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

VIRTUAL REGIONAL WORKSHOP ON DIGITALIZATION OF TRADE DOCUMENTS IN STKEC REGION 25 May 2022

New Generation of Global Standards for Trade and Transport Data and Document Exchange

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Cooperation / Collaboration

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EEC

EU
DG-MOVE
DG-TAXUD
DG-MARE
DG-DEVCO
DG-DIGIT
…

ISO
IEC
ITU
WTO
ITC
IATA
WCO
OECD

IPCSA
PROTECT
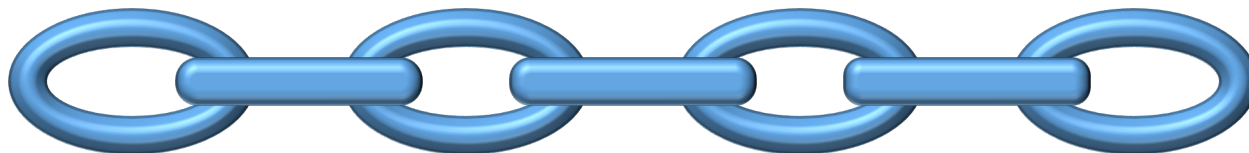FIATA
SMDG
DCSA
…

UN / CEFACT

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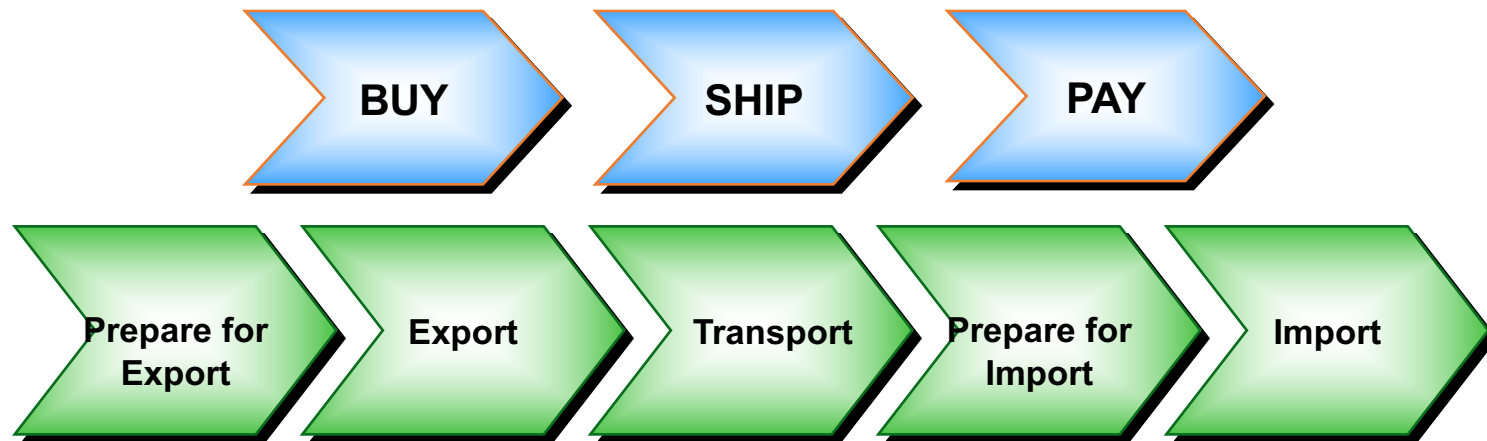
UN/CEFACT Deliverables

