

UN/CEFACT standards on the UN website – how to use them?



Sixth Technical Cooperation Workshop for the Western Balkans
*EU ELECTRONIC FREIGHT TRANSPORT INFORMATION
REGULATION AND THE USE OF UN/CEFACT SEMANTIC
STANDARDS AND MULTIMODAL TRANSPORT REFERENCE
DATA MODEL IN THE WESTERN BALKANS*

Skopje, Hotel Aleksandar Palace, 8-9 February 2024



UN / CEFACT

Kevin Bishop
UNECE Secretariat

Overview of the presentation



- **What are UN/CEFACT Standards**
- **Where can you access and find the standards**
- **Types of formats available and their uses**
- **Importance of the Standards**
- **Technical implementation of the Standards**
- **Integrating Standards – 5 Key Tips**

What are UN/CEFACT Standards?

TRADE



UNECE UN/CEFACT contributes to the **UN Sustainable Development Goals and Global Standards** through its semantics, recommendations and technical specifications that are focused on digitalization and sustainability. Projects in the area of **i.e Cross-Industry Supply Track & Trace, Multimodal Transport Data and Document Exchange, IoTs – Smart Containers, and Traceability and Transparency in the Textile and Leather Sector.**

Other key UN/CEFACT outputs include:

- Internationally agreed on recommendations
- Internationally agreed e-business standards (BRS, RDMs and Technical Specification)
- Semantic Libraries (UNTDDED, CCL, and UN/XML)
- Common Directories (UN/EDIFACT)
- Code Lists (Rec. Code List, UN/LOCODE)
- Guidance Materials (White Papers, Executive Guides, and Briefing Notes)

49 + Trade Facilitation Recommendations

13 + Code List Recommendations	950 + eBusiness Standards	230 + EDIFACT Message Standards	103, 034 + LOCODES
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The impact of UNECE UN/CEFACT Standards, Technical Specifications and Recommendations

As of December 2024, used by

1628+ Experts globally

200,000 + Companies/Retailers represented

340 + Industries/Associations in the wider world



What are UN/CEFACT Standards?



- UN/CEFACT has developed **48 policy recommendations** and about **950 e-business standards** that can be used by governments and businesses
 - Annual release of the **UN/EDIFACT** directories (D.22B and D.23A), **UN/LOCODE** directories (2023-1 and 2023-2), the **UN/CCL & RDMs** (versions D22B and D23A), the **XML Schema Library** (versions D22B and D23A).
- The new **ECE Recommendation No. 48 on Private Sector Participation in the National Trade Facilitation Bodies (NTFBs)**, adopted at the 29th Plenary
- Summary of **ECE Trade Facilitation Recommendations (2023 Edition)**
- Release of flagship **e-business standards** for trade and transport facilitation.
- Uptake of **UN/CEFACT recommendations and standards** in relevant policies and regulations, such as:
 - UN/CEFACT Multimodal Transport Reference Data Model (MMT RDM)** in the two new draft European Union (EU) transport regulations on **electronic freight transport information (eFTI)** and the **Maritime Single Window (MSW)**.
 - ECE Recommendation No. 46** in the EU policies and regulations on circularity and due diligence in the textiles industry.



UNITC | Transport and trade connectivity in the age of pandemics

REPORT: USING THE UN/CEFACT MULTIMODAL TRANSPORT REFERENCE DATA MODEL AND SEMANTIC STANDARDS IN ROLL-OUT PROJECTS, NOTABLY FOR ROAD TRANSPORT

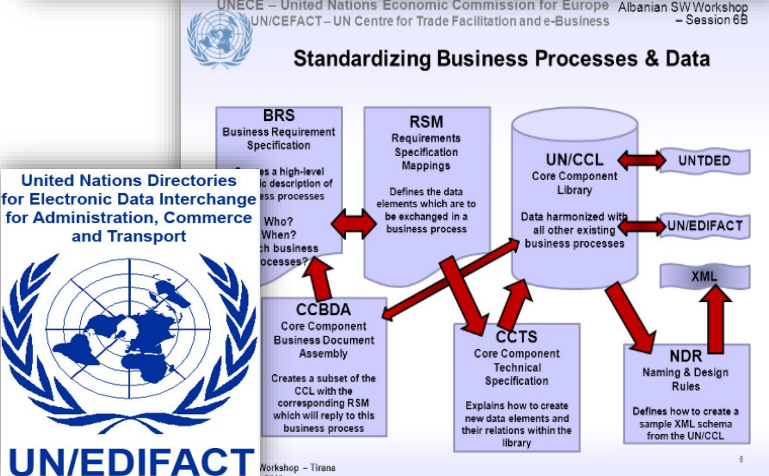
REQUESTING OFFICE: ECONOMIC COOPERATION AND TRADE DEVELOPMENT UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

