

The Freightwise Framework and e-Freight

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Content of this presentation

- Introduction
- Global description of the Freightwise Framework
- Validation of the FWF
- Conclusions

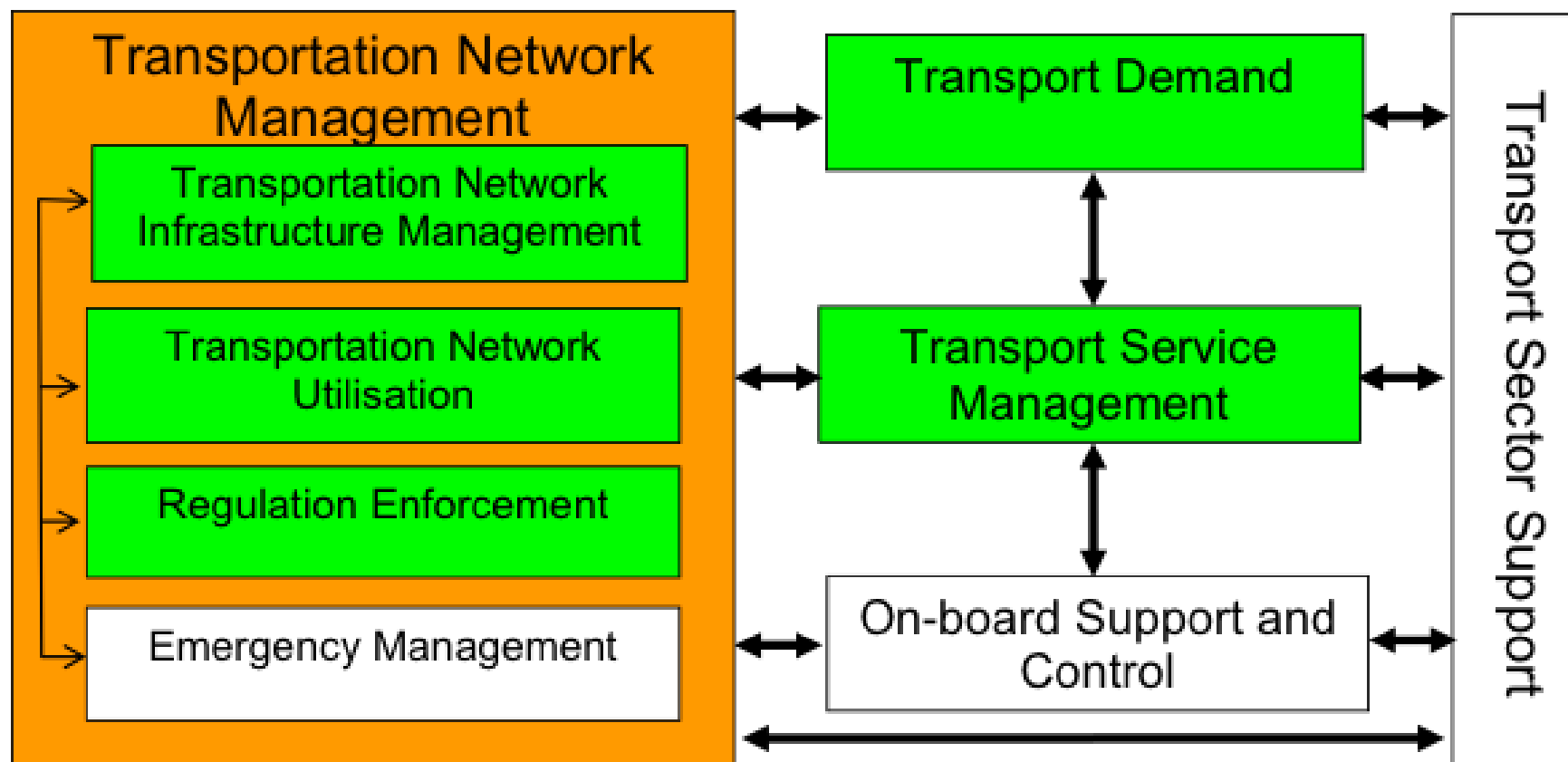
Introduction - The aims of the Freightwise Framework are:

- To promote a ***common understanding*** of the issues (and a common vocabulary to address them) with generic specifications of roles, functionality, information and work processes
- To ***contribute to harmonisation*** across transport modes
- To ***enable interoperability*** and co-ordination between stakeholders and ICT solutions by means of well-defined information-based interfaces
- To contribute to the development of a pan-European ***intermodal framework architecture***

