The Role of Ports in Intermodal Transport Chains

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The role of ports in intermodal transport chains

Agenda

1. Ports in the Logistics Chain
2. Vertical Integration as Market Strategy
3. Hinterland Transport Network
4. Inland Railway Hub Terminals
5. Benefits from Intermodal Hinterland Transport
6. Environmental Aspects
The role of ports in intermodal transport chains

Maritime Trade Inbound Supply Chain

CFS – Container Freight Station
PLC – Port Logistics Center
DC – Distribution Center

FCL – Full Container Load
LCL – Less than Container Load
FTL – Full Truck Load
LTL – Less than Truck Load
Port: Gateway Function in Logistics Chain

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Example: Transport Chain Far East to Europe

Hamburg → Leipzig (400 km)
80% of costs by about 4% of total distance

Shanghai → Hamburg (20,375 km)
20% of costs by about 96% of total distance

Source: HHLA
Modal Split in the Port of Hamburg
Market Strategy Vertical Integration

Market strategy focusing on:

- High service quality at container terminal
  - Achieve high productivities in quay operations
  - Significantly improve communication flow with customers
  - Increase complementary and value-added services offerings

- High-performance hinterland transportation system
  - Efficient interfaces rail/truck
  - Provision of transportation services by intermodal subsidiary companies
    - Block trains
    - Inland terminals
    - Trucking services
  - Optimized information flow
HHLA Hinterland Transport Network

Together with strategic partners HHLA operates railway companies
- Transfracht
- Metrans
- Polzug

Truck transport services by CTD (100% HHLA owned)

Source: HHLA
Example for Hinterland Transport Chain

Europe’s largest shoe retailer collaborating with HHLA subsidiary railway company (Metrans) in the optimisation of its transport chain from the Port of Hamburg to their retail stores, e.g. in Vienna

- Main transport distance by railway
- “Last mile” by truck

Change in logistics concept for hinterland transport:

2000: 70% of all shoes imported via Antwerp hinterland distribution mainly by truck

2010: 75% via Hamburg / Bremerhaven intermodal hinterland transport (railway / truck)

Source: HHLA

From Hamburg to Vienna

Route taken by Deichmann shoes from the Port of Hamburg to the retail store in Vienna.

Source: HHLA
Development of High Performance Terminal Interfaces
Enable Efficient Hinterland Transport

Rail terminal development
- Final solution: *State-of-the-art on-dock rail facility* to serve full block trains by (partly) integrating adjacent shunting yard
- Interim solution: Container loading on *two existing terminal tracks*, usage of adjacent shunting yard

Truck gate improvement
- **Sufficient capacity**, e.g. 4 truck lanes
- Introduction of *intelligent truck gate solutions*. Examples:
  - Optical character recognition (OCR)
  - Pre-gate procedures (e.g. from off-dock terminal)
  - Video monitoring

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**Development of Inland Terminals as Hubs for Hinterland Traffic**

### Examples (Metrans operated)

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Image</th>
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<tbody>
<tr>
<td>Terminal Prague</td>
<td><img src="image" alt="Terminal Prague" /></td>
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<tr>
<td>Terminal Dunajška-Streda</td>
<td><img src="image" alt="Terminal Dunajška-Streda" /></td>
</tr>
<tr>
<td>Deichmann Distribution centre</td>
<td><img src="image" alt="Deichmann Distribution centre" /></td>
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### Approach

- **Establishment of a comprehensive and high-performing terminal network in the hinterland**
- **Objective:** Transfer of **high service quality** standards from seaports to the hinterland
- **HHLA terminal development currently in progress:**
  - Germany: via Joint Venture with Eurogate
  - Poland: construction in progress, e.g., in Posnan and Katowice
  - Further locations being examined
- **Potential additional terminal locations in the hinterland** (to be decided)
Inland Railway Hub Terminal System

- Increasing rail transport volumes enable port companies to establish inland railway hub terminal (e.g. Polzug Poznan Terminal)

- Cooperation of port companies possible (e.g. Joint Venture HHLA & Eurogate in Germany)

- Additional market potential in Central & Eastern Europe and Russia

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Benefits from Intermodal Hinterland Transport

Benefits

- Lower transport cost
- Less road congestion
- Widening of customer base
- Increase of port’s hinterland coverage
- Improve reliability of transport
- Environmental friendly railway transport
Environmental Aspect of Highly Integrated Logistics Chain

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Management Consulting for the Transport Sector

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Our Focus:
- Ports
  - Container Terminals
  - Bulk Terminals
  - Cruise Terminals
- Logistics Facilities
  - Rail Terminals
  - Inland Ports

Our Clients:
- Private terminal operators, port authorities and public institutions
- Logistics Companies, Banks and private investors
- International organisations such as World Bank, IDB etc.
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