

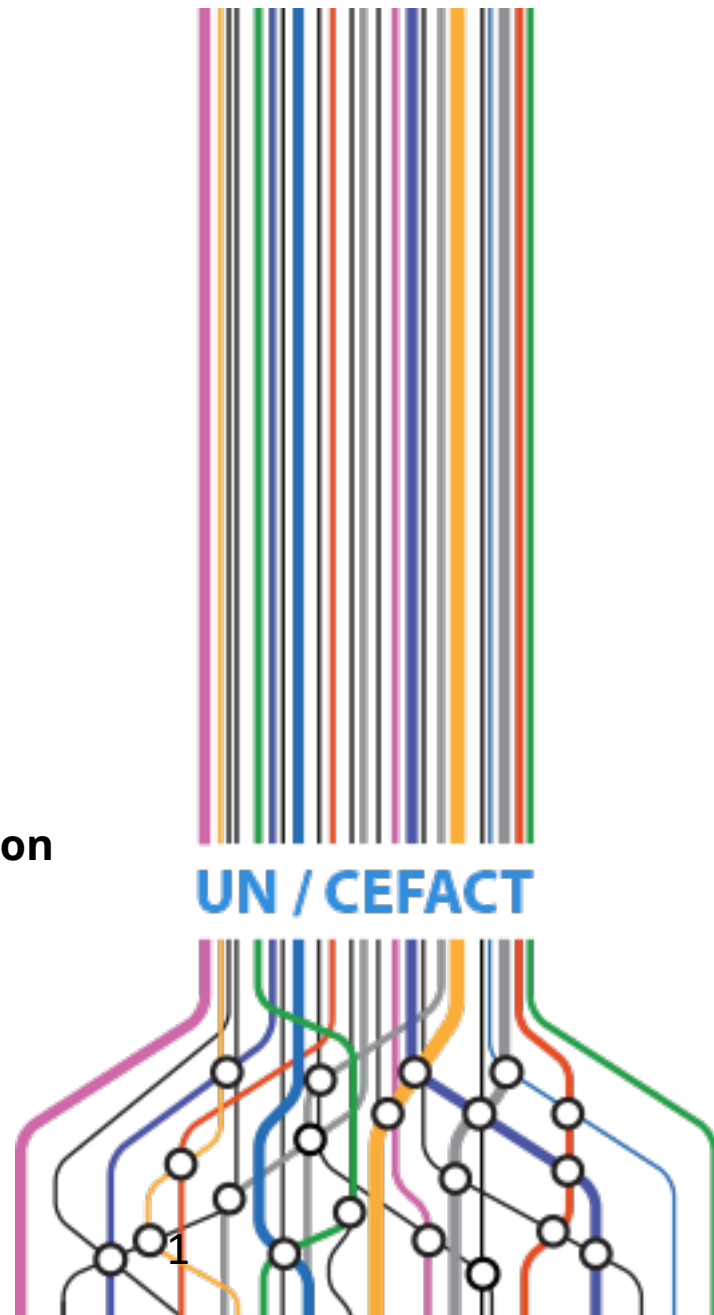
UN/CEFACT Standards for International Supply Chain Semantic Harmonisation & Trade Facilitation

