

UN/CEFACT Standards for International Supply Chain Semantic Harmonisation & Trade Facilitation

Sue Probert

UN/CEFACT Chair

suesiprobert@live.com

APTFF FORUM 2024

SAMARKAND



Objectives

- Simple, transparent and effective processes for global business
- Efficient and automated exchange of information
- Targeted support to SDGs 8, 12, and 17

Key tools

- 50 global trade facilitation recommendations
- 950 e-Business standards and guidelines

Means

- Public-Private Partnership
- Over 1600 volunteer experts working on 30 active projects
- Bi-annual Forums and annual Plenary sessions
- Regular Bureau calls



UN

UN/ECOSOC

UNECE

EXCOM

UN/CEFACT



UN/CEFACT Mandate & Objectives



MANDATE

to develop and facilitate the use of global standards for electronic business, trade facilitation, and related areas.

OBJECTIVES

enhance international trade efficiency and effectiveness
 contribute to the advancement of the Sustainable Development Goals



UN / CEFACT



Partnerships and Collaboration



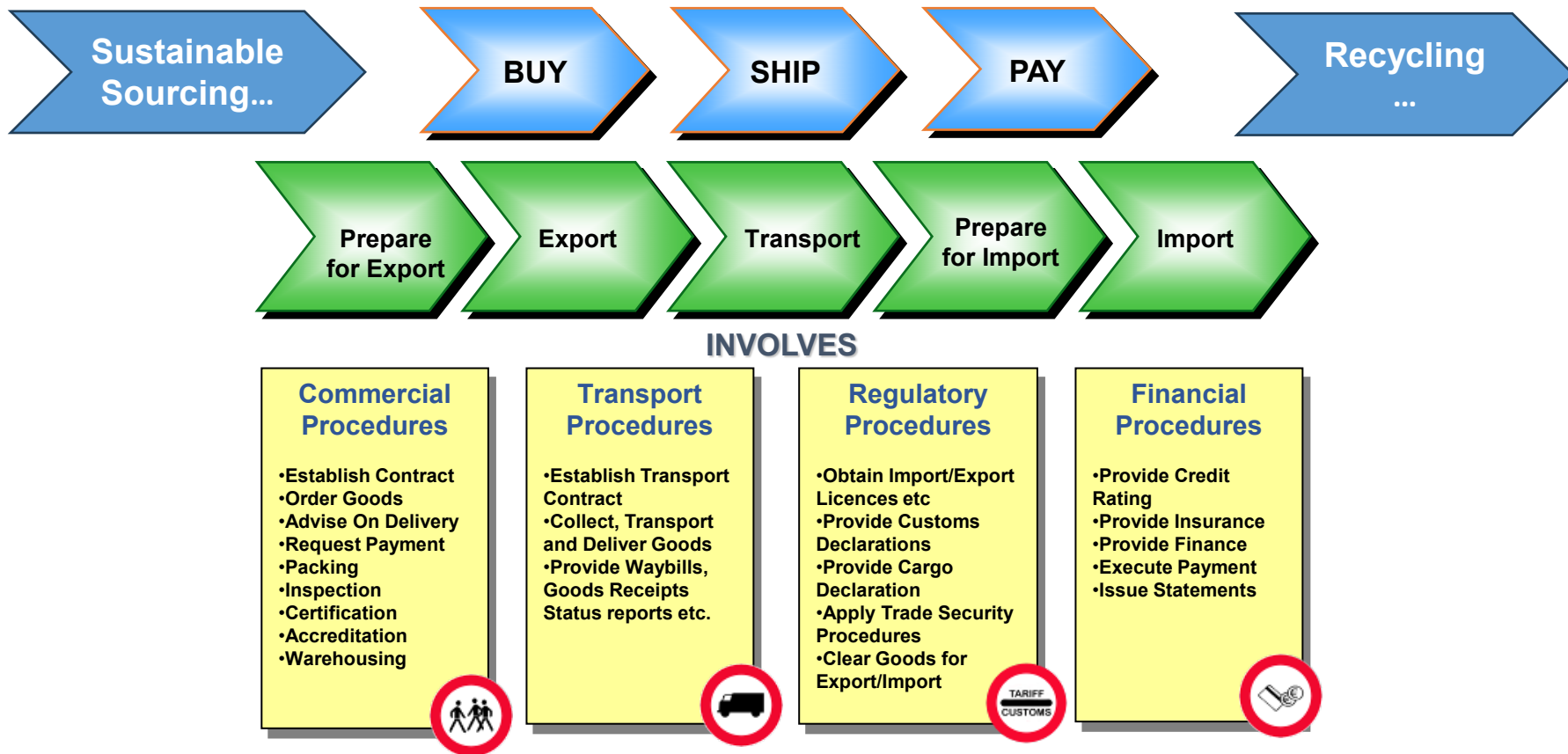
EC
DG-MOVE
DG-TAXUD
DG-MARE
DG-INTPA
DG-DIGIT
EEC
OECD