SERGEY TUMEL, Consultant

United Nations Economic Commission for Europe

UN/LOCODE: Code List

UN/LOCODE	Short	Name/Countries	UN/LOCODE	Standard	Status	Date	Comments	Remarks
UN_0000	Amend	Amend	UN	3-4	AM	2023	4122 31/2023	
UN_0001	Amend	Amend	AM	3-4	AM	2023	3700 31/2023	
UN_0002	Asia	Asia	TA	3-4	AM	2023	1200 31/2023	
UN_0003	Baltic Region	Baltic Region	BA	3-4	AM	2023	1030 31/2023	
UN_0004	Baltic Sea Region	Baltic Sea Region	BSA	3-4	AM	2023	1030 31/2023	
UN_0005	Balkans	Balkans	BA	3-4	AM	2023	4150 31/2023	
UN_0006	Bengalis	Bengalis	AT	3-4	AM	2023	1020 31/2023	
UN_0007	Bras	Bras	BR	3-4	AM	2023	1040 31/2023	
UN_0008	Caribbean	Caribbean	CA	3-4	AM	2023	1020 31/2023	
UN_0009	Caribbean	Caribbean	CE	3-4	AM	2023	1020 31/2023	
UN_0010	Caribbean	Caribbean	AM	3-4	AM	2023	1020 31/2023	
UN_0011	Caribbean	Caribbean	SI	3-4	AM	2023	4140 31/2023	
UN_0012	Caribbean	Caribbean	AT	3-4	AM	2023	1020 31/2023	
UN_0013	Caribbean	Caribbean	MA	3-4	AM	2023	1020 31/2023	
UN_0014	Caribbean	Caribbean	AM	3-4	AM	2023	1040 31/2023	
UN_0015	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0016	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0017	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0018	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0019	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0020	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0021	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0022	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0023	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0024	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0025	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0026	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0027	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0028	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0029	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	
UN_0030	Caribbean	Caribbean	CA	3-4	AM	2023	1040 31/2023	



Where can you access and find the standards?



The image shows a browser window with two URLs: <https://unece.org/trade/uncefact> and <https://unece.org/trade/uncefact/mainstandards>. The left page is the 'Trade Facilitation and E-business(UN/CEFACT)' page, and the right page is the 'Streamlined presentation of UN/CEFACT standards' page.

Left Page: Trade Facilitation and E-business(UN/CEFACT)

- Trade Programme
 - Trade Facilitation and E-business - UN/CEFACT
 - COVID-19 Response
 - About us
 - Domains
 - Projects
 - Public Reviews
 - Outputs
 - Recommendations
 - Standards
 - Technical Specifications
 - Guidance Material
 - Meetings and Events
 - Publications
 - Policies, Procedures and Terms of Reference
 - Case Study Repositories
 - Highlights (2024)
 - Media Clippings (2024)
 - Newsletters
 - News and Press Releases
 - Join UN/CEFACT

KEY AREAS OF WORK

- Code List Recommendations
- Trade Facilitation Recommendations
- Standards
- Projects
- Public Reviews
- UN/LOCODE Advisory Group
- Traceability of Sustainable Value Chains

IN FOCUS

The **UN/CEFACT standards publication** process is currently in progress, with several updates at various stages:

- The UN/EDIFACT D23A is pending validation, undergoing careful review to ensure accuracy.
- Simultaneously, the UN/CCL D23A has been completed and awaits uploading to the ECE website for public access.

