Trans Baltic

Towards an integrated transport system in the Baltic Sea Region

Deployment of ICT toolbox supporting companies in optimal modal choice

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Joint Tasks 5.3 and 5.5. seminar, Oslo , 31st May – 1st June 2012

Project part-financed by the European Union (European Regional Development Fund)

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Why a modal choice has to be supported ?

- Poor knowledge among shippers of the intermodal freight transport advantages
- Excessive attachment to road transport
- Intermodal operators focused on Key Accounts.
- Small enterprises being not attractive partners for intermodal operators due to the small volumes
- Internet tools for cooperation of companies along supply chains cannot widespread due to diversity of standards in electronic communication

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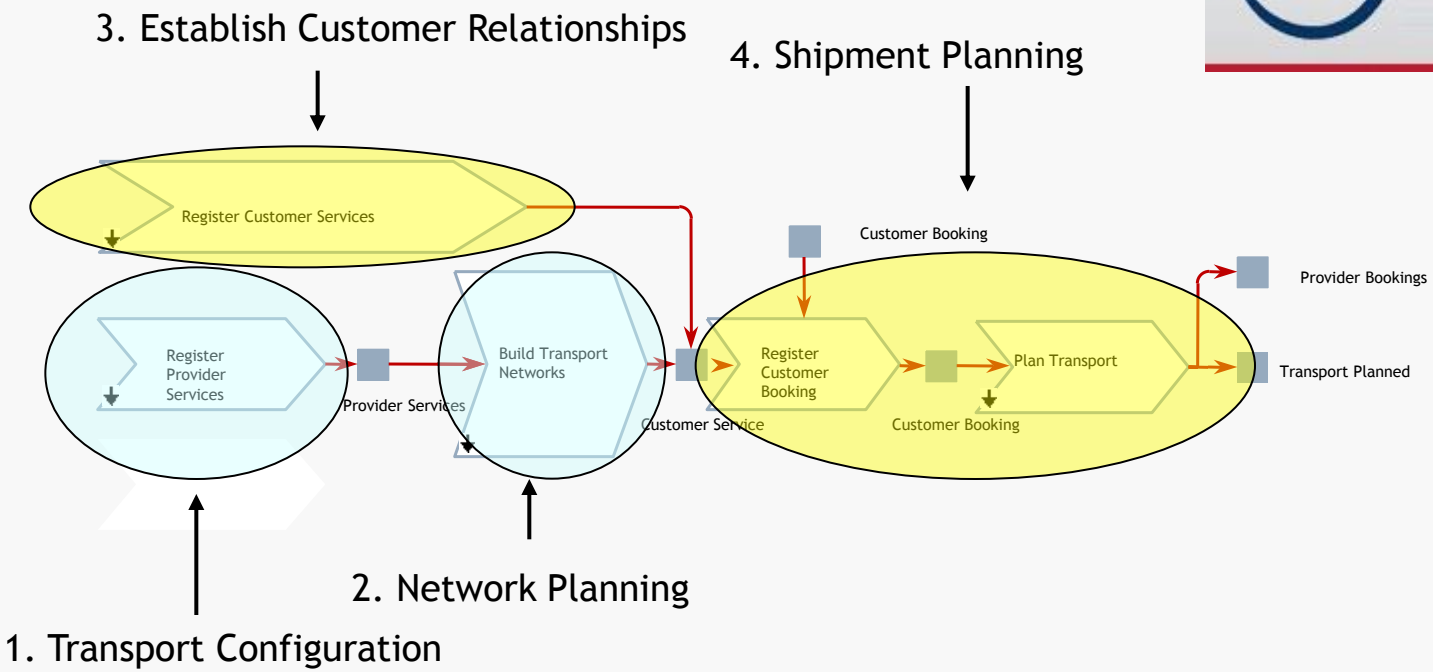
ITC application for planning intermodal supply chains

Planning module



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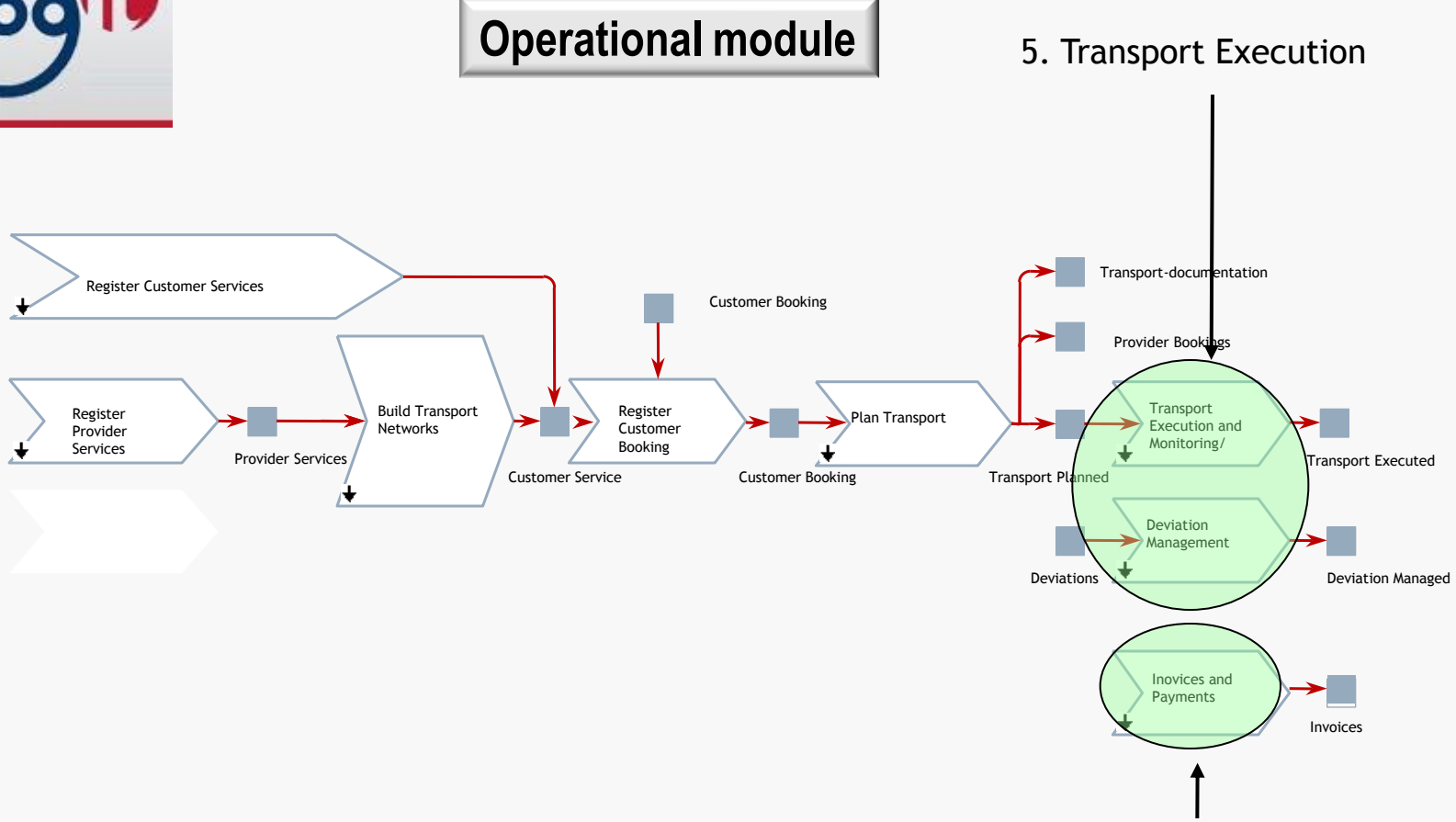
ITC application for planning intermodal supply chains



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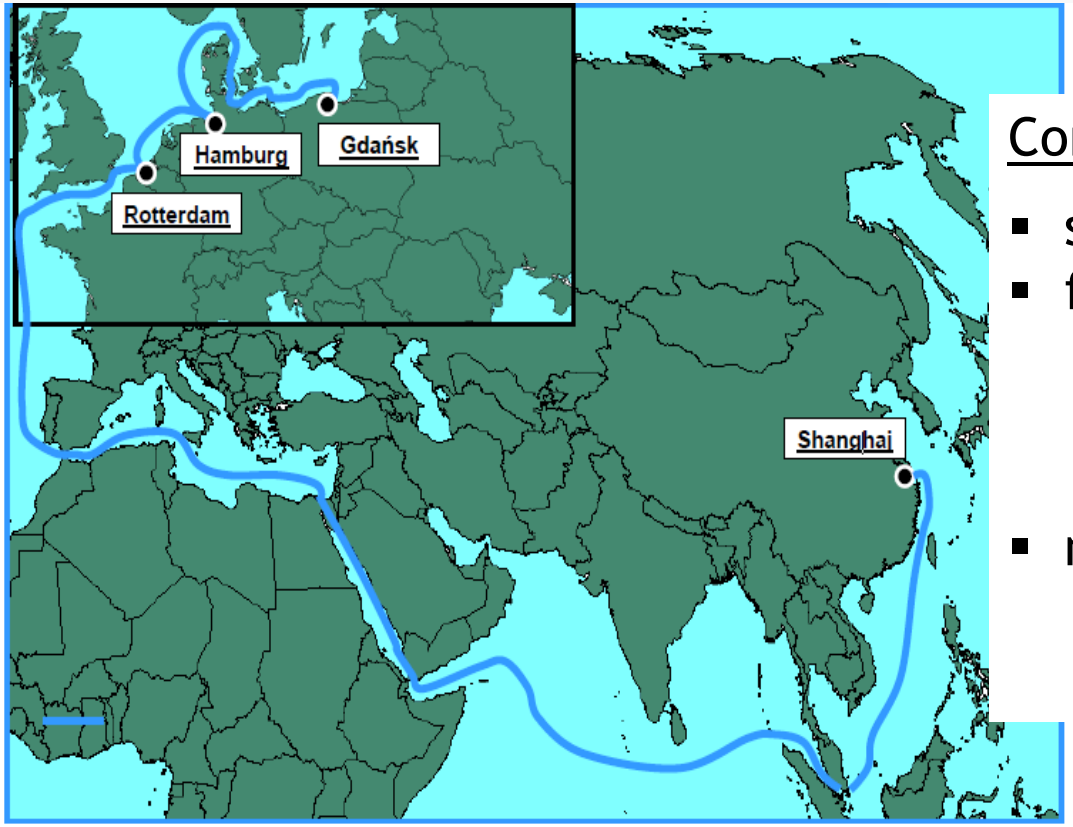
Objectives