GS1
IPCSA
PROTECT
FIATA
SMDG
DCSA

ISO
IEC
ITU
WTO
ITC
IATA
WCO

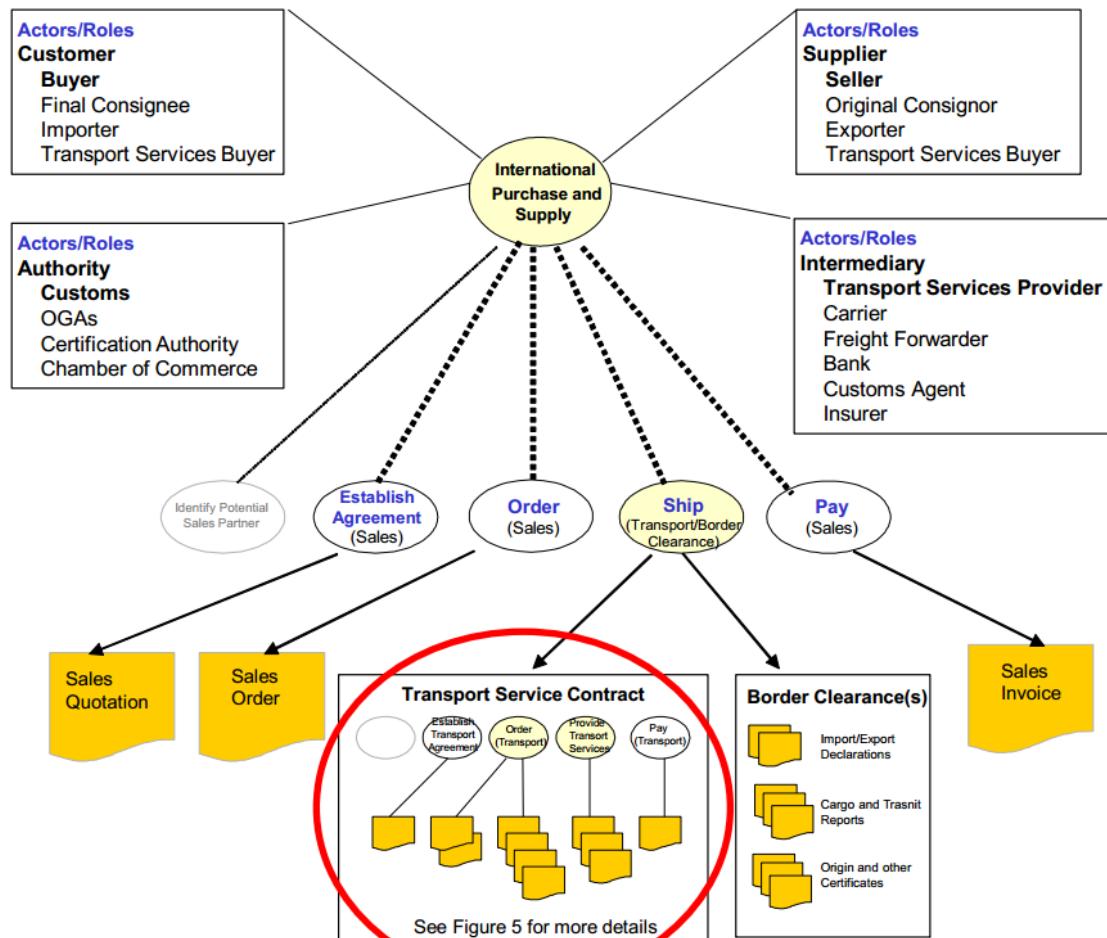


UN/CEFACT International Supply Chain Processes

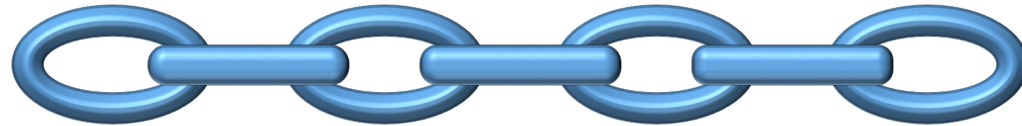


USP Focusing on the complete international Supply chain

The Sales Order Contract



Global Supply Chain Holistic Multimodal links



- Most dematerialization projects are only looking at one sectoral view
 - The international supply chain is very complex
 - Almost all sectoral views are just one part of a global supply chain
- A holistic view and approach are needed
 - Information will not be related purely to goods or purely to transport or purely to regulatory
 - There are clear links between the information in each part of the global supply chain
- UN/CEFACT deliverables all take this holistic trade facilitation approach
 - Cross Industry
 - MultiModal
 - Cross-border Management

Basis for Semantic Interoperability

Agreed and Harmonised

- Party and Role Definitions
- Semantic Anchors
- Message Structures
- Contextualised Code Subsets
- Contextualised Business Rules

https://unece.org/fileadmin/DAM/cefact/brs/BuyShipPay_BRS_v1.0.pdf



Global Trade – Semantic Anchors

Shipment (Trade Delivery)

