A Standard Set of Data and Transport Documents in the context of Single Window and Data Pipeline

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• Traders fill in appr. 40 documents to 40 different agencies with often repeated data
• The aim of trade facilitation is to reduce red tape
• Reusing the available information
• The information on trade flows comes from business (incl. transport)

→ An idea to create a set of transport documents or a common data set for multimodal exchange, considering the Viking Corridor (Odessa – Klaipeda: Ukraine-Belarus-Lithuania)

• Prepare a standardised data set aligned with the UN/CEFACT Multimodal Transport Reference Data Model (MMT RDM) and the European Union Customs Data Model (EUCDM).
**Single Window planning algorithm inc. interoperability**

**Level 1**: Paperless Customs + e-payment of Customs duties + full container load electronic lists + risks taken into account

**Level 2**: Connection with the IT systems of other public regulatory bodies (aligning the paperless Customs with additional documents – e-certificates and e-permits)

**Level 3**: Electronic document interchange between stakeholders within the Port Community Systems (e.g. sea and air)

**Level 4**: Integrated national logistics platform where traders and providers of services related to logistics are exchanging the relevant information

**Level 5**: Regional system of electronic data exchange

*Source: UNNExT Guideline for SW*
Related concepts: data pipeline

Future Customs and International trade systems (David Hesketh and others)

- **Consignor or Exporter**
- **Container / Carrier**
- **Forwarder or 3rd party**
- **Cargos**
- **Port 1**
- **Port 2**
- **Cargos**
- **State regulatory requirement**
- **Third country regulatory requirements**
- **Customs**
- **MIA**
- **Border control**
- **Port; Public Health**

Data about the goods flow through the pipeline, with various risks associated at different stages. The diagram illustrates the flow and data management at the organizational and physical levels, with specific percentages indicating the distribution of data pipelines for different regulatory requirements.
# Seamless multimodal supply chain

## Supply

### Shipment – preparation for transportation

<table>
<thead>
<tr>
<th>Bill of Lading</th>
<th>Bill of Lading</th>
<th>eCMR</th>
<th>Invoice, package list, certificate of origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMO/FAL forms</td>
<td>eCMR, etc.</td>
<td>eTIR, TIR carnet</td>
<td></td>
</tr>
</tbody>
</table>

### Transport

- **Shipper, forwarder**
  - Ship
  - Sea
  - Country 1, 2
  - Regulatory agency
- **Transport operator**
  - Trip 1: sea
  - Trip 2: inland water transport
  - Trip 3: road
  - Skipper, driver
- **Freight forwarder**
  - Port Community System
- **Regulatory agency**
  - Trip 1: sea
  - Trip 2: inland water transport
  - Trip 3: road
## Seamless multimodal supply chain

### Supply

<table>
<thead>
<tr>
<th>Shipment – preparation for transportation</th>
<th>Shipper, forwarder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bill of Lading, IMO/FAL forms</td>
<td>Transport operator</td>
</tr>
<tr>
<td>BoL, eCMR</td>
<td>Freight forwarder</td>
</tr>
<tr>
<td>CIM, SMGS</td>
<td>Skipper, driver</td>
</tr>
<tr>
<td>eCMR, eTIR, TIR carnet</td>
<td>Regulatory agency</td>
</tr>
</tbody>
</table>

Invoice, package list, certificate of origin

<table>
<thead>
<tr>
<th>Trip</th>
<th>Mode</th>
<th>Ship</th>
<th>Destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>sea</td>
<td>Ship</td>
<td>Sea</td>
</tr>
<tr>
<td>2</td>
<td>inland water</td>
<td>Ship</td>
<td>Country 1, 2</td>
</tr>
<tr>
<td>3</td>
<td>rail</td>
<td>Truck</td>
<td>Country 2</td>
</tr>
<tr>
<td>4</td>
<td>road</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Общий набор данных, включающий данные всех необходимых документов для партии грузов, приведенный в соответствие с мультимодальной моделью данных СЕФАКТ ООН

**Bill of lading**

**IMO/FAL forms**

**CIM, CIM/SMGS and SMGS consignment notes**

**Wagon list**

**CMR**

**Airwaybill**

**Invoice**

**Specification;**

**Packing list;**

**Proforma invoice;**

**Quality certificate;**

**Shipping order**

**Customs documents:**
- Export declaration (EX-1);
- Transit declaration (T-1);
- Accompanying administrative documents
  - TIR Carnet;
  - ATA carnet;
  - Finantial guarantee (for transit);