- building data base of the transport operators and their services in selected transport corridors
  - Far East – Poland
- demonstrations for the freight market stakeholders
  - functionality of a tool and how it may be helpful in freight decision making
  - all possible transport alternatives across different transport modes
  - scale of benefits resulting from the use of specific modes
- expected results:
  - demo version of the tool functionalities for further dissemination
  - deployment plan
  - cluster of transport operators ready to sell services via the tool
  - cluster of SME companies willing to consolidate shipments

Selected transport corridor
Container transport route from the Far East to Poland with the alternative use of gateway ports of Rotterdam, Hamburg or Gdansk



Corridor profile :

- sufficient volumes
- full range of intermodal alternatives on the last route section (Gateway European port – final receiver)
- modal balance in terms of expense level

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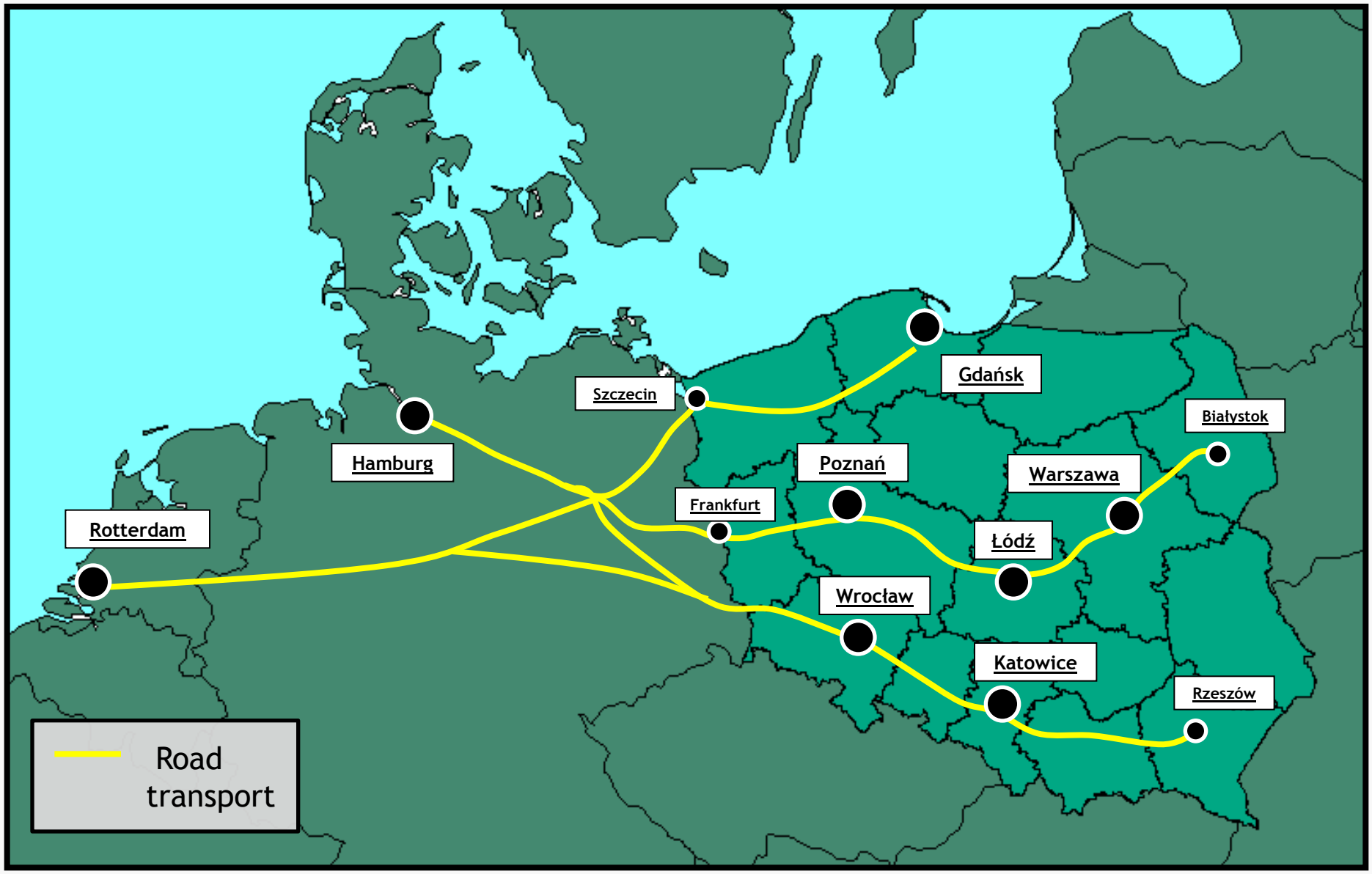
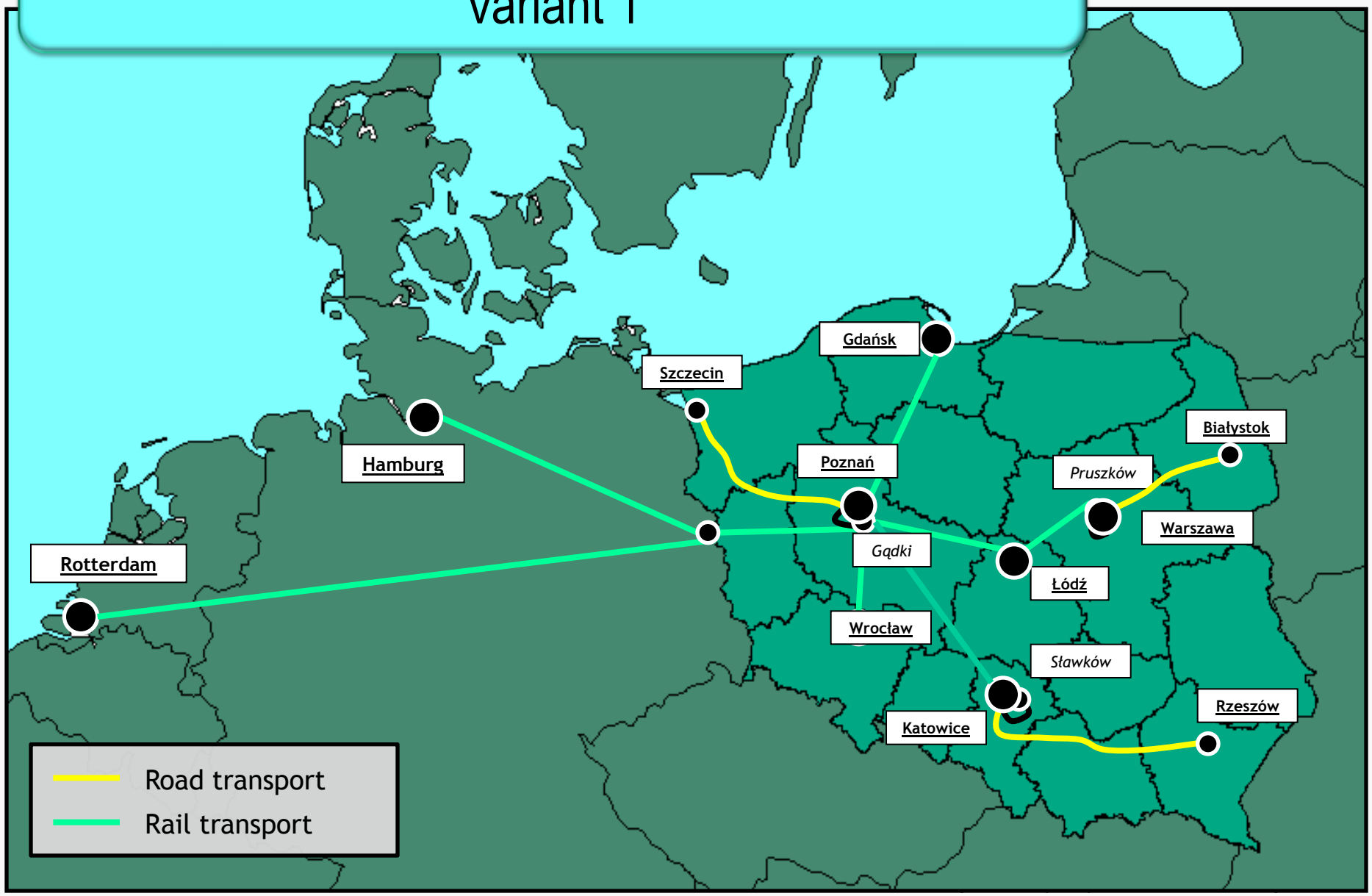
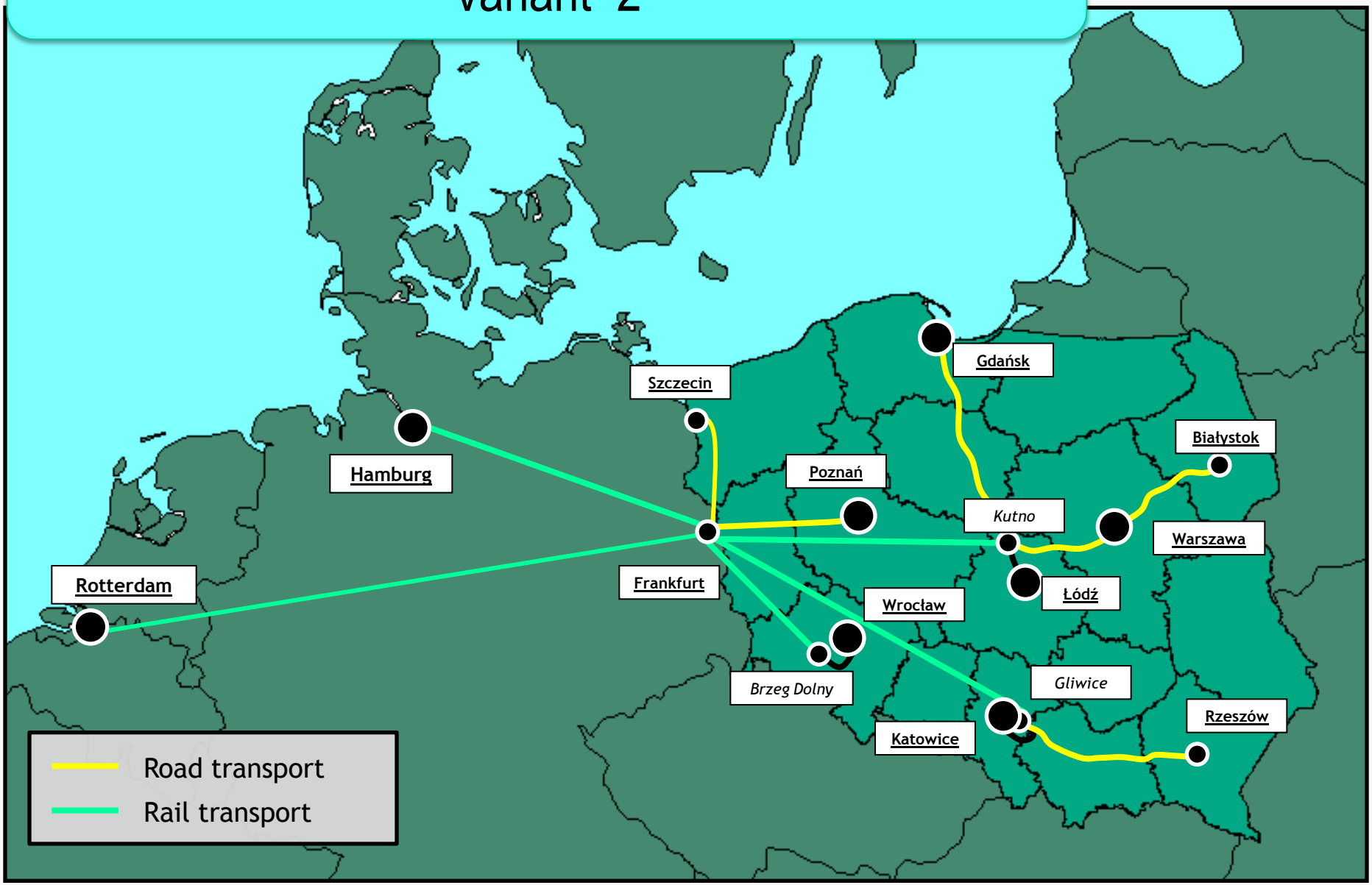
Containers on-carriage – by road