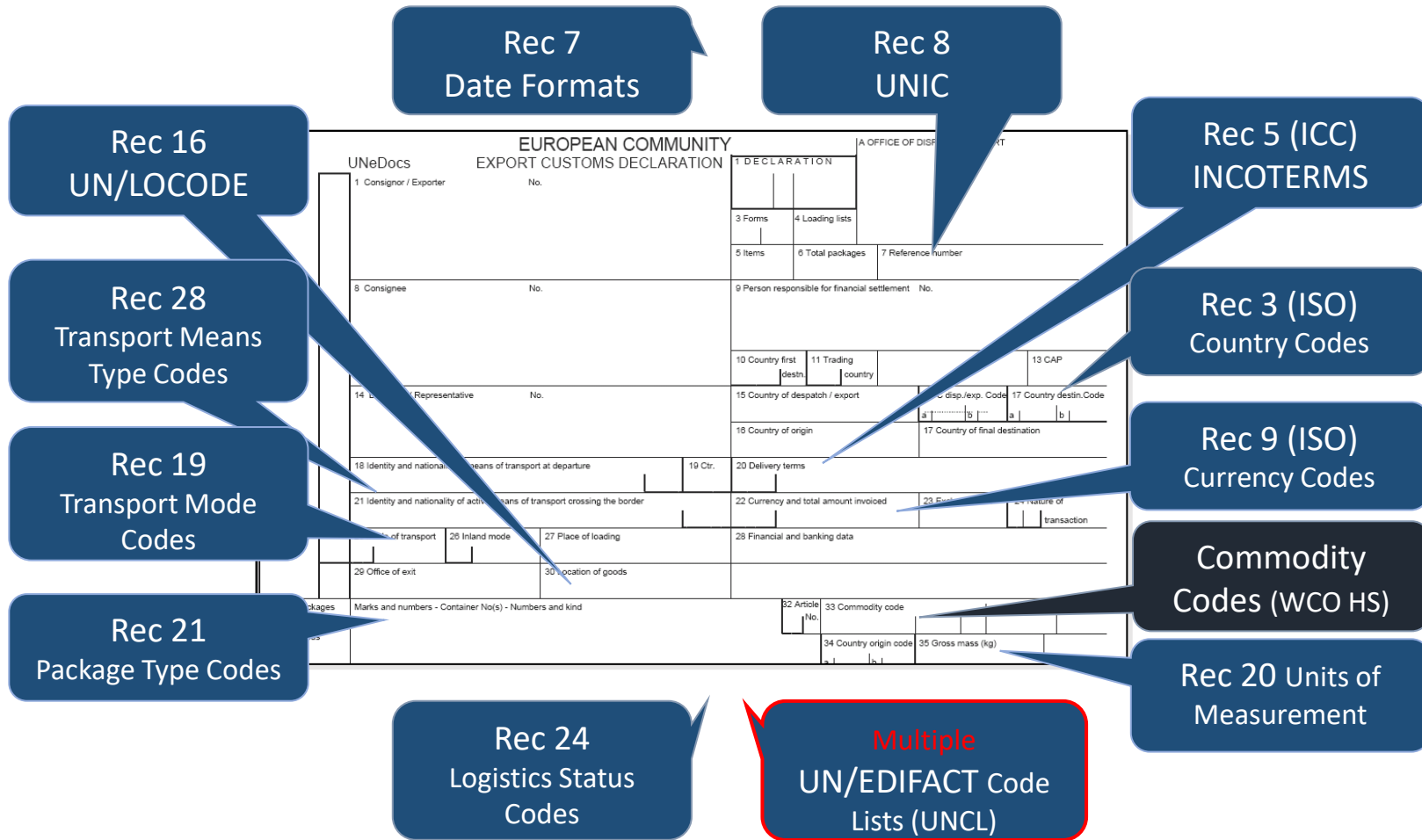
- A shipment is an identifiable collection of one or more Trade Items (available to be) transported together from the Seller (Original Consignor/Shipper) to the Buyer (Final/Ultimate Consignee):
 - A Shipment can only be destined for one Buyer
 - A Shipment can be made up of some or all Trade Items from one or more Sales Orders
 - A Shipment can have only one Customs UCR
 - A shipment may form part or all of a Consignment or may be transported in different Consignments.

Consignment

- A consignment is a separately identifiable collection of Consignment Items (available to be) transported from one Consignor to one Consignee via one or more modes of transport as specified in one single transport service contractual document:
 - A Consignment can only have one Transport Service Buyer
 - A Consignment can only have one Transport Service Provider
 - A Consignment can only have one Consignor
 - A Consignment can only have one Consignee
 - The Transport Service Buyer can be either the Consignor or the Consignee
 - A Consignment is made up of one or more Consignment Items
 - A Consignment can be made up of some or all Trade Items (aggregated into Consignment Items) from one or more Shipments

