platform for the implementation of NAIADES II

Macro analysis of the market potential in the continental cargo market (D1.6)

How to realize the potential of containerized continental cargo?

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Main objective

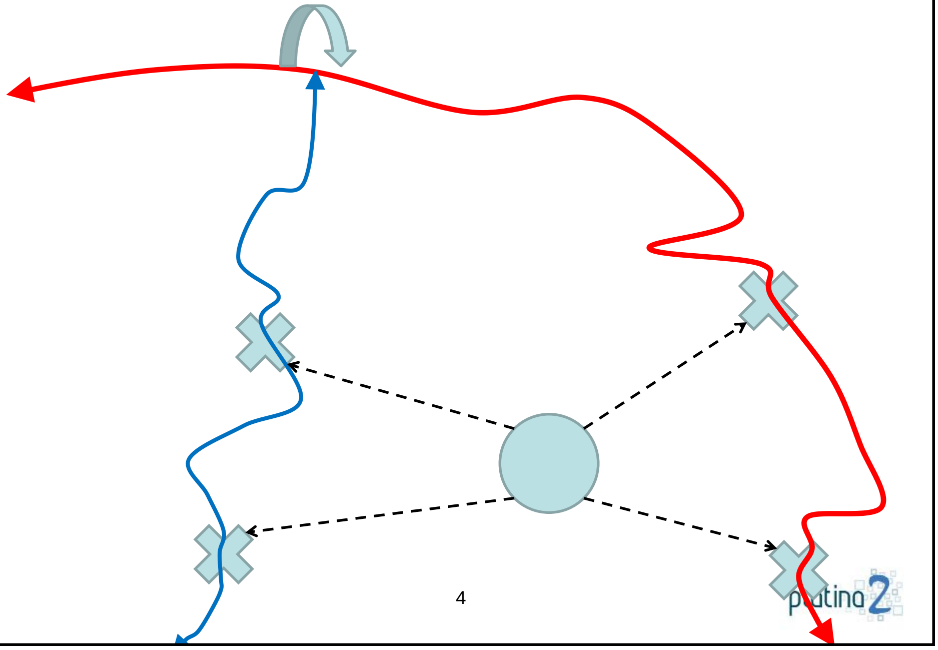
- For continental cargo flows, direct road transport is the easiest option for these flows, but if organised well, inland navigation can provide a cost-efficient solution.

“to identify individual transport flows that, brought together, could bring enough volume to operate a liner service between two (or more) Inland Terminals”

Focus of the study

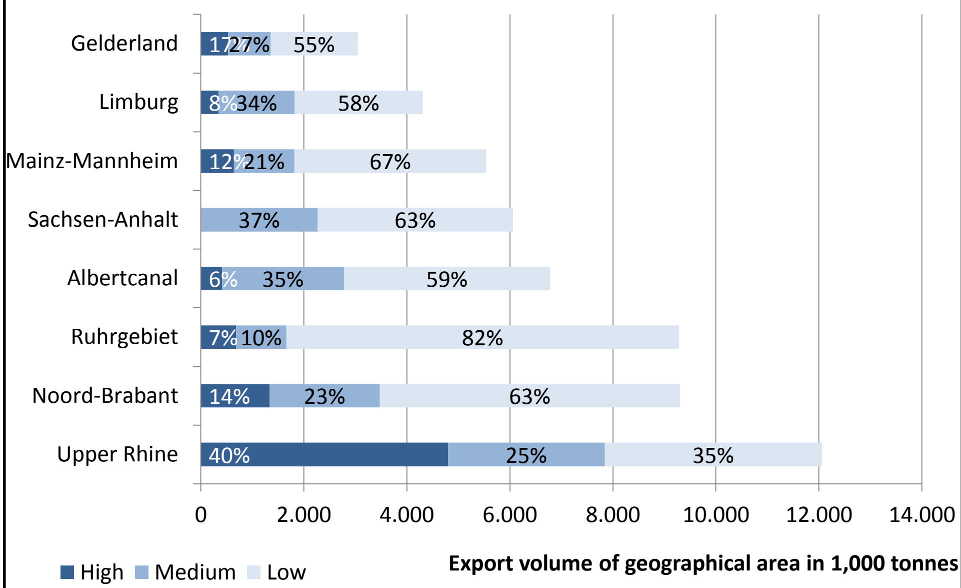
- Compare direct road transport to inland navigation
- 3 different levels of efficiency of road transport regarding empty runs.
  - A low-efficiency scenario, all trucks return empty;
  - A medium-efficiency scenario, 20% of the trip length is ridden empty in order to collect new cargoes;
  - A high efficiency scenario, no empty kilometres have to be made.
- Multimodal evaluation model with
  - all waterborne regions in Europe that are located closely to a CEMT-IV waterway (512 in total)
  - all intermodal terminals where loading and unloading of container barges can take place (97 in total)
- All transport options are evaluated, best intermodal solution is selected (more than 2.5 billion)

