TPR
Departement of Transport and Regional Economics
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Logistics operators' requirements for the improvement of the multimodal supply chain

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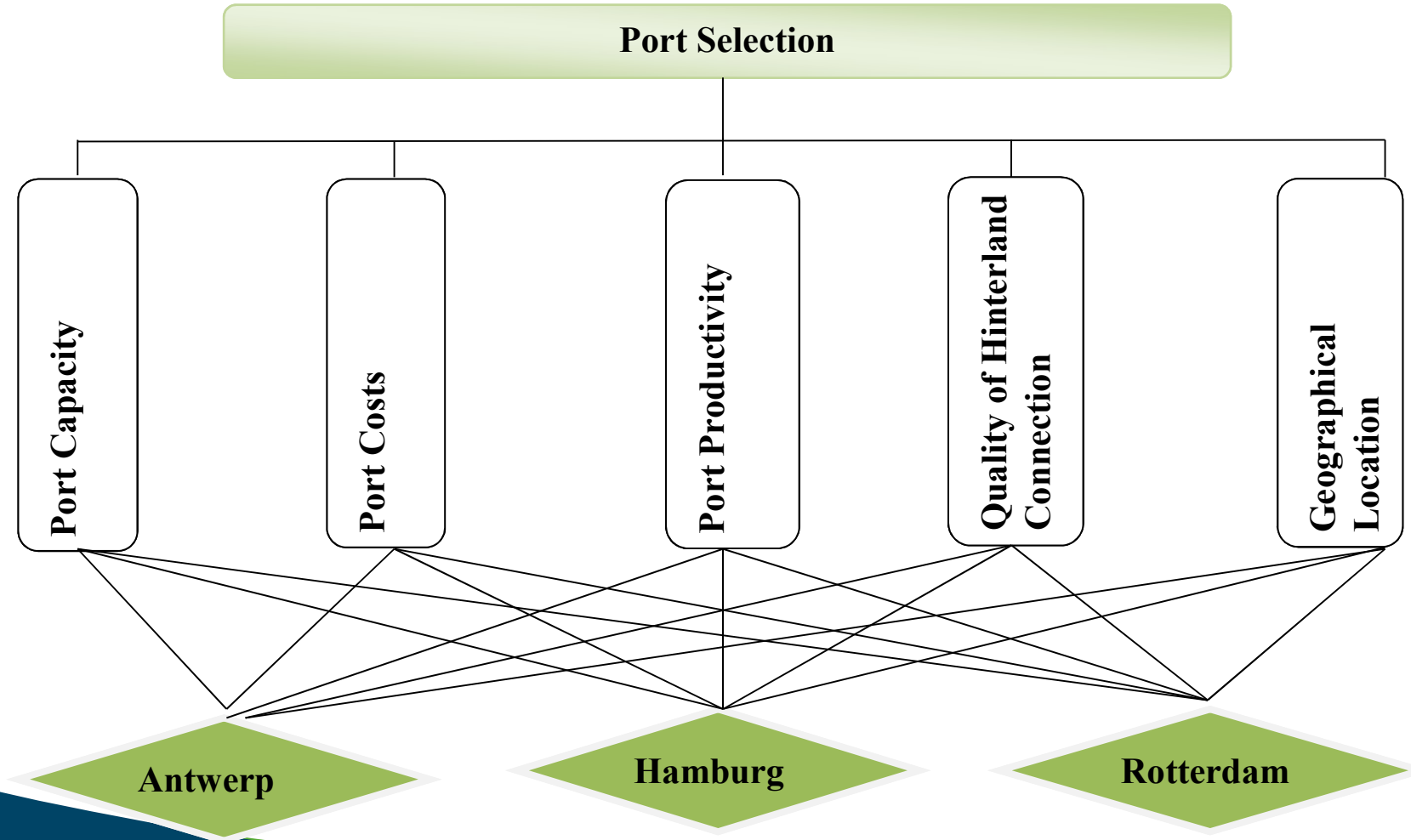
Ranked Criteria Priorities and Ports in Point of View of Each Decision Maker