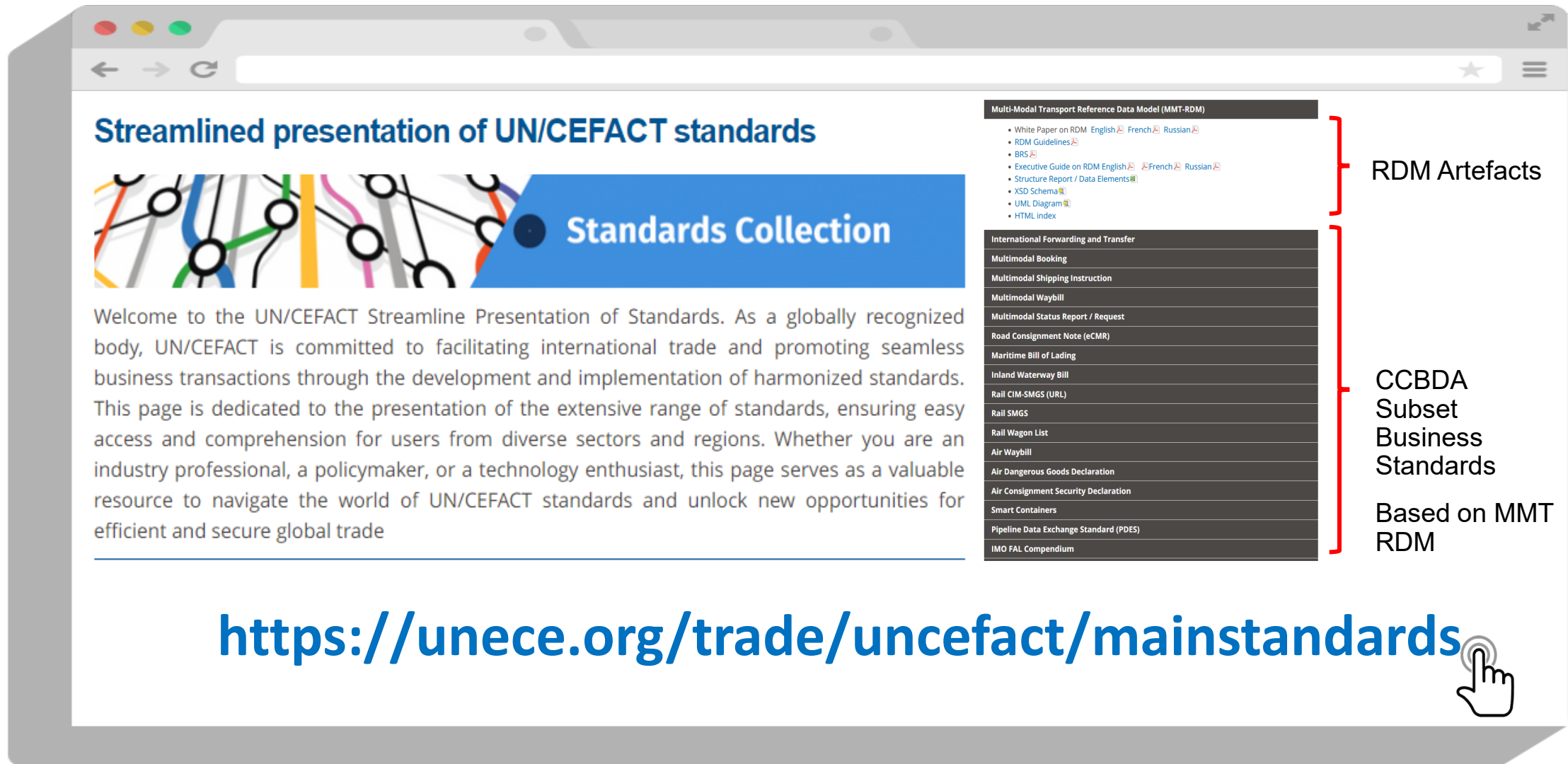
Right Page: Streamlined presentation of UN/CEFACT standards

Standards Collection

Welcome to the UN/CEFACT Streamline Presentation of Standards. As a globally recognized body, UN/CEFACT is committed to facilitating international trade and promoting seamless business transactions through the development and implementation of harmonized standards. This page is dedicated to the presentation of the extensive range of standards, ensuring easy access and comprehension for users from diverse sectors and regions. Whether you are an industry professional, a policymaker, or a technology enthusiast, this page serves as a valuable resource to navigate the world of UN/CEFACT standards and unlock new opportunities for efficient and secure global trade.

