How to implement the UNTTC package of transport and logistics standards for digitalization of data and document exchange

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Baku Seminar, 22–23 May 2023
UN/CEFACT

Objectives
• Simple, transparent and effective processes for global business
• Efficient and automated exchange of information

Outputs
• Global Trade Facilitation and Electronic Business Recommendations and Standards

Means
• Public Private Sector Partnership
  – over 1000 experts from government and business
• Experts meet via internet every week plus two Face-to-Face Forums per year (hopefully)
Cooperation / Collaboration

![Logos of various organizations](image)

- **EEC**
  - 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 Deliverables

- Internationally agreed recommendations
- Internationally agreed e-business standards
- Common Libraries
- 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 approach is 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
UN/CEFACT Global Supply Chain eBusiness Standards

• Based on UNCCCL (Core Component Library)
• Cross-industry and Multi Modal/Intermodal
• Result of contributions from 100s of supply chain experts over 20 years
• Business Process Analyses and Data Exchange Message structures
• Latest published versions D22B
• Publication formats html/UML, profile xsd and future JSON schema to support UN/CEFACT standardised APIs and harmonised JSON-LD API developments
• Included references to UNTDED and UN/EDIFACT to support migration
• Aligned to international regulations and conventions where applicable
Basis for Semantic Interoperability

Agreed and Harmonised

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

Global Trade – Semantic Anchors

Shipments (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
## Core Component Dictionary Entry

### Names and Definitions

<table>
<thead>
<tr>
<th>Business Name</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logistics Transport Means</td>
<td>The name, expressed as text, of this logistics means of transport.</td>
</tr>
</tbody>
</table>

**Tripartite Dictionary Entry Name**

- **CCTS type**: Logistics_Transport Means
- **DictionaryEntryName**: Name
- **ObjectClassTerm**: Transport Means

**Business Name**

- **Name**: Logistics_Transport Means
- **Type Code**: A
- **Type Text**: Logistics
- **ID**: A
- **Gross Weight**: A
- **Net Weight**: A
- **Length**: A
- **Draught Level Measure**: A
- **Cargo Gross Weight**: A
- **Required Lane Length**: A
- **Loaded Cargo Measure**: A
- **Sequence Number**: A
- **Driver Accompanied Indicator**: A
- **Conference Code**: A
- **Manoeuvring Speed**: A
- **Forward Draught Level Measure**: A
- **Aft Draught Level Measure**: A
- **Waste Reporting Exemption Indicator**: A
- **Helipad Indicator**: A
- **ISPS Security Level Code**: A
- **Approved Security Plan Onboard Indicator**: A
- **Tare Weight Measure**: A
- **Manufacturing Date Time**: A
Built-in mappings to UNTDED, UN Layout Key and UN/EDIFACT
UN/CEFACT Publication Transport Example: electronic Road Consignment Note (eCMR)

BUY SHIP PAY (BSP)
Semantic model
Subset of UN/CCL

BUY SHIP PAY
Master message structure

MMT subset
Exchange syntax-neutral
data exchange structure

SHIP (MultiModal Transport)
CCL subset

SHIP
Master message structure

eCMR message structure

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

Multi Modal Transport RDM

Multi Modal Transport RDM
Customised Subset (Decorated)

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Key Single Window Semantic Aspects

- Public side and Government side speak different languages or, at least, different dialects
  - Affects names and definitions
  - Affects data quality
- Partnership approach using harmonised names and definitions will offer increased quality and mutually beneficial facilitation
- Pipeline provision of data in trusted trader programs
- Primary and Secondary data views
- Managing moving targets
Pipeline Data Exchange Standard (PDES)

- Supply Chain data extracts sent to regulatory agencies at key time points
- Standardised overall data exchange structure
- Quality data from the original source at earliest time
- Regulatory and supply chain visibility benefits
UNTTC
Transport & Trade Connectivity in the age of pandemics

• UN New York launched COVID-19 initiative to encourage exchange of digitised electronic data rather than paper documents in transport contract related data exchanges

• UNECE and UN/CEFACT joint contribution:
  • UN/CEFACT Cross-modal project to develop modal data exchange guides as subsets of the UN/CEFACT MMT Reference Data Model to support digitised data exchanges between transport modes
  • 7 Heads of Delegation supported the Project (Germany, Spain, Greece, Russia, Italy, US and Ukraine)
  • Project completed all ODP steps successfully and published on UN/CEFACT website plus links to UNTTC website
Dangerous Goods MMT-based Customisations

- Maritime
- Road
- Rail
- Inland Waterway
- Air

In conjunction with UNECE Transport Division, IMO FAL, ICAO and the EU DG MOVE EFTi Regulation development
Recently Completed Projects

- Buy Ship Pay Reference Data Model
- Cross Industry Supply Chain Track and Trace eb Standard
- White Paper overview of Blockchain in Trade
- White Paper on Verifiable Credentials (to be developed into new TF Recommendation)
- Cross-Border Management RDM
- UNDA COVID-19 initiative (UNTTC) – Electronic Transport Data Exchange Structures based on MMT (MultiModal Reference Data Model)
- Cross-modal Dangerous Goods data harmonisation

UN/CEFACT Semantic Publications:

https://unece.org/trade/uncefact/mainstandards
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/](http://www.unece.org/cefact/)
• All experts are welcome to join the standards development work free of charge

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