Sue Probert
UN/CEFACT Chair
suesiprobert@live.com

**Best practice experience of the use of UN/CEFACT
standards: EU Electronic Freight Transport Information
Regulation**

UZBEKISTAN NATIONAL CAPACITY BUILDING SEMINAR

TASHKENT 29TH MARCH 2024



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

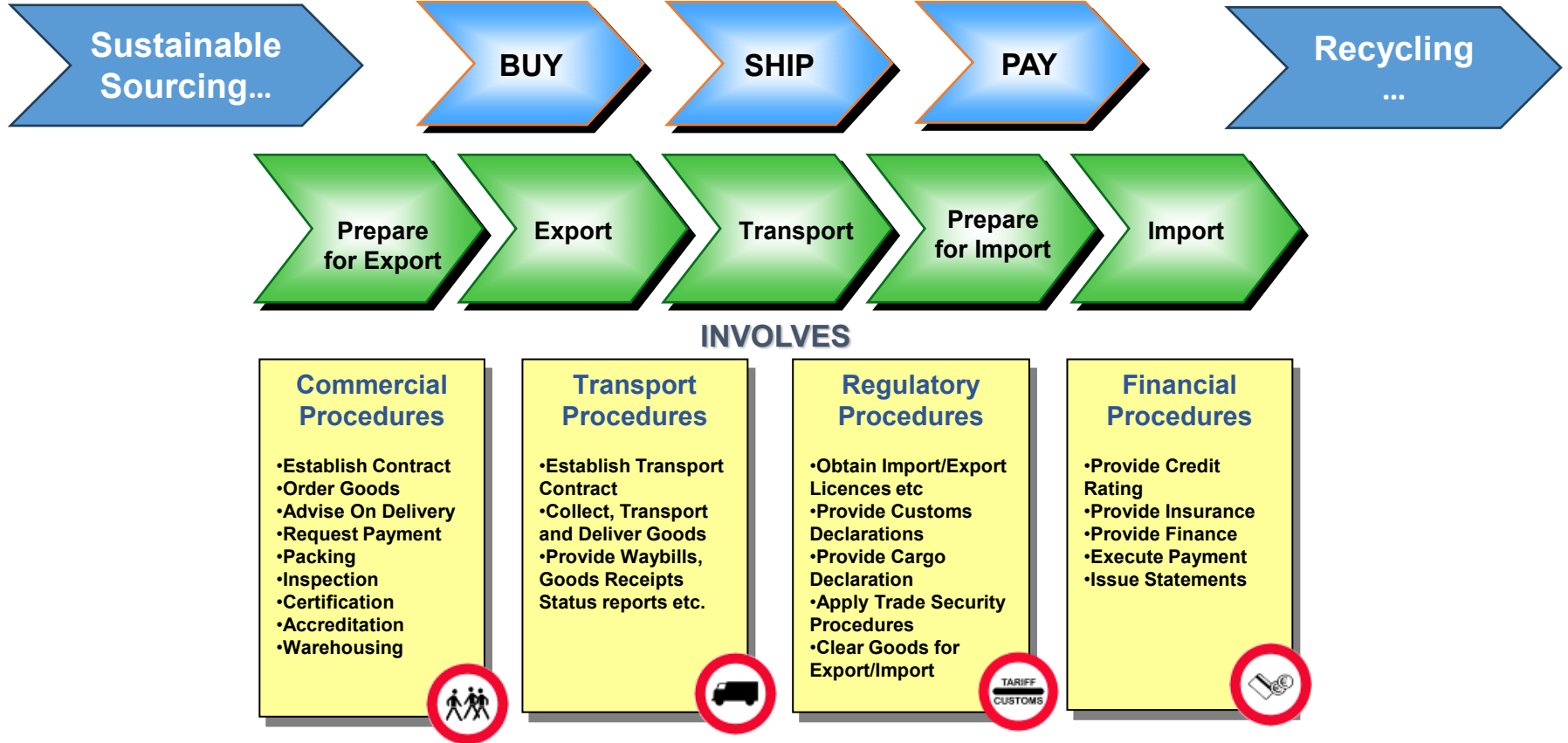
UNECE

EXCOM