Deliverables

- Internationally agreed recommendations
- Internationally agreed e-business standards
- Common Librairies
- Common Directories
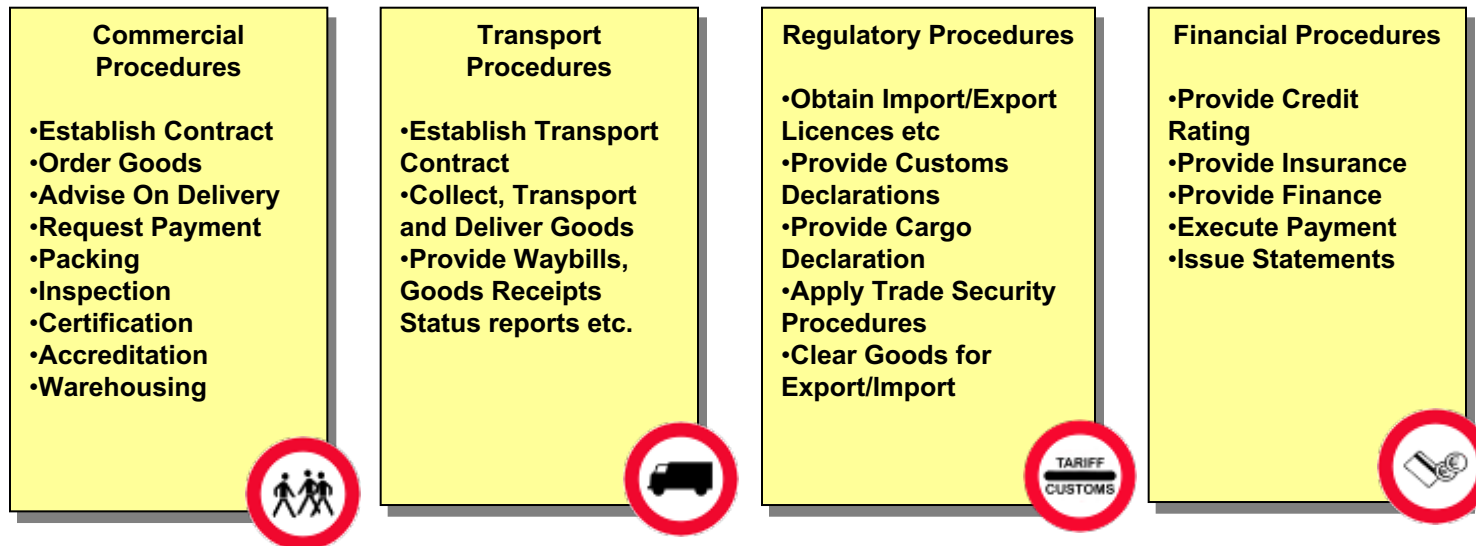- Code Lists

One link in a global supply chain

- Most dematerialization projects are only looking at one sectoral view
  - Almost all sectoral views are just one part of a global supply chain
  - The international supply chain is very complex (multiple actors and multiple relations in data exchanges)

- 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 approach

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UN/CEFACT International Supply Chain Process Model

BUY → **SHIP** → **PAY**

Prepare for Export → **Export** → **Transport** → **Prepare for Import** → **Import**

INVOLVES

Commercial Procedures

- Establish Contract
- Order Goods
- Advise On Delivery
- Request Payment
- Packing
- Inspection
- Certification
- Accreditation
- Warehousing

Transport Procedures

- Establish Transport Contract
- Collect, Transport and Deliver Goods
- Provide Waybills, Goods Receipts Status reports etc.

Regulatory Procedures

- Obtain Import/Export Licences etc
- Provide Customs Declarations
- Provide Cargo Declaration
- Apply Trade Security Procedures
- Clear Goods for Export/Import

Financial Procedures

- Provide Credit Rating
- Provide Insurance
- Provide Finance
- Execute Payment
- Issue Statements

