIM/SMGS wagon list finalized**

[https://service.unece.org/trade/uncefact/publication/Transport and Logistics/CIM-SMGS Consignment Note/HTML/001.htm](https://service.unece.org/trade/uncefact/publication/Transport%20and%20Logistics/CIM-SMGS%20Consignment%20Note/HTML/001.htm)





# Air

## Project outline

### Documents/dataset mappings to MMT RDM:

1. Air Waybill (AWB)
2. Dangerous Goods Declaration (DGD)
3. Consignment Security Declaration (CSD)

### Plan:

Two phases

1. Standards – Drafts Done
2. Implementations – In progress

### Now:

- Draft Standards Reviewed by Experts
- Baselined and Artefacts Produced
- Ready for Bureau Approval (pre-publishing)

### 1. Standards:

Follows UN/CEFACT MMT RDM

- Business Requirements Specifications (BRS)
- Core Component Library (CCL) Structure
- Dataset alignment with other 'document' objects
- XLS guideline structure
- XSD schema
- UML diagrams
- HTML index
- JSON-LD schema  
(future development across UN/CEFACT)

### 2. Pilots:

In collaboration with ICAO

- Identify/outreach to candidate 'corridors'
- Engage . Educate . Assist – with deployments







# Air

## Core Mappings

DGD

AWB

CSD

**SHIPPER'S DECLARATION FOR DANGEROUS GOODS** (Provide at least two copies to the airline.)

**Shipper**

**Consignee**

**TRANSPORT DETAILS**  
This shipment is within the limitations prescribed for:  PASSENGER AND CARGO AIRCRAFT  CARGO AIRCRAFT ONLY

**WARNING**  
Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder, or an IATA cargo agent.

**NATURE AND QUANTITY OF DANGEROUS GOODS**

UN or ID No.	Proper Shipping Name	Class or Division	Packing Group	Subsidiary Risk	Quantity and Type of Packing	Packing Inst.	Authorization

**ADDITIONAL HANDLING INFORMATION:**  
"Prior arrangements as required by IATA Dangerous Goods Regulations 1.3.3.1 have been made."  
Prepared according to ICAO/IATA. 24hr. Emergency Contact No. \_\_\_\_\_

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name and are classified, packaged, marked, labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national government regulations.

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT: THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT.

**STAPLE DOCUMENTS ABOVE PERFORMANCE**

Shipper's Name and Address, Shipper's account Number, Consignee's Name and Address, Consignee's account number, Flight Details, Reference Number, Declared Value for Customs, Signature of Shipper or the Agent.

No. of Pieces	Gross Weight	Net Weight	Rate Class	Chargeable Weight	Rate	Charge	Total	Nature and Quantity of Goods (incl. Dimensions if Volume)

Shipper certifies that the particulars on the face hereof are correct and that hereof as any part of the consignment consists of dangerous goods, each part is properly described by name and is in proper condition for carriage by air according to the applicable Dangerous Goods Regulations.

**Consignment Security Declaration**

Regulated Entity Category (RA, KC or AO) and Identifier (of the regulated party issuing the security status), Unique Consignment Identifier (if AWB format is non-nonnnonnn)

Contents of Consignment  
 Consolidation

Origin, Destination, Transfer/Transit points (if known)

Security Status, Reasons for issuing the Security Status, Received from (codes), Screening Method (codes), Grounds for Exemption (codes)

Other Screening Method(s) (if applicable)

Security Status Issued by, Security Status Issued on, Name of Person or Employee ID, Date (ddmmmyy), Time (litt)

Identifier (status given to a consignment by another regulated party)

Additional Security Information

Air Foundation Common Data Elements

# Railway documents and data

Basic data mappings



CIM

URL

CIM/SMGS

SMGS

EDIFACT

**IFTMIN**

Example message

No.	Tag	Example
01	UNA	UNA:1:2 ' UN:1:2 '
02	UNB	UNB+UNOC:3+N00987654321:30+70800890++CONSIGNOR++1++1'
03	UNH	UNH+1234+IFTMIN:D:04A:UN:BIG14'
04	BGM	BGM+610+70123451234567898+1'
05	CTA	CTA+BK++EDI dep./ Eva HW'
06	COM	COM+eva.hw@bring.com:EM'
07	DTM	DTM+137:20100810:102'
08	DTM	DTM+234:20100810:102'
09	MOA	MOA+22:4530:NOK'
10	FTX	FTX+PRD+++1020:X'
11	FTX	FTX+SSR+++1076:ME01NO'
12	FTX	FTX+TRR+++DAVA'
13	FTX	FTX+DEL+++Call 911 before delive
14	FTX	FTX+AAR+++0022'
15	CNT	CNT+11:9:PCE'
16	GDS	GDS+11'
17	TOD	TOD+5+CC'
18	TOD	TOD+6++EXW:INCOTERMS2010'
19	LOC	LOC+1+3000::139:Drammen+NO'
20	RFF	RFF+CMR:70701020000000034'
21	RFF	RFF+IV:867'
22	DTM	DTM+171:20100923:102'
23	TDI	TDI+20++3+BGS::87'
24	TSR	TSR+ALY'
25	LOC	LOC+202+1000::87:Bring Logistics
26	NAD	NAD+CZ+100099999999::87++Bring IK etg.+OSLO++0001+NO'
27	LOC	LOC+202+20000::87'
	SG12	

