Intermodal Round Table and Road Map for Hungary

Uwe Sondermann, KombiConsult GmbH
Niklas Galonske, HaCon Ing. mbH

Budapest, 16 October 2013
Hannover/Frankfurt am Main, 27 June 2014 (final version)

COSMOS Project

Objectives

- Fostering the development of (combined) intermodal transport in South-East Europe
- Cooperative Solutions for Managing Optimized Services (COSMOS)
- www.intermodal-cosmos.eu
- Co-financed by the European Commission in the framework of a Marco Polo Common Learning Action
Partners

<table>
<thead>
<tr>
<th>Company</th>
<th>Country</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>KombiConsult</td>
<td>Germany</td>
<td>Consultancy</td>
</tr>
<tr>
<td>Adria Kombi</td>
<td>Slovenia</td>
<td>Intermodal Operator</td>
</tr>
<tr>
<td>Bohemiakombi</td>
<td>Czech Republic</td>
<td>Intermodal Operator</td>
</tr>
<tr>
<td>Crokombi</td>
<td>Croatia</td>
<td>Intermodal Operator</td>
</tr>
<tr>
<td>DB Schenker Austria</td>
<td>Austria</td>
<td>Logistics Service Provider</td>
</tr>
<tr>
<td>DB Schenker Bulgaria</td>
<td>Bulgaria</td>
<td>Railway Undertaking</td>
</tr>
<tr>
<td>DB Schenker Romania</td>
<td>Romania</td>
<td>Railway Undertaking</td>
</tr>
<tr>
<td>Ecologistics (until 08/2013)</td>
<td>Bulgaria</td>
<td>Terminal Operator</td>
</tr>
<tr>
<td>GYSEV CARGO / RAABERBAHN CARGO</td>
<td>Hungary / Austria</td>
<td>Railway Undertaking</td>
</tr>
<tr>
<td>HaCon</td>
<td>Germany</td>
<td>Consultancy, IT</td>
</tr>
<tr>
<td>Lokomotion</td>
<td>Germany</td>
<td>Railway Undertaking</td>
</tr>
<tr>
<td>Slovenian Railways</td>
<td>Slovenia</td>
<td>Railway Undertaking</td>
</tr>
<tr>
<td>TRANS EXPRESS (since 09/2013)</td>
<td>Bulgaria</td>
<td>Forwarder, Terminal Operator</td>
</tr>
</tbody>
</table>

Promoting and disseminating intermodal transport

- Promoting intermodal transport as such, and in particular supporting schemes for modal shift to (intermodal) rail services (administrative, fiscal, technical, financial measures) towards targeted stakeholders (market parties, operational partners and political/public stakeholders)

- Dissemination of project results (“promoting campaign”):
  - Round tables,
  - Final seminar,
  - Knowledge platform ([www.intermodal-cosmos.eu](http://www.intermodal-cosmos.eu)),
  - Other measures such as press releases and COSMOS presentations at conferences and seminars
Series of Round Tables

- 1st Round Table Slovenia April 2013
- 2nd Round Table Czech Republic September 2013
- 3rd Round Table Hungary October 2013
- 4th Round Table Romania December 2013
- 5th Round Table Bulgaria 25 February 2014
- Final Conference Austria June 2014

Round Table / INPUT FROM PARTICIPANTS

Co-ordinate the findings and innovative ideas of the nucleus partners and CREAM and DIOMIS studies
## Round Table Hungary