UN/LOCODE
UN/EDIFACT
BSP-RDM
Cross Domain Acknowledgement and Response
Cross Domain eNegotiation
Supply Chain Reference Data Model (SCRDM)

Where can you access and find the standards?



Streamlined presentation of UN/CEFACT standards

Standards Collection

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- Multi-Modal Transport Reference Data Model (MMT-RDM)
 - White Paper on RDM English French Russian
 - RDM Guidelines
 - BRS
 - Executive Guide on RDM English French Russian
 - Structure Report / Data Elements
 - XSD Schema
 - UML Diagram
 - HTML index
- International Forwarding and Transfer
 - Multimodal Booking
 - Multimodal Shipping Instruction
 - Multimodal Waybill
 - Multimodal Status Report / Request
 - Road Consignment Note (eCMR)
 - Maritime Bill of Lading
 - Inland Waterway Bill
 - Rail CIM-SMGS (URL)
 - Rail SMGS
 - Rail Wagon List
 - Air Waybill
 - Air Dangerous Goods Declaration
 - Air Consignment Security Declaration
 - Smart Containers
 - Pipeline Data Exchange Standard (PDES)
 - IMO FAL Compendium

RDM Artefacts

CCBDA Subset Business Standards

Based on MMT RDM

<https://unece.org/trade/uncefact/mainstandards>

Trade Facilitation Implementation Guide

The screenshot shows the homepage of the Trade Facilitation Implementation Guide. At the top left, the title "TRADE FACILITATION IMPLEMENTATION GUIDE" is displayed. To the right is the UNECE logo and a search bar with "English" selected. A navigation menu includes "About", "Introduction", "Domains", "Itineraries", "Instruments", "Organizations", "Case stories", and "Training". The main content area features a large heading "Welcome to the Trade Facilitation Implementation Guide" and a sub-heading "A tool for simplifying cross-border trade". Below this are two buttons: "Introduction to trade facilitation" and "WTO TF Agreement". A row of four icons represents "Domains", "Itineraries", "Instruments", and "Organizations". The footer contains the title "TRADE FACILITATION IMPLEMENTATION GUIDE", the address "UN Economic Commission for Europe, Palais des Nations, CH-1211 Geneva 10, Switzerland", contact information "Contact us uncefact@un.org", and the UNECE logo. A copyright notice "Copyrights © 2023 - All rights reserved" is at the bottom left.

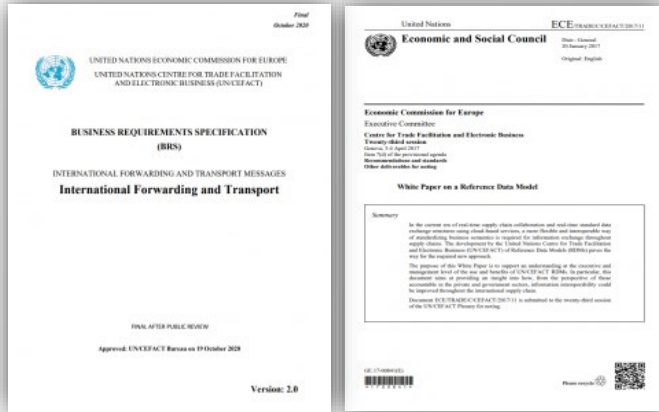


Available at: tfig.unece.org

Types of formats available and their uses

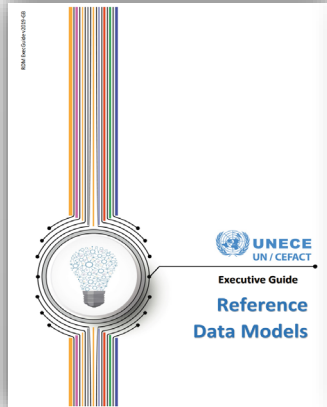


Document Artifacts

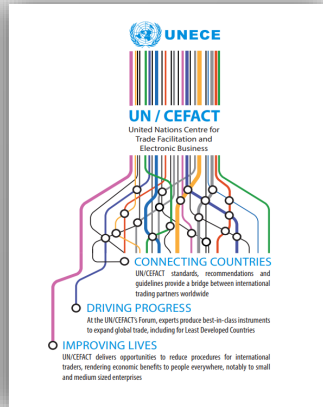


Business Requirements Specifications (BRS)

