ECN - Status of project

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In March 2008, 20 of the greatest railway freight operators, such as DB Schenker, SNCF, Trenitalia and others, decided to develop and implement the ECN (Electronic Consignment Note), in order to send transport documents via EDI instead of using accompanying consignment notes.

A project group under monitoring of the CIT and the UIC elaborated the technical specifications until the beginning of 2009. In March 2009 the full specifications were provided, including a fully operational message flow model and a message scheme in xml, developed by RAILDATA.
ECN/PCN consists of two basic ways of message processing:

1) PCN

The PCN flow and process is designed for transports, that still require a paper consignment note or a accompanying transport document.
message flow (PCN)

Basic flow of data (PCN)

Consignor → Order → RU1 → Forwarding → PCN → Forwarding → RU2 → Consignee

Consignment note
INFP and PCN contain all consignment note data; consignment note accompanies transport.
2) ECN

By using the ECN flow, RUs are able to skip the accompanying paper consignment note and spare the handling of the paper during the transport.
Flow currently covered by erailfreight process (ECN)

Flow:
- Consignor
- RU1
- Forwarding
- RU2
- Consignee

- Order
- ECN

Consignment note (Only consignors part)

Consignment note (Only consignees part)
message flow (ECN)

PRN, INFE, ACK, NACK, ECN and AOD contain all consignment note data; consignment note does not accompany transport

- Printout of first part of consignment note (Consignors part)
- Handover
- Consignment arrives, printout for the consignee is generated
The mixed procedure

If necessary, it may be switched from ECN to PCN. If a printout of the consignment note is done during the transport, the process changes from ECN to PCN, but never the other way round. This enables transports to begin in ECN-scenario and to change to PCN-scenario.
PRN, INFP, PCN and AOD contain all consignment note data; at the beginning of transport, consignment note does not accompany transport; after printout it does.
The message

The current version is the ECN-xml 1.31, based on xml-version 1.0, encoding =„ISO-8859-1“.
The ECN xml-message contains all consignment note data according to the Appendix 7a GTM-CIT and the Appendix 5a GLW-CUV CIM as well as additional information to be used between railways. It may be used for conventional and intermodal traffic.
To guarantee interoperability, sensitive information is protected by either the use of codes or the implementation of enumerations, such as:

- **Nature of packing according to the UN/ECE recommendation No. 21**

- **Loading tackles according to the UN/EDIFACT 8053 list**

- **Consignor declarations**

```xml
<Code type="xs:token"/>
```
Since November, the 2. of 2011 all conventional transports (wagon-load) between DB and SNCF are based on the erailfreight scenario.

Common transports run paperless (ECN)

Transports under special conditions like dangerous goods, customs surveillance etc. are still accompanied by a paper consignment note (PCN)
More railways currently using and developing PCN/ECN (including common forwarding with ECN-xml):
In the beginning of 2011, the next version of the ECN-message, ECN-xml 1.4, was approved.

Previously it will be implemented until the end of 2011, a converter will assure, that both versions may run on the CDS and may be used by participating railways in parallel.

Further developments of the current message will take care about changing legal requirements.
Next steps

In 2012, a printing module will be implemented in the CDS

This will assure, that every participating railway will be able to generate print-outs, the parts for consignor and consignee as well as the parts foreseen to be printed out in the mixed procedure
Next steps

Additional implication as the use of ECN for RID-transports is basically already possible and only has to be approved by national authorities!

The ECN-xml message is capable to carry all information required for the transportation of dangerous goods according to the description in RID 5.4
The complex datatype „RID“ is included in the complex datatype „Good“ which is repeatable 999 times per loading unit. Most information as described in RID 5.4 is transmitted in here.
To keep the structure suitable for any kind of transport, some elements described in RID 5.4 are transmitted in other segments of the message, for example name and address of consignor and consignee or the information about packing.
ECN with RID (successfully tested in backup-environment)
ECN with RID (successfully tested in backup-environment)
Thank you for your attention!