UN/CEFACT

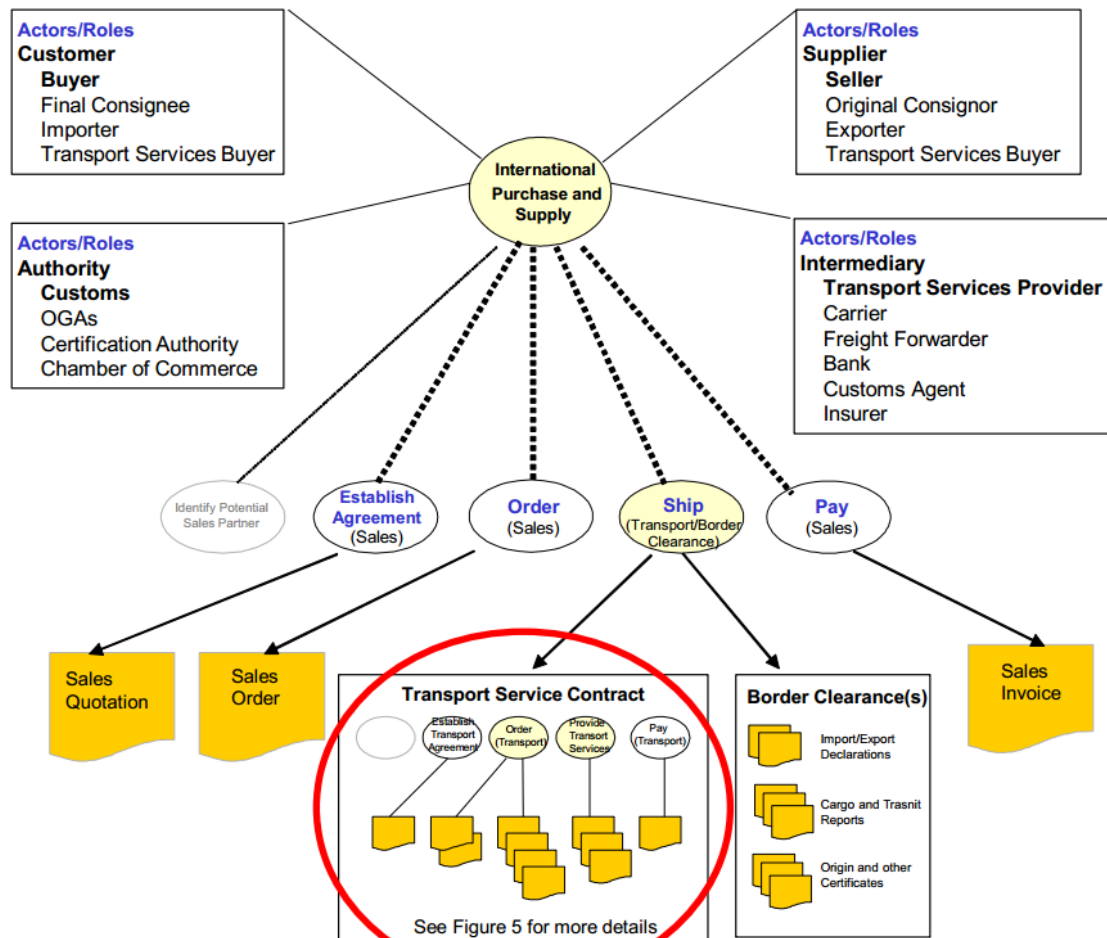


UN/CEFACT International Supply Chain Processes

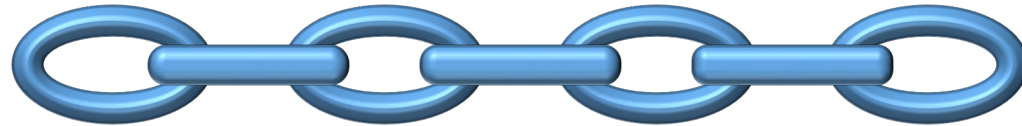


USP Focusing on the complete international Supply chain

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



Global Trade – Semantic Anchors

Shipment (Trade Delivery)

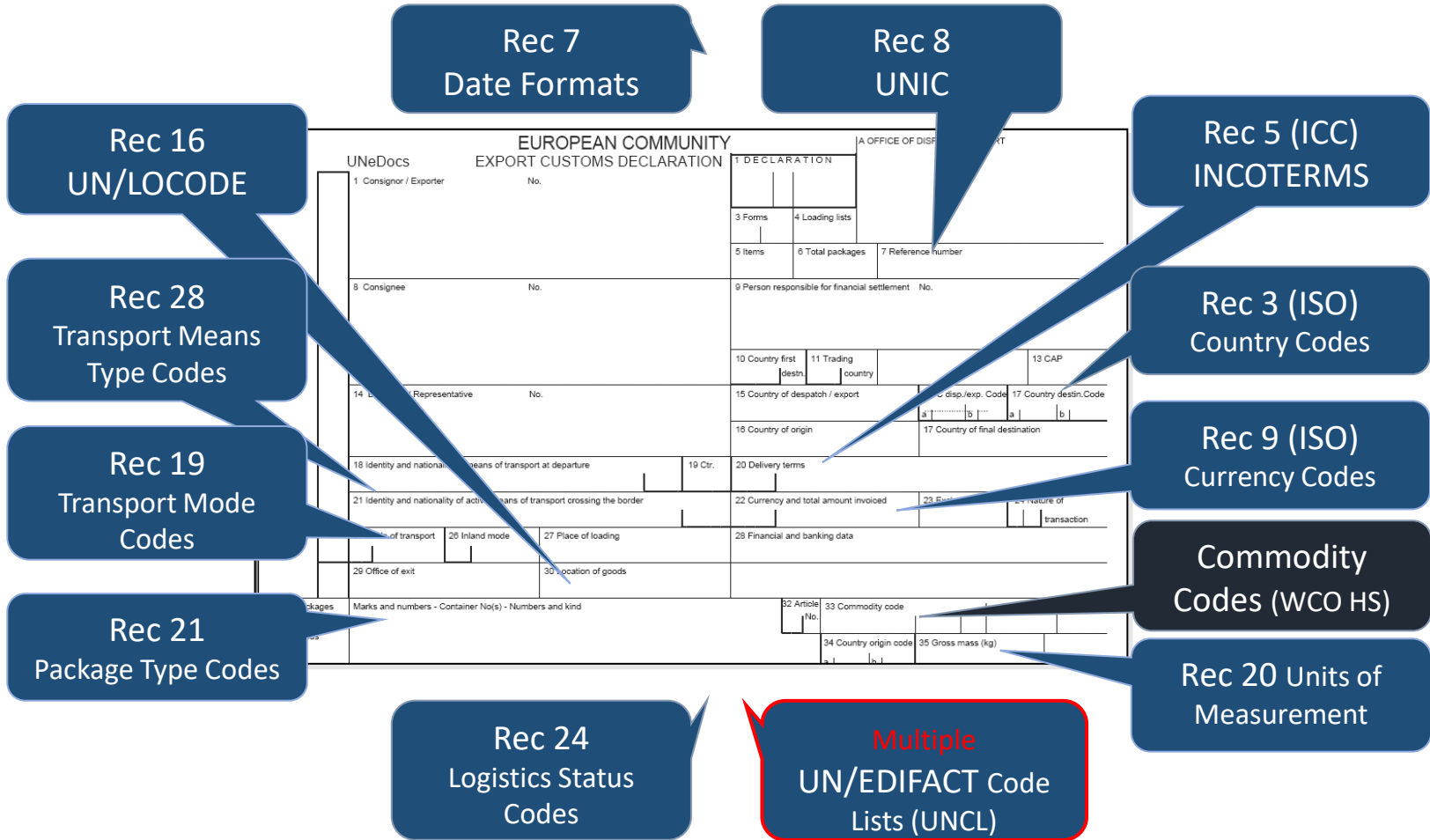
- A shipment is an identifiable collection of one or more Trade Items (available to be) transported together from the Seller (Original Consignor/Shipper) to the Buyer (Final/Ultimate Consignee):
 - A Shipment can only be destined for one Buyer
 - A Shipment can be made up of some or all Trade Items from 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