Containers on-carriage by block trains
Variant 1

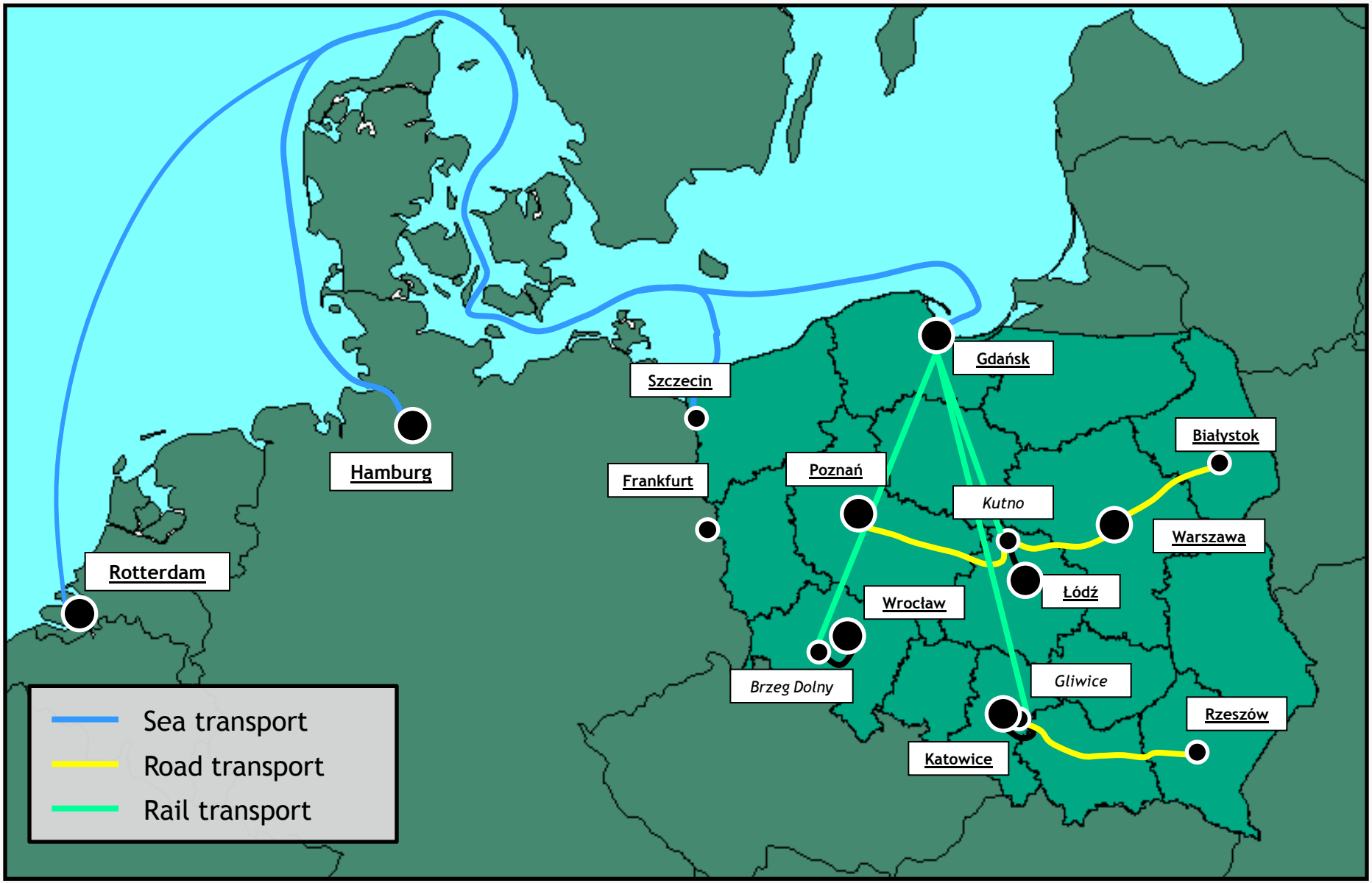


Containers on-carriage by block trains
Variant 2

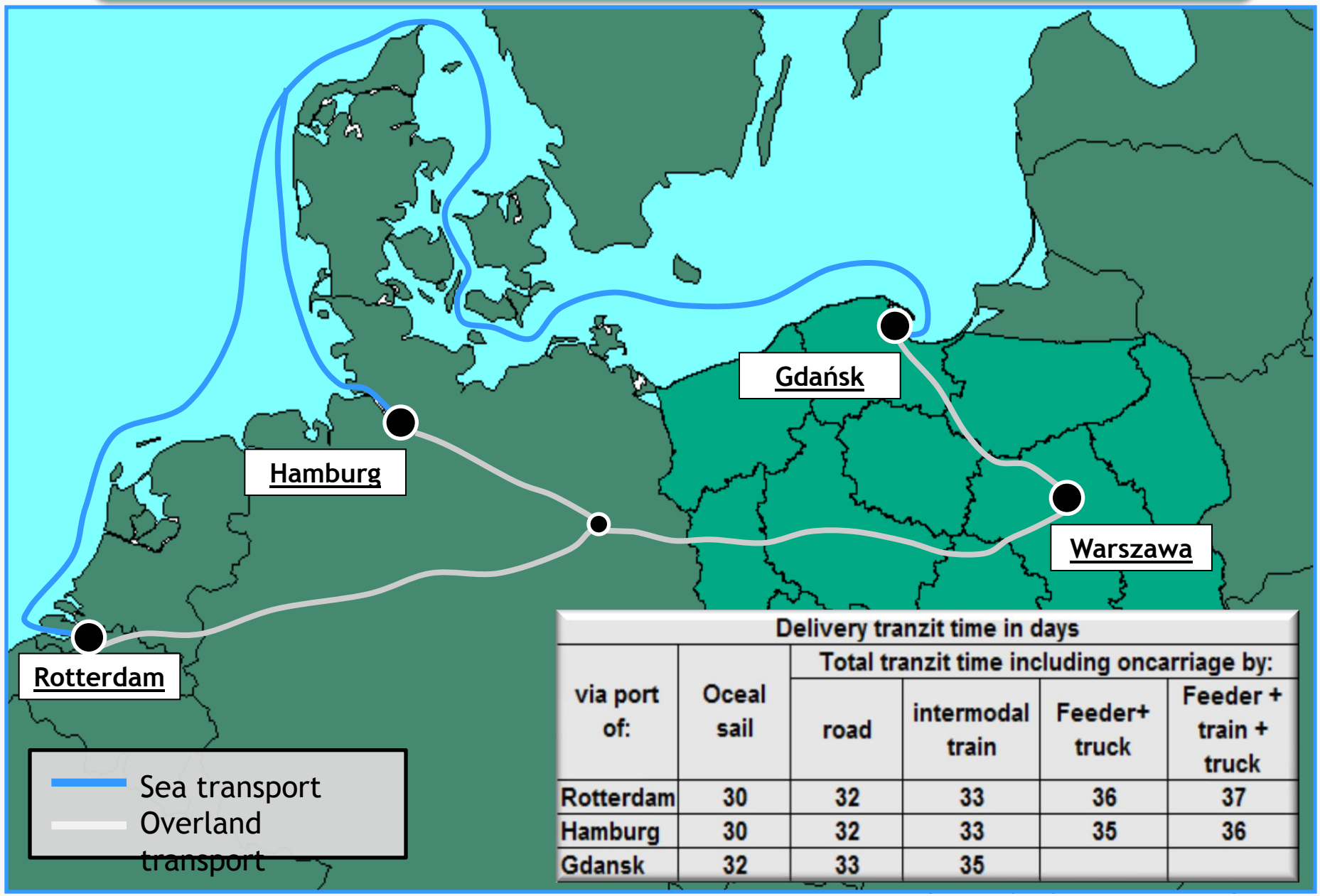


Containers on-carriage by feeders and on road

Containers on-carriage by feeders on rails and road



Delivery lead time in days (Shanghai- Warsaw)



Delivery tranzit time in days					
via port of:	Oceal sail	Total tranzit time including oncarriage by:			
		road	intermodal train	Feeder+ truck	Feeder + train + truck
Rotterdam	30	32	33	36	37
Hamburg	30	32	33	35	36
Gdansk	32	33	35		

Cost analysis assumptions

1. Supply patterns in consideration:

- 1 x 40 FT - representing ca. 65% of supplies
- 1 x 20 FT - used for transport of heavy loads
- 2 x 20 FT – used for transport of light loads addressed to different receivers

2. Scope of expense analysis

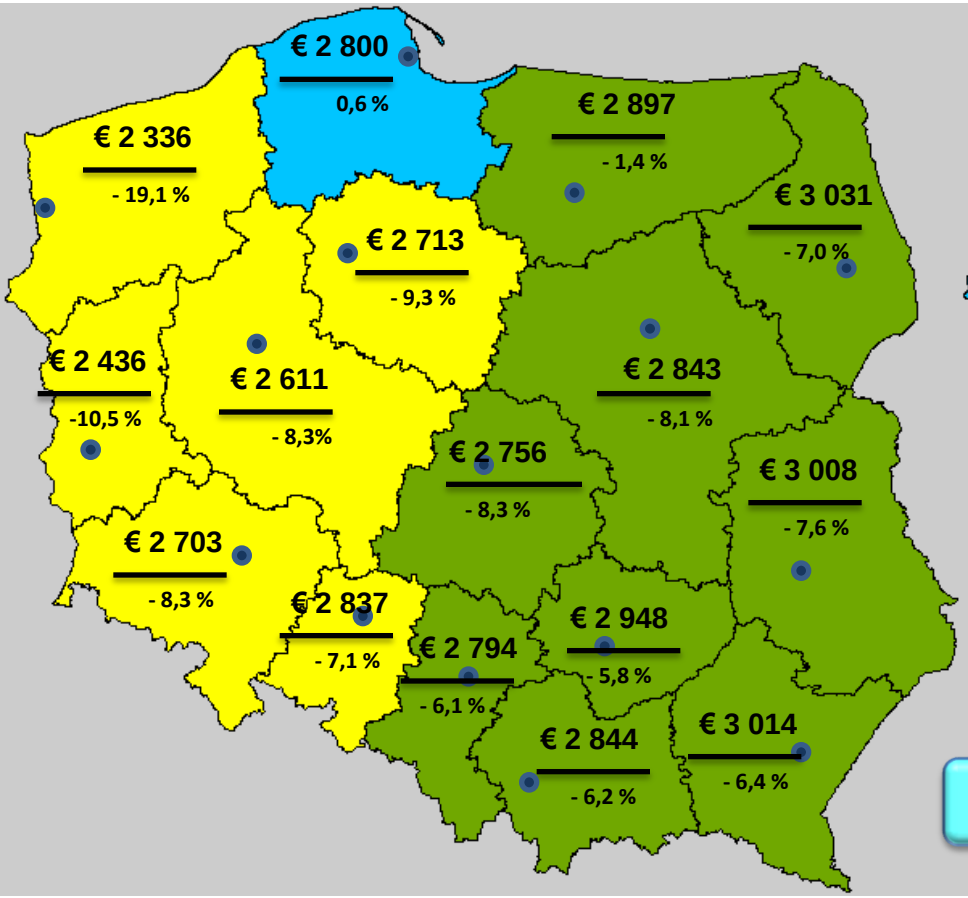
- Freight charge for transport of loaded container offered by co-operating transport operators
- THC - Terminal Handling Charges in sea ports
- Charge for return of empty container (except ocean section)

3. Freight charges level

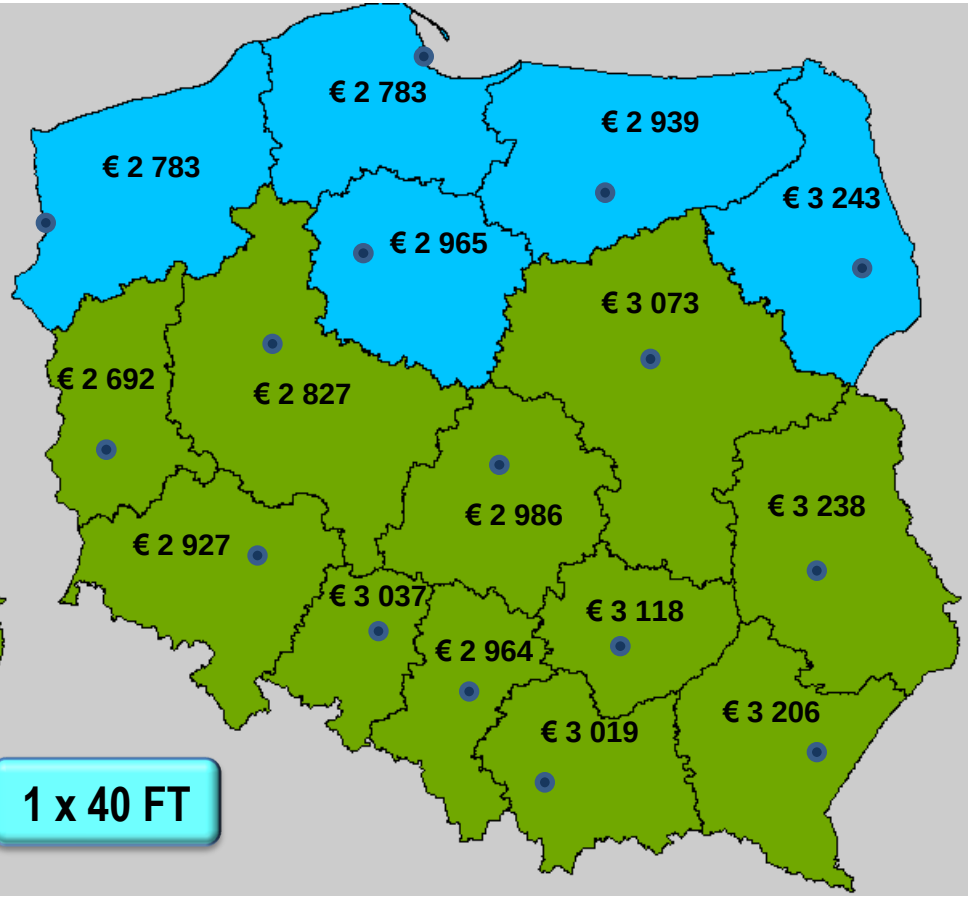
- charges representing level valid in the 1st part of 2011
- charges do not embrace volume discounts