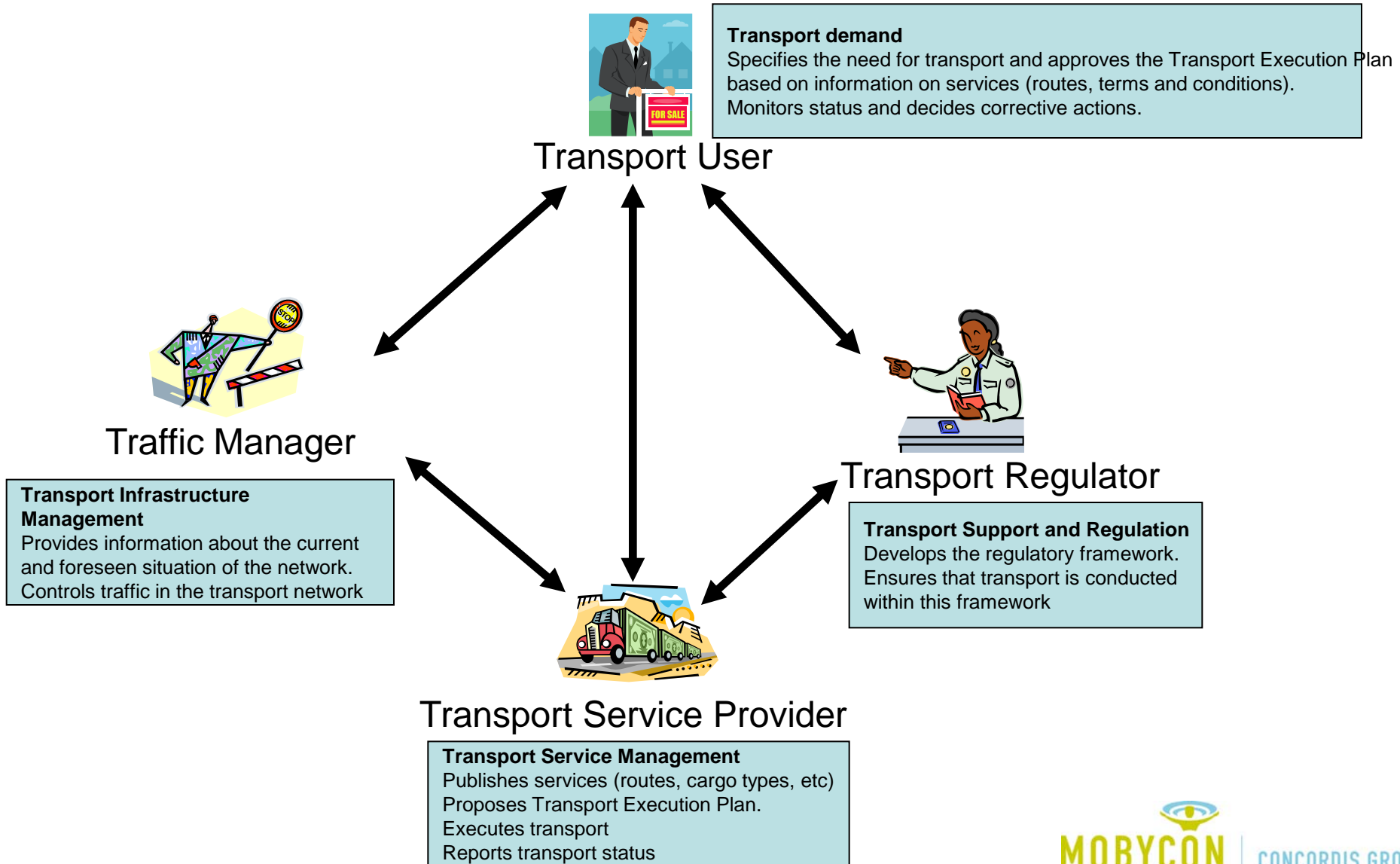
Overall Concepts – *The Reference Model*

- The Reference Model establishes the *context* in which intermodal freight transport can be understood
- Freightwise shares its Reference Model with MarNIS, ArkTrans, RISING, etc.