UN / CEFACT

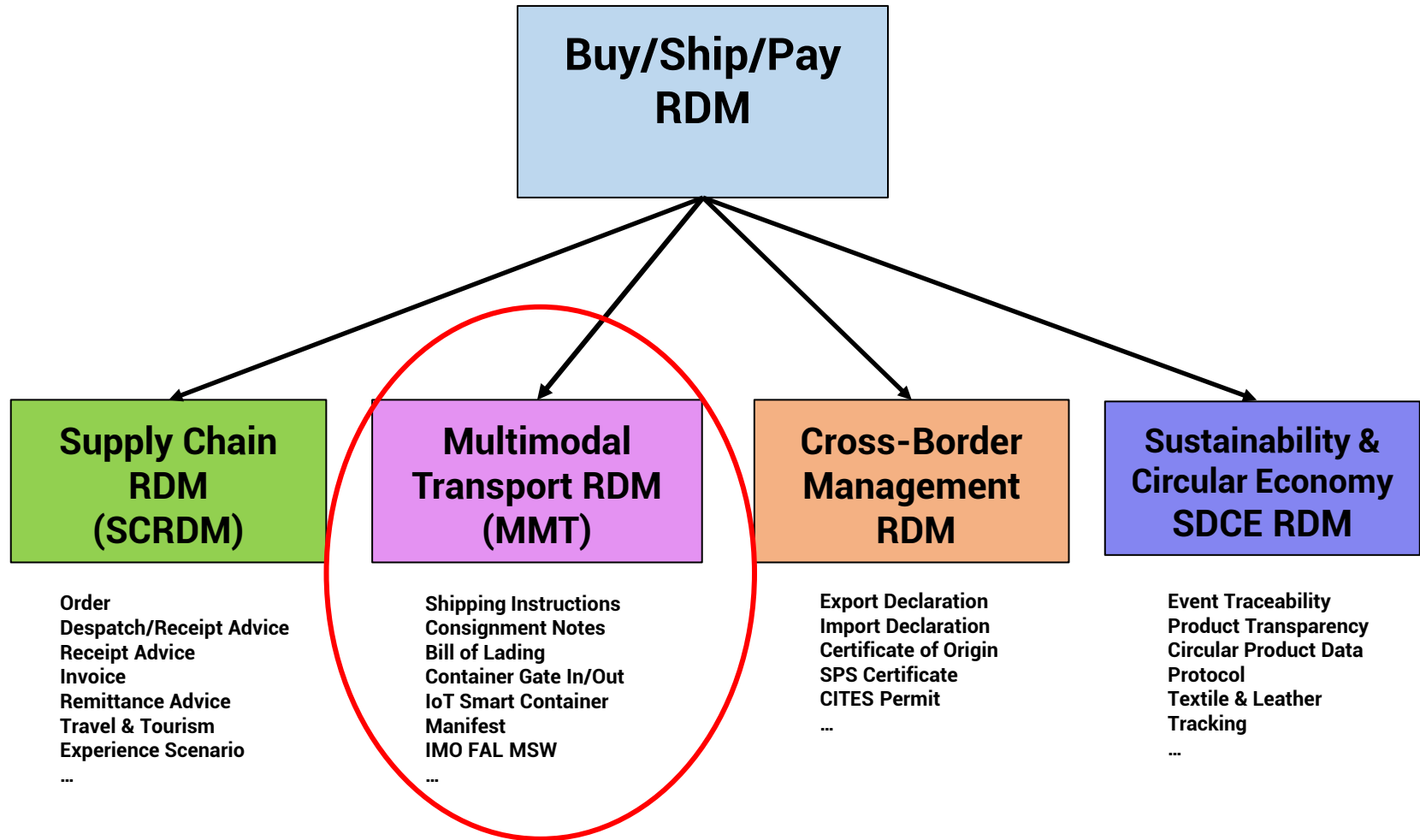


Data Exchange Generational View

- 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 UNCCL 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



Inter Modal Matrix using MMT as Reference Model (Auto-generated)



	C	D	E	F	G	H	I	J	K	L	M	N	O
1	BN	FIATA Bill	CIM-SMGS	CIM-SMGS URL	Wagon List	River B/L	Maritime B/L	eCMR	EFTI DR FEB2021	EFTI DG to	Air Waybill	Air CSD	Air DG
2	BN	FIATA Bill	CIM-SMGS	CIM-SMGS URL	Wagon List	River Bill of Lading	Maritime B/L	eCMR MMT; R	EFTI DESCopy	MMT Cont	Air Waybill	CSD; D21	DG Decla
3	MMT CCBDA IFTM** Data Exchange Structure	X	X	X	X	X	X	X	X	X	X	X	X
4	Exchanged Document Context							X					
10	Exchanged Document	X	X	X	X	X	X	X			X	X	X
11	ID	X	X	X	X	X	X	X			X	X	X
12	Name												
13	Type Code					X	X	X			X	X	X
14	Issue Date Time	X	X	X	X	X	X	X			X	X	X
15	Remark							X					
16	Original Issued Quantity	X				X							
17	Copy Issued Quantity	X				X							
18	Purpose Code		X	X							X	X	X
19	Sender Assigned ID		X	X									
20	Recipient Assigned ID		X	X									
21	Version ID		X										
22	Note		X	X				X				X	
23	Subject Text							X					
24	Content Code							X					
25	Content Text		X	X				X				X	
26	Subject Code							X				X	
27	Reference Document		X	X									
28	Type Code		X	X									
29	Issue Location	X				X	X	X			X		X
30	ID	X				X	X	X			X		X
31	Name	X				X	X	X			X		X
32	Country Code	X						X					
33	Contractual Clause	X	X	X							X		
34	ID	X									X		
35	Content Text	X	X	X							X		
36	Air Waybill Consignor Signatory Authentication	X	X	X	X						X		
37	Actual Date Time	X	X	X							X		

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

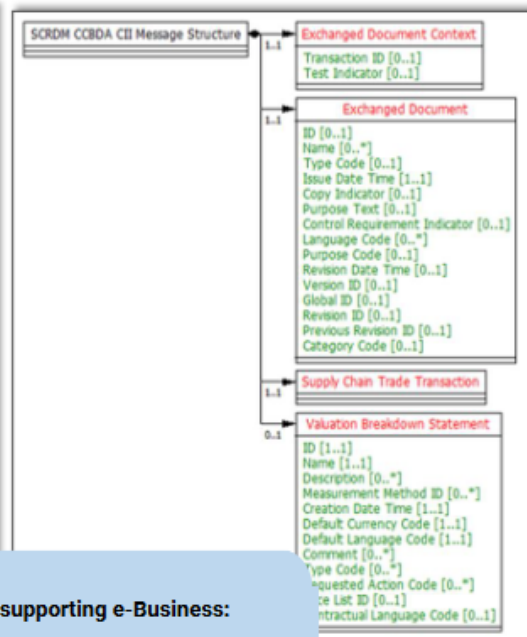
Cross Industry Remittance Advice

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 graphic with a blue globe and circuitry, labeled 'UN/CEFACT'. To the right, the text reads 'Sustainable and Digital Trade Facilitation Week'. Below this, a calendar icon indicates the dates '8-12 July 2024', and a location pin icon indicates 'Palais des Nations Geneva'. On the far right, two QR codes are displayed, labeled '42nd FORUM' and '30th PLENARY'.