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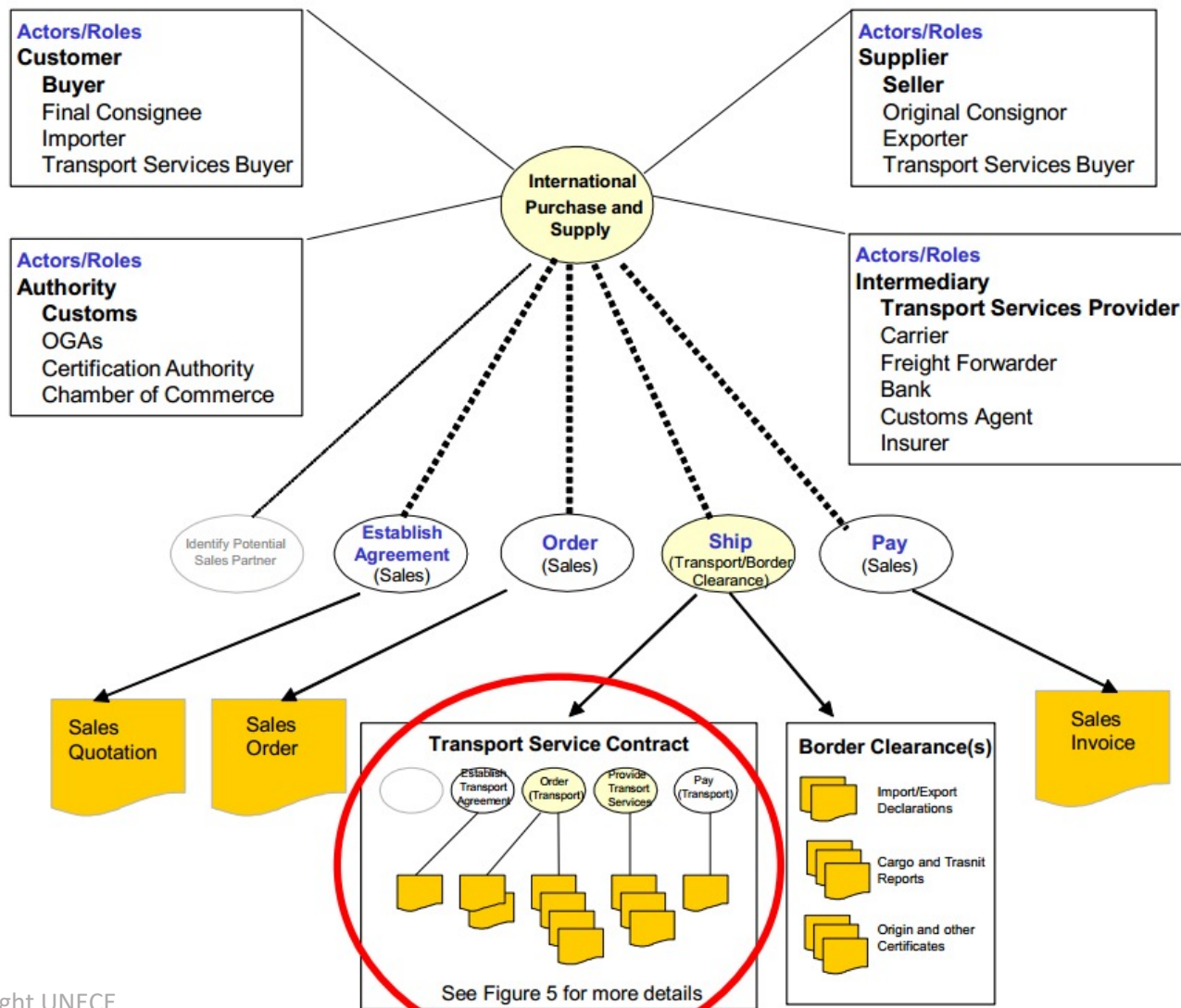