

ICT for transport logistics in the White Paper context

ECITL 2011

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Directorate-General
for Mobility
and Transport



● Agenda

- General context and challenges
- White Paper
 - Vision
 - Goals and How
 - Initiatives relevant to ICT
- Horizon 2020 / TEN-T / Connecting Europe Facility
- ICT in transport logistics, e-Freight in particular

● Transport for business – Transport as a business

- The future prosperity of our continent will depend on the ability of all of its regions to remain part of a fully integrated world economy
- The transport industry is an important part of the economy: in the EU it directly employs around 10 million people and accounts for about 5% of GDP
- Many European companies are world leaders in logistics, infrastructure, manufacturing of transport equipment and traffic management systems



● Old challenges remain but new have come

Increasing competitive pressure in the global economy



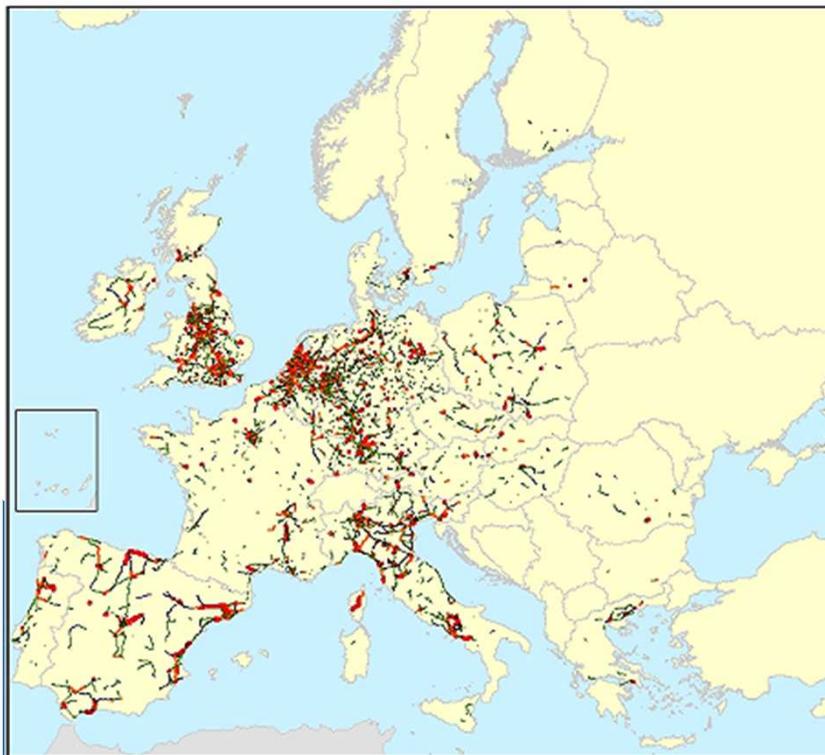
Growing congestion and poorer accessibility. An infrastructure gap in the enlarged EU

Increasing oil price and persistent oil dependency
A deteriorating climate and local environment



● Growing congestion and poorer accessibility

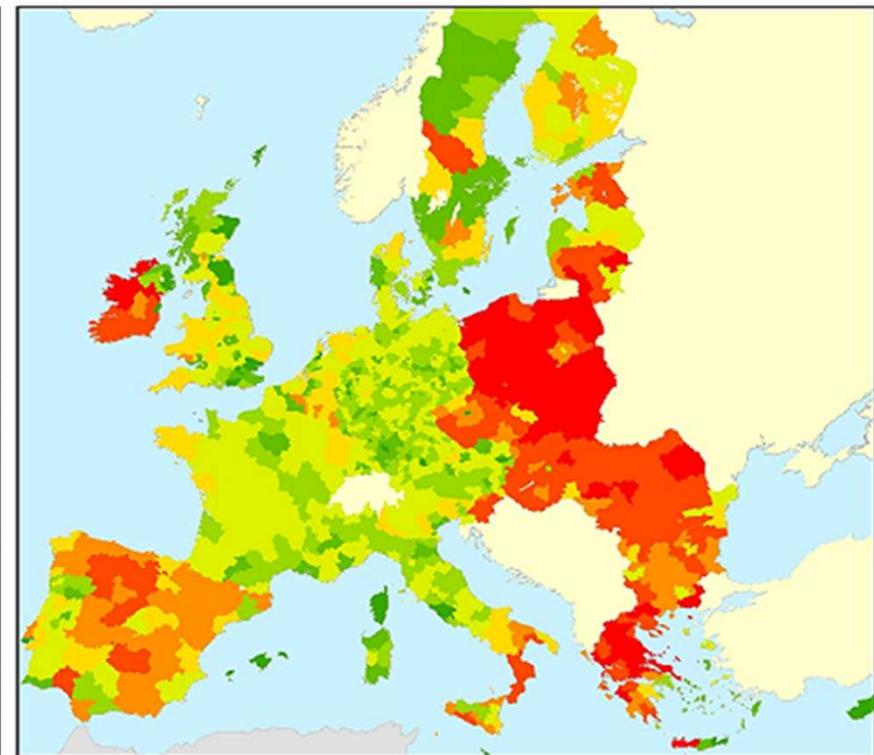
- Fuel costs and congestion levels are expected to rise significantly by 2030, leading to further divergences in accessibility