FREIGHT RATES COMPARISONS – THE FIRST MODAL CHOICE

Route: Shanghai - Hamburg - Poland



Route: Shanghai - Rotterdam - Poland



1 x 40 FT

Road

Block train

Feeder

Direct ocean deliveries

FREIGHT RATES COMPARISONS – THE FIRST MODAL CHOICE

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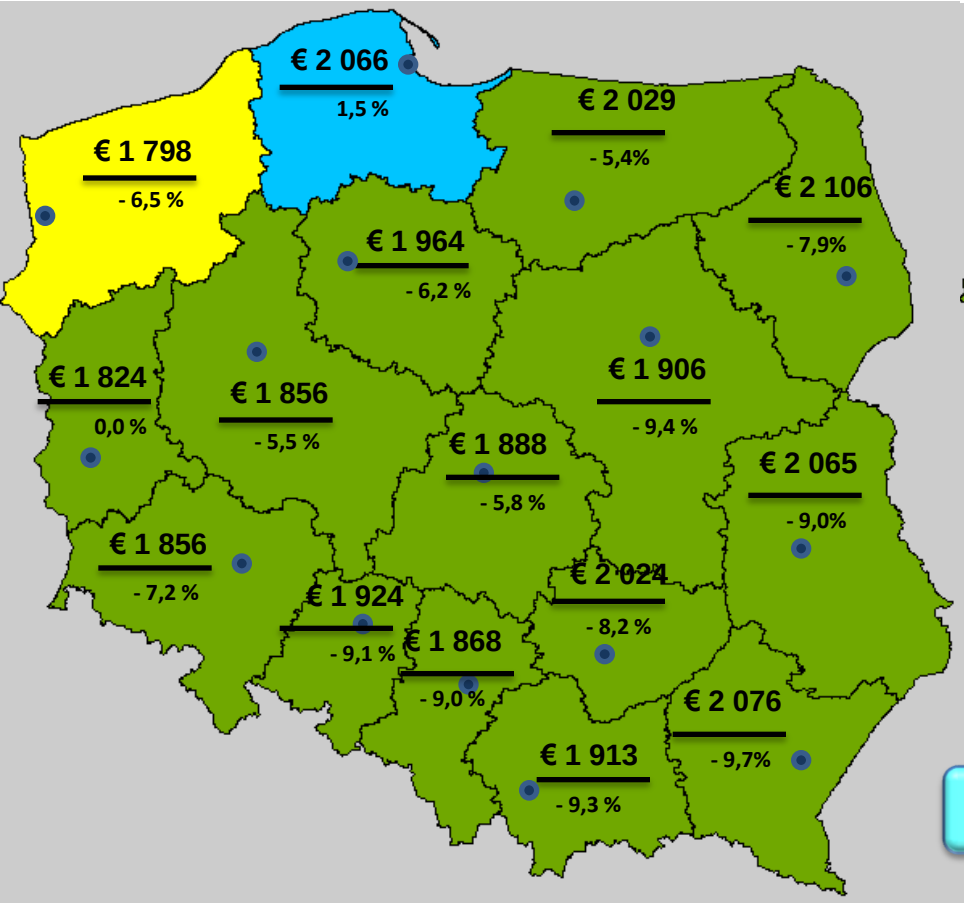
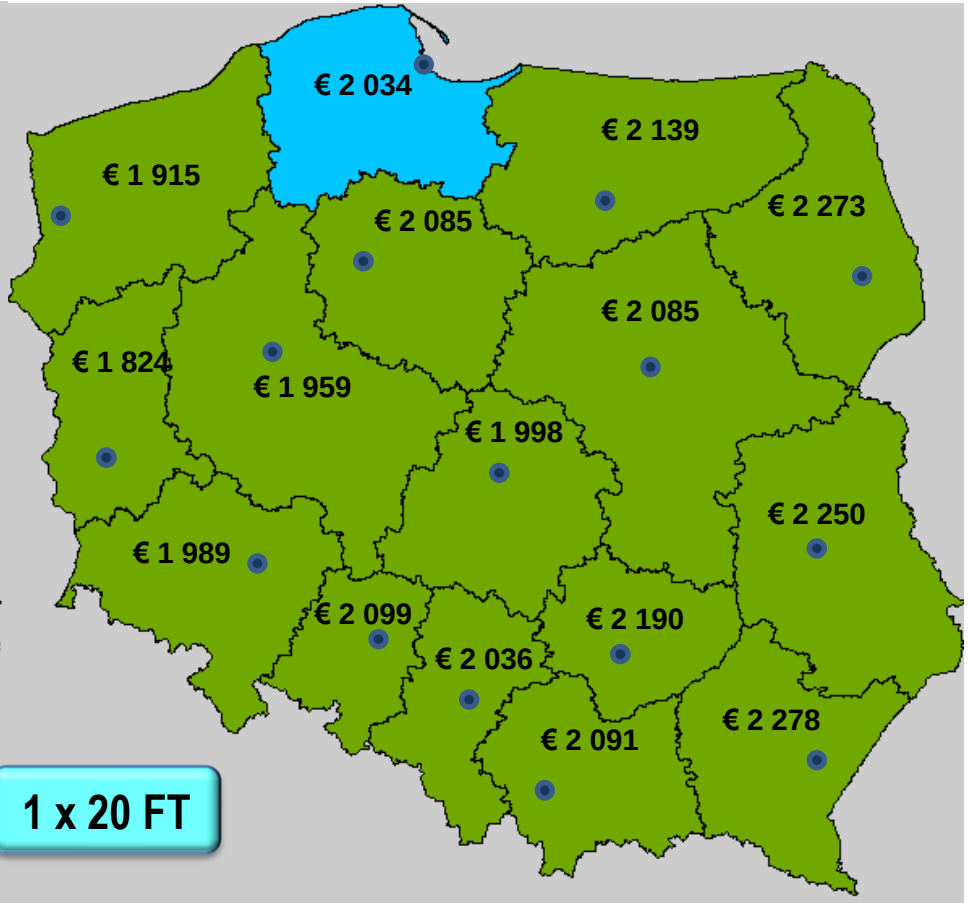


