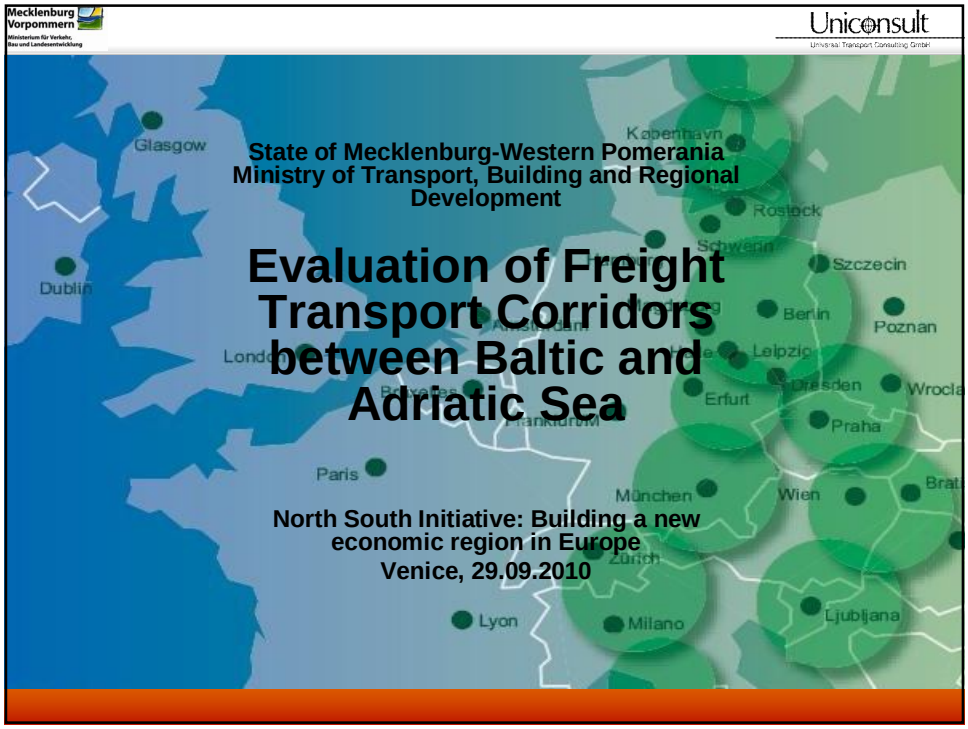


State of Mecklenburg-Western Pomerania
Ministry of Transport, Building and Regional Development

Evaluation of Freight Transport Corridors between Baltic and Adriatic Sea

North South Initiative: Building a new economic region in Europe
Venice, 29.09.2010

UNICONSULT

- Subsidiary of Hamburger Hafen und Logistik AG (HHLA), the largest container terminal operator in the port of Hamburg
- Transport consulting for all modes of transport and their nodes with focus on intermodal transportation
- Almost 300 projects worldwide since 1977
- Main business fields: strategy consulting, project management, market analysis, feasibility studies, infrastructure planning, consulting for logistics operation
- Interdisciplinary team of 13 staff members (business economists, economists, industrial engineers, geographers and political scientist, project assistants)
- External experts and cooperating partners