White Papers, Green Papers and Briefing Notes

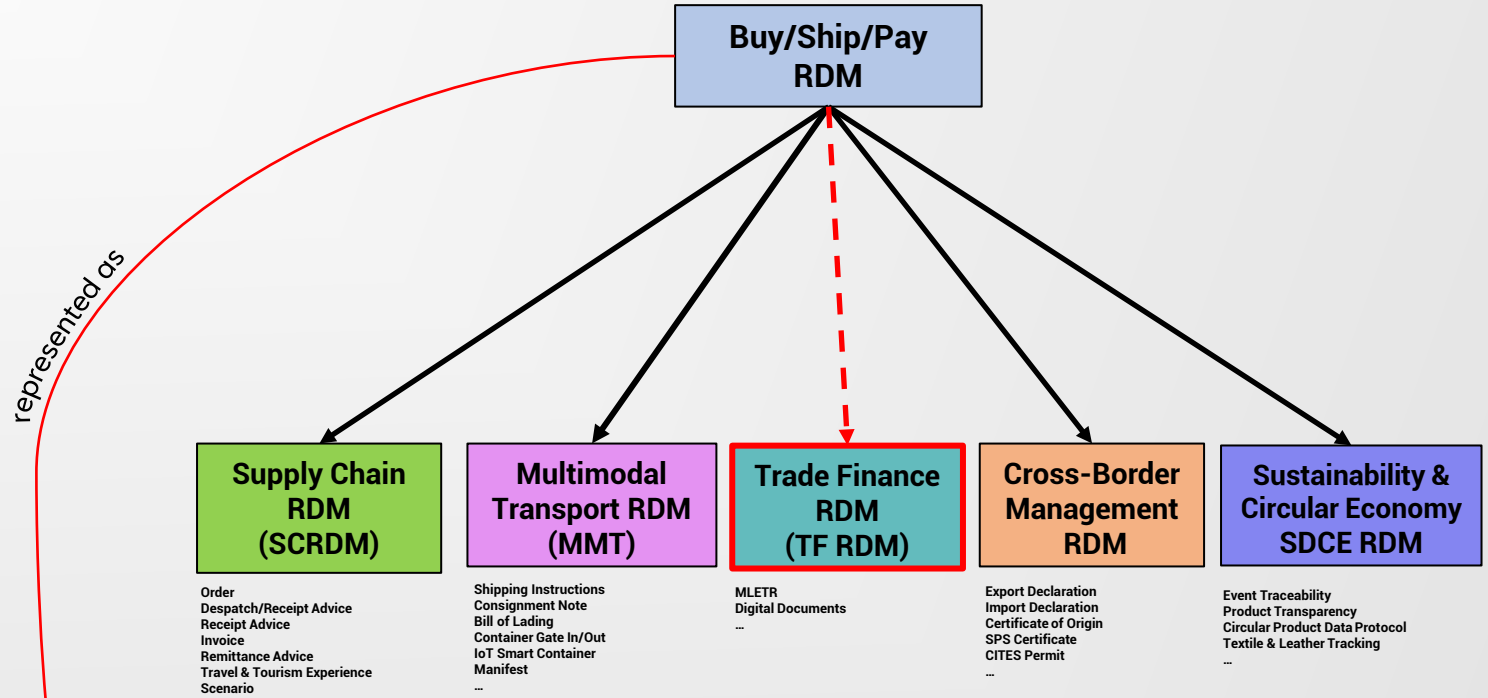


Executive Guides



Brochures

Technical Artifacts: UN/CEFACT Reference Data Models (RDMs)



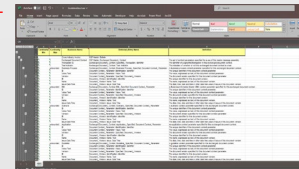
- Order
- Despatch/Receipt Advice
- Receipt Advice
- Invoice
- Remittance Advice
- Travel & Tourism Experience Scenario
- ...