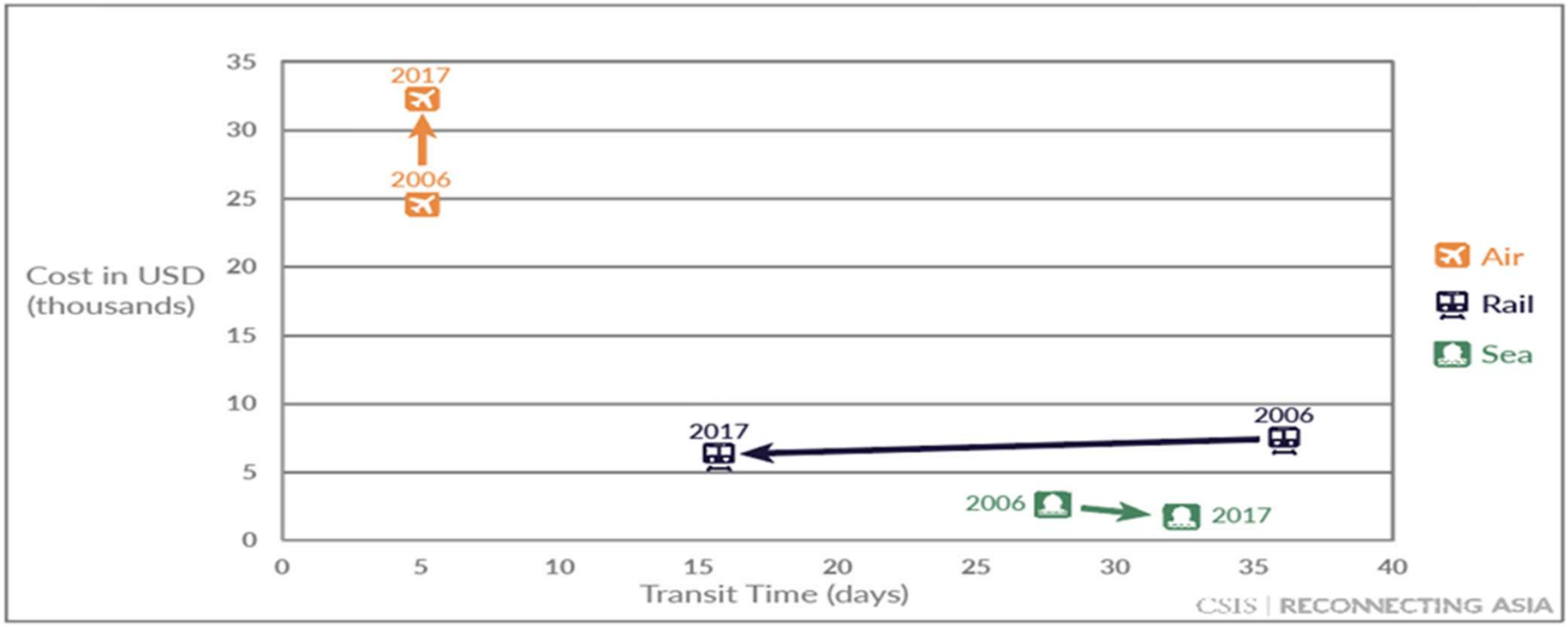
Ranked Criteria Priorities and Ports in Point of View of Each Decision Maker (2)

Ranked criteria priorities and ports in point of view of each decision maker group