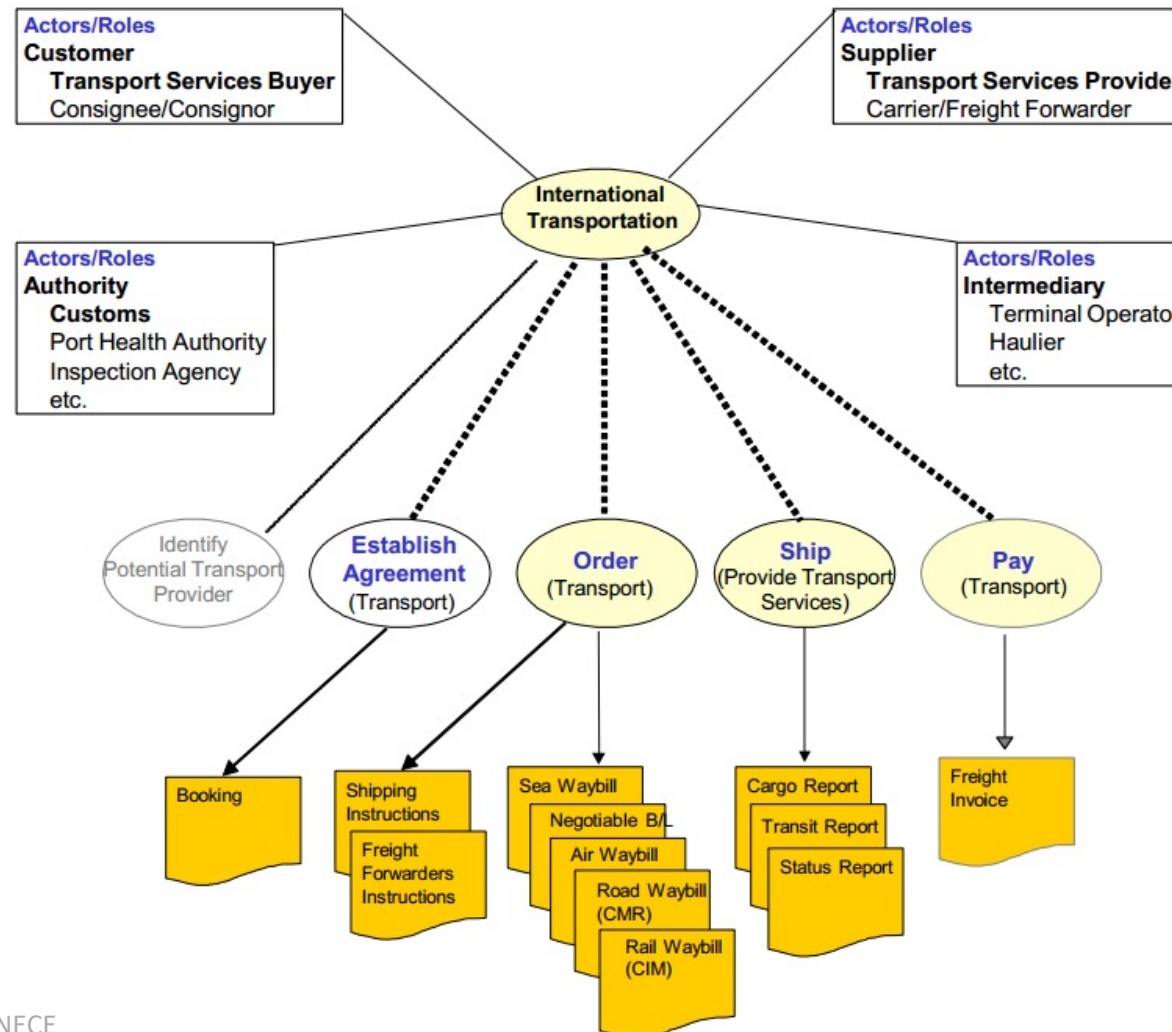
Focusing on the Sales Contract