Aligned with WCO Data Model Concepts

UN/CEFACT – International Code Lists





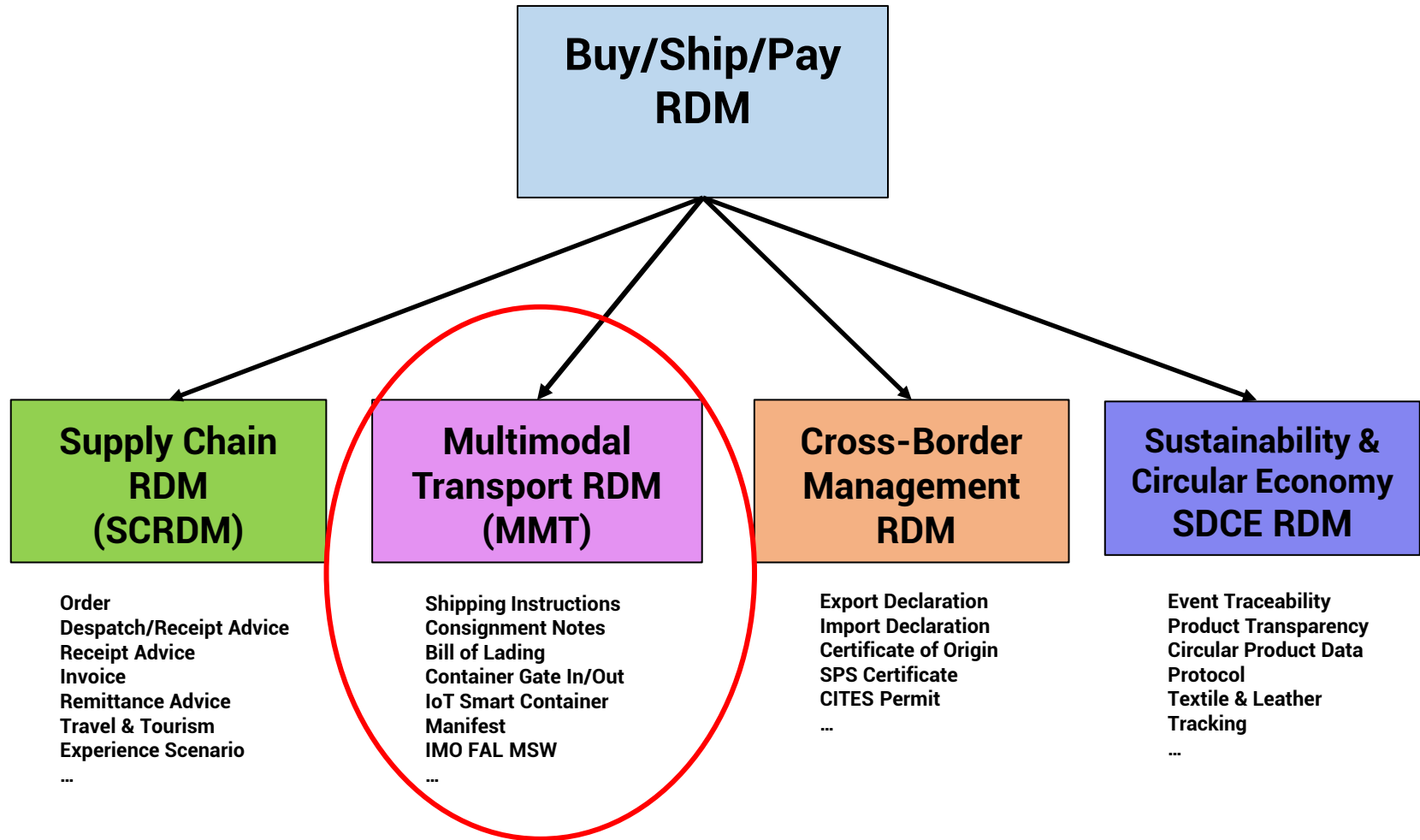
Data Exchange Generational View



- 1st generation – UN Layout Key and Aligned Document Families
- 2nd generation – UN/EDIFACT global document equivalent electronic message structures
- 3rd generation – data exchange independent semantic document equivalent message structures (UN/XML)
- 4th generation – data exchange semantic Reference Data Models for reuse in both process driven and document equivalent exchanges (UN/XML and JSON schema)
- 5th generation – restful APIs (JSON LD)

The UNCCCL reused in Reference Data Model views of the International Supply Chain provides Common Semantics for use in the multi-generational projects which develop the UN/CEFACT eBusiness standards

UN/CEFACT Reference Data Model Family



UN/CEFACT Publication Transport Example: electronic Road Consignment Note (eCMR)



BUY SHIP PAY (BSP)

*Semantic model
Subset of UN/CCL*

SHIP (MultiModal Transport)
CCL subset

BUY SHIP PAY

Master message structure

SHIP

Master message structure

MMT subset

*Exchange syntax-neutral
data exchange structure*

eCMR message structure

Syntax Instantiation e.g.
XML schema, JSON LD?

