Achieving ITS services when turning a waybill into an e-waybill

Shoaib Bakhtyar, Jan A. Persson & Johan Holmgren

DISL research group,

Blekinge Institute of Technology,

Sweden.

www.bth.se

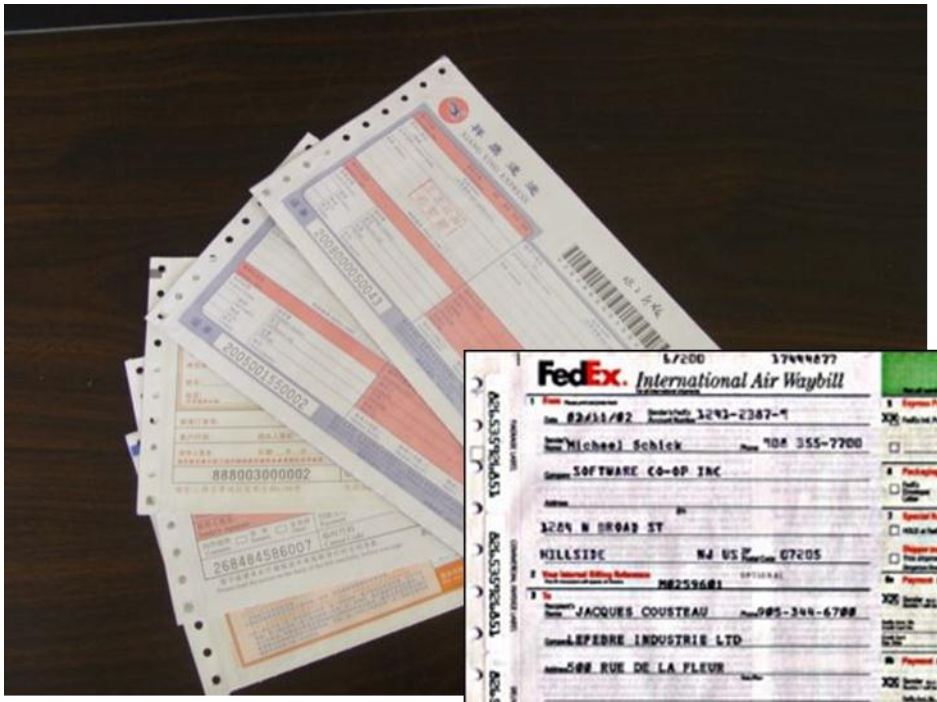
BLEKINGE INSTITUTE OF TECHNOLOGY

Paper's Purpose/idea

- This research has been conducted as a part of the e-Freight project.
- Focus of the paper is on identifying e-waybill solutions which can support different ITS services.
- We have identified 5 different e-waybill solutions so far.
- The storage of a waybill's data both locally and centrally can support more ITS services.

Traditional Paper Waybill

- Paper based trade document, also known as “consignment note” or “cmr document”.
- Follows the cargo/consignment and is a proof of an agreement of transport and its condition.
- Contains information about goods, sender, receiver and carrier.
- The presence of a stakeholder’s sign on a waybill makes the goods and waybill his/her liability.



FedEx. International Air Waybill

Sender's Copy

8265 3592 6851

INTERNATIONAL CONSIGNMENT NOTE

This carriage is subject, nothwithstanding any clause to the contrary to the Convention on the Contract for the international Carriage of goods by road (CMR).

1. Sender (Name, Address, Country)

2.Consignee (Name, Address, Country)

3.Place of delivery of the goods

4.Place and date of taking over of the goods

5.Annexed documents

16.Carrier (Name, Address, Country)

17.Successive carriers (Name, Address, Country)

18.Carrier's reservations and observations

6.Marks and Nos | 7Number of packages | 8Method of packing | 9Nature of the goods * | 10.Statistical num. | 11.Gross weight in kg | 12.Volume in m3

Class | Number | Letter | (ADR)

13.Sender's instructions (Customs and other formalities)

