The Information Broker and the On-time pilot demo

BESTFACT, Vilnius, 2013-06-18
Dr. Gunnar Fastén
NetPort Science Park, Sweden
Outline of the presentation

1. Presentation of NetPort
2. Information Broker concept
3. Challenges in EWTC addressed by ICT
4. Pilot demo On-time
5. Summing up
A Triple Helix Science Park supporting innovation in Intelligent Logistics and ITS

Member of

EAST WEST TRANSPORT CORRIDOR association
East West Transport Corridor

Development of a sustainable, efficient and attractive freight transport corridor connecting East to West
What is an Information Broker?

• An actor and common information exchange – facilitating and promoting efficient information sharing between organisations to enable new types of applications that provide business benefits, greener and more efficient transports.

• The task of Information Broker is to manage the various information sources and make that information available for application development through harmonized interfaces.

• Supports development of information services with the purpose of streamlining transport flows and create seamless transport chains.
Core concepts of the IB

• OPEN – To all professional transport actors who wants/needs to share information
• NEUTRAL – Does not compete with the transport actors
• STANDARDIZED – Is based on open published standards
• TRUSTED – Is a trusted 3d party on an open market
• SECURE – Maintains a high level of information security for its users
Challenges in EWTC addressed by ICT 1/2

• Implementing a co-modal transport information and management system, increasing the reliability and accessibility of multi modal freight transport solutions through One-Stop-Shop rail freight administrative services

• Developing support for end-to-end supply chain by ensuring integrity of the entire supply chain and prompt risk assessment through data sharing and Single Window services for interaction between authorities and business stakeholders
Challenges in EWTC addressed by ICT 2/2

- Facilitating M2M traffic information exchange supporting advanced freight management services integrating shipping, traffic and environmental information covering multiple modes of transport
- Developing a monitoring system for KPIs by sharing performance data of logistics and freight transport processes – includes measurement methods and ICT tools to support companies in collecting data for auditing and reporting purposes
The On-time pilot demo

- Live implementation of the Information Broker concept
- Enabling a more accurate ETA for cargo carriers
- Multiple modes of transport (road, rail, sea)
- Combined information from different data sources
- Trans-national transports
Information flow in the On-time scenario

Rail traffic and tracking information

Port of Sassnitz

Cargo

Ship tracking

Port of Klaipeda

Cargo arrived on time

Information Broker

Data

Information

Mobile apps.

Transport brokers

Logistics systems

Road traffic information

Cargo carrier tracking

Cargo sent
Data categories 1/3

• Road data – Datex II
  – All road related events with position and severity information
    o General traffic messages/warnings
      ▪ Queue warning, unforeseen obstruction, bearing capacity reduction etc.
    o Accidents
    o Roadwork
    o Access restrictions (environmental zones, hazardous goods)
    o Road weather (temperature, precipitation, wind speed, fog)
    o Road conditions (e.g. icy or snowy roadway)
    o Estimated travel time on major roads in urban areas
    o Emergency information (severe accident, extreme weather, landslide…)
Data categories 2/3

• Rail data – TAF-TSI
  – Train number
  – Train schedules
  – Forecasts for train arrival
  – Real time departure and arrival
  – Disturbances (malfuntioning in infrastructure or train failure)

• AIS data for vessel tracking
  – Ship registration number
  – Ship name
  – Position (longitude, latitude, time)
  – Speed and course
  – Origin and destination port
  – Estimated arrival time
Data categories 3/3

- GNSS data for vehicle tracking
  - Vehicle (cargo carrier) identity
  - Position information
  - Speed

- Data from seaport information systems
  - Time tables for shipping lines
  - Vessel call at berth
  - Ship departs port

- Planning data from transport execution plans
  - Origin and final destination
  - Planned itinerary/route
  - Planned ETA
Summing up

• Reduces cost for integrating information sources with any IT-system
• Protects investments made in legacy systems
• Exchanging real-time information with any other actor in the corridor
• Real-time visibility into all links in the transport chain
• Provides tools for more efficient resource usage in the transport chain
• Improved planning capability for transport companies
• A proven concept (cf. SWIFT and AIDX)
Thank you for your attention!

gunnar.fasten@netport.se
+46 733 99 89 20