Congestion levels 2030
Inter-urban road traffic
TRANSTOOLS projection, major links
Use of available traffic capacity

60% - 70%	80% - 90%
70% - 80%	over 90%

Sources : TransTools v2.1.10, reference scenario
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Coordinate Reference System:
ETRS89 Lambert Azimuthal Equal Area



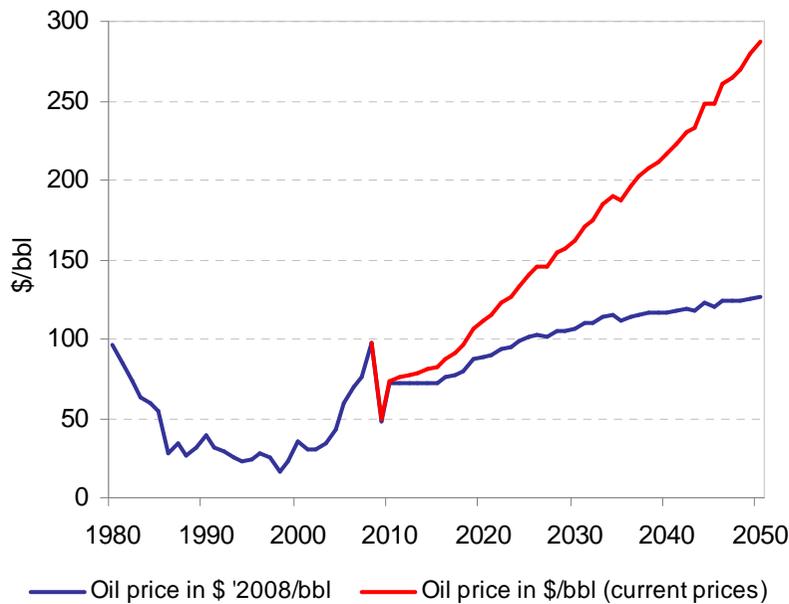
Change in accessibility between 2005 and 2030
Evolution of average transport costs per NUTS 3 zone
compared to the average transport costs at EU level

-24.6% - -10%	-2.4% - 0%	5.1% - 10%
-9.9% - -5%	0.1% - 2.5%	10.1% - 104.1%
-4.9% - -2.5%	2.6% - 5%	

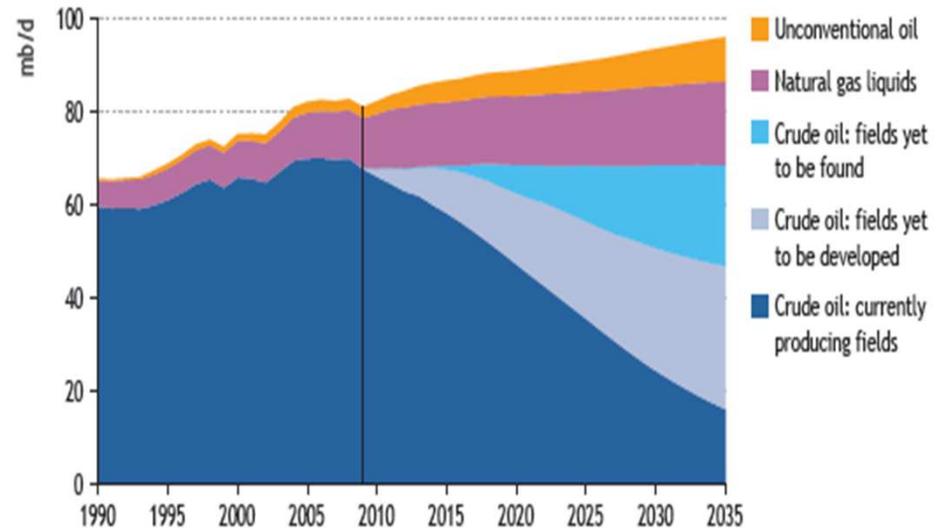
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Increasing oil price and persistent oil dependency

- Transport depends on oil for about 96% of its energy needs. The transport sector accounts for almost 90% of the projected increase in global oil use.



