Outlook and challenges for the German rail freight market
Rail Freight: the Thwarted Ambitions of EU

DB Cargo AG
Thorsten Dieter
Service Design
Karlsruhe, 11.03.2016
Market size & development

Rail freight market accounts for 17% of total transport market in Europe – Germany by far largest rail freight market

Transport market Europe
in bn tkm 2014

Total market: 2,439 bn tkm

Rail freight market by country
In bn tkm 2014, selected countries

1 Split down not available
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Recently, rail share declined in Europe and Germany

Rail share on modal split in %

Europe

- Structural changes in Eastern Europe
- Some countries have reduced single wagon traffic significantly

Germany

- DB SR still offers single wagon traffic
- Early liberalization
- Stable industry growth

However in recent years:
- Cooling down of rail affine industries
- Factor cost development favors road transportation

Source: Eurostat, National statistics institutes, Progtrans

1 Europe = EU28 + CH + NO
The rail market didn’t recover since 2007/2008

- Until 2007/2008, the rail freight market was on a clear course of growth
- After financial crisis in 2008 strong recovery, stronger than overall transport market
- Further market drop due to EURO-crisis in 2011
- In recent years only sideway movement of rail freight market

Development of the Rail Freight Market

- 420 (2000)
- 459 (2008)
- 438 (2011)
- 422 (2015)
- Europe
- Germany

Source: Eurostat, national statistical offices, GS market estimate II (June 2015)
Until 2020 all European rail freight markets will grow – highest growth contribution by Germany

Development of rail freight markets
Comparison transport performance 2020 vs. 2015, in %

- Baltic: 3.4
- FR: 2.6
- AT: 2.3
- IT: 2.1
- PL: 1.9
- UK: 1.9
- CZ: 1.8
- SE: 1.7
- HU: 1.7
- FI: 1.5
- RO: 1.4
- ES: 1.3
- CH: 1.3
- SK: 1.1
- SI: 0.7
- BE: 0.5
- BG: 0.4
- DK: 0.2
- NL: 0.0

(South-)Eastern European rail markets develop better than Central European markets

- Reduced coal transports in Central Europe and Poland due to energy changes soften rail freight market development

- Germany with highest absolute growth contribution

Sum: +37.7 bn tkm

Source: GSL analysis based on GS market estimate II 2015
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1 selected countries

Market size & development
Market situation

Using the view of corridors will strengthen the European perception and additionally the rail freight traffic in Europe

RailNetEurope (RNE)

- association set up by a majority of European Rail Infrastructure Managers and Allocation Bodies

- **Target**: enabling fast and easy access to European rail, as well as to increase the quality and efficiency of international rail traffic

- **Challenges**: establishing international market-oriented Rail Freight Corridors (RFCs)
  - strengthening co-operation between Infrastructure Managers on key aspects such as allocation of paths, deployment of interoperable systems and infrastructure development
  - finding the right balance between freight and passenger traffic along the RFCs, giving adequate capacity for freight in line with market needs and ensuring that common punctuality targets for freight trains are met
  - promoting intermodality between rail and other transport modes by integrating terminals into the corridor management process
The nine Rail Freight Corridors are based on market surveys and indicate the main freight traffic flows in Europe.
European Rail Freight Corridors (RFCs) should become drivers for better performance

- Design a real European product
  - Just putting several national products together does not really result in an international product
- Avoid using "killer arguments"
  - "We cannot do this because our rules do not allow us to do so"
- Think what you could do in order to make your rules compatible to the transport needs
  - There might be no unique best solution for the system as a whole, but there is a lot of best practice within the system
- Focus on the advantages of the rail system, but be aware of its disadvantages
  - Shippers don’t care by which mode their goods are transported – they just need reliability.
  - The real business threat comes from the road rather than from other railway undertakings
Since 2010, DB Cargo lost approx. 5.6 bn tkm to foreign incumbents in Germany.