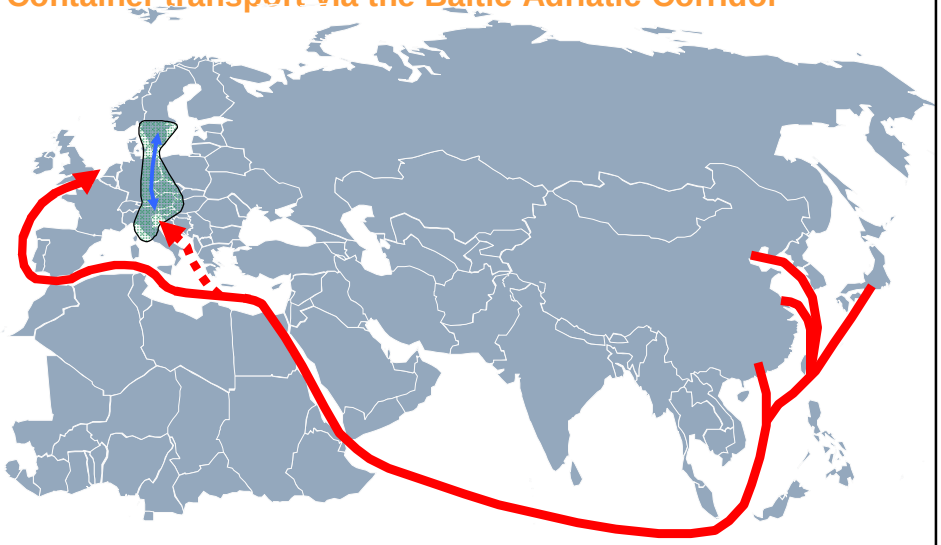
Outline

1. The Baltic-Adriatic-Corridor

Introduction

- The Baltic-Adriatic-Corridor unites important economic regions in Europe
- Direct connection between Scandinavia/Baltic States and Central Europe
- High significance for intra-European freight traffic
- Growth dynamics within the corridor allow positive forecasts for freight potential
- In the long run potential supplement to the ports in the North Range for maritime container traffic between Asia and Europe

Container transport via the Baltic-Adriatic-Corridor



Key-function of Mecklenburg-Western Pomerania

- Ports as interfaces between land- and sea-based transport
- Hinterland connection of the ports of high quality

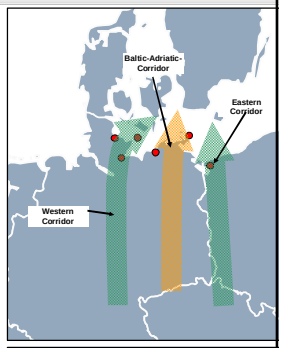
- Railway infrastructure
  - V_{max} 120 km/h, up to 160 km/h
  - Track classification D4

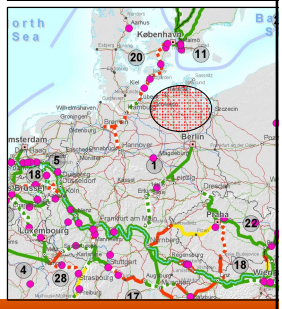
- Road infrastructure
  - Dense trunk road network
  - Low utilization of capacities

Competing corridors

- The Baltic-Adriatic-Corridor is in competition with other corridors
- Main competitors
  - Western Corridor via
    - Lübeck
    - Kiel
    - Fehmarnbelt
  - Eastern Corridor via Swinoujscie (CETC)
- Missing consideration of Mecklenburg-Western Pomerania's infrastructure in the TEN-T!

  ⇒ In the long run disadvantages for the Baltic-Adriatic-Corridor (especially compared to the Western Corridor)





Evaluation of the corridors based on sample relations

- Evaluation criteria
  - Transport costs
  - Transport duration
  - Environmental pollution (CO_2-emissions)
- 4 origin regions (Central Europe)
- 5 destination areas (Baltic Sea Region)
- 7 alternative (detailed) routes
- 2 alternative combinations of transport modes
  - Truck + RoRo
  - Combined Transport (Rail/Road) + RoRo
- Consideration of all theoretically possible and reasonable relations

Definition of the evaluation criteria

- Transport costs
  - Truck: 1,15 €/km plus toll
  - Rail: 0,85 €/km plus handling and pre- and post-haulage
  - RoRo-vessel: Freight rates (also applied to non-existing connections)
- Transport duration
  - Truck: Ø 70 km/h (plus legal driving and rest periods)
  - Rail: Ø 50 km/h (plus waiting time in terminals for combined transport)
  - RoRo-vessel: Transit time based on schedules (plus waiting times in ports)
- Environmental pollution (CO_2-emissions)
  - Truck: 933 g/km
  - Rail: 450 g/trailer-km
  - RoRo-vessel: 1.390 g/trailer-km