Route: Shanghai - Rotterdam - Poland



1 x 20 FT

Road

Block train

Feeder

Direct ocean deliveries

Direct container line Shanghai - Gdansk

Source : DCT Gdansk S,A,

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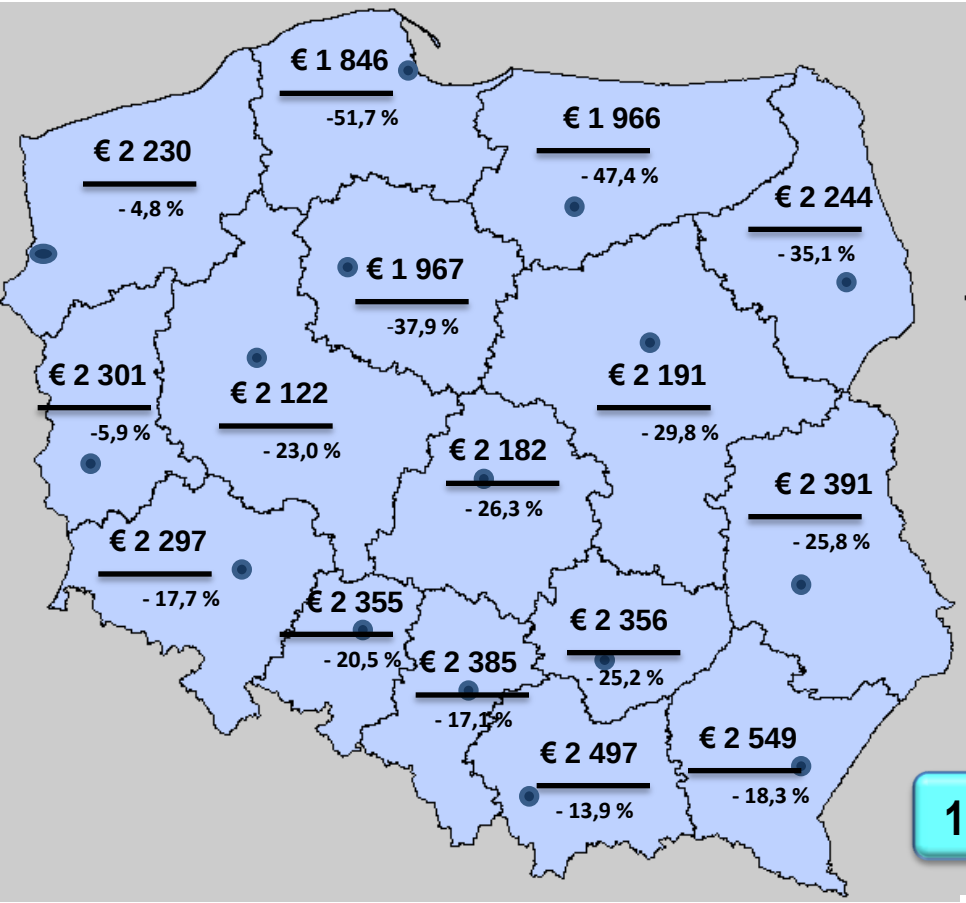
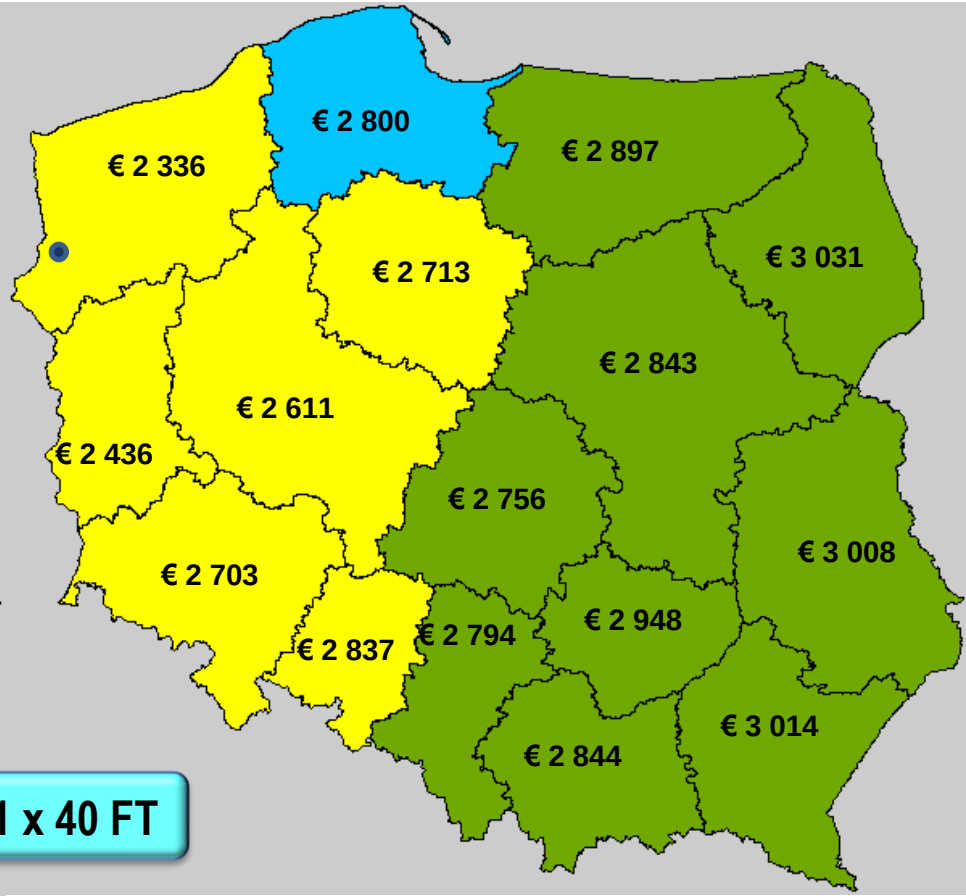
FREIGHT RATES COMPARISONS – THE FIRST MODAL CHOICE