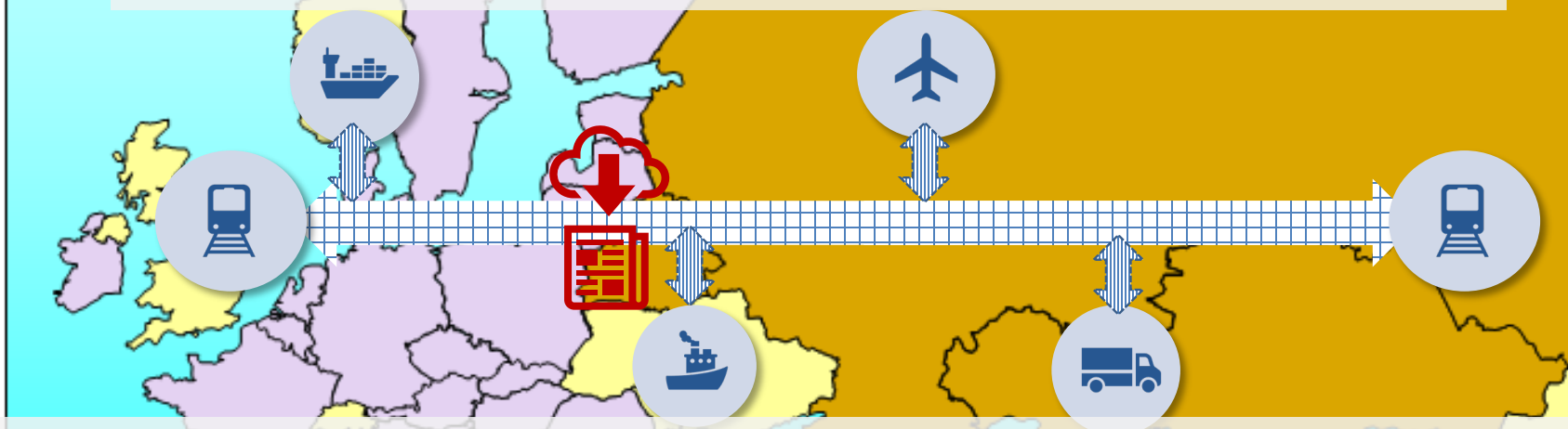
Common railway data elements

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# E.g. pilot project Europe - Asia

1. Multimodal interoperability
2. Compatibility of data exchange on cargo transported by railway (EAEU – W.Europe)



- Legal framework: negotiations – agreements
- Technology neutral solution – EDI, XML, JSON API – for blockchain
- Call to all stakeholders to collaborate/use standards
- Move from documents to data exchange



# FIATA best practice experience – electronic FIATA Bill of Lading eFBL

1

Summer 2020: Decision to base eFBL standard on UN/CEFACT semantic standards & Multimodal Transport Reference Data Model (MMT RDM)

2

2020: Data mapping to the MMT RDM by an informal group of UN/CEFACT & FIATA technical & business experts in 2020

3

Early 2021: First draft of eFBL standard released

4

Feb.-Aug. 2021: eFBL tested - proof of concept, involving seven software providers

5

Autumn 2021: Open source standard available on Git Hub (open for comments) at <https://github.com/FIATA/eFBL>



# Thanks!

## Further Information:

Standards and reports available on [UNTTC.org](http://UNTTC.org) project and UN/CEFACT pages.

On the project web site ([unttc.org](http://unttc.org)), we upload information on the standards and tools at <https://unttc.org/stream/electronic-trade-and-transport-documents-and-data>

A streamlined web presentation of the UN/CEFACT standards can be found at <https://unece.org/trade/uncefact/standards>. Information on the UN/CEFACT projects: <https://uncefact.unece.org/display/uncefactpublic/Transport+Modal+Views+of+MMT>

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