**Other regulatory agency certificates:**
- Certificate of Origin;
- Certificate of compliance;
- Carantine certificate;
- Veterinary certificate;
- Hygiene certificate;
- Fire safety certificate;
- Sanitary and phytosanitary certificate
Multimodal corridor approach

General transport documents:
- SMGS, CIM/SMGS or CIM Consignment Note;
- CIM / SMGS Wagon List (Appendix 7.2 to point 20)
- Container List (Appendix 7.4 to point 20)
- Handover sheet (Appendix 3 to SI to SMGS) [https://www.cit-rail.org](https://www.cit-rail.org)
- CMR, (eCMR);
- Air waybill (eAir waybill);
- Bill of Lading - B/L (e B/L)) and

Additional accompanying documents and permits:
- Invoice;
- Specification;
- Packing list;
- Proforma invoice;
- Certificate of Quality.
- Shipping order (export and transit)

Customs Documents:
- Export Declaration (EX-1);
- Transit Declaration (T-1);
- Administrative Accompanying Document (AAD)
- TIR Carnet;
- ATA Carnet;
- Finance guarantee (for transit);

OGA Certificates:
- CO, C/O
- Certificate of Safety or Compliance;
- Quarantine Certificate;
- Veterinary Certificate;
- Hygienic Certificate;
- Fire Safety Certificate;
- Sanitary and Phytosanitary Certificates.

Align data in these documents with UN/CEFACT reference data models and WCO data model
**UN/CEFACT eCMR**

- Multimodal transport semantic data model (MMTDM) (subset of Buy-Ship-Pay DM)
- Multimodal transport (MMT) basic message structure
- eCMR message model
- XML syntax of eCMR schema

**UN/CEFACT Cross-industry Invoice (CII)**

- Supply chain semantic data model (Buy-ship-pay) (subset of Buy-Ship-Pay DM)
- Basic message structure in the supply chain (Buy-Ship-Pay)
- Invoice message model
- XML syntax of invoice schema
Seamless multimodal supply chain

Supply

Shipment – preparation for transportation

- Bill of Lading
- IMO/FAL forms
- BoL, eCMR
- CIM, SMGS
- eCMR, eTIR
- Invoice, package list, certificate of origin

Shipper, forwarder

- Transport operator
- Freight forwarder
- Skipper, driver

Trip 1: sea
- Ship
- Sea

Trip 2: inland water
- Ship
- Country 1, 2

Trip 3: rail
- Truck
- Country 2

Trip 4: road

Regulatory

Export and import declarations, transit documents

Information for goods control
New FAL forms, effective from 1 January 2018

- **IMO General Declaration** (FAL form 1)
- **Cargo Declaration** (FAL form 2)
- **Ship's Stores Declaration** (FAL form 3)
- **Crew's Effects Declaration** (FAL form 4)
- **Crew List** (FAL form 5)
- **Passenger List** (FAL form 6)
- **Dangerous Goods** (FAL form 7)
New forms, effective from 1 January 2018

- IMO General Declaration (FAL form 1)
- Cargo Declaration (FAL form 2)
- Ship's Stores Declaration (FAL form 3)
- Crew's Effects Declaration (FAL form 4)
- Crew List (FAL form 5)
- Passenger List (FAL form 6)
- Dangerous Goods Declaration (FAL form 7)