Route: Shanghai - Gdansk - Poland



Route: Shanghai - Hamburg - Poland



1 x 40 FT

Road

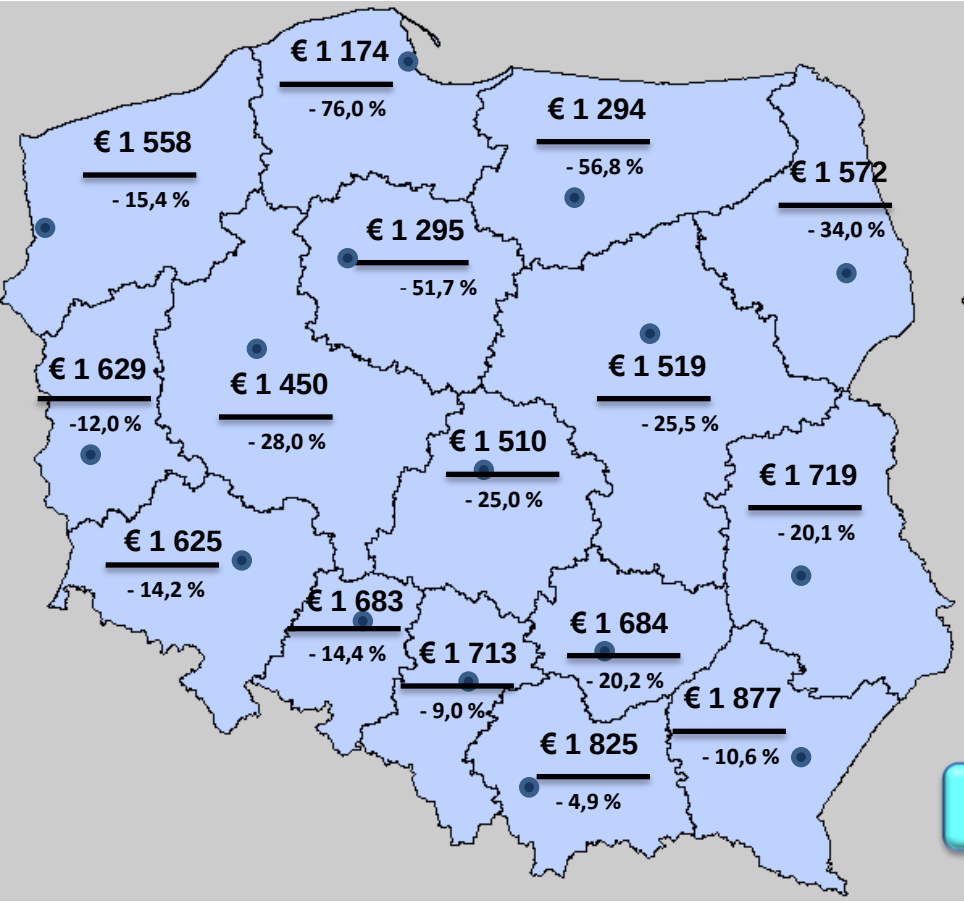
Block train

Feeder

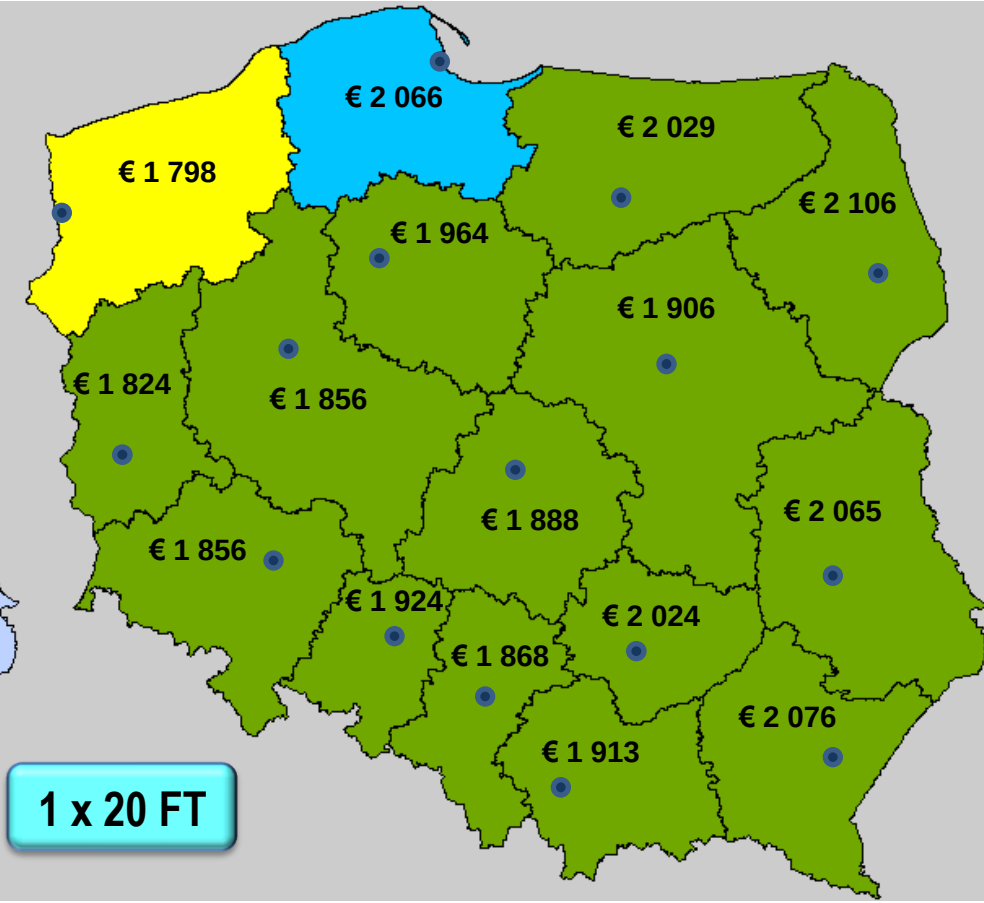
Direct ocean deliveries

FREIGHT RATES COMPARISONS – THE FIRST MODAL CHOICE

Route: Shanghai - Gdansk - Poland



Route: Shanghai - Hamburg - Poland



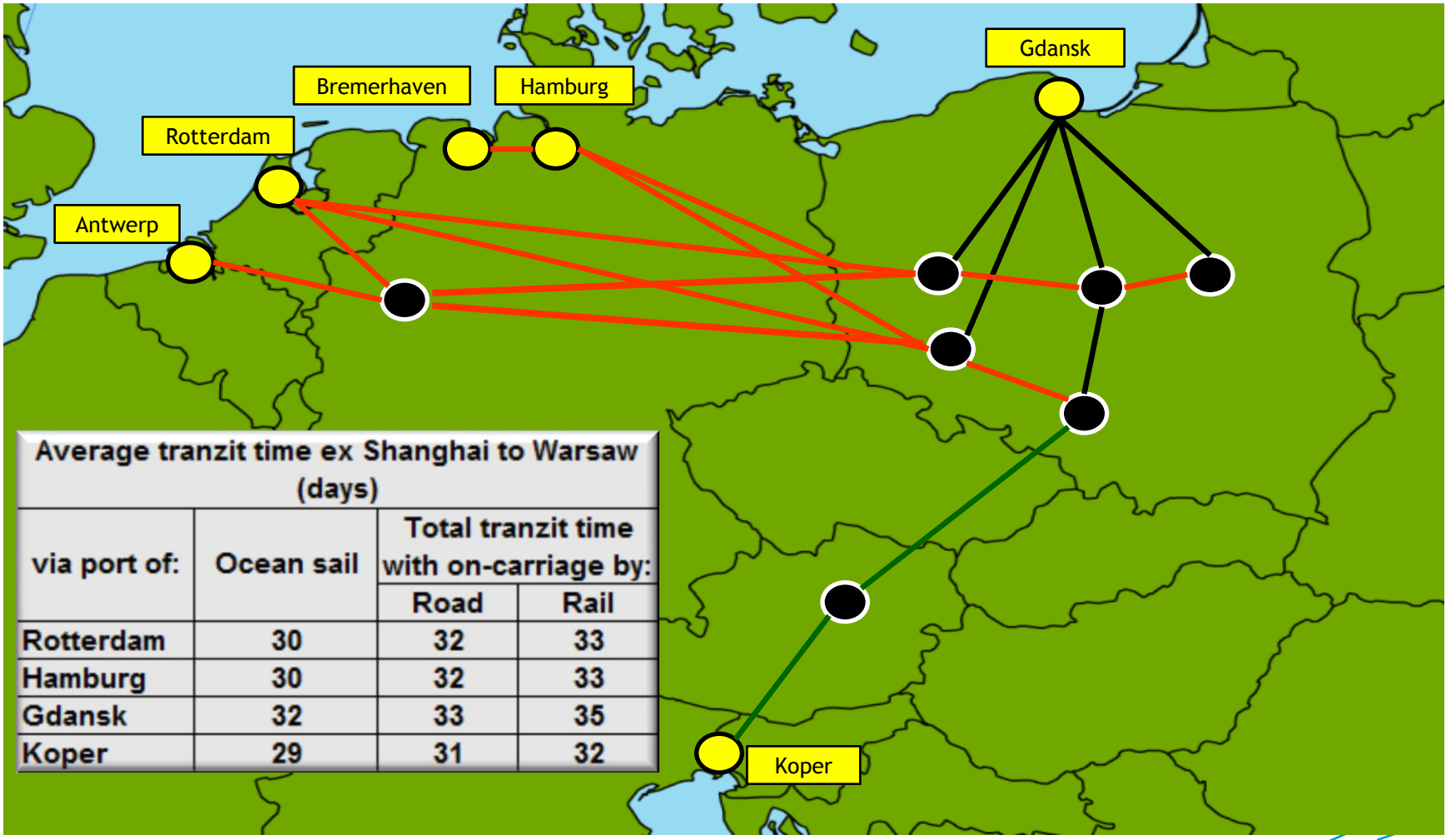
Road

Block train

Feeder

Direct ocean deliveries

Alternative intermodal transport corridors in hinterland supplies of containers to Poland.



Average tranzit time ex Shanghai to Warsaw (days)			
via port of:	Ocean sail	Total tranzit time with on-carriage by:	
		Road	Rail
Rotterdam	30	32	33
Hamburg	30	32	33
Gdansk	32	33	35
Koper	29	31	32

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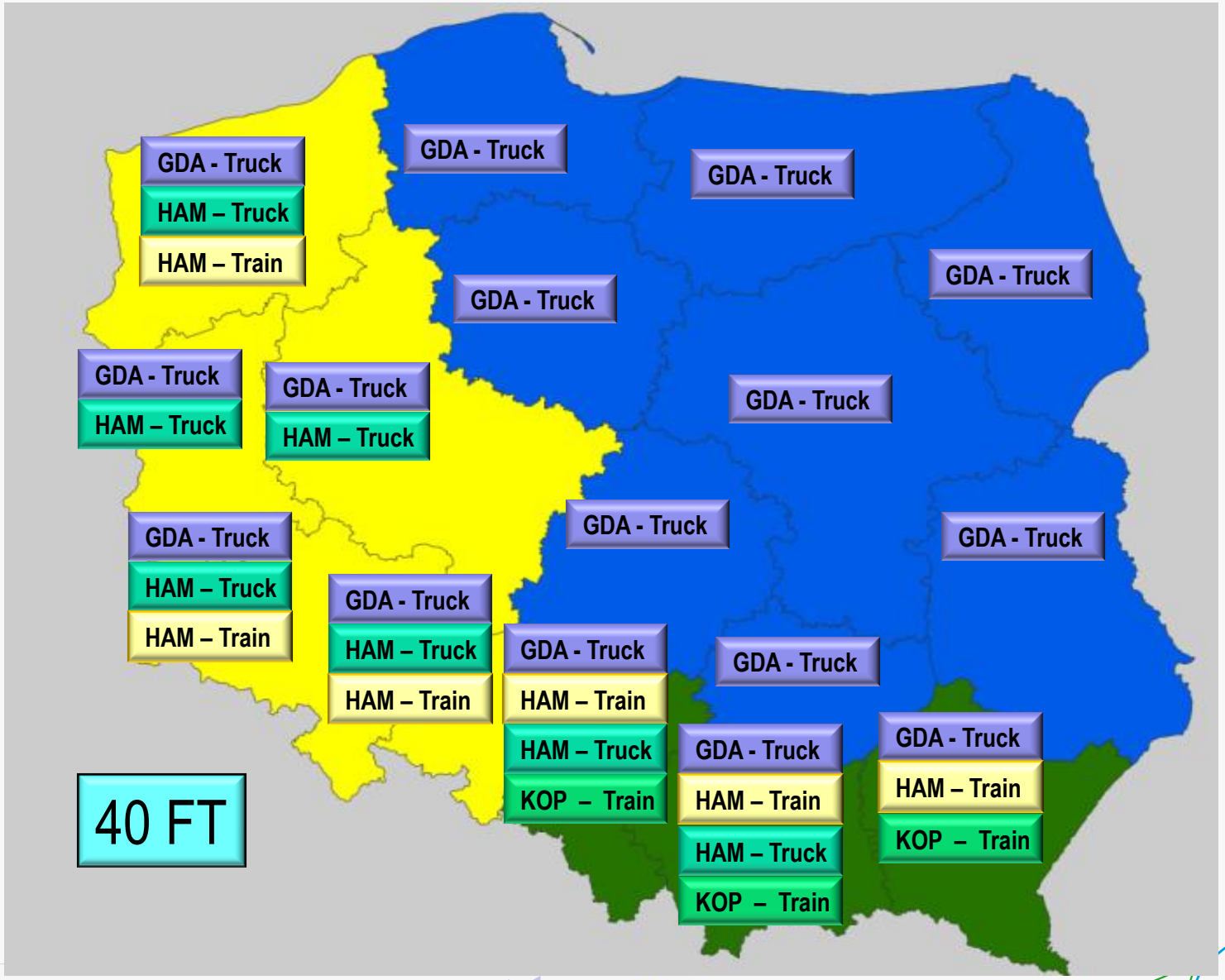
The best modal solutions in transport of containers from the Far East