- Shipping Instructions
- Consignment Note
- Bill of Lading
- Container Gate In/Out
- IoT Smart Container
- Manifest
- ...

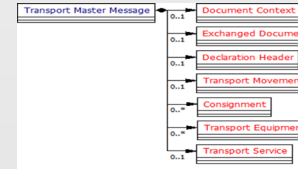
- MLETR
- Digital Documents
- ...

- Export Declaration
- Import Declaration
- Certificate of Origin
- SPS Certificate
- CITES Permit
- ...

- Event Traceability
- Product Transparency
- Circular Product Data Protocol
- Textile & Leather Tracking
- ...



Microsoft Excel Spreadsheet (XLS)



Unified Modelling Language UML

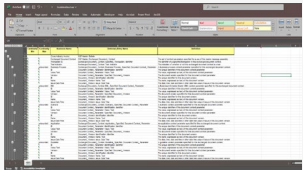


XML Schema Definition (XSD)

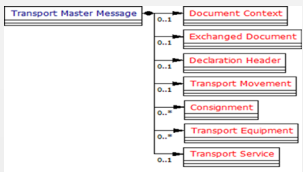


Hypertext Markup Language (HTML Index)

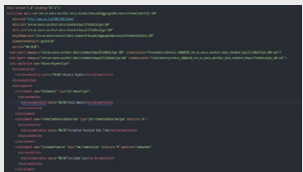
Technical implementation of the standards



Microsoft Excel Spreadsheet (XLS)



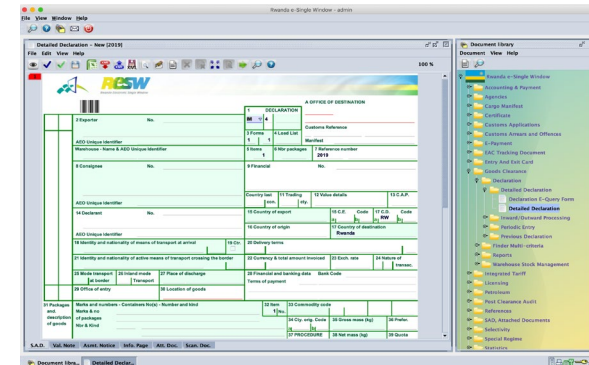
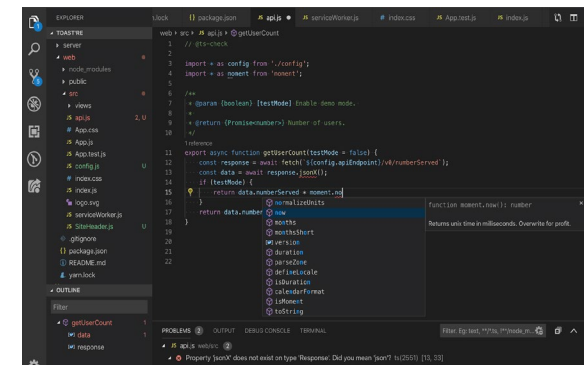
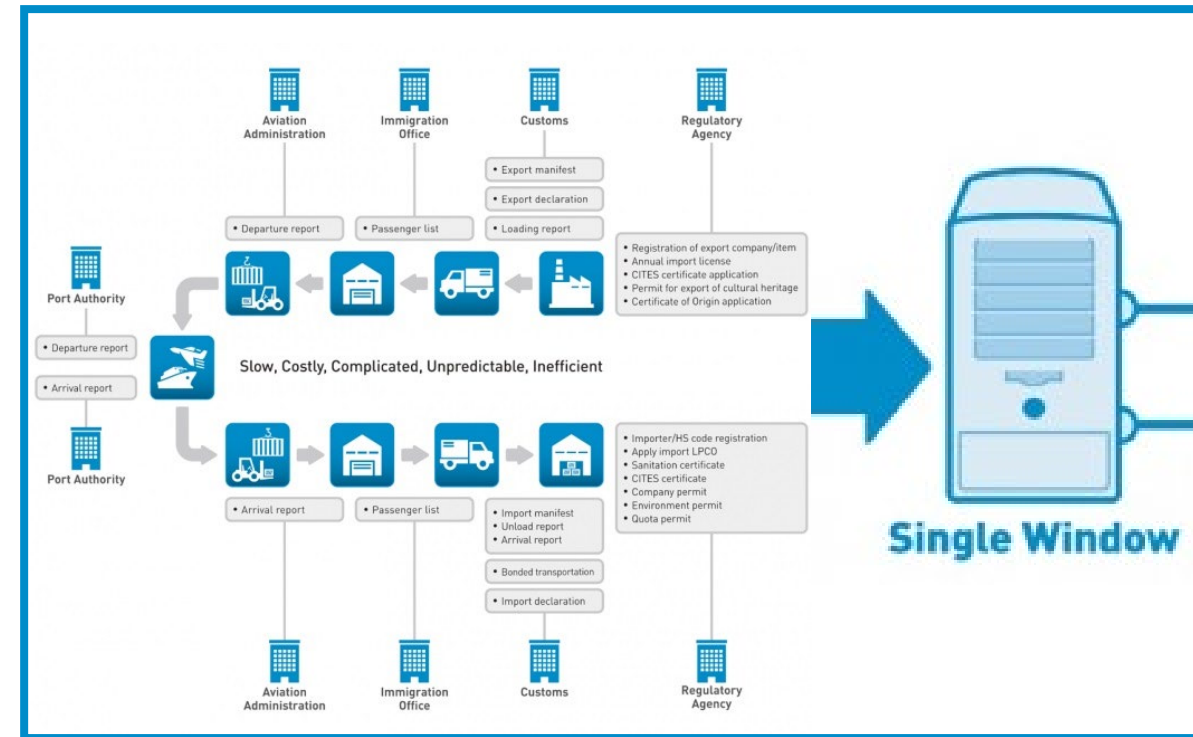
Unified Modelling Language UML



