Standardization of data and documents in the context of multimodal transport based on UN/CEFACT standards.

UN project to respond to the COVID-19 crisis

64th session of the UNECE Working Party on Inland Water Transport, Geneva, 8 Oct. 2020

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UN responses to the COVID-19 crisis

1. Strengthening the preparedness and resilience of countries by developing a coherent regulatory framework;
2. Principles of sustainable trade and transport;
3. Limiting the infection by facilitating trade and e-business to reduce physical contacts between people;
4. Analysis of non-tariff measures to prevent them from becoming barriers;
5. The world's response to these challenges is fragmented;
6. The UN (Regional Commissions and UNCTAD): UN Development Account Project in response to the challenges of COVID-19 to connectivity;
7. The UNECE has a segment on harmonizing standards for electronic exchange of data and documents in multimodal corridors;
8. The mandate of the UNECE since 1947 is to ensure international cooperation to recover from a major crisis.
The concept of a multimodal data exchange project

Upgrading existing and developing new standards (Business requirements specification, schemas, subsets of data) for key documents accompanying cargo on multimodal transport

Based on UN/CEFACT semantic standards and reference data models (as common denominator)

Pilot applications (e.g. in a digital multimodal corridor): electronic documents, data model for the corridor
Multimodal corridor approach:

Align data in these documents with UN/CEFACT standards and reference data models

1. Standards (executive guide; business requirement specification; business name structure; subset; CCL structure; XLS guideline structure; HTML index, using as a model the e-CMR standard) [www.unece.org/uncefact/mainstandards.html](http://www.unece.org/uncefact/mainstandards.html), already prepared for the following documents:
   - eCMR
   - Cross Industry Invoice
   - Cross Industry Delivery
   - Cross Industry Catalogue
   - Cross Industry Quotation
   - Cross Industry Remittance Advice
   - Cross Industry Scheduling
   - Cross Industry Ordering Process
   - Material Safety Data Sheet Details (MSDS)
   - Contract Financial Execution Management
   - Market Research Information
   - Verified Gross Mass (VERMAS) documents
   - International Forwarding and Transfer documents
   - Smart container information
   - A number of agricultural certificates, accounting and other documents

These standards you can find at [www.unece.org/uncefact/mainstandards.html](http://www.unece.org/uncefact/mainstandards.html)

1. Standards to be finalized in Sept. 2020
   - Provisional booking
   - Firm booking
   - Booking confirmation
   - Shipping instructions
   - Waybill
   - Status report
   - Status request
   - Packing list
   - RASFF (Rapid Alert for Security of Food and Feed)
   - Bill of Lading (BoL) / maritime waybill
   - Packing list

1. Standards to be finalized by the end of 2020
   - Inland water transport contract document
   - Maritime waybill.
   - CIM/SMGS Consignment Note;
   - SMGS 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)
   - Invoice for Customs
   - 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)
   - BoL / maritime waybill
   - Invoice for Customs
   - CO, C/O (preferential or non-preferential)
Related concepts: data pipeline

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

Consignor or Exporter

Forwarder or 3rd party

Container / Carrier

Forwarder or 3rd party

Cconsignee or Importer

Data about the goods

Data of the manifest

Third country regulatory requirements

State regulatory requirement

Country A

Cargo

Port 1

Cargo

Physical level

Country B

Cargo

Information pipelines

Organizational Documentation and data level

40% 20% 10% 15% 15%

40% 20% 10% 15% 15%

40% 20% 10% 15% 15%

Risks

MIA

Border control

Port; Public Health

Risks

Customs

Risks

Risks

Risks

40% 20% 10% 15% 15%
A common data set that includes all the necessary documents for the shipment, aligned with the UN/CEFACT multimodal reference data model.

**Bill of lading**

**IMO/FAL forms**

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

**Wagon list**

**CMR**

**Invoice**

**Specification**;

**Packing list**;

**Proforma invoice**;

**Quality certificate**;

**Shipping order**

**Airwaybill**

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

**Principle:** We look at seamless data sharing. The legal regime underlying each document is not affected - data can be introduced in any form. One can print it, sign it and submit it wherever and whenever necessary.
Seamless multimodal supply chain

Supply

Shipment – preparation for transportation

<table>
<thead>
<tr>
<th>Bill of Lading</th>
<th>BoL, eCMR</th>
<th>CIM, SMGS</th>
<th>eCMR, eTIR</th>
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<tr>
<td>IMO/FAL forms</td>
<td>Invoice, package list, certificate of origin</td>
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</tbody>
</table>