Multi
Modal
Transport
RDM

Modal
Transport
RDM
Customised
Subsets

What UN/CEFACT does: example of streamlined standards for digital transformation



UN/CEFACT streamlined standards page

Supply Chain Management

Supply Chain Reference Data Model (SCRDM)

Cross Industry Invoice

- [BRS](#)
- [RSM](#)
- [Cross Industry Common Requirements BRS](#)
- [e-Invoice Executive Guide English](#) [French](#) [Russian](#)
- [XSD Schema](#)
- [UML Diagram](#)
- [HTML index](#)

Cross Industry Delivery

Cross Industry Catalogue

Cross Industry Quotation

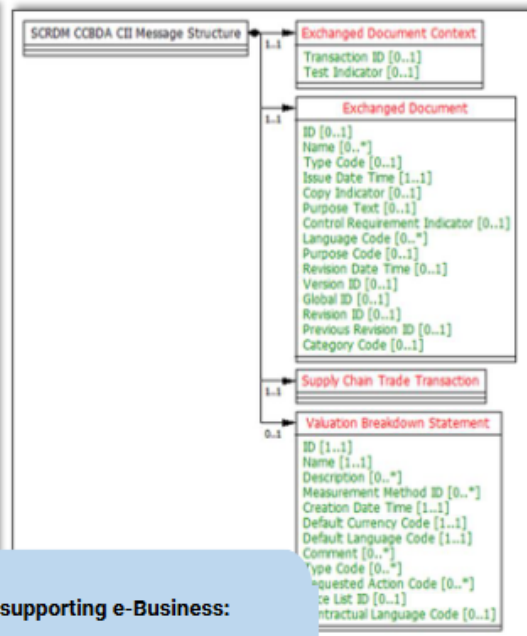
Cross Industry Remittance Advice

Cross Industry Scheduling

Cross Industry Ordering Process

Cross Industry Export Packing List

UML diagram



Message structure (on HTML index)



Standards supporting e-Business:

- Core Component Library (CCL)
- Reference Data Models (RDM)
- Business Requirement Specifications (BRS)
- Core Component Document Assembly (CCBDA)
- Code Lists (UN Recs and UN/EDIFACT)
- UN/EDIFACT (syntax)
- UN/XML (syntax)
- JSON XML and LD

Example Business Standard Streamlined Publications 1

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](#)

RDM Artefacts

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

CCBDA Subset
Business Standards

Based on MMT RDM






Example Business Standard Streamlined Publications 2



Transport and Logistics

Multi-Modal Transport Reference Data Model

International Forwarding and Transfer

- BRS Overall 
- XSD Schema 
- UML Diagram 
- XLS Guideline Structure 
- Spreadsheet 
- HTML

RDM Artefacts

Business Standard
CCBDA MMT Subset
Artefacts

For further Information

- All UNECE and UN/CEFACT Recommendations, codes, standards and publications are available for free on our website at:
- www.unece.org/cefact/
- All experts are welcome to join the standards development work free of charge

UN/CEFACT Secretariat

- Kamola Khusnutdinova kamola.khusnutdinova@un.org



The banner features a central title 'Sustainable and Digital Trade Facilitation Week' in blue text. To the left is the UN/CEFACT logo, which includes a stylized globe with circuit lines. To the right of the title is a calendar icon indicating the dates '8-12 July 2024' and a location pin icon for 'Palais des Nations Geneva'. On the far right, there are two QR codes: the first is labeled '42nd FORUM' and the second is labeled '30th PLENARY'. The entire banner is framed by a decorative border of colorful dashed lines.