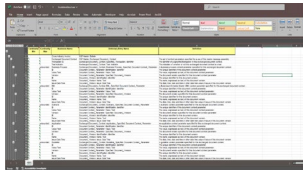
XML Schema Definition (XSD)

What can policymakers do to ensure that recognized standards are used in national applications (I.T Systems):

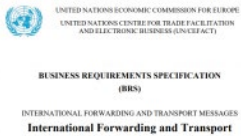
- Mandating the use of UN/CEFACT standardized data models and core component libraries in national application systems.
 - Ensure that contracted software developers reuse the syntax in the development of applications.
- Foster collaboration and coordination among government agencies responsible for different national application systems.
- Establish mechanisms for monitoring and evaluating compliance with regulations and policies related to standardized data modeling practices and core component libraries reuse in applications.
- Engage in collaborations and pilots to align national standards and practices with global standards. **(This will facilitate data exchange, interoperability, and compatibility with the system in other countries.)**



Technical implementation: Use Case



Reference Code List



Documentation (BRS, Guidelines, etc)



Technical Artifacts (RDMs, Schemas, etc)

3224801

LETRE DE VOITURE INTERNATIONALE (CMR) INTERNATIONAL CONSIGNMENT NOTE

1 Expéditeur (nom, adresse, pays) Sender (name, address, country)		6 Transporteur (nom, adresse, pays, autres références) Carrier (name, address, country, other references)	
2 Destination (nom, adresse, pays) Consignee (name, address, country)		7 Transporteurs successifs : Successive carriers Nom / Name Adresse / Address Pays / Country Reçu et acceptation Receipt and acceptance Date Signature	
3 Prise en charge de la marchandise / Taking over the goods Lieu / Place Pays / Country Date Heure d'arrivée / Time of arrival Heure de départ / Time of departure		8 Réserves et observations du transporteur lors de la prise en charge de la marchandise Carrier's reservations and observations on taking over the goods	
4 Livraison de la marchandise / Delivery of the goods Lieu / Place Pays / Country Heures d'ouverture du dépôt / Warehouse opening hours		9 Documents remis au transporteur par l'expéditeur Documents handed to the carrier by the sender	
5 Instructions de l'expéditeur Sender's instructions		9 Documents remis au transporteur par l'expéditeur Documents handed to the carrier by the sender	
10 Marques et numéros Marks and Nos	11 Nombre de colis Number of packages	12 Mode d'emballage Method of packing	13 Nature de la marchandise Nature of the goods
14 Poids brut kg Gross weight in kg		15 Cubage m ³ Volume in m ³	
16 Conventions particulières entre l'expéditeur et le transporteur Special agreements between the sender and the carrier	17 A payer par To be paid by Prix de transport Carriage charges Frais accessoires Supplementary charges Droits de douane Customs duties Autres frais Other charges	18 Expéditeur Sender	19 Destinataire Consignee
20 Ce transport est soumis, nonobstant toute clause contraire, à la Convention relative au contrat de transport international de marchandises par route (CMR) This carriage is subject, notwithstanding any clause to the contrary, to the Convention on the Contract for the International Carriage of Goods by Road (CMR)		21 Établi à / Established in le / on	
22 Signature ou timbre de l'expéditeur Signature or stamp of the sender		23 Signature ou timbre du transporteur Signature or stamp of the carrier	
24 Marchandises reçues / Goods received Heure d'arrivée / Time of arrival le / on		25 Signature et timbre du destinataire Signature and stamp of the consignee	