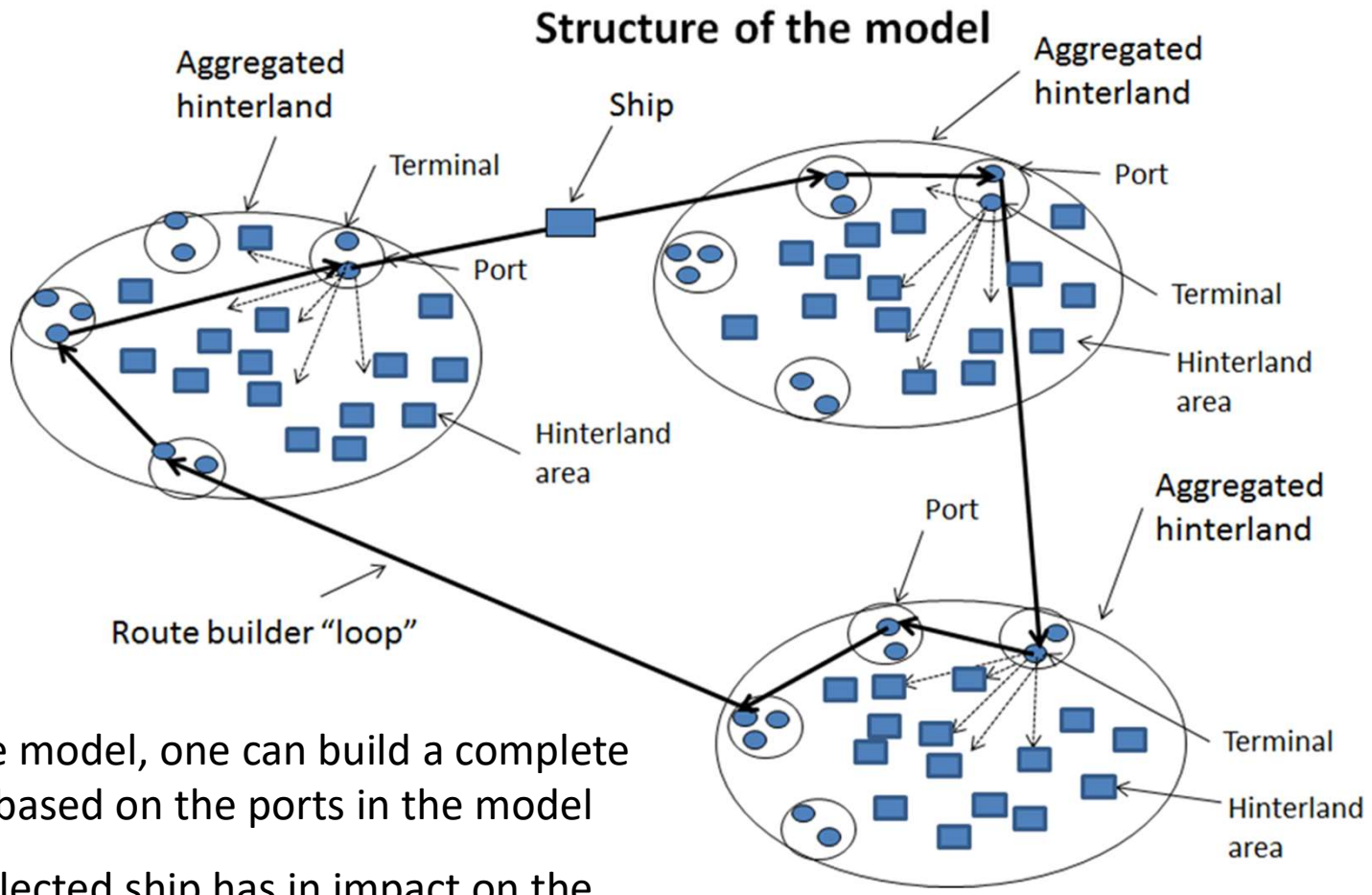
Decision makers groups	Factors priorities					Port ranking
	1	2	3	4	5	
shippers	Port cost	Geographical location	Quality of hinterland connection	Port productivity	Port capacity	Rotterdam (1) Antwerp (2) Hamburg (3)
Ship operators	Port cost	Quality of hinterland connection	Geographical location	Port productivity	Port capacity	Rotterdam (1) Antwerp (2) Hamburg (3)
Freight forwarders	Port cost	Quality of hinterland connection	Port productivity	Geographical location	Port capacity	Rotterdam (2) Antwerp (1) Hamburg (3)