Outline

1. The Baltic-Adriatic-Corridor
2. Objectives and Methods
3. Results of the study
4. Conclusion

3. Results of the study

Calculation of transport costs

- The Baltic-Adriatic-Corridor is leading on 14 relations
- Sassnitz is number 1 on 10 relations
- Rostock is the ideal gateway for Gedser-traffic
- Cost advantage for Combined Transport

	Gedser	Trelleborg	Klaipeda	Helsinki	St. Petersburg
Munich	1. Rostock (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)
	2. Rostock (Truck)	2. Rostock (CT)	2. Rostock (CT)	2. Rostock (CT)	2. Rostock (CT)
Vienna	1. Rostock (CT)	1. Sassnitz (CT)	1. Swinoujscie (CT)	1. Swinoujscie (CT)	1. Swinoujscie (CT)
	2. Swinoujscie (CT)	2. Swinoujscie (CT)	2. Sassnitz (CT)	2. Sassnitz (CT)	2. Sassnitz (CT)
Verona	1. Rostock (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)
	2. Travemünde (CT)	2. Rostock (CT)	2. Rostock (CT)	2. Rostock (CT)	2. Rostock (CT)
Prague	1. Rostock (Truck)	1. Sassnitz (CT)	1. Swinoujscie (Truck)	1. Swinoujscie (Truck)	1. Swinoujscie (Truck)
	2. Rostock (CT)	2. Rostock (Truck)	2. Sassnitz (CT)	2. Sassnitz (CT)	2. Sassnitz (CT)

Calculation of transport duration

- The Baltic-Adriatic-Corridor is leading on 16 relations
- Rostock is number 1 on 12 relations
- From Munich/Vienna time advantages for Combined Transport
- From Verona/Prague time advantages for road haulage

	Gedser	Trelleborg	Klaipeda	Helsinki	St. Petersburg
Munich	1. Fehmarnbelt (CT)	1. Sassnitz (CT)	1. Rostock (CT)	1. Rostock (CT)	1. Rostock (CT)
	2. Rostock (CT)	2. Fehmarnbelt (CT)	2. Sassnitz (CT)	2. Sassnitz (CT)	2. Sassnitz (CT)
Vienna	1. Rostock (CT)	1. Sassnitz (CT)	1. Rostock (CT)	1. Rostock (CT)	1. Rostock (CT)
	2. Fehmarnbelt (CT)	2. Rostock (CT)	2. Swinoujscie (CT)	2. Swinoujscie (CT)	2. Swinoujscie (CT)
Verona	1. Rostock (Truck)	1. Sassnitz (Truck)	1. Rostock (Truck)	1. Rostock (Truck)	1. Rostock (Truck)
	2. Fehmarnbelt (Truck)	2. Rostock (Truck)	2. Swinoujscie (Truck)	2. Swinoujscie (Truck)	2. Swinoujscie (Truck)
Prague	1. Rostock (Truck)	1. Sassnitz (Truck)	1. Swinoujscie (Truck)	1. Swinoujscie (Truck)	1. Swinoujscie (Truck)
	2. Sassnitz (Truck)	2. Rostock (Truck)	2. Rostock (Truck)	2. Rostock (Truck)	2. Rostock (Truck)

Calculation of CO_2-Emissions

- The Baltic-Adriatic-Corridor is leading on 14 relations
- Sassnitz is number 1 on 12 relations
- Strength of Sassnitz particularly for east-going traffic
- Less environmental pollution for Combined Transport

	Gedser	Trelleborg	Klaipeda	Helsinki	St. Petersburg
Munich	1. Fehmarnbelt (CT)	1. Fehmarnbelt (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)
	2. Vogelfluglinie (CT)	2. Vogelfluglinie (CT)	2. Swinoujscie (CT)	2. Swinoujscie (CT)	2. Swinoujscie (CT)
Vienna	1. Rostock (CT)	1. Fehmarnbelt (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)
	2. Fehmarnbelt (CT)	2. Sassnitz (CT)	2. Swinoujscie (CT)	2. Swinoujscie (CT)	2. Swinoujscie (CT)
Verona	1. Fehmarnbelt (CT)	1. Fehmarnbelt (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)
	2. Vogelfluglinie (CT)	2. Vogelfluglinie (CT)	2. Swinoujscie (CT)	2. Swinoujscie (CT)	2. Swinoujscie (CT)
Prague	1. Rostock (CT)	1. Fehmarnbelt (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)
	2. Fehmarnbelt (CT)	2. Sassnitz (CT)	2. Swinoujscie (CT)	2. Swinoujscie (CT)	2. Swinoujscie (CT)