CMR Document

Steps involved in implementing data models and standards for real-world data exchange:

- Mapping documents in the project scope against MMT RDM (i.e. CMR Document)
- Create the equivalents of electronic documents in XML format.
 - ✓ manually describe the XML document based on the structure.
- Use the software development tools or environment framework or software vendor to develop the application.

```

1 <?xml version="1.0" encoding="UTF-8"?>
2 <eCMR xmlns="urn:un:unece:uncefact:data:standard:eCMR:1">
3 <ExchangedDocument>
4 <ID xmlns="urn:un:unece:uncefact:data:standard:ReusableAggregateBusinessInformationEntity:101">XX1234/15FEB220</ID>
5 <IssueDateTime xmlns="urn:un:unece:uncefact:data:standard:ReusableAggregateBusinessInformationEntity:101">
6 <DateTime xmlns="urn:un:unece:uncefact:data:standard:UnqualifiedDataType:25">2022-02-15T12:00:00+02:00</DateTime>
7 </IssueDateTime>
8 </ExchangedDocument>
9 <SpecifiedSupplyChainConsignment>
10 <GrossWeightMeasure xmlns="urn:un:unece:uncefact:data:standard:ReusableAggregateBusinessInformationEntity:101"
11 unitCode="KGM">6055</GrossWeightMeasure>
12 <GrossVolumeMeasure xmlns="urn:un:unece:uncefact:data:standard:ReusableAggregateBusinessInformationEntity:101"
13 unitCode="MTQ">31.0887</GrossVolumeMeasure>
14 <ConsignmentItemQuantity
15 xmlns="urn:un:unece:uncefact:data:standard:ReusableAggregateBusinessInformationEntity:101">8</ConsignmentItemQuantity>
16 <ConsignorTradeParty xmlns="urn:un:unece:uncefact:data:standard:ReusableAggregateBusinessInformationEntity:101">
17 <Name>Robert Carter</Name>
18 <DefinedTradeContact>
19 <TelephoneUniversalCommunication>
20 <CompleteNumber>123 5 789012345</CompleteNumber>
21 </TelephoneUniversalCommunication>
22 </DefinedTradeContact>
23 <PostalTradeAddress>
24 <PostcodeCode>UA-02138</PostcodeCode>
25 <StreetName>Rue de Lausanne</StreetName>
26 <CityName>Geneva</CityName>
27 <CountryID>GVA</CountryID>
28 </PostalTradeAddress>
29 </ConsignorTradeParty>
30 </SpecifiedSupplyChainConsignment>
31 </eCMR>
    
```

eCMR (using MMT RDM references)

Integrating Standards: Tips



Integrating Standards into Development Processes:

1. **Understand the Standards**
2. **Identification of Applicable Standards**
3. **Incorporation of the standards into the Application Development Lifecycle**
4. **Collaboration and Communication with UNECE on adoption**
5. **Participate in UN/CEFACT Activities**
 - **Continuous improvement of the standard via feedback or DMR update submission to the Core Component Library (UN/CCL).**

Thank you for your attention!



TRADE



[UN/CEFACT website](#)



[Trade Facilitation
Implementation Guide](#)



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