Application: Belt and road

Competitive position of transport modes



TPR Chain Cost Model

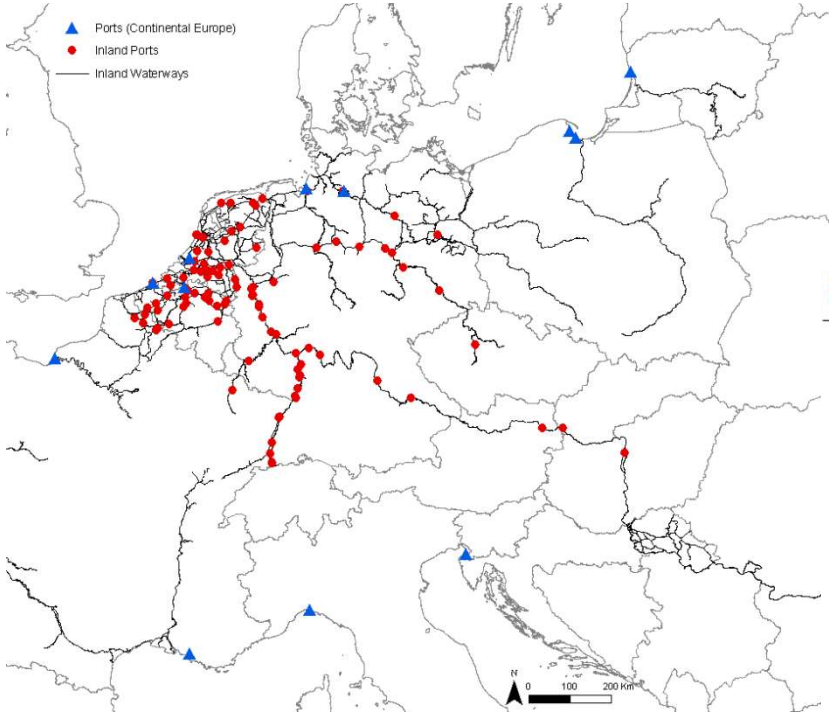


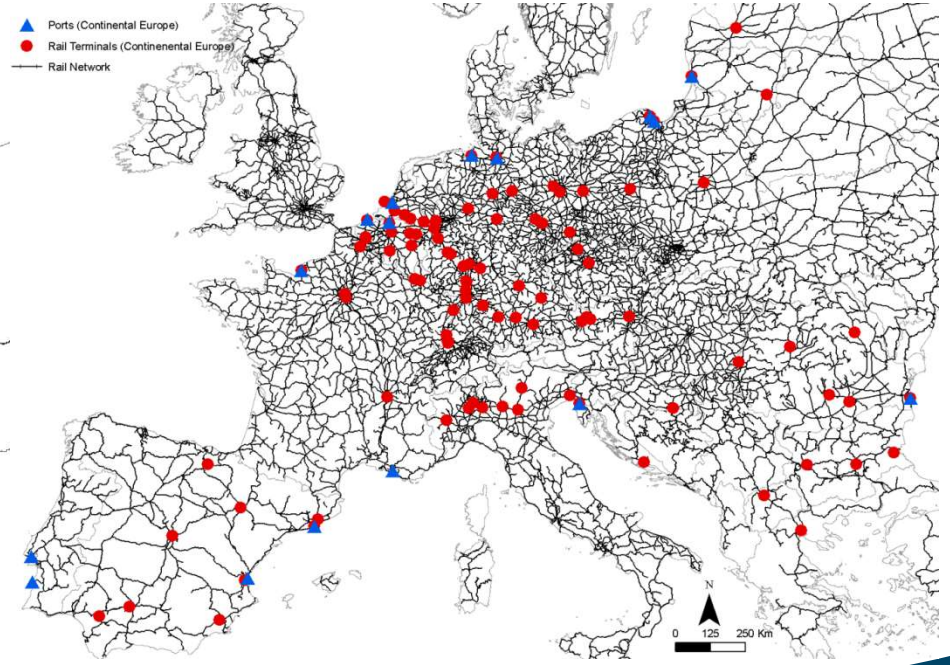
In the model, one can build a complete loop based on the ports in the model

→ Selected ship has in impact on the ports available to use in the loop

TPR Chain Cost Model (2)

Overview of total ports (triangles) and rail and IWT terminals (dots) in the European hinterland