The Sales Order Contract

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And now the Transport Contract

The Transport Service Contract

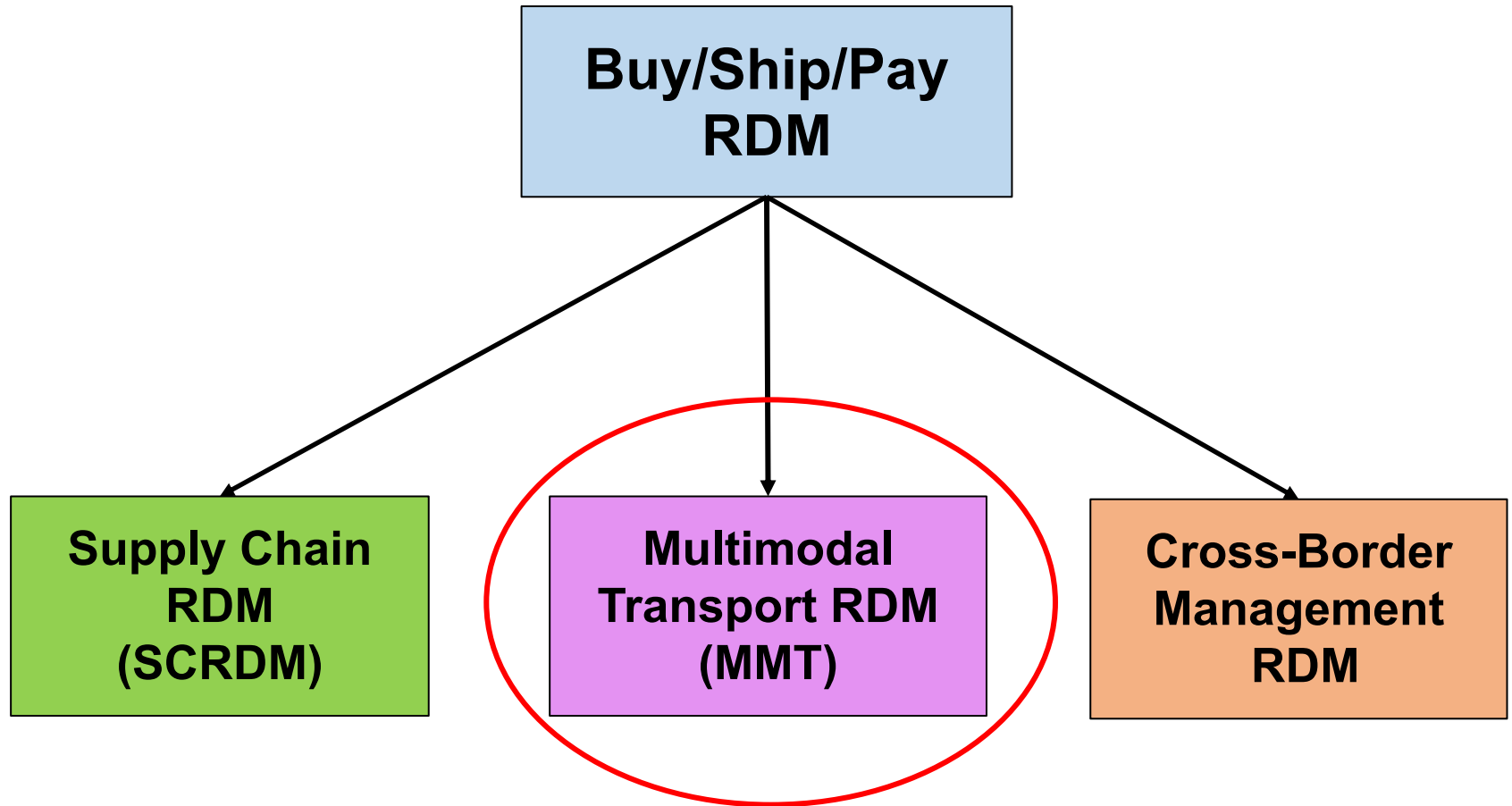# International Supply Chain B2B Data Exchange Families

Trade Documents – Quotation, Order, Invoice etc.