Shipper, forwarder

Transport operator

Freight forwarder

Skipper, driver

Invoice, package list, certificate of origin

Sea Country 1, 2

Shipment information

Port Community System

Trip 1: sea

Ship

Country 1, 2

Regulatory

Trip 2: inland water

Ship

Trip 3: rail

Truck

Country 2

Trip 4: road

Emergency, package list, certificate of origin

Export and import declarations, transit documents

Information for goods control
Linking data in one document (waybill, consignment note) with other modes of transport in different functional areas (from the business requirement specification for multimodal lading)
Example: data mapping for CIM/SMGS, eCMR, eTIR

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<th>Business Name</th>
<th>CIM/SMGS Note</th>
<th>eCMR</th>
<th>eTIR</th>
<th>Wagon/Container List</th>
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Profile messages for multimodal transport

• International road consignment note eCMR
• See https://www.unece.org/cefact/

Future developments:

• The structure of data sharing in data pipelines
• Messages of other monomodal transport contracts
• Container handling messages
• Processing messages Bayplan, Verified Gross Mass and Container
• Messages IMO FAL
• Cargo tracking messages

2 March 2018: UN/CEFACT is pleased to announce the publication of its electronic Road Consignment Note (eCMR) standard. This standard provides a free, open specification that will help parties to implement the UNECE Additional Protocol to the CMR Convention concerning the eCMR. For more information, please see the press release.
Goods cannot move faster than the information about them! Make sure the flow of information can work seamlessly across transport modes by making sure that every data element with the same name has the same semantic meaning.

**Already analyzed data sets for the overall data set/model**

<table>
<thead>
<tr>
<th>Document</th>
<th>Basic International Reference Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIM/SMGS consignment note</td>
<td>UN/CEFACT Multimodal reference data model</td>
</tr>
<tr>
<td>CMR consignment note</td>
<td>UN/CEFACT Multimodal reference data model</td>
</tr>
<tr>
<td>eTIR</td>
<td>The UN/CEFACT multimodal reference data model created as a result of data mapping with eTIR schemas published by UNECE</td>
</tr>
<tr>
<td>Wagon list and container list</td>
<td>UN/CEFACT Multimodal reference data model</td>
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<tr>
<td>Invoice (for Customs)</td>
<td>UN/CEFACT cross-industry reference data model</td>
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<td>Certificate of Origin (EUR 1)</td>
<td>UN/CEFACT Buy-Ship-Pay reference data model</td>
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<td>Packing list</td>
<td>UN/CEFACT Buy-Ship-Pay reference data model</td>
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</table>

**Note:** The eTIR-related data elements included in the data set are the result of data mapping to the UN/CEFACT multi-modal transport reference data model (MMTRDM) reflected in an XML schema, published by the UNECE and aligned with the WCO Data Model, which is the reference for the EU Customs Data Model. Data sets for railway documents are based on paper documents used nationally and globally to simplify rail transactions plus the XML schemas. The data sets indicate the use of names and terms in the paper documents aligned with international standards, code lists and directories. Box numbers are reflected wherever appropriate.
CIM-SMGS consignment note based on the reference data model for multimodal transport, according to the prepared XML schema for CIM-SMGS
eTIR, based on the UN/CEFACT multimodal transport reference data model, in compliance with the eTIR subset of the WCO Data Model
eCMR consignment note based on the UN/CEFACT multimodal transport reference data model; XML schema for eCMR developed jointly by UNECE and IRU to support the requirements of the eCMR protocol in the CMR Convention
Electronic multimodal waybill based on the UN/CEFACT multimodal transport reference data model to support any multimodal transport contract document: consignment note or waybill
Legal aspects of data sharing for multimodal transport

Government agencies and business partners used to accept paper forms and their regulatory framework correspond to those requirements. This base needs to be revised.

Some points about using datasets:

- Benefits for all parties;
- Accessibility, accuracy and completeness of data;
- Possibility for multi-purpose use of documents, including in courts;
- Information exchanged to be used only for specified purposes;
- Data exchange based on international standards, on non-profit basis;
- Transparent use of data, based on agreements bet. the countries;
- Participation of international organizations that manage the relevant documents.
Electronic document accompanying goods on inland waterways

- Budapest Convention on inland water transportation (CMNI), provisions on possible documents to use in the inland water transportation of goods (Chapter III: pp. 63-64)
  

- Bratislava Agreements
  

- Inland waterways UA-BY

- Plans under the UNDA project

- Collect the forms and info

- Analyze and develop a flat data set

- Using the BRS for multimodal waybill, develop subset, XML schema, JSON API → blockchain
Possible: UN/CEFACT standards for an electronic consignment note for inland waterways

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

BUY SHIP PAY
Master message structure

MultiModal Transport (MMT)
(subset of BSP)

MultiModal (MMT)
Master message structure

Inland waterways message model

Syntax: XML schema, JSON API on the way to blockchain
Inland waterways
Thank you!

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