### Participants

<table>
<thead>
<tr>
<th>Type</th>
<th>Institution</th>
<th>Contact Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorities</td>
<td>Ministry of National Development</td>
<td>Lőrinc CZAKÓ</td>
</tr>
<tr>
<td></td>
<td>National Transport Authority</td>
<td>Excused</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>GYSEV Zrt.</td>
<td>Andrea MOSSÓCZI</td>
</tr>
<tr>
<td></td>
<td>MÁV Zrt.</td>
<td>Péter RÖNÁI</td>
</tr>
<tr>
<td>Freight Transport</td>
<td>NWRT Rail Hungary Zrt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CER Hungary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DB Schenker Rail Hungary Kft.</td>
<td>Represented by Schenker Kft.</td>
</tr>
<tr>
<td></td>
<td>Floyd Szolgáltató Zrt.</td>
<td>Represented by Eurogate Intermodal</td>
</tr>
<tr>
<td></td>
<td>GYSEV CARGO Zrt.</td>
<td>Gábor MÁRTA, Péter LÉVAY, Péter KÖNig, Judit ZSOLDOS</td>
</tr>
<tr>
<td></td>
<td>LTE Hungária Kft.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MÁV Zrt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rail Cargo Hungary Zrt.</td>
<td>Péter Balázs MOLNÁR</td>
</tr>
<tr>
<td>Terminal Operators</td>
<td>Train Hungary Kft. / Grampot Cargo</td>
<td>Tamás SZÁSZ</td>
</tr>
<tr>
<td></td>
<td>BILK Kombiterminal Zrt.</td>
<td>István HUSZTI</td>
</tr>
<tr>
<td></td>
<td>Mahart Container Center</td>
<td>Zoltán FÁBIÁN</td>
</tr>
<tr>
<td></td>
<td>Rail Service Hungary Kft.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tornaállomás Kombiterminal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ZÁHONY-PORT Zrt.</td>
<td>László HAJDU</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type</th>
<th>Institution</th>
<th>Contact Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermodal Operators</td>
<td>Adria Kombi</td>
<td>Janož MERLÁK</td>
</tr>
<tr>
<td></td>
<td>Eurogate Intermodal</td>
<td>Péter VETTERMANN</td>
</tr>
<tr>
<td></td>
<td>Inter Ferry Boats N.V.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kombinerkft GmbH &amp; Co. KG</td>
<td>Excused</td>
</tr>
<tr>
<td></td>
<td>Meltrans Danubia Kft.</td>
<td>Excused</td>
</tr>
<tr>
<td></td>
<td>Naximart / Intargail Group</td>
<td>György FYRBJÁS</td>
</tr>
<tr>
<td></td>
<td>Rail Cargo Operator</td>
<td>Gábor SPELLENBERG</td>
</tr>
<tr>
<td></td>
<td>Schenker Kft.</td>
<td>Krisztián KOPP</td>
</tr>
<tr>
<td>Other</td>
<td>MÁTRI Zrt.</td>
<td>Vilmos HAJDÚ, Endre GEDA</td>
</tr>
<tr>
<td></td>
<td>HUNGRAIL – Hungarian Rail Association</td>
<td>Excused</td>
</tr>
<tr>
<td></td>
<td>Port of Koper</td>
<td>Gordon BAN</td>
</tr>
<tr>
<td></td>
<td>MAERSK Hungary Kft.</td>
<td></td>
</tr>
<tr>
<td>COSMOS Coordinators</td>
<td>COSMOS KombiConsult GmbH</td>
<td>Uwe SONDERMANN</td>
</tr>
<tr>
<td></td>
<td>HaCon Ing. GmbH</td>
<td>Niklas GALONSKE</td>
</tr>
</tbody>
</table>
Round Table Hungary

Methodology

- Discuss recent achievements, status quo and future prospects of intermodal transport in Hungary
- Achieve a consent about the growth perspective and coordinate regulative, financial and operational measures that will be necessary to foster the increase of intermodal rail services
- Identify relevant actors and time horizons for the realization of the intermodal strategy
- Summarize a “road map on intermodal transport” in Hungary

Road Map

Objectives

- Assessment of development of combined transport in countries selected by 2015/2020
- Evaluation of threats to and requirements for CT growth
- Elaboration of strategic development plan on CT
- Assessment of impact on rail infrastructure and CT terminal capacities in countries selected and central Europe
## Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00</td>
<td>Welcome and Introduction</td>
</tr>
<tr>
<td>10:10</td>
<td>Status-quo of the intermodal sector in Hungary</td>
</tr>
<tr>
<td>10:45</td>
<td>Discussion by topic (1):</td>
</tr>
<tr>
<td></td>
<td>- Rail Infrastructure</td>
</tr>
<tr>
<td></td>
<td>- Terminals</td>
</tr>
<tr>
<td>11:30-11:45</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:45</td>
<td>Discussion by topic (2):</td>
</tr>
<tr>
<td></td>
<td>- Intermodal Services</td>
</tr>
<tr>
<td></td>
<td>- Special Case of Rolling Motorway</td>
</tr>
<tr>
<td></td>
<td>- Incentive Schemes</td>
</tr>
<tr>
<td>13:15-14:15</td>
<td>Joint Lunch</td>
</tr>
<tr>
<td>14:15</td>
<td>Continued Discussion and Actions</td>
</tr>
<tr>
<td>15:30</td>
<td>Conclusions</td>
</tr>
</tbody>
</table>
Analysis of current CT market

Geographical location of Hungary within Europe

Favourable location on the cross-roads between Western Europe, Balkan states, South-East-European countries and Ukraine.

Source: HaCon analysis

Analysis of current CT market

General country information - Hungary

- Area: 93,036 sqm
- Population: ~9,967 million
- Density of population: ~107,5/sqm (Germany: 229)
- Most city population:
  1. Budapest 1,690,000
  2. Debrecen 225,000
  3. Miskolc 180,000
  4. Szeged 165,000
- Geographical features:
  - An elevation of fewer than 200m
  - Two major rivers (Danube and Tisza)
  - Central Europe’s largest freshwater lake (Lake Balaton)
  - The Danube river divides Hungary in three main geographic regions:
    1. “Great Alföld”,
    2. “Transdanubia”,
    3. “North Hungarian Mountains”

Analysis of current CT market

General country information - Hungary

- GDP Evolution (2007-2012)
  ![GDP Chart]
  - Forecast: 2013, 2014
  - Billion Euro: 2007 (99.4), 2008 (105.5), 2009 (91.4), 2010 (96.2), 2011 (98.9), 2012 (96.9), 2013 (98.1'), 2014 (103.1')
  - Growth in %: 2007 (0.1%), 2008 (0.9%), 2009 (-6.8%), 2010 (1.1%), 2011 (1.6%), 2012 (-1.7%), 2013 (0.2'), 2014 (1.4')

- Gross Domestic Product 2012 (current prices):
  - 28,048 billion HUF (96.9 billion Euro)

- Main sectors [Share of 2012 GDP]:
  - Services 55%
  - Manufacturing / Mining 23%
  - Construction 3%
  - Agriculture 3%

GDP stable; only partial recovery after huge losses in 2009 due to financial crisis. Manufacturing industry e.g. automotive offers good opportunities for intermodal transport.