Materials Management Documents – Despatch Advice, Pick List, Packing List etc.

Transport Documents – Bill of Lading, Shipping Instructions etc.

Customs Documents – Export, Import, Transit Declarations, Cargo Reports etc.

Other Regulatory Documents – Cert of Origin, DGN etc.

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UN/CEFACT Global Supply Chain RDMs Today

- Based on UNCCL (Core Component Library)
- Result of contributions from 100s of supply chain experts over 20 years including very significant inputs from GS1 experts
- >100 Data Exchange Message structures
- Biannual publications
- Latest published versions D21B
- Publication formats html/UML, xlsx, profile xsd and future JSON schema
- References UNTDED and UN/EDIFACT (and EANCOM)
- Includes global identifier attributes throughout and alignments to EPCIS
- Aligned to international regulations and conventions where applicable
- Extending to cover sustainability and circular economy, eco tourism

UN/CEFACT International Supply Chain Reference Data Model Family

Buy/Ship/Pay RDM

Supply Chain RDM (SCRDM)

Multimodal Transport RDM (MMT)

Cross-Border Management RDM

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Core Component Dictionary Entry Names and Definitions

Built-in mappings to UNTDED, UN Layout Key and UN/EDIFACT

UNTDED

UN Layout Keys

UNCL Codes

UNTDID
EDIFACT

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

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Trade and Transport Semantics

Master Bill Level

Master Transport Contract Details e.g. Carrier, Consignor, Consignee etc.

1..n Master Consignment Items e.g. Shipping Description, Gross Weight etc.

1..n

House Bill Level

House Transport Contract Details e.g. Forwarder, Consignor, Consignee etc.

1..n House Consignment Items e.g. Shipping Description, Gross Weight etc.

1..n

Transport

Invoice Level

Trade Transaction Details e.g. Seller/Buyer

1..n Trade Item Details e.g HS code, Gross Weight, Values etc.

Trade

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Buy/Ship/Pay –
Cross-Border Trade, Transport & Customs
Business Entity Overview