EU eFTI Regulation

„This Regulation establishes a [harmonized] legal framework for the electronic communication of regulatory information between the economic operators concerned and competent authorities in relation to the transport of goods on the territory of the Union.“

Article 1, eFTI Regulation (2020/1056)

EU policy intervention objectives



Promote use of digital technologies for fulfilling regulatory requirements within the EU
Reduce administrative cost for operators and enhance the efficiency of rule enforcement



Acceptance by public authorities
of freight transport information
made available electronically



Uniform implementation of
the obligation of acceptance
by authorities



Interoperability of the IT systems
and solutions used

“This Regulation establishes a [harmonised] legal framework for the electronic communication of regulatory information between the economic operators concerned and competent authorities in relation to the transport of goods on the territory of the Union”
(Article 1)

eFTI Key Elements



Information (already) required by EU & national legislation

- Legislation applicable to the transport of goods on the EU hinterland
- Legislation concerning the means of transport and the personnel not concerned



Obligation for all competent authorities in all EU Member States

- Accept the information electronically
- Use common requirements/technical specifications for acceptance (defined by EU implementing legislation)



Option for the economic operators

- Facilitation – possibility to present the information electronically; no obligation
- When opting, obligation to use certified eFTI platforms or service providers



Common requirements for service providers and platforms

- For platforms' functionalities and, respectively, service providers' obligations
- Common implementation specifications (defined by EU implementing legislation)



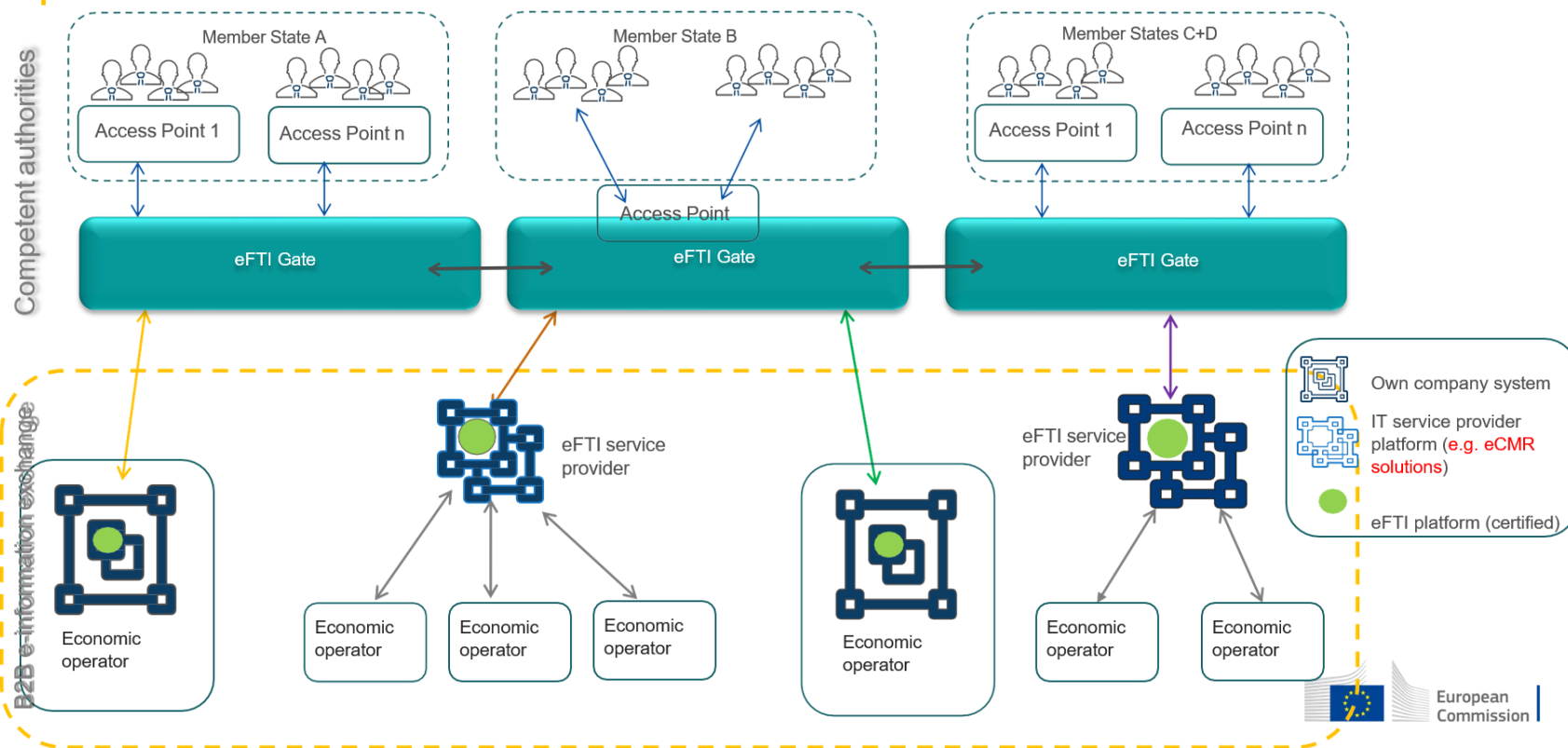
Harmonised third-party certification for service providers and platforms