Overall concepts - *The Reference Model*

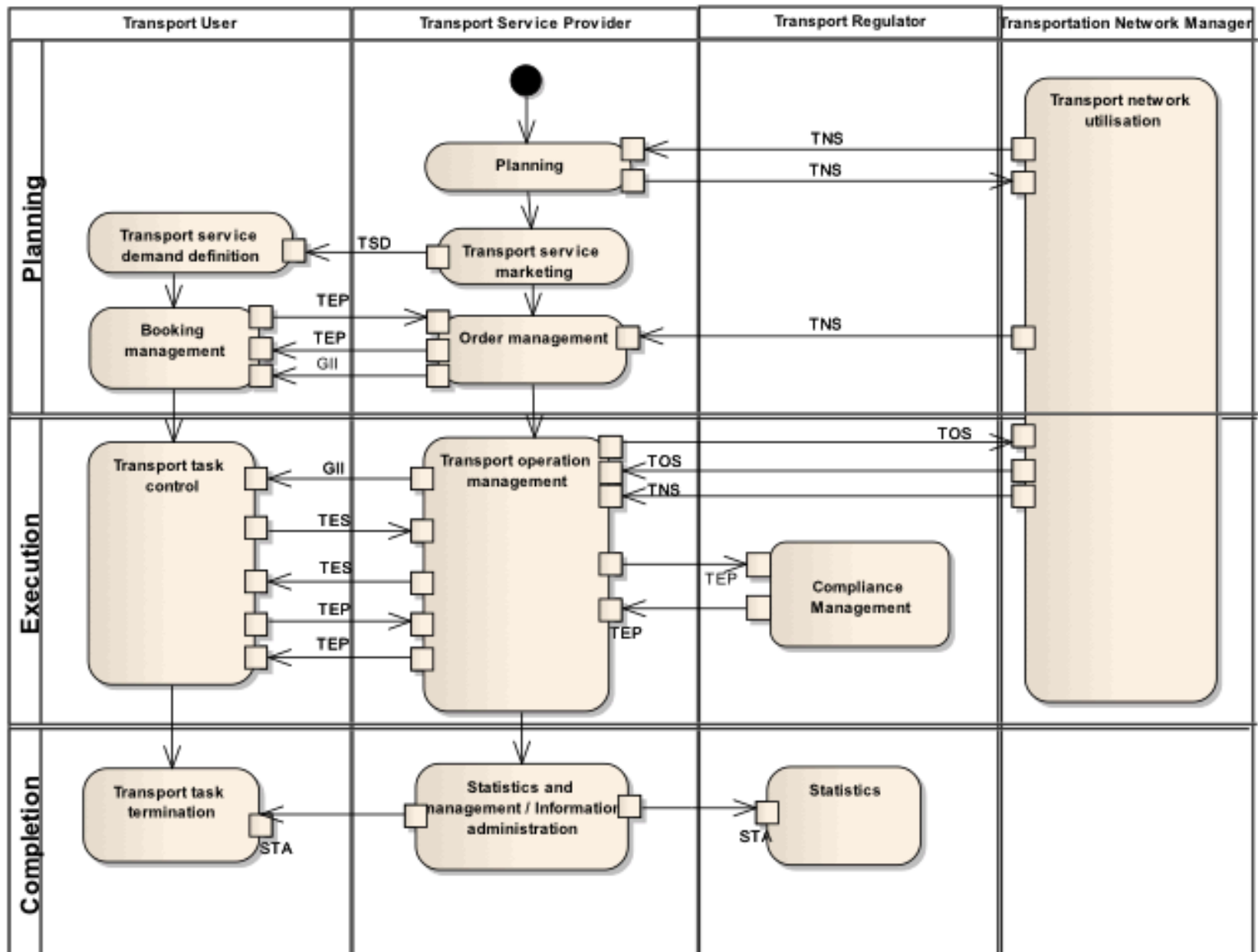


Overall Concepts – *The Roles*



Logical Aspects – *Processes*

- The processes show how and when information is exchanged between which roles
- Three main processes involved:
 - Transport Planning
 - Transport Execution
 - Transport Completion
- All exchanges of information are by means of defined information packages
- UML activity diagram used to illustrate relationship between the processes, roles and information packages



Logical Aspects – *Functions*

- There is a functional breakdown for each of the sub-domains in the Reference Model
- The functions are high level functions
- Main aim is to be able to identify the need for information and the information provided by the functions:
 - Transport Demand
 - Transport Service Management
 - Transport infrastructure management
 - Transport regulation

Logical Aspects – *Information*

- Freightwise defines *information packages* at a logical level
 - Where a field can be made mandatory, it is mandatory
 - The packages should contain the minimum information needed and they should be complete for their purpose
 - The packages are related to the main functions in Freightwise, but the detailed process of exchanging them may differ

The Information Packages

- TSD - Transport Service Description
- TEP - Transport Execution Plan
- TES - Transport Execution Status
- GII - Goods Item Itinerary
- TNS - Traffic and Network Status
- TOS - Transport Operation Status



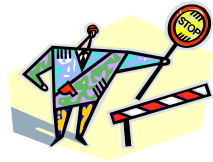
Transport demand

Specifies the need for transport and approves the Transport Execution Plan based on information on services (routes, terms and conditions).
Monitors status and decides corrective actions.