19.To be paied by: | Sender | Currency | Consignee

Carriage charges

Supplem charges

Other charges
Extra kostnader
Miscellaneous
Diverse

Total to be Paid

14. Cash on Delivery

15.Directions as to payment for carriage

20.Special agreements

21.Established in | on

22.Signature and stamp of the sender

23.Signature and stamp of the carrier

24. Goods received | Date

Signature and stamp of the consignee

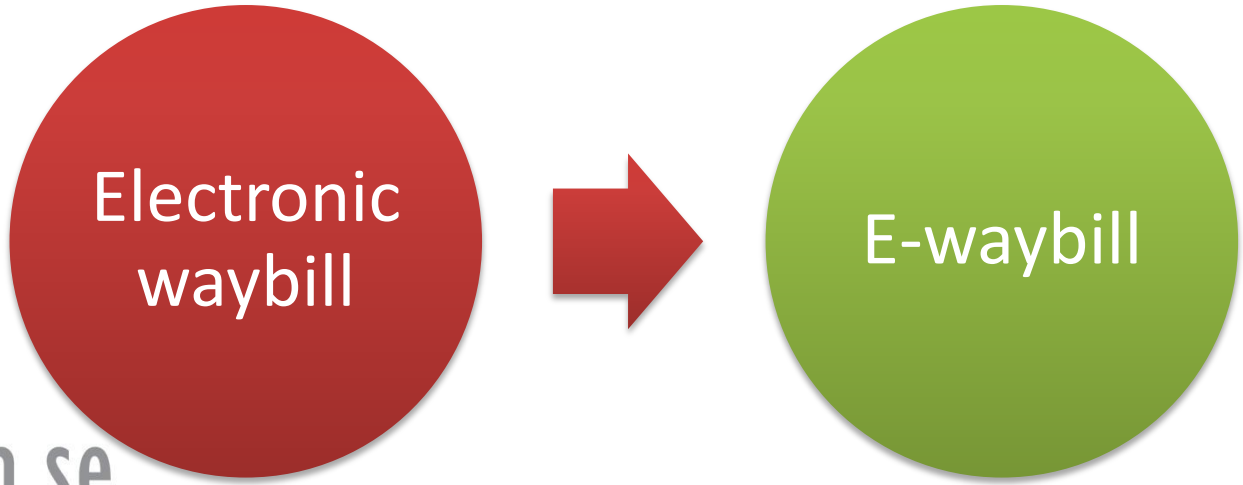
www.bth.se

BLEKINGE INSTITUTE OF TECHNOLOGY

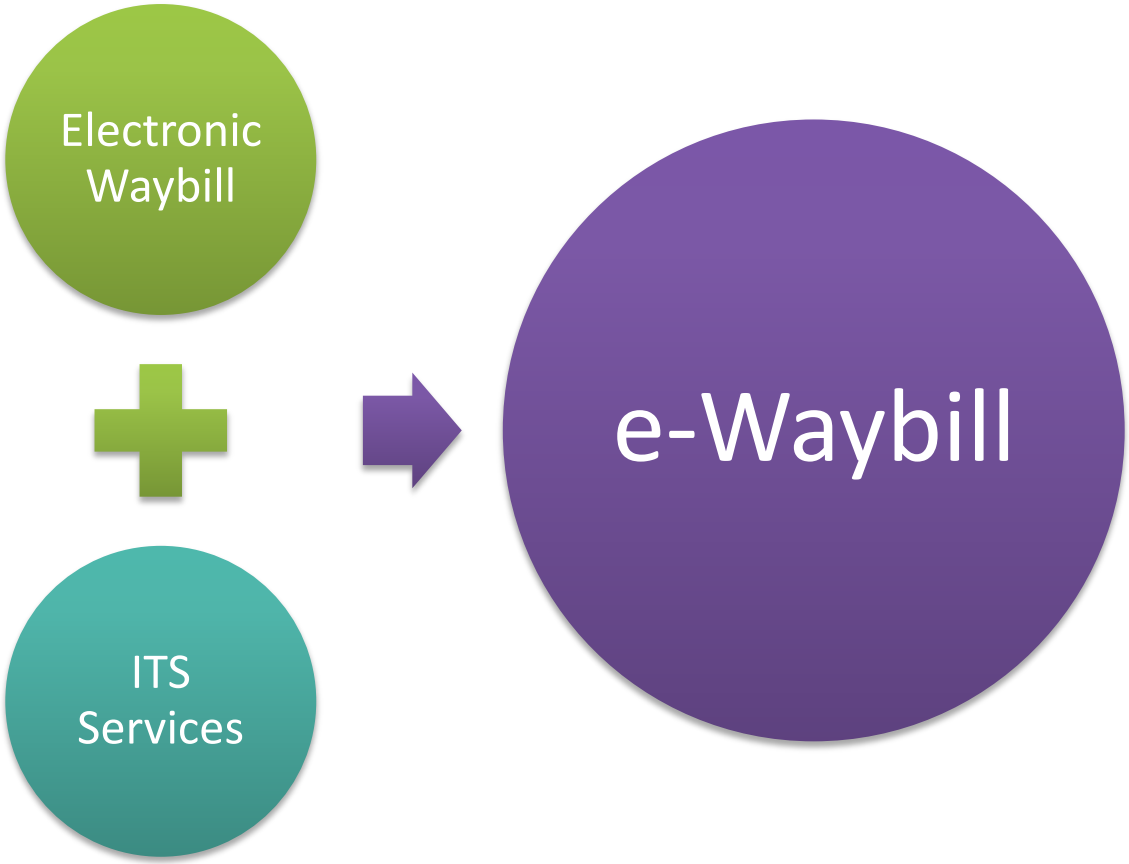
Existing e-Waybill Solutions

- Examples of e-waybill with central storage is e-Air waybill by IATA and E-BOL where e-waybill is stored by 3rd party.