Source: Prometheus, NTUA (E3MLab)

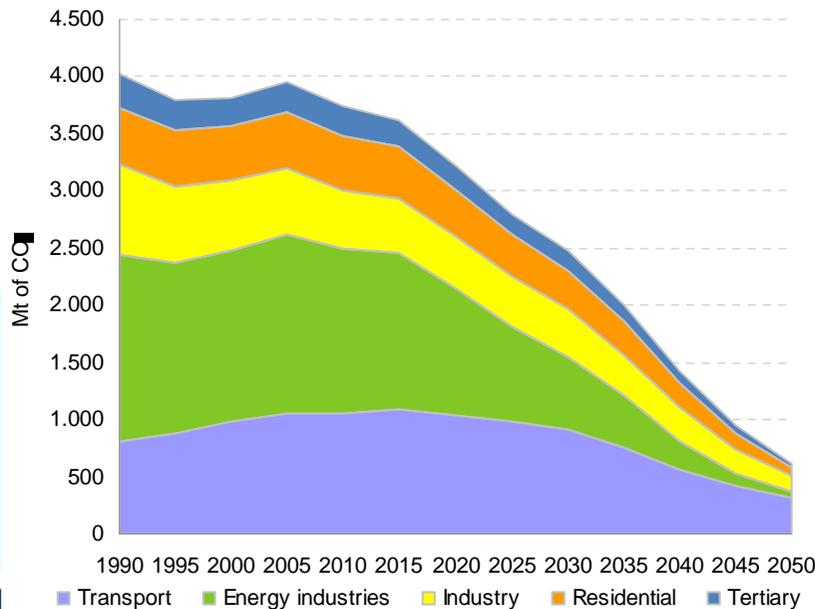


Source: IEA World Energy Outlook 2010

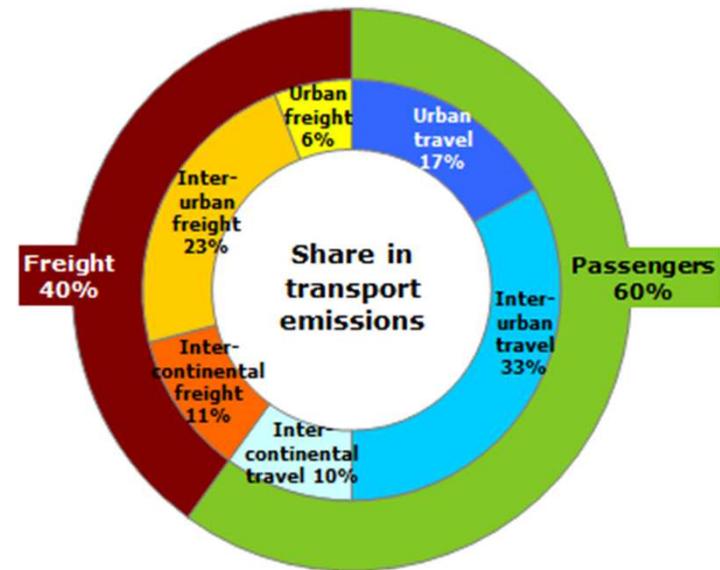
- The depletion of reserves and growing global demand would lead to ever higher oil prices. The number of cars in the world is projected to increase from around 750 million today to more than 2.2 billion by 2050.

● A tight carbon budget for the transport sector

- In October 2009, the European Council showed support for the objective of reducing GHG emissions in the EU by 80 to 95% by 2050 compared to 1990 levels



Source: PRIMES, NTUA (E3MLab)



Source: PRIMES-TREMOVE and TREMOVE

- Transport accounts for about one fourth of GHG emissions: 60% comes from passenger transport, 40% from freight transport

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● White Paper on Transport (March 2011)

- “ Roadmap to a Single European Transport Area. Towards a competitive and resource efficient transport system.”
- A vision for the transport system of 2050
- 1 target (-60% of GHG emissions by 2050) and 10 indicative goals to guide policy action
- How to do it – 4 “i”s and 40 initiatives

A vision for 2050

- Transport has to:
 - Use less energy
 - Use cleaner energy
 - Exploit efficiently a multimodal, integrated and 'intelligent' network

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● **Goals for competitive and resource efficient transport**

- New and sustainable fuels and propulsion systems
- Optimising the performance of multimodal logistic chains, including by making greater use of more energy-efficient modes
 - A fully functional and EU wide multimodal TEN-T core network by 2030
- Increasing the efficiency of transport and infrastructure through information systems and market-based incentives
 - Establish the framework for a European multimodal transport information, management and payment system

● How to do it – 4 “i”s and 40 initiatives

Internal market: Create a genuine Single European Transport Area by eliminating all residual barriers between modes and national systems.