Development of foreign incumbents in Germany

<table>
<thead>
<tr>
<th>Year</th>
<th>Fret SNCF (Captrain)</th>
<th>SBB Cargo Deutschland</th>
<th>Trenitalia Cargo (TXL¹ + OHE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>'10</td>
<td>5.6</td>
<td>3.5</td>
<td>3.6</td>
</tr>
<tr>
<td>'11</td>
<td></td>
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<td>'12</td>
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<tr>
<td>'13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>'14</td>
<td>6.6</td>
<td>6.0</td>
<td>5.7</td>
</tr>
</tbody>
</table>

Rail freight market growth: 1.2%   
DB SR DE growth: -1.8%

Further developments

**Strategy PKP Cargo**: Share of production outside Poland is expected to rise by 2% in 2015 to 22% by 2020.


**Rail Cargo Group** launched on the axle Belgium-Austria a new fast single wagonload product. The "Antwerp Shuttle" Linz-Antwerp v. v. is a direct response of the RCG on the SNCB Logistics Shuttle.

¹ Share of TX Logistik 2014 approx. 90%
Source: Company reports
**Road share dominates in almost all industry segments**

- Only some segments with road share below 60% (i.e. coal & lignite) – however these segments only account for less than 3% of total transport performance on road.

**Highest absolute rail share in intermodal transportation**

### Transport market Germany by mode of transport

2014, In bn tkm

<table>
<thead>
<tr>
<th>Category</th>
<th>Rail</th>
<th>Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry</td>
<td>34</td>
<td>36</td>
</tr>
<tr>
<td>Secondary raw material</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td>Short-life consumer products (incl. paper &amp; paper products)</td>
<td>6</td>
<td>111</td>
</tr>
<tr>
<td>Machinery, transport equipm. long-life consumer products</td>
<td>6</td>
<td>51</td>
</tr>
<tr>
<td>Coal &amp; lignite, crude petroleum, natural gas</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Coke, refined petroleum products</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Chemical products, non-metallic mineral products</td>
<td>12</td>
<td>75</td>
</tr>
<tr>
<td>Basic metals, fabricated metal products</td>
<td>12</td>
<td>40</td>
</tr>
<tr>
<td>Metal ores, mining products</td>
<td>12</td>
<td>32</td>
</tr>
<tr>
<td>Other goods (i.e. containers)</td>
<td>42</td>
<td>89</td>
</tr>
</tbody>
</table>

1 w/o inland waterways; road data preliminary

Source: Destatis, GSE, GSL

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Intermodal competition DB Cargo vs. Road

Both rail and road with competitive advantages

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Competitive strengths</th>
<th>Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass-transport capacity</td>
<td></td>
<td>Rail</td>
</tr>
<tr>
<td>Environmental friendly</td>
<td></td>
<td>Road</td>
</tr>
<tr>
<td>Loading time window</td>
<td></td>
<td></td>
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<tr>
<td>Handling of volume volatility</td>
<td></td>
<td></td>
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<tr>
<td>Network density</td>
<td></td>
<td></td>
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<tr>
<td>Time to market (new relations)</td>
<td></td>
<td></td>
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<tr>
<td>Reliability / Punctuality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long distance (CT,BT)</td>
<td></td>
<td>Rail</td>
</tr>
<tr>
<td>Short distance</td>
<td></td>
<td>Road</td>
</tr>
<tr>
<td>Type of transport good¹</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small volumes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport distance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long distance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short distance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Choice of Combined Transport dependent on transport time, distance, etc.
2 SWT = Single Wagon Train, BT = Block Train, CT = Combined Transport

Source: GSL

DB SR’s strength mainly driven by high mass-transport capacity of rail for bulk goods and long distance transports

Also environmental impact favors rail transportation

Road with competitive advantage for transports with high service requirements (i.e. transport time, reliability, flexibility)
Intermodal competition DB Cargo vs. Road

Crossing borders on rails as easily as on road is a dream – today’s reality is still far from that

End-to-end, driver of any nationality, on any EU lorry, under mandatory driving times and rest periods

Country of origin
- For the formation of the train, different operating regulations of all the involved countries must be considered: braking rules, length + weight
- The standard is the lowest length/weight of train of any of the involved countries
- The locomotive must be equipped with the national train control system