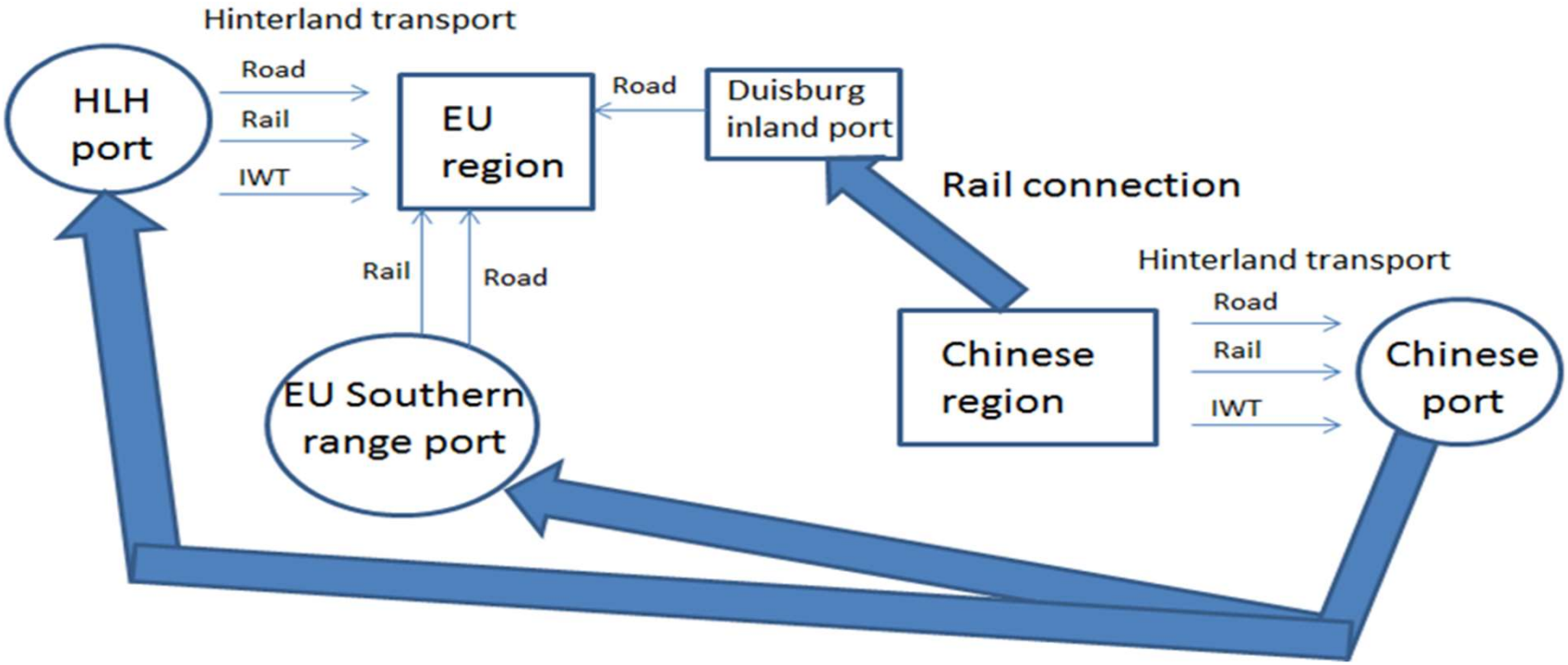




Source: J. Cant (2015)

The BRI scenario's

- The classical maritime route with call at the port in the Hamburg – Le Havre range
- The middle rail connection n°5 via Kazachstan (Khorgos)
- The land-sea route via Trieste



- Chinese cities: Wuhan, Chengdu, Chongqing, Guiyang, Hong Kong, Shanghai and Hangzhou

Calculation results

Main results of the calculations from different origins to Munich (Germany)

	Cost		
	Current route	**New Maritime Route**	**Land based route**
Origin	[EUR/TEU]	[EUR/TEU]	[EUR/TEU]
Chengdu	3,288	2,917	2,318
Chongqing	2,500	2,150	2,000
Wuhan	1,905	1,535	2,245
Guiyang	2,923	2,488	6,906
Hong Kong	1,559	1,180	7,615
Shanghai	1,676	1,306	7,419
Hangzhou	1,625	1,254	2,920

Calculation results (2)

Red: Land based route
Blue: New maritime route

First observation:

- The further the location in China is located away from the major sea ports, the more the use will be made from the land based route

- The new maritime route outperforms the “old route” → shorter sailing time

Thank you for your attention

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