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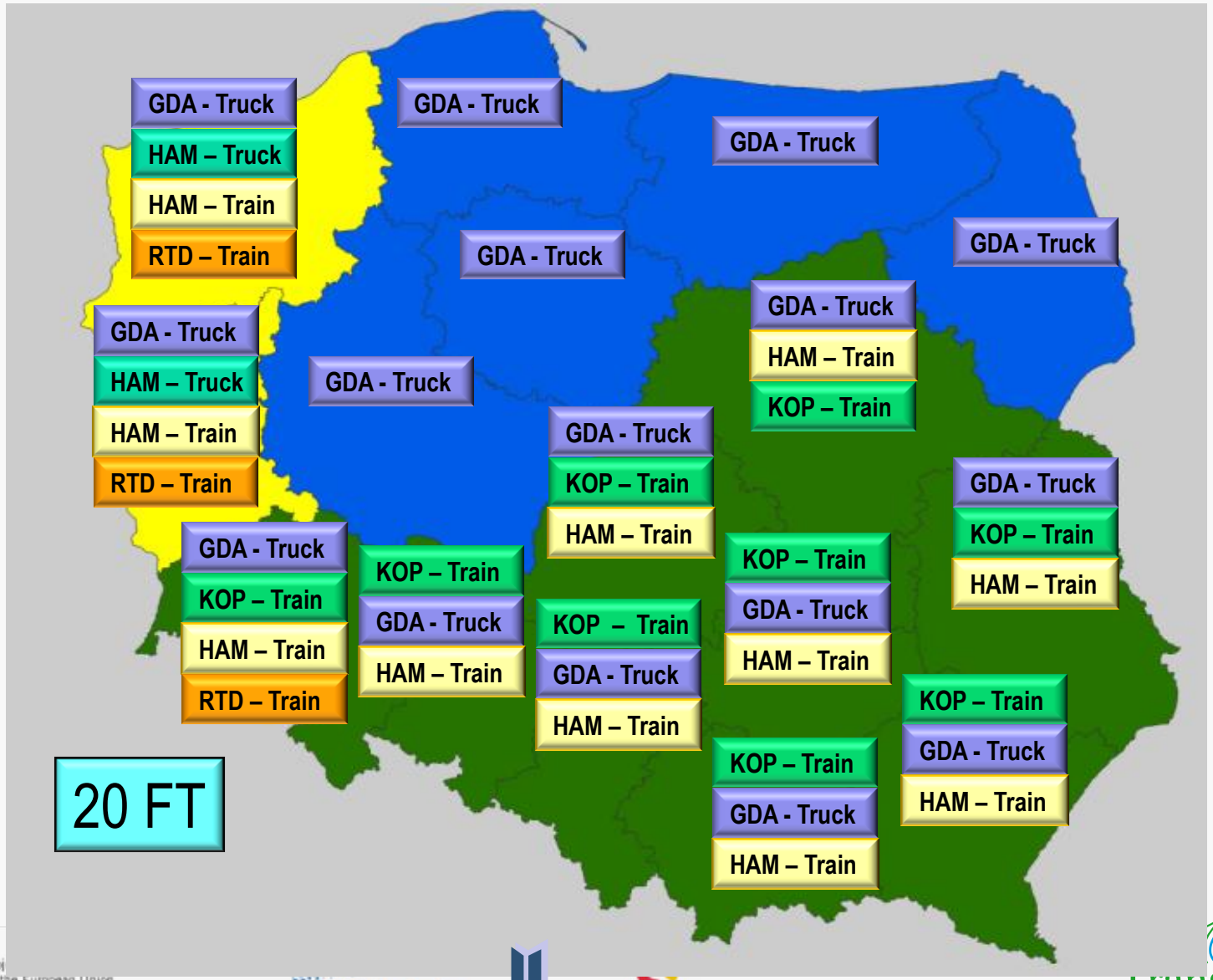
The best modal solutions in transport of containers from the Far East



Limitations of applications of a Journey Planner kind

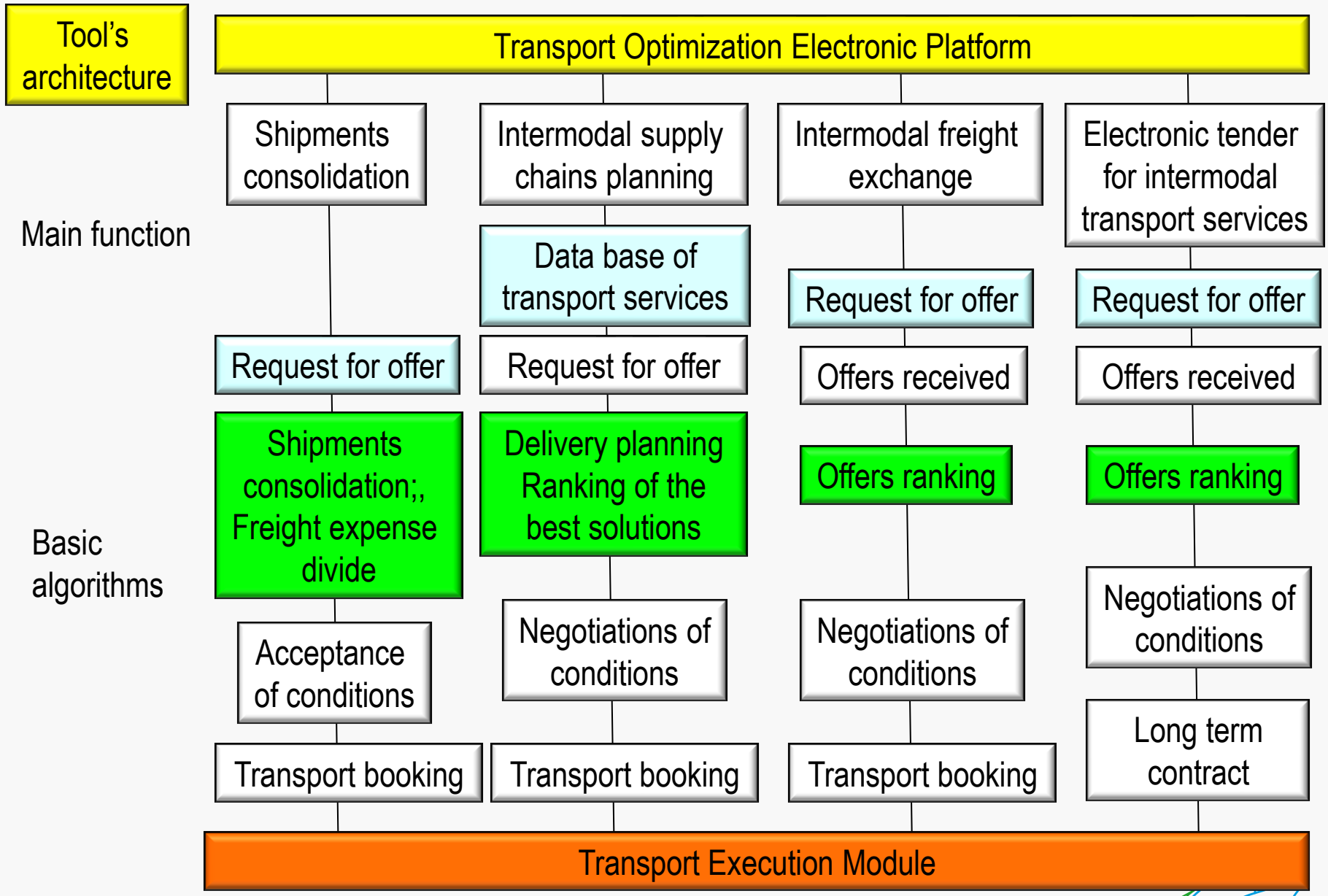
- Unlimited number of locations
- Relatively high margin of error due to not representative indications of freight charges (spot market of road transport, volume discounts in sea and rail transport)
- Lack of negotiation module
- Diversity of communication standards

Tool's deployment bottlenecks sourcing in market attitudes

- Limited availability of data – leading to incomplete database
- Complicated freight market structure (subcontracting , changeable alliances , trade-offs between forwarders and carriers).
- Reluctance of many carriers and freight forwarders to offer their services through open internet platforms (security of sensitive data, market transparency not accepted, direct negotiations preferred)
- Sea and rail carriers' focus on large customers mainly
- SME practically excluded from intermodal transport
- Difficult co-operation of transport operators/competitors within supply chains

Deployment plan milestones

- Selection of transport corridor offering balanced modal competitiveness.
- Convincing the main intermodal operators to sell their services through an open internet platform.
- Reaching agreement with the co-operating transport operators on electronic communication standards, shape of documents and messages business models.
- Provide necessary improvements of the tool's software (negotiation module, consolidation of loads)
- Building database of transport operators active in the corridor and their offers (time schedules and tariffs)
- Selection of a company operating the optimizing ICT tool on commercial basis
- Start of selling intermodal transport services to shippers.



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Tool's architecture

Transport Optimization Electronic Platform

Main function

Basic algorithms

Shipments consolidation	Intermodal supply chain planning	Intermodal freight exchange	Electronic tender for intermodal transport services
T-SCALE	LogIT		
	Data base of transport services	Request for offer	Request for offer
Request for offer	Request for offer	Offers received	Offers received
Shipments consolidation;, Freight expense divide	Delivery planning Ranking of the best solutions	Offers ranking	Offers ranking
Acceptance of conditions	Negotiations of conditions	Negotiations of conditions	Negotiations of conditions
Transport booking	Transport booking	Transport booking	Long term contract

Transport Execution Module

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Recommended supportive action

- Promoting case studies showing intermodal attractiveness and scale of obtainable profits .
- Establishing co-operation of public and private sectors along green corridors in implementing ICT tools for optimization of modal choice.
- Support for creating consortiums of the SME shippers for consolidation of loads to obtain volume discounts from the intermodal operators.
- Implementation of incentives for intermodal carriers implementing promotional conditions for the SME sector.
- Certification of green corridors dependent on the implementation of the modal choice optimization tools.
- Supporting works on standardisation in electronic communication.

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Thank you for your attention

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