Innovation: EU research needs to address the full cycle of research, innovation and deployment in an integrated way.

Infrastructure: EU transport infrastructure policy needs a common vision and sufficient resources. The costs of transport should be reflected in its price in an undistorted way.

International: Opening up third country markets in transport services, products and investments continues to have high priority.

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● Background

- First observation in the Logistics Action Plan Oct 2007:
 - Work towards a standard for information flows to ensure the integration and interoperability of modes at data level and provide open, robust data architecture primarily for B2A and A2A data flows
 - Work towards a standard data set to describe freight
 - Establish a single window for administrative procedures in all modes
- Second sighting: ITS Action Plan Oct 2008
 - “ITS tools constitute a core enabler for the management of such logistic chains, notably in maintaining a paperless information trail in the management of the physical flow of goods (e-Freight).”

● In the 2011 White Paper, among the 40 initiatives:

● Initiative 7 : Multimodal transport of goods : e-Freight

"Create the appropriate framework to allow tracing goods in real time, ensure intermodal liability and promote clean freight transport " :

- A standard framework for freight information exchange covering all transport modes and all stakeholders
- A single window (single access point) and one stop shopping for administrative procedures in all modes.
- A single European transport document for all carriage of goods, irrespective of mode should be developed along with all the necessary legislative support
- Simple, harmonised border crossings procedures for all modes of transport for all EU member states.
- Simple procedures and the necessary infrastructure for establishing secure and efficient transport corridors between Europe, USA, and Asia

● In the 2011 White Paper, among the 40 initiatives:

Other initiatives

- Supply chain security
- Integrated urban mobility
- Multimodal freight corridors for sustainable transport networks supported by ICT systems
- A technology roadmap for
 - integrated traffic and transport management and information systems improving the use of infrastructure, providing real-time information to track and trace cargo and to manage freight flows
- An innovation and deployment strategy

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● **Horizon 2020 / TEN-T / Connecting Europe Facility**

- Horizon 2020: a single framework integrating different programmes (FP RTD, CIP) to facilitate also market take up
- TEN-T: creation of core network with multimodal corridors carrying freight with high efficiency and low emissions, making extensive use of existing infrastructure, completing missing links and alleviating bottlenecks and using more efficient services in multimodal combinations supported by ICT (soft infrastructure)
- Connecting Europe Facility (CEF): a single framework to use coherently money in TEN-T, cohesion and structural funds
- Commission's Communication on a Budget for Europe 2020, 06/2011, (proposal for a multi-annual budget for 2014-2020)

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● Today's problems

- Complexity of freight transport information exchange in the context of multimodal transport :
 - lack of interoperability along the supply chain => inefficiencies, costs, reduced visibility of freight
 - operators provide information several times for different purposes => administrative costs + perceived complexity for multimodal transport
 - lack of information on intermodal availabilities => no full exploitation of multimodal transport / non-optimization of use of existing transport infrastructure

=> Need for interoperable interfaces for information on freight in the various transport modes

eFreight : the vision

- Interoperability between paperless freight information systems
- Zero paper documents needed for planning, executing and completing any transport operation within the EU
- Reduced waiting time at hubs related to administrative procedures
- Standard framework for intermodal information exchange
- Harmonised border crossings