Border Station
- Change of locomotive and driver or:
  - Locomotive has admission for neighbouring country and is equipped with national train control system of that country
  - Hand-over of responsibilities may result in technical inspection

Transit country
- Driver must have knowledge of official language of that country
- Driver must have knowledge of operational procedures of that country

Border Station
- “Same procedure as for previous border station”

Country of destination
- “Same procedure as for transit country”
### Intermodal competition DB Cargo vs. Road

Currently rail freight suffers from considerable disadvantages through regulatory framework conditions

<table>
<thead>
<tr>
<th>Burden</th>
<th>Not affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy</td>
<td>EEG-costs</td>
</tr>
<tr>
<td></td>
<td>+ 300% 2015 vs 2012</td>
</tr>
<tr>
<td></td>
<td>Electricity tax</td>
</tr>
<tr>
<td></td>
<td>Emission trading</td>
</tr>
<tr>
<td>Retrofitting + operating costs silent vehicles</td>
<td>Financial burden through retrofitting, noise surcharges, additional costs for operations</td>
</tr>
<tr>
<td>Access charges/ tolls</td>
<td>Increase of track access charges</td>
</tr>
<tr>
<td>Mineral oil tax</td>
<td>Full mineral oil tax</td>
</tr>
<tr>
<td>ETCS (European Train Control System)</td>
<td>Invest requirement without any added value</td>
</tr>
<tr>
<td>Vehicle dimensions</td>
<td>Technical train length in Germany max. 740 m since 1997, on average 640 m realized</td>
</tr>
<tr>
<td>Road transport benefits from social disparities in the EU</td>
<td>Socio-politically critical and impossible in rail freight</td>
</tr>
<tr>
<td></td>
<td>Locomotive drivers require:</td>
</tr>
<tr>
<td></td>
<td>- Knowledge of language and route</td>
</tr>
<tr>
<td></td>
<td>- Qualification for each locomotive class</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>National / EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
</tr>
<tr>
<td>EU</td>
</tr>
</tbody>
</table>

- Road toll reduction in Germany
- Free of charge on Rhine, Danube, Oder, Elbe, Weser
- Exempted
- Gigaliner with 50% more loading volume in Germany, possibly by 2017
- Max. loading volume increased by 158% since 1998
- Out flagging to MOE-states
- Drivers from MOE-states employed EU-wide under local MOE social conditions
- Increased employment of shipmasters from MOE-states
Intramodal competition DB Cargo vs. third party railway

**Market share of DB Cargo Germany is decreasing since 2000 about 2.4% p.a.**

Market share development of DB Cargo in Germany
In bn. tkm

2 incl. RBH and MEG
Source: DESTATIS, DB Cargo
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Intramodal competition

Competition is intensifying

Intensifying competition

- European expansion of incumbents (e.g. Fret SNCF, PKP Cargo) as well as private RUs\(^1\) (e.g. GFR, AWT)
- Irrational economic behavior leading to continuing losses, especially for large incumbents

Growing asset availability

- Growing wagon, loco and driver leasing market – increasing capacities across Europe
- Modern wagon fleets in private leasing markets
- International use of locomotives

Customers looking for alternatives

- Price increases of incumbents driving customers towards private RUs\(^1\)
- Customers diversify logistics strategy (multiple suppliers)
- Trend towards “commodity tenders”

Increasing excellence

- Competition has reached high quality level and benefit from more flexible resource allocation
- Existing players increasingly leveraging synergies and bundling forces

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1 Railway undertakings
Source: Project “Zukunftsperspektiven SGV”
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Growth of the rail sector is massively influenced by the structural framework in the sector

What could be done for the freight railways?

- Increase productivity by improving the infrastructure on the rail freight corridors (e.g. 740 m-Trains)
- Reduce financial burden by taxes, new regulations, etc.
- Fund investments at RUs for ETCS, silent wagons etc.
- Harmonize the European operation regimes
- Ease the access to neighboring countries (e.g. accept languages from the Neighbor etc.)