Trade Data

Transport Data

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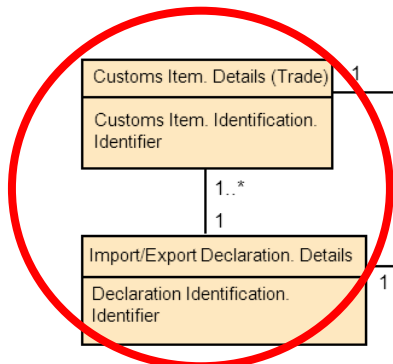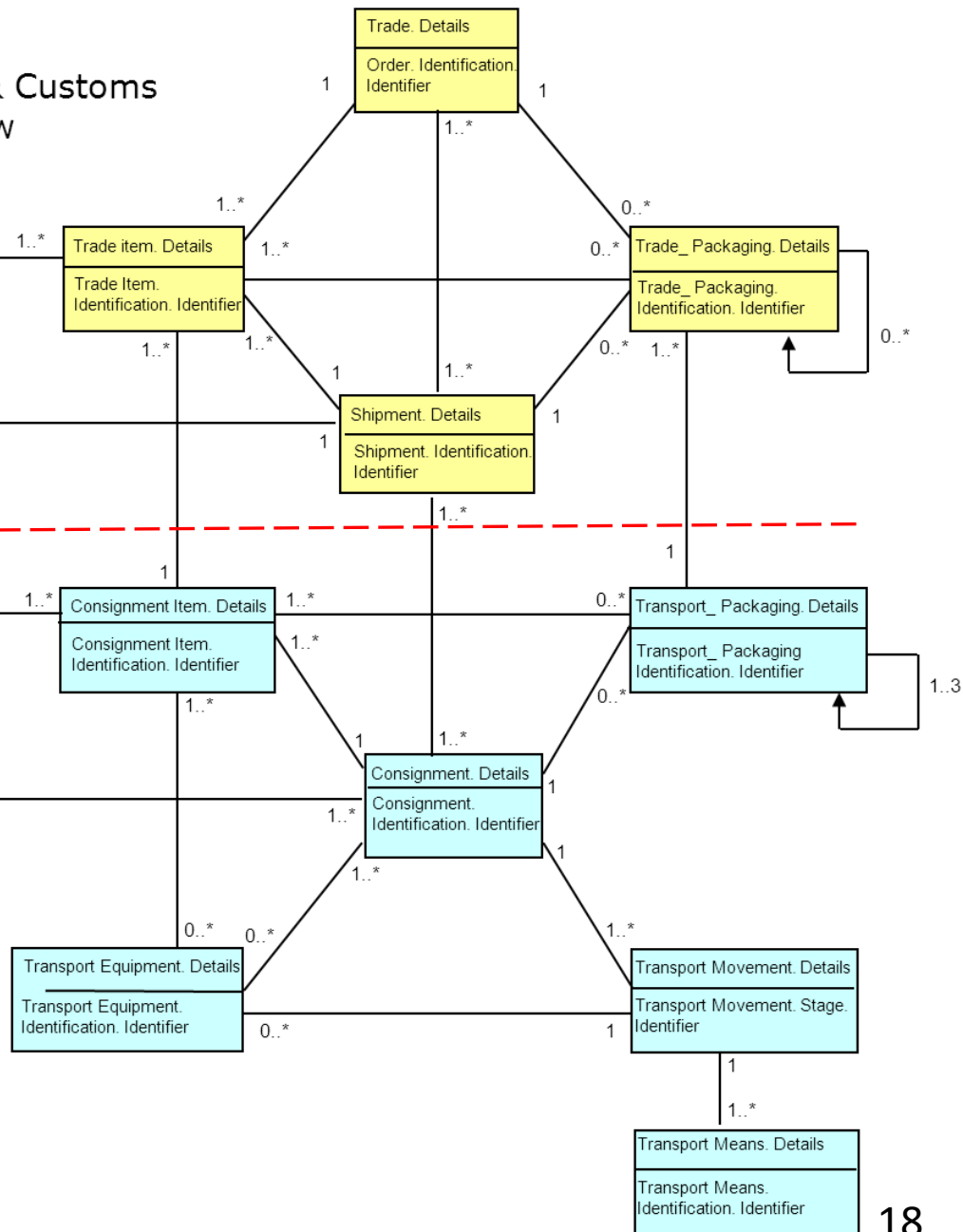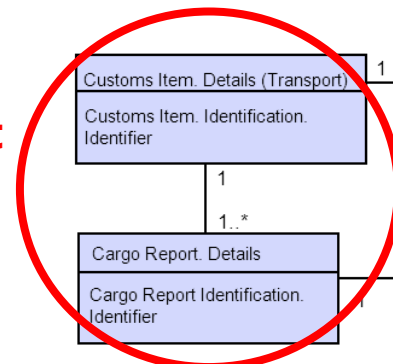
Support for JSON

- All RDM data exchange subsets to be published as JSON schema

- JSON schema export technical specification almost completed

- UN/CEFACT developing JSON-LD web vocabulary based on RDM semantics

- JSON deliverables to support future restful API developments

Modal Specific MMT-based Customisations

✓Maritime

✓Road

✓Air

✓Rail

✓Inland Waterway

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

	C	D	E	F	G	H	I	J	K	L	M	N	O
	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 Co	CIM-SMGS Co	Wagon list; Co	River Bill of Lading	Maritime BL	eCMR MMT; R	eFTI DESCopy	MMT Cont	Air Waybi	CSD; D21A	DG Declar
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		
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		

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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/ and tfig.unece.org

- All experts are welcome to join the standards development work free of charge

UN/CEFACT Secretariat

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