Electronic information exchange among railways and between railways and control agencies

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Outline

1. Importance of electronic information exchange among railway and the existing situation

2. Current challenges to seamless flow of information

3. Way forward
The main processes undertaken at the railway border crossing can be grouped as follows:

- Commercial handover
- Technical handover including dealing with break of gauge
- Customs formalities
- Border guard / Immigration formalities
- Other Government Agencies formalities

Initiation and completion of these processes require information. The flow of this information has a crucial impact on the efficiency of border crossing processes.
Existing situation

In the European part of the Eurasian continent, at least 3 electronic exchange systems have been developed by EU, OSJD and CIS railway organizations.
TAF SYSTEM:

Being applied in EU and COTIF railway areas, the TAF system covers exchange of data between multiple carriers and infrastructure managers concerning:

- consignment note data
- wagon trip plan
- allocation of railway infrastructure capacity (path)
- train preparation and running forecast
- movement of wagon
- post trip data (to improve transportation quality)
OSJD DEVELOPMENTS:

Apply within the geographic scope of the organization, solutions aimed at facilitation of international rail freight traffic by:

- implementing electronic railway data exchange (EDI)
- developing electronic SMGS consignment note
- contribution to development of the electronic CIM/SMGS consignment note
CIS CRT SOLUTIONS:

Products developed in the context of the CIS CRT are being applied in the territory of the Commonwealth of Independent States and in neighboring railway networks. They are dedicated to data exchange between railways to facilitate:

- global planning of international rail freight flows (MESPLAN system)
- facilitation of cross-border operations (electronic train handover sheet)
- goods/vehicles tracking (standardized dedicated messages)
Challenges for seamless flow of information

- Each of the systems applies in its own (often overlapping) geographical area, **virtually independently developed**, in accordance with its own legal framework and governed by different entities.

- **Lack of interface between some systems** imposes use of numerous solutions for information exchange in “transit” railway networks.
Challenges for seamless flow of information

- All 3 systems are **aimed at facilitation of international freight traffic** in its own area of application.
- **Common essential exchangeable information** has been identified for all three systems in question.
Principal findings

The level of electronic exchange with control authorities should be improved to enable unified electronic exchange.
Key electronic messages identified

- Analysis of the existing electronic exchange systems provides for assumption regarding the **key information** to be exchanged between railways in international traffic:
  
  a. consignment note data  
  b. train information data  
  c. data on movement of wagons

- **Harmonization of those 3 elements among the systems** could lead to a significant facilitation of data exchange in Eurasian freight traffic.
Identified challenges

Challenges related to electronic information exchange *between railways*:

- **data exchange flows** when crossing “digital frontier”
- **classification codes** *(nomenclature)*: NHM (COTIF), GNG (OSJD), ETSNG (CIS)
Identified challenges

Challenges related to electronic information exchange between railways and customs authorities:

- **data set** to be submitted to the customs authorities is different from the information in the consignment note
- **procedures** implemented by customs authorities across different customs areas creates a challenge to smooth processing of the data
Crossing “digital frontiers” (West – East)
Guiding principles for electronic exchange of information between railways and among railways and control agencies

- **Specify railway processes** for which information need to be exchanged - such as on consignment note data, train running information and wagon movement.

- **Structure and format** of electronic messages to be harmonized and are based on international standards and other solutions (OSJD/CIS-CRT and TAF-TSI).

- Use of interfaces to harmonize message from existing systems.

- Data protection and security standards.

- **Tailored and gradual approach for implementation**, depending on the priorities of railways of the country and provision for technical assistance.

- **Mechanism to monitor implementation**.
Thank you for your attention

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