Overall result

- Weighting: 40% costs, 40 % environmental pollution, 20 % time
- Baltic-Adriatic-Corridor is leading on 16 relations (thereof 13 x Sassnitz)
- Strength of Sassnitz particularly for east-going traffic
- In total clear advantages for Combined Transport

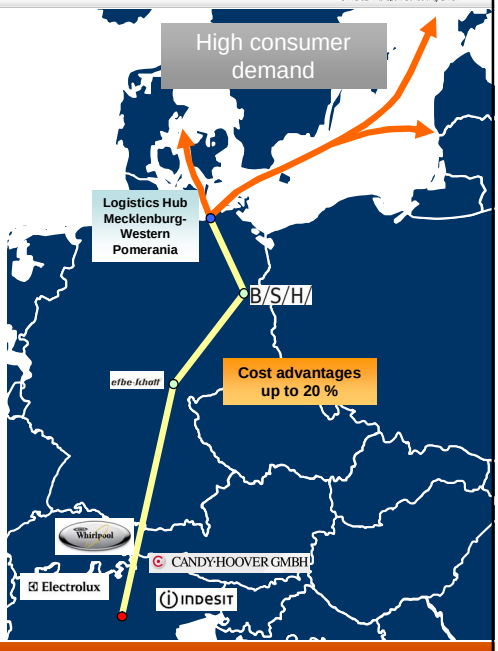
	Gedser	Trelleborg	Klaipeda	Helsinki	St. Petersburg
Munich	1. Fehmarnbelt (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)
	2. Rostock (CT)	2. Rostock (CT)	2. Swinoujscie	2. Rostock (CT)	2. Rostock (CT)
Vienna	1. Rostock (CT)	1. Sassnitz (CT)	1. Swinoujscie (CT)	1. Swinoujscie (CT)	1. Swinoujscie (CT)
	2. Fehmarnbelt (CT)	2. Rostock (CT)	2. Sassnitz (CT)	2. Sassnitz (CT)	2. Sassnitz (CT)
Verona	1. Rostock (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)
	2. Fehmarnbelt (CT)	2. Rostock (CT)	2. Swinoujscie (CT)	2. Rostock (CT)	2. Rostock (CT)
Prague	1. Rostock (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)	1. Sassnitz (CT)
	2. Fehmarnbelt (CT)	2. Rostock (CT)	2. Swinoujscie (CT)	2. Rostock (CT)	2. Swinoujscie (Truck)

Example white goods

Relation:

Northern Italy – Scandinavia/Baltic States

- Producers in Northern Italy e.g.
  - Whirlpool
  - Electrolux
  - Candy Hoover Group
  - Indesit
- More than 400 production facilities (> 35.000 employees, especially Lombardy, Veneto, Emilia Romagna)
- Sharp decline of production of „white goods“ in Scandinavia
  ⇒ high demand for imports



Example automobile suppliers

Relation:

Bavaria – Southern Sweden

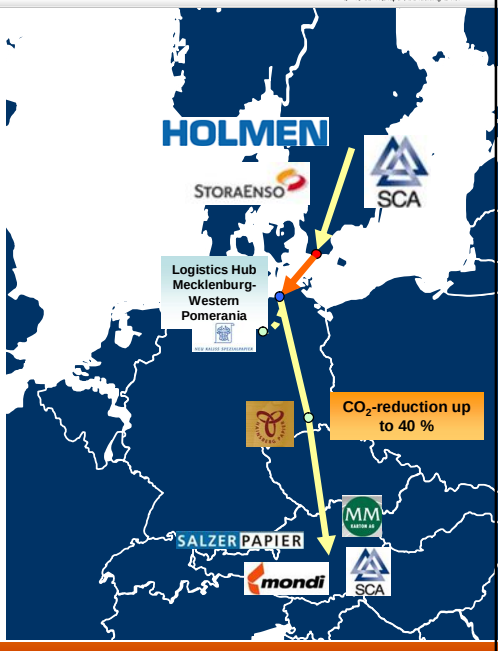
- Suppliers in Bavaria e.g.
  - Bosch
  - Continental
  - Magna
- Car manufacturers in Sweden
  - Volvo
  - Scania
  - Saab
- About 30% of Sweden‘s imported automobile components is from Germany

Example paper industry

Relation:

Sweden – Austria

- Producers in Sweden e.g.
  - SCA
  - StoraEnso
  - Holmen
- Paper- und paper-processing industry in Austria
  - Salzer
  - Mondi
  - Mayr-Melnhof Packaging
- Sweden is Austria‘s largest supplier for cellulose / mechanical pulp and second largest supplier for paper and cardboard (2008)



Consideration of constraints

- Currently no intermodal connections Rail/Road to/from the ports of Sassnitz and Swinoujscie
- The railway-connection to the Port of Swinoujscie's hinterland is of low quality (V_{max} 100 km/h, in parts even 60-80 km/h, track classification D3, in parts even C3); improvement according to market requirements involves high investments
- Efficient CT terminal infrastructure (Rail/Road) is missing in the ports of Sassnitz and Swinoujscie; improvement according to requirements involves high investments
- The following ferry services do currently not exist:
  - Kiel: Gedser, Trelleborg, Helsinki
  - Travemünde: Gedser, Klaipeda
  - Rostock: Klaipeda, St. Petersburg
  - Sassnitz: Gedser, Helsinki
  - Swinoujscie: Gedser, Klaipeda, Helsinki, St. Petersburg

Overall results incl. constraints

- Baltic-Adriatic-Corridor is leading on 13 relations
- Rostock is ideal especially for Gedser-, Trelleborg- and Helsinki-traffic
- Still advantages for Combined Transport

	Gedser	Trelleborg	Klaipeda	Helsinki	St. Petersburg
Munich	1. Fehmarnbelt (CT)	1. Rostock (CT)	1. Kiel (CT)	1. Rostock (CT)	1. Travemünde (CT)
	2. Rostock (CT)	2. Fehmarnbelt (CT)	2. Sassnitz (Truck)	2. Travemünde (CT)	2. Kiel (CT)
Vienna	1. Rostock (CT)	1. Rostock (CT)	1. Kiel (CT)	1. Rostock (CT)	1. Travemünde (CT)
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Verona	1. Rostock (CT)	1. Rostock (CT)	1. Kiel (CT)	1. Rostock (CT)	1. Travemünde (CT)
	2. Fehmarnbelt (CT)	2. Fehmarnbelt (CT)	2. Sassnitz (Truck)	2. Travemünde (CT)	2. Kiel (CT)
Prague	1. Rostock (CT)	1. Rostock (CT)	1. Sassnitz (Truck)	1. Rostock (CT)	1. Sassnitz (Truck)
	2. Fehmarnbelt (CT)	2. Fehmarnbelt (CT)	2. Kiel (CT)	2. Rostock (Truck)	2. Travemünde (CT)

Outline

1. The Baltic-Adriatic-Corridor
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4. Conclusion

1) The Baltic-Adriatic-Corridor is well positioned in comparison to the competing corridors

2) Mecklenburg-Western Pomerania has a good transport infrastructure and a favorable geographic location

3) Freight traffic via the Baltic-Adriatic-Corridor has positive effects on the regional economies on the corridor

4) Shippers in the origin-/destination-regions should be addressed in order to generate additional freight volumes

5) Long-term improvement of the infrastructure is of great importance (e.g. inclusion in TEN-T)
   ⇒ common efforts of all corridor-regions required

Thank you
for your attention

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