- One stop shop, valid EU-wide

EU eFTI Environment

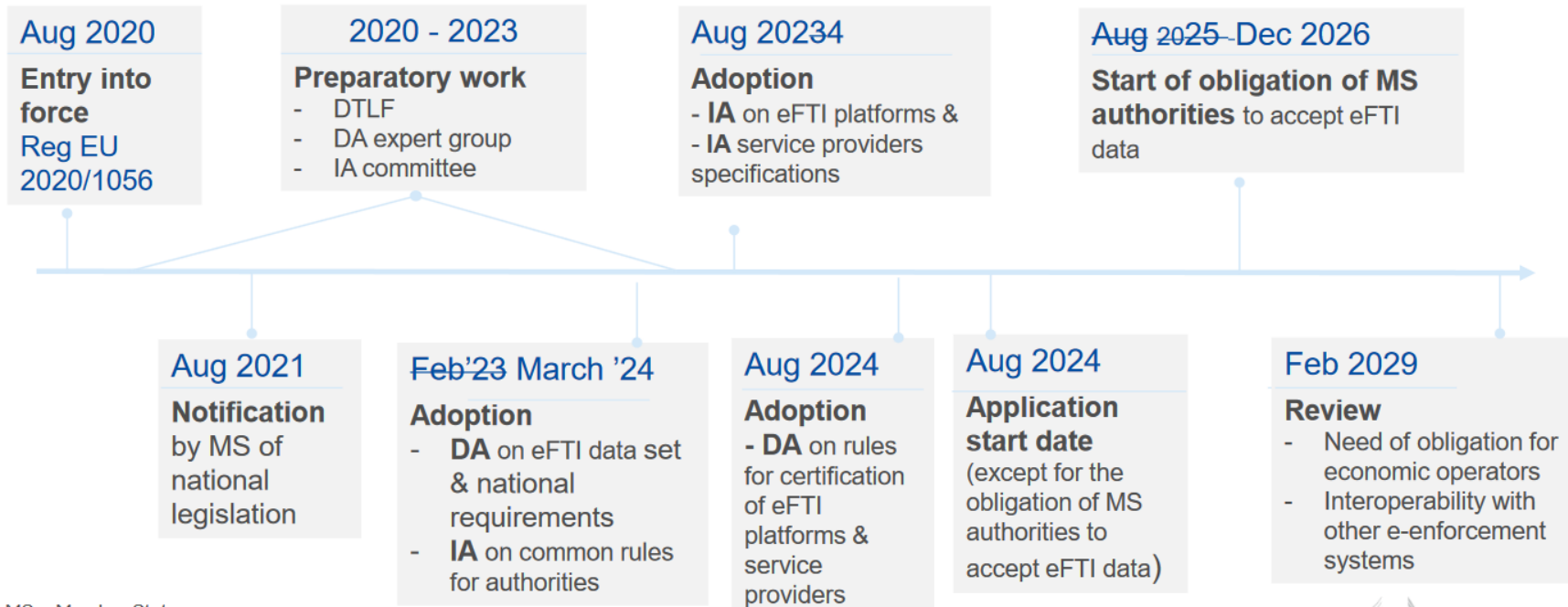
eFTI exchange environment implementation architecture*