Source: KSH (Hungarian Central Statistical Office), Eurostat, HaCon/KombiConsult analysis

Analysis of current CT market

Roles in the physical transport (supply- and value-) chain

- Road-only transport
- Door-to-Door

Source: KombiConsult analysis
Analysis of current CT market

Roles in the physical transport (supply- and value-) chain

- Combined transport operators (OP) supplying mostly multi-user CT services on account of third parties
- Logistics service providers (LSP) such as forwarding agents or shipping lines operating dedicated or multi-user CT services
- Railway undertakings (RU) providing proprietary CT services in addition to rail traction services
- Shippers, terminal and port operators (Others) supplying CT services to strengthen core business and/or distribution logistics

Page 17  Source: KombiConsult analysis; 2012 Report on Combined Transport in Europe

Analysis of current CT market

Infrastructure manager(s)

- The public rail network is managed by two railway companies:
  - MÁV Co. (~ 7,427 km → 94%), fully owned by the Hungarian state
  - GYSEV Zrt. (433 km → 6%), managing one of the two major rail links between Hungary and Austria

- Hungarian state has established the independent authority Vasúti Pályakapacitás-élátó Kft. (VPE) for a non-discriminatory allocation of train paths

- VPE is also responsible for developing and publishing the network statement of infrastructure managers and determining network access charges

Page 18  Source: DIOMIS Country Report on Hungary, 2010; MÁV; GYSEV
## Analysis of current CT market

### Infrastructure manager(s)

Train path allocation process for intermodal services in Hungary

![Diagram showing train path allocation process](source: KombiConsult based on Zsák J.: Development of the Hungarian Railway Network. Railway Market N° 4-2008.)

### Analysis of current CT market: freight traffic

#### Development of freight volume and performance, 2001/12

<table>
<thead>
<tr>
<th>Year</th>
<th>Transported goods [million tonnes]</th>
<th>Of which</th>
<th>Performance [billion tonne]</th>
<th>Of which</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>rail transport</td>
<td>road transport</td>
<td>waterway transport</td>
<td>transp. by pipeline</td>
</tr>
<tr>
<td>2001</td>
<td>207.0</td>
<td>50.1</td>
<td>129.9</td>
<td>2.9</td>
</tr>
<tr>
<td>2002</td>
<td>293.8</td>
<td>50.3</td>
<td>217.0</td>
<td>3.0</td>
</tr>
<tr>
<td>2003</td>
<td>314.0</td>
<td>50.8</td>
<td>228.9</td>
<td>8.4</td>
</tr>
<tr>
<td>2004</td>
<td>338.6</td>
<td>54.7</td>
<td>250.8</td>
<td>7.3</td>
</tr>
<tr>
<td>2005</td>
<td>311.5</td>
<td>53.9</td>
<td>243.2</td>
<td>8.4</td>
</tr>
<tr>
<td>2008</td>
<td>343.9</td>
<td>51.5</td>
<td>258.3</td>
<td>8.8</td>
</tr>
<tr>
<td>2009</td>
<td>303.0</td>
<td>42.2</td>
<td>229.8</td>
<td>7.7</td>
</tr>
<tr>
<td>2010</td>
<td>280.0</td>
<td>45.7</td>
<td>199.8</td>
<td>9.9</td>
</tr>
<tr>
<td>2011</td>
<td>268.5</td>
<td>47.4</td>
<td>182.8</td>
<td>7.1</td>
</tr>
<tr>
<td>2012</td>
<td>248.9</td>
<td>46.1</td>
<td>165.5</td>
<td>8.1</td>
</tr>
</tbody>
</table>

- **Total**: Export: 191.6, Import: 96.4
- **International**: Export: 92.6, Import: 94.3
- **National**: Export: 155.3, Import: 100.1

**Source:** KSH (Hungarian Central Statistics Office)
Analysis of current CT market

Freight transport performance (Million tkm), 2000-2011

Over the period 2000-2011 “road transport has been the only mode of transport with a clearly upward trend. The performance of other modes of transport has stagnated.”

Source: National Transport Strategy of Hungary (draft version for public discussion 10/2013);

Analysis of current CT market

Freight transport volumes (Million tonnes), 2006-2013

Continuous decrease of transport volumes since beginning of economic crisis in 2009. Dominance of road transport (70-80% of total transport volume excluding pipelines) over rail and inland waterways.

Source: KSH (Hungarian Central Statistics Office