**GENERAL DECLARATION**
(IMO FAL Form 1)

<table>
<thead>
<tr>
<th>1.1 Name and type of ship</th>
<th>1.2 IMO number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.3 Call sign</td>
<td>1.4 Voyage number</td>
</tr>
<tr>
<td>2. Port of arrival/departure</td>
<td>3. Date and time of arrival/departure</td>
</tr>
<tr>
<td>4. Flag State of ship</td>
<td>5. Name of master</td>
</tr>
<tr>
<td>6. Last port of call/Next port of call</td>
<td>8. Name and contact details of ship's agent</td>
</tr>
<tr>
<td>7. Certificate of registry (Port; date; number)</td>
<td></td>
</tr>
<tr>
<td>11. Brief particulars of voyage (previous and subsequent ports of call; underline where remaining cargo will be discharged)</td>
<td></td>
</tr>
<tr>
<td>12. Brief description of the cargo</td>
<td></td>
</tr>
<tr>
<td>13. Number of crew</td>
<td>14. Number of passengers</td>
</tr>
<tr>
<td>Attached documents (indicate number of copies)</td>
<td></td>
</tr>
<tr>
<td>16. Cargo Declaration</td>
<td>17. Ship's Stores Declaration</td>
</tr>
<tr>
<td>20. The ship's requirements in terms of waste and residue reception facilities</td>
<td></td>
</tr>
<tr>
<td>21. Crew's Effects Declaration (only on arrival)</td>
<td>22. Maritime Declaration of Health (only on arrival)</td>
</tr>
<tr>
<td>23. Date and signature by master, authorized agent or officer</td>
<td></td>
</tr>
<tr>
<td>Data element</td>
<td>ISO7372 (UNTDED) 2005</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Vessel name</td>
<td>8212 (Transport Means. Identifier.Text)</td>
</tr>
<tr>
<td>Vessel type</td>
<td>8179 (Transport Means. Type.Code)</td>
</tr>
<tr>
<td>IMO number</td>
<td>8213 (Transport Means. Identifier)</td>
</tr>
<tr>
<td>Call sign</td>
<td>8213 (Transport Means. Identifier)</td>
</tr>
<tr>
<td>Flag state</td>
<td>8453 (Transport Means. Registration Nationality.Identifier)</td>
</tr>
<tr>
<td>Registry</td>
<td>1001 (Document. Type.Code)</td>
</tr>
<tr>
<td>Registry date</td>
<td>2001 (Date. Date.Date Time)</td>
</tr>
<tr>
<td>Registry number</td>
<td>1004 (Document. Identifier)</td>
</tr>
<tr>
<td>Registry location</td>
<td>3411 (Document. Issue Location.Identifier)</td>
</tr>
<tr>
<td>Gross tonnage</td>
<td>6300 (Transport Means. Gross Weight.Measure)</td>
</tr>
<tr>
<td>Net tonnage</td>
<td>6302 (Transport Means. Net Weight.Measure)</td>
</tr>
<tr>
<td>Name of master</td>
<td>3036 (Party. Name.Text) You may wish to put here 3408 &quot;Name of the Master of the vessel&quot;</td>
</tr>
<tr>
<td>Name of agent</td>
<td>3036 (Party. Name.Text)</td>
</tr>
<tr>
<td>Contact for agent</td>
<td>3412 (Contact. Name.Text)</td>
</tr>
<tr>
<td>Description of cargo</td>
<td>7004 (Consignment. Summary Description.Text)</td>
</tr>
<tr>
<td>Previous ports of call</td>
<td>3224 (Location. Name.Text)</td>
</tr>
<tr>
<td>Subsequent ports of call</td>
<td>3224 (Location. Name.Text)</td>
</tr>
<tr>
<td>Number of crew</td>
<td>6106 (Crew. Quantity)</td>
</tr>
</tbody>
</table>
The advantage of using the UN/CEFACT MMTRDM is that:
The MMT model already includes more than 90% of the information used for B2A and B2B interoperability
The MMTRDM is aligned to the WCO Data Model

- The model is supported by a neutral organization with a well-documented management, in which thematic experts can submit proposals to change specifications with the support of 3 national representatives.
- From the logistics point of view, at least 50-70% of the information is available from the beginning in the supply chain
Legal aspects of data sharing for multimodal transport

Government agencies and trading partners previously accepted paper forms, so regulatory frameworks corresponded to these requirements. The regulatory framework needs to be reviewed.

Some points on using datasets in a legal perspective:
• Should be benefit for all stakeholders;
• Availability, accuracy and completeness of data should be assured;
• Possibility for multi-purpose use, similar to the use of documents, data sets should be admissible in courts;
• Possibility for seamless use of data across transport modes, provided the existence of a relevant agreement between countries;
• Involve international organizations managing certificates and other forms from which data are taken
Benefits of UN/CEFACT Semantic Models

- The support for information sharing, such as enabled by data pipelines, with the timely capture of quality data from original data sources ensuring supply chain visibility
- Reduction of administrative burden by efficient reuse of data shared within the BUY SHIP PAY domain model
- Standardized data exchange structures, based on common Master data exchange structure and independent of exchange syntax
- Common basis for implementing in chosen data exchange syntax(es)

UN/CEFACT International Supply Chain Reference Data Model Family

- Buy/Ship/Pay RDM
- Supply Chain RDM
- Multimodal Transport RDM
- Regulatory RDM
Example: UN/CEFACT electronic Road Consignment Note (eCMR)

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

MULTIMODAL TRANSPORT (MMT)
(subset of BSP)

MULTIMODAL (MMT)
Master message structure

MMT subset
Exchange Syntax-neutral
data exchange structure

eCMR message model

Syntax
XML eCMR schema
Thanks!

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