Joint Coordinating Group of Experts
(Video conference, 7 and 8 September 2021)

Agenda item 3: Review of and report on the list of priority items agreed at the previous meeting

4 c – Operation and maintenance: telematics and the TAF TSI

ITEM 6: Possible interaction between TAF TSI and RID 1.4.2.2.5, 1.4.3.6 (b) and 5.4.0 to be analysed

Transmitted by France
4th meeting of the Joint Coordinating Group of Experts

Jean-Philippe Méchin
Aix-en-Provence, 7 September 2021

Regulations status
General state of play – Planning of eFTI Directive

eFTI linked with ADR, ADN & RID

- Chapter 5.4 of Part 5 of Annex A to the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), concluded at Geneva on 30 September 1957, as referred to in Section I.1 of Annex I to Directive 2008/68/EC of the European Parliament and of the Council (14);

- Chapter 5.4 of Part 5 of the Regulations concerning the International Carriage of Dangerous Goods by Rail (RID), appearing as Appendix C to COTIF concluded at Vilnius on 3 June 1999, as referred to in Section II.1 of Annex II to that Directive;

- and Chapter 5.4 of Part 5 of the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN), concluded at Geneva on 26 May 2000, as referred to in Section III.1 of Annex III to that Directive;
Coverage of the regulations

Data coverage
Approved guidelines and Data model

For electronic document in DG Transport, UNECE Joint Meeting Experts (WP15/AC1) has elaborated/defined/approved:

- A data model (eDG Transport Information) including UML – XML

- In line with ADR/RID/ADN regulation
- Interoperable with rail TAF-TSI and with eCMR

*This work is already contributing to DTLFSG1 team 1 on data modelling, and it can contribute to DTLFSG1 teams on functional and technical aspects.*
High level requirements issued from TP₁/TP₂ architecture

• An architecture which is concentrated on B₂A exchange with:
  • Security (Encrypted exchange based on double authentication and certificates),
  • Data sovereignty (Data are at Content manager level TP₂) to guaranty that data are not spread everywhere.
  • Nonrepudiation behaviour (Signature and archives of exchange according to the regulation, 3 months)
  • Trustiness (Authority must indicate in the request who, where, for which purposes request is done and Carrier must guaranty that the electronic data are describing fairly the goods)

• The guidelines are technology independent (Platform Independent Model)
• The electronic data format fulfils the DG regulation. The name is eDGt Information.
• This format is link with standards XML and WSDL which are Technical choice (Platform Specific Model).

Approved guidelines and Data model (2)

What needs to be documented for DGT (source INRS ED₁₃₄ – according to ADR EU Agreement on Dangerous Goods Transport):  
A) Transport Document:  
  • ONU number preceded with « UN »;
  • Official transport designation;
  • Sticker Model Numbers;
  • Packaging group;
  • Quantity and packaging description;
  • Shipper’s name and address;
  • Consignee’s name and address;
  • Mention of any particular agreement;
  • Tunnel Restriction Code;
  • Any additional necessary mention (e.g. waste, environmental danger, ...)

B) Written instructions to vehicle staff:  
  • Instructions on how to handle the dangerous goods (see ADR);

C) Training Certificate of Carrier Driver (document available on request by employee and competent Authority)
Contribution of RID/ADR Guidelines to DTLF / eFTI

- Access Provider (TP1) could be seen as a National Authority access point
- Content Manager (TP2) could be seen as a B2A e-information exchange

Architecture for transition period before eFTI: security principles for data exchange
Flexible adaptation including eFTI: security principles for data exchange

Authorities
Emergency responder

TP2 DG Webservices for TP1
Trusted Party 2 Content Manager

TP2 eFTI Webservices for TP1

Trusted Party 1 Access Provider

eFTI Webservices for Public body

eFTI Webservices among National Authority Access point

The requests and the responses are spread in several parts depending on the type of goods and transport mode

DG Webservices for TP2

eFTI Webservices for TP2

Public Body (Authority, Emergency)

Trusted Party 1 Management Server

Trusted Party 2 Content Server

eFTI format
DG format
eDG/FTI remains for in house transport

On going work
Status of work within DTLF

**TEAM 3 METHODOLOGY**

- **TG 1 - Legal Requirements**
  - Led by Eric Grandry

- **TG 2 - eFTI Architecture Principles**
  - Led by Rudy Hemeleers

- **TG 4 - Building Blocks catalogue**
  - Led by Ulinka Hurt & Christian Luppes

The European Interoperability Framework
- **TOGAF**
- **Functional Architecture**
- **Design Decisions**
- **Technical Architecture**
- **Technical options**
- **Functional architecture options**

