Road-Rail Combined Transport: new developments and best practices

54. session of the UNECE Working Party on Intermodal Transport and Logistics


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Director General
Combined Transport - Figures that speak for themselves

1 in 4 European freight trains was a Combined Transport train
- 80BN tkm in 2010, or 28.5% of total rail freight performance
- CT is the most dynamically growing segment of rail freight

400 Terminals connected by nearly 2000 trains a day
- A network that spans the continent

11% of European cargo movements
- Uses Road-Rail Combined Transport

6-7% = long-term average annual growth rate
- Realised by Road-Rail Combined Transport since the late 1990s

75% fewer proportional GHG emissions and 30% less energy needed
- By Road-Rail Combined Transport in comparison with pure-road transport

40-times fewer accidents
- In comparison with road transport
Post-crisis recovery: UIRR figures 2010

### 2010 Summary

- 2008 levels not yet fully achieved
- **Unaccompanied traffic:**
  - Leading roles of the transalpine corridors (around 60% of the total UIRR traffic) with very interesting growth rates on DE/BE/NL to IT
  - Encouraging results on the continuous eastwards extension with SI as gateway country
- **Accompanied traffic**
  - Return-to-growth year (reaching again the golden years between 2000-2003)
  - Both increases on the Swiss and Austrian corridors

### Table: UIRR Figures 2010

<table>
<thead>
<tr>
<th></th>
<th>International</th>
<th></th>
<th>Domestic</th>
<th></th>
<th></th>
<th>Total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2009</td>
<td>2010</td>
<td>% 10-09</td>
<td>2009</td>
<td>2010</td>
<td>% 10-09</td>
<td>2009</td>
</tr>
<tr>
<td>Unaccompanied CT</td>
<td>1 385 659</td>
<td>1 509 152</td>
<td>9%</td>
<td>1 016 710</td>
<td>1 073 461</td>
<td>6%</td>
<td>2 402 369</td>
</tr>
<tr>
<td>Accompanied CT</td>
<td>229 276</td>
<td>250 663</td>
<td>9%</td>
<td>186 704</td>
<td>197 589</td>
<td>6%</td>
<td>415 980</td>
</tr>
<tr>
<td>Total CONSIGNMENTS</td>
<td>1 614 935</td>
<td>1 759 815</td>
<td>9%</td>
<td>1 203 414</td>
<td>1 271 050</td>
<td>6%</td>
<td>2 818 349</td>
</tr>
<tr>
<td>Total TEU</td>
<td>3 229 870</td>
<td>3 519 629</td>
<td>9%</td>
<td>2 406 828</td>
<td>2 542 100</td>
<td>6%</td>
<td>5 636 698</td>
</tr>
</tbody>
</table>
UIRR traffic development 2001-2010

Unaccompanied Transport

- Intermodal Loading units (swap-bodies, containers, semi-trailers)
- 85% of the total UIRR traffic
- Average annual growth of 8% for border crossing
- Importance of the transalpine corridors (55% of the unaccompanied traffic)
Accompanied Transport

- Complete road vehicles on special low-floor wagons
- 15% of the total UIRR traffic
- Significant impacts of the EU enlargement (2005)
- From 158,000 trucks in 1989 to 450,000 vehicles in 2010
- High capacity utilisation (above 90%)
2010 Summary

- Border crossing: 41 million tonnes (+10%) and 33.2 billion TKM (+9%)
  average distance 850 km
- Domestic: 26 million tonnes (+7%) and 9.1 billion TKM (+8%)
  average distance 350 km
UIRR figures 2010: techniques

2010 Summary

- Stable repartition between unaccompanied traffic and RoLa
- Intermodal loading units (swap-bodies, containers, semi-trailers) still the utmost used intermodal techniques
## 2011 Situation – outlook 2012

### 2011 Situation – 1st Semester 2011

<table>
<thead>
<tr>
<th></th>
<th>Unaccompanied</th>
<th>Accompanied</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>National</td>
<td>+5%</td>
<td>-24%</td>
<td>-4%</td>
</tr>
<tr>
<td>International</td>
<td>+15%</td>
<td>+13%</td>
<td>+14%</td>
</tr>
</tbody>
</table>

### Outlook - 2nd semester 2011

**2012 (UIRR Sentiment Index)**

**Causes**
- Financial & economic situation
- Infrastructure works (Brenner)
- Quality, pricing
- Lack of pocket wagons
UIRR QMS: EVOLUTION 1999 - 2011

(Source: INTERUNIT + estimations of the UIRR office)
Main problems: Infrastructure bottlenecks in the conventional rail system, mainly on major corridors

### Main Results: UIRR QMS - S1.2011

<table>
<thead>
<tr>
<th>Category</th>
<th>2010 (6 months)</th>
<th>2011 (6 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Punctual</td>
<td>65%</td>
<td>71%</td>
</tr>
<tr>
<td>&gt; 3 hours</td>
<td>17%</td>
<td>14%</td>
</tr>
<tr>
<td>&gt; 24 hours</td>
<td>3%</td>
<td>2%</td>
</tr>
</tbody>
</table>

(Source: INTERUNIT + estimations of the UIRR office)
Key Elements

• Overall policy goal: towards a low-carbon, competitive economy limiting climate change to 2 °C.
• Transport accounts for around one quarter of EU CO2 emissions
• Transports depends nearly entirely on oil 96% and 30% of final energy consumption. Decrease oil dependency
• Prices do not reflect true costs: cheap for users, expensive to society
• Overall target of reducing GHG emissions be 80% by 2050
• Transport related emissions of CO2 by 60% by 2050 compared to 1990
• Rigorous standards and encourage modal shift
• 30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050

Conclusion of UIRR

Catalogue of good intentions - Implementation plan is missing
Traffic shift to rail is by far the most effective measure to reduce CO₂ emissions
Transport modes maximise their productivity

Also in Europe we need: longer and heavier trains and higher axle load

<table>
<thead>
<tr>
<th>Performance measures</th>
<th>Max</th>
<th>Top</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max train length (m)</td>
<td>3,050 (10,000')</td>
<td>1,830 - 2,440 (6-8,000')</td>
<td>1,340 (4,400')</td>
</tr>
<tr>
<td>Max speed (km/h)</td>
<td>113</td>
<td>96</td>
<td>-</td>
</tr>
<tr>
<td>Max axle weight (tonnes)</td>
<td>31.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

↔ Trains in the USA
↓
Maximise volume and payload

Better use of capacity: CT operators, RU
+ Network: capacity management software
+ Terminal management software and automation
+ Processes, ILU-Code, OCR, …

Adapt main freight lines: Member States / IM
+ train length 750 m (1500m)
+ train weight 1500 t (2000t or more)
+ axle load 25 t at 100 km/h
+ rail gauge GB+ or GC
+ priority for freight on certain lines
+ ERTMS
THANK YOU FOR YOUR ATTENTION!

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