*under approval; schematic representation



EU eFTI Regulation

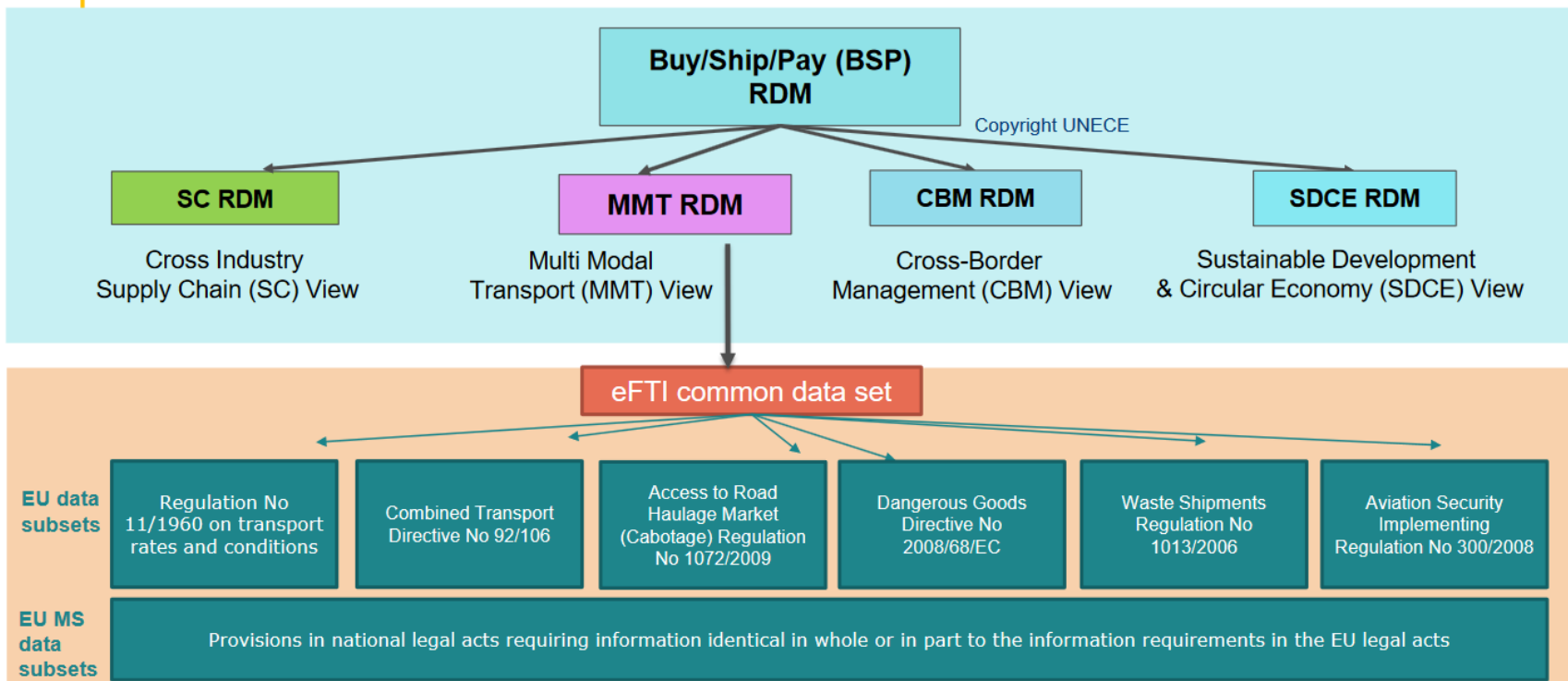
eFTI Regulation implementation and application – Indicative timeline



MS – Member States
 DA – Delegated act (Commission Regulation)
 IA – Implementing act (Commission Regulation)
 DTLF – Digital Transport and Logistics Forum

EU eFTI Regulation

eFTI common data set and subsets as profiles of the UN/CEFACT Multimodal Transport Reference Data Model (MMT RDM)



EU eFTI Regulation – UN/CEFACT Foundation

Benefits of using the UN/CEFACT MMT RDM as the base

- Reuse of the structure and data elements = No need to reinvent the wheel.
- Possibility to extend the data set based on the existing core component library.
- Easier interoperability with other data exchange environments built on the same base.

EU eFTI Regulation

eFTI common data set and data subsets

- eFTI common data set – a set of structured data elements that correspond to all the eFTI data subsets, where each data element is included only once.
- eFTI data subsets – a set of structured data elements that each correspond to one piece of legislation in the scope of eFTI regulation.
- 6 EU legal acts + ca 200 national legal acts = 200+ data subsets = 500+ unique data elements

eFTI Data Sets March 2024