Transport User

TNS

TEP



Transport Network Manager

Transport Infrastructure Management

Provides information about the current and foreseen situation of the network.
Controls traffic in the transport network

TNS
TOS

TSD
TEP
TES
GII



Transport Regulator

Transport Support and Regulation

Develops the regulatory framework.
Ensures that transport is conducted Within this framework



Transport Service Provider

Transport Service Management

Publishes services (routes, cargo types, etc)
Proposes Transport Execution Plan.
Executes transport
Reports transport status

Key potential users

- The FWF can be used by the following user groups:
 - Transport Users
 - Transport Service Providers
 - Traffic Managers
 - Transport Regulators
 - Software providers
 - Authorities

Validation of the Framework

- Carried out end of 2009/beginning 2010 through business cases and interviews with external parties (policy makers, CEN, ICT developers, shippers, forwarders, ports, transport companies, experts)
- Validation consisted of:
 - Application of Framework elements in business cases
 - Checking completeness and coverage of Framework
 - SWOT analysis
 - Impact assessment

Results of validation process

The FWF has been demonstrated in a number of business cases, among others:

- A rail case in the Balkan region
- An inland waterway case on the Elbe
- A road transport case in the Netherlands and Finland
- A short sea shipping case in Spain and Norway

The main information packages demonstrated were the TEP, TES and TOS and to a lesser extent to the GII, TNS and TSD.

Freightwise partners have developed software based on the Freightwise framework which are commercially available.

Results of validation process

- **Completeness:**
 - Positively evaluated, especially roles and information packages very useful.
 - However, functions related to role of regulator should be worked out in more detail and also the completion phase needs to be detailed more (proof of delivery, quality check, invoicing and statistics).
 - Information flow coverage needs to be improved.
- **Standardization:** is a key factor for the deployment of any system architecture and it seems that the Freightwise framework meets this expectation.

Results of validation process

- **Compatibility:** the stakeholders involved in the Freightwise business cases raised some issues related to the compatibility of the different Freightwise framework modules.
- **Unique Selling points:** technology independence, co-modal focus, simplicity and the suitability to both large companies and SMEs.
- **Market need:** There is a clear market need for a framework for co-modal cooperation.
- **Legal and security compliance:** this has not yet been demonstrated. These elements could threaten the adoption of the framework by the companies, since they are judged as very important.

Results of validation process (SWOT)

- **Decision-making process in firms:** adoption of the FWF depends on numerous factors, including:
 - the influence of the business partners,
 - the need for a critical mass of users,
 - etc.
 - **External factors:** offer significant opportunities for the FWF e.g. pressure on road transport, increase in travelling distances, liberalization in transport market, political support to co-modal transport, trends toward JIT logistics and new tracking and tracing technologies.
- **Post project activities:** in order to make sure that the results of the project continue, it is necessary to consider the period after the project (marketing actions, other projects based on FWF, exploitation, etc.).

Results of validation process (impacts)

In order to assess the *impacts* of the Framework a distinction has been made between:

- Conceptual model
 - reference model and information packages
- IT products
 - specification and implementation guide, API's, web interfaces
- Plug & Play transport chain management
 - European co-modal planning, booking and management system

Results of validation process

Impacts of *conceptual model*:

- Common understanding on data exchange between the actors in the transport chain
- Reduction of the risks of developers of IT systems and interfaces, e.g. the risk of lack of standards, incompleteness of messages, development costs, etc.

Results of validation process

Impacts of '*IT products*':

- Time savings (re-use of data, less mistakes, better/automatic status information)
- Better utilisation of vehicles and better informed decisions
- Better access to a wider range of (intermodal) freight transport services
- Better service provision
- Lower friction costs of cumbersome integration processes and savings on the maintenance of IT systems

Results of validation process

Impacts of '*Plug & Play Transport Chain Management*':

- Better marketing of transport services
- Better visibility of intermodal transport compared to the 'road only' option.

Conclusion

The Freightwise Framework has been validated and, although not perfect, appears to be efficient as a starting point for the work.

The FWF potentially has many benefits, both as a means for 'understanding' and for standardizing ICT products and interfaces.

There are many factors that could influence the potential role of the FWF in the intermodal freight domain, both positively and negatively.

The Freightwise Framework is just the beginning of a process that is continued in the eFreight project.

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