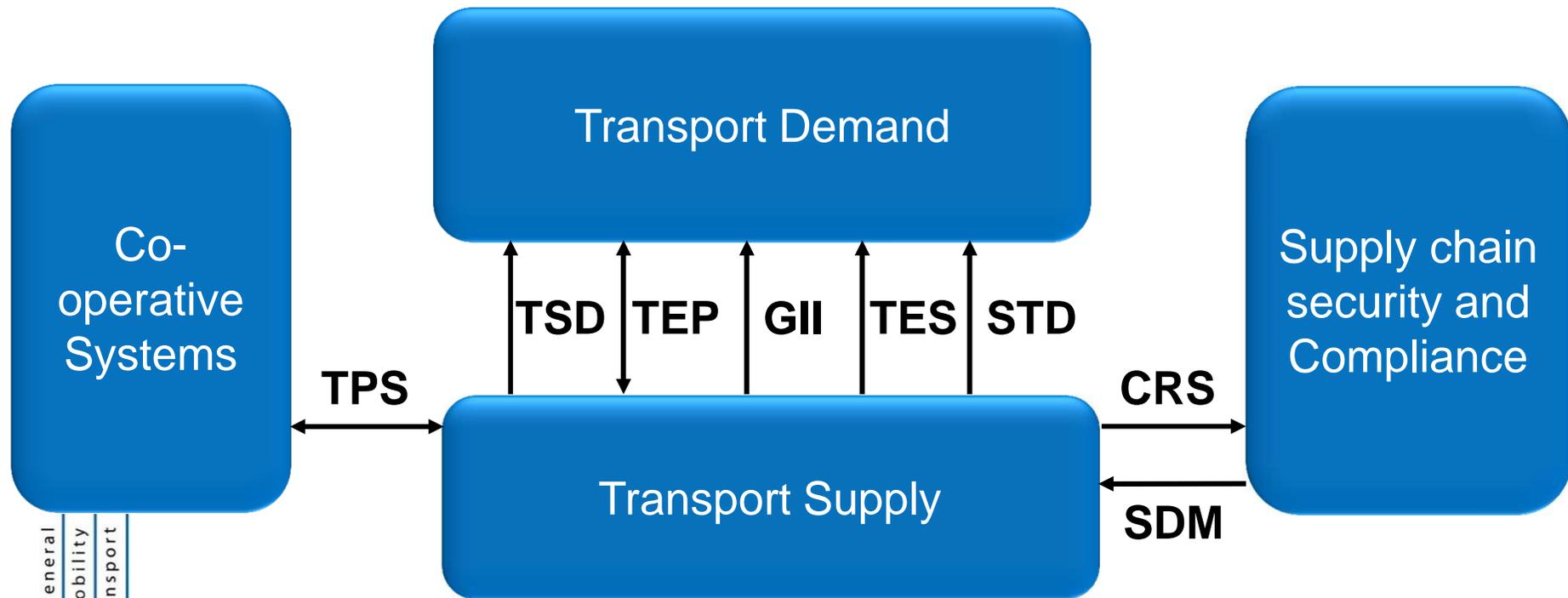
● eFreight : the challenges

- Technology is available but implementations on a large scale are slow to appear
- How to ensure market uptake
- Co-operation between stakeholders requires interoperability
- Standardisation
- It is not only about technologies, but about change in organisation and behaviour
- Sharing of information requires trust and, where needed the appropriate legal framework, data security and data protection
- The fragmented structure of the business sector, major players and thousands of SMEs and micro companies

● eFreight : areas of focus

- Common reference framework
- 'single window' and links between single windows at European level and across modes
- single digital transport document (electronic waybill) across modes, allowing operators to provide information only once in electronic form for booking, execution and monitoring
- framework to track and trace freight along its journey

● **Common Reference Framework for information exchange**



● Single Window

- Regulatory Compliance Complexity
 - Mode-specific, country-specific
 - Globalisation
 - Security has increased compliance requirements
 - Complex set of (duplicating) reporting requirements and related systems
- Business are hold to maintain interfaces with many different systems
- SMEs

● Single Window

- EU policy context and legal framework:
 - White Paper
 - Customs Code, e-Customs
 - SafeSeaNet
 - Ship reporting formalities
 - RIS, TAF/TSIs, ITS
- EU Single Window Initiatives
 - E-Customs single windows – trade facilitation
 - Maritime single windows – monitoring vehicle and cargo movements

● Single Window

- Variety of developments at different levels: local, national and European
- Automatically the question comes up whether there is a need for even more integration and interoperability in order to establish
 - A Single entry point for all traffic and transport regulatory information at national level regardless of mode
 - And to exchange and share information between national authorities within a country and between countries
- This question, the technical concept and the validation of the concept is addressed in the eFreight project

● **Single Digital Transport Document**

- Document exchange between stakeholders involved in transport of goods is characterised by various national, international, often mode-specific regulations, conventions and standards
- To cope many organisations and companies have developed their own waybill
- Is this the right setting for multimodal transport chains?
- Transport documents play an important role in international business, which is becoming more and more electronic – hence there might not be only the need for a multimodal but an electronic multimodal transport document