Schematic overview of model



Main results

- Pre-assessment of current transport flows by truck
  - over distances more than 150 kilometres between regions that are directly connected
  - or at most within 100 kilometres of the waterway network
  - ➔ maximum potential of 261 million tonnes that can be containerised and transferred to inland navigation.
- More detailed analysis taking into account inland navigation transport costs and the amount of pre- and end-haulage that is required as well as the amount of handlings, compared to the costs of direct trucking,
  - ➔ potential between 30 million tonnes and 207 million tonnes.
  - ➔ medium scenario, 87 million tonnes more cost-efficient by IWT.
  - ➔ costs savings to the industry of **€ 899 million/y, (10% of total costs)**.



Main results

The investigation shows that:

- Noord-Brabant in the Netherlands has high potential for continental cargo transport via water. Return cargo can be found along the Upper-Rhine, in Alsace-Lorraine (France) and Baden-Württemberg (Germany).
- Also North-East of France (Upper-Rhine) and the North-West (Lille, Dunkerque) show high potential.
- Other potentially interesting regions are Flanders, Berlin and its surroundings as well as destinations along the Middle and Upper-Danube (Austria, Slovakia, Hungary, Poland and the Czech Republic).
- Even in the most efficient trucking scenario, 42% of the potential can be transported more cost-efficient by IWT on the Rhine and Danube river.
- Less potential on the Moselle region: detours in case of inland navigation
- Seine and the Po river basin also IWT continental container transport less attractive.

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Next steps

How to realize the potential of containerized continental cargo?

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Analysis of market organization and structure continental logistic chains

Analysis structure network inland container terminals:

- Geographical network to determine the regions/connections with the highest potential
- Business model: to determine whether boundary conditions are met to start up IWT services for continental container transport or make use of existing inland container transport services.
  - Ownership structure
  - Access to shippers/customers
  - Services provided
  - Possible (cooperative) partnerships

Analysis of market organization and structure continental logistic chains

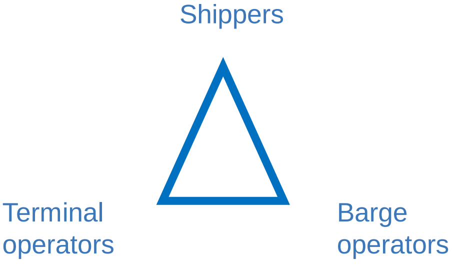
Analysis actors and business models and services

- Shipping line perspective - Transition from port-to-port services towards door-to-door services
- Deep-sea-terminal perspective – Control in hinterland operations
- Hinterland operator perspective – Efficient hinterland services following sufficient demand
- Service area perspective – Terminal operator focussed on regional accessibility combined with long term commitment of shipper for terminal/barge services to sea ports
- Neutral service provider perspective – Supply chain in control of logistics services providers / freight forwarders who have partnerships / contractual agreements with specific inland terminals.

Analysis of market organization and structure continental logistic chains

Analysis commercial and operational relationships

- Determine the conditions for cooperation between terminal operators, barge operators and shippers



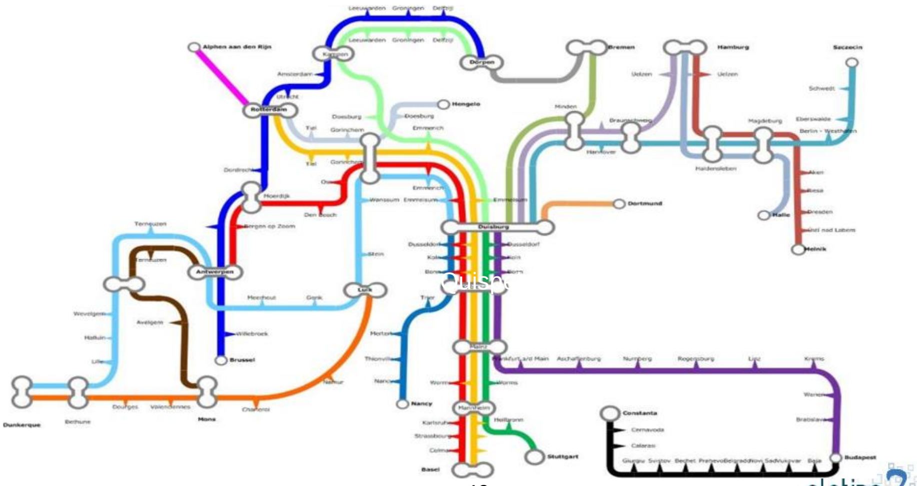
- Outline of market organisation and structure for continental transport chains

Inland waterway market transfer roadmap

Macro analysis potential + market organisation and structure

- Opportunities on the continental market
- Transport equipment
- Recommendations for solving bottlenecks

Thank you for your attention!



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