Team 3
January - June 2021

SG2 cooperation
May - July 2021

Analysis done with several data model

- EU-CDM
- e-CMR
- MMT-RDM
- UN-CEFACT

To define the EU-TDM for eFTI

Observations arisen during completion

- Convergence between Sheets
  - Some EUCDM are used in all Sheets and/or Sheet2 and/or Sheet3 and in Sheet5
  - The corresponding EU-TDM m is sometimes the same and sometimes not.
  - For example, UN Number corresponds to EUCDM 6/12 and is linked to:
    - EUTDM m in the Sheets
    - EUTDM m in the Sheet2
    - EUTDM m in the Sheet3
    - EUTDM m in the Sheet5

- Divergence of names and definitions between regulations
  - For example, "Total Quantity of DG" has a specific definition in ADR/RID/ADN

- Procedure to add required new data elements in Sheet5 unclear
Analysis of 3 options

- **Full integration**
- **Referencing via**
- **Partial integration**

The analysis shows that:
- Referencing seems the best solution
- Full integration needs a strong coordination to merge eDGTI and EU-TDM (Regulation based data model into a trade based data model)
- Partial integration is the most complex to deploy and maintain
Analysis of 3 options

- **Full integration**
- **Referencing via**
- **Partial integration**

- The analysis shows that:
  - Referencing seems the best solution
  - Full integration needs a strong coordination to merge eDGIT and EU-TDM (Regulation based data model into a trade based data model)
  - **Partial integration is the most complex to deploy and maintain**

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**Architecture principles** *(DTLF SG1/Team3/Task2)*

<table>
<thead>
<tr>
<th>P1</th>
<th>Data sovereignty</th>
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<tbody>
<tr>
<td>P3</td>
<td>Trust among participants, authentication, and non-repudiation</td>
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<tr>
<td>P5</td>
<td>Roles and responsibilities</td>
</tr>
<tr>
<td>P7</td>
<td>Data at source, decentralized approach</td>
</tr>
<tr>
<td>P9</td>
<td>Architecture implementation as platform specific model</td>
</tr>
<tr>
<td>P11</td>
<td>Generic principle of providing the data</td>
</tr>
<tr>
<td>P13</td>
<td>Level playing field</td>
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<tr>
<td>P15</td>
<td>Support of concurrent paper and digital processes</td>
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<td>P17</td>
<td>Modularity</td>
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<tr>
<td>P19</td>
<td>Holistic Thinking</td>
</tr>
<tr>
<td>P21</td>
<td>Federation of exchange networks</td>
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<td>P23</td>
<td>Distributed development and maintenance</td>
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<table>
<thead>
<tr>
<th>P2</th>
<th>Data at source, Pull/Push</th>
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<tbody>
<tr>
<td>P4</td>
<td>Security, appropriate authentication</td>
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<tr>
<td>P6</td>
<td>Once-Only Principle</td>
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<tr>
<td>P8</td>
<td>Interoperability and integration with existing solutions and standards</td>
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<tr>
<td>P10</td>
<td>Technology independence, platform specific model</td>
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<tr>
<td>P12</td>
<td>Open specifications and standards</td>
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<tr>
<td>P14</td>
<td>Benefits outweigh investments for all types of participants</td>
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<tr>
<td>P16</td>
<td>Scalability</td>
</tr>
<tr>
<td>P18</td>
<td>KISS (keep it small and simple)</td>
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<tr>
<td>P20</td>
<td>eFTI Discovery</td>
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<td>P22</td>
<td>Open Innovation</td>
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<tr>
<td>P24</td>
<td>Sustainability</td>
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First outcome to ease telematic implementation and to help convergence among data models

Offering an unique ID for each single UN number and single definition?

The table A contains:

- 2932 lines from 0004 to 3549
- Some UN number are differentiated by:
  - Packing group
  - Danger label
  - Proper shipping name

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<th>UN with x different definitions</th>
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Analysis done
Thank you for your attention

Presentation done with the contribution of:
Antonella di Fazio - FDC
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