- Example of an e-waybill for road transport is by DHL (where the e-waybill is stored centrally).



Proposed e-Waybill Solutions



e-Waybill Solutions

- Potential e-Waybill solutions which can support different ITS services.
- We have identified 5 different e-waybill solutions so far.
- Solutions based on the storage, access and update of e-Waybill's information:

No.	Central Storage	Read Central	Write Central	Local Storage	Read Local	Write Local
1	YES	YES	YES	NO	NO	NO
2	YES	YES	YES	YES	YES	YES
3	YES	YES	YES	YES	YES	NO
4	YES	YES	NO	YES	YES	YES
5	YES	NO	NO	YES	YES	YES

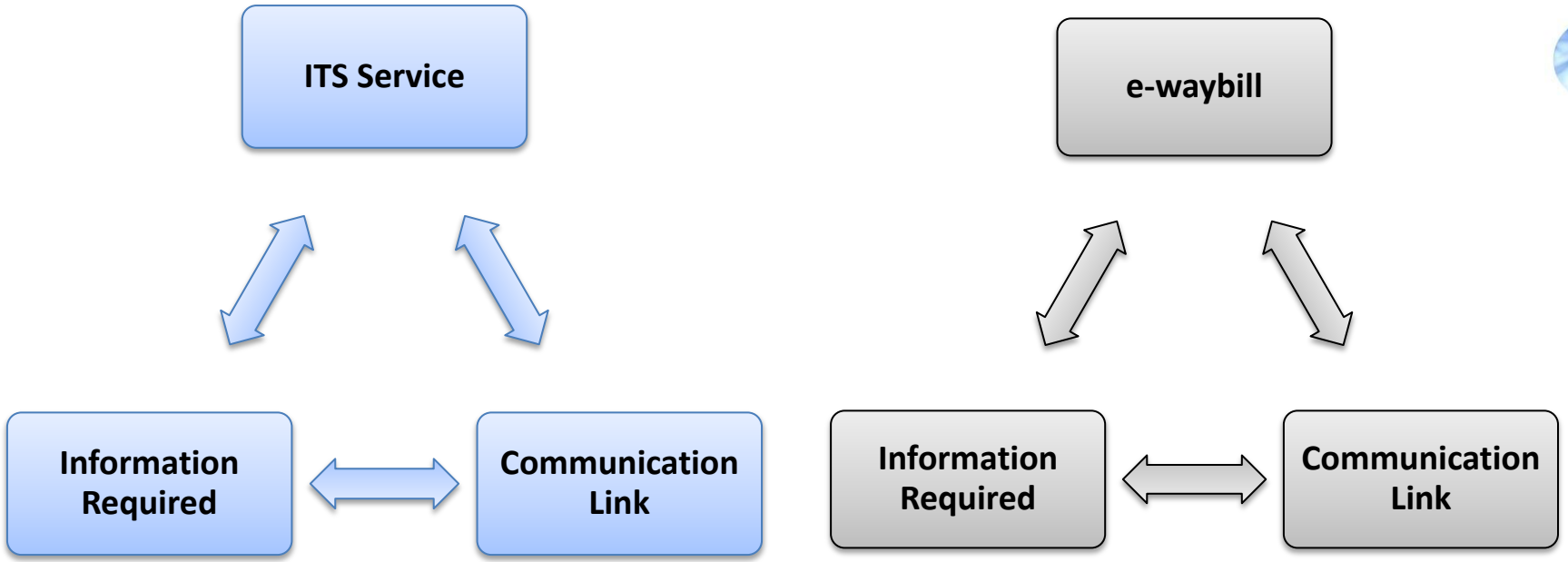
Services connections

- We have used the ITS services that were identified in projects **Mobil IT** & **Intelligent goods** to compile a preliminary list of ITS services.

- 30 different ITS services were selected such as Weight Indication, Remote Declaration, Real time Track and trace of Goods etc.

- For an e-waybill solution to support an ITS service we have looked at the **information required** and possible **communication links** between different actors.

Services connections



Concluding remarks & Future work

- Objective of this paper was to investigate possible solutions for an e-waybill and their connections to ITS services.
- We identified 5 potential solutions for an e-waybill based on the dimensions of where the e-waybill is being stored & from where it can be accessed or updated.
- We found that a greater number of ITS services are supported by an e-Waybill solution with local as well as central storage of information.
- There is a need to investigate a common format for an e-waybill that can be used in all modes of transport.
- There also needs to be a mechanism for a secure digital signature that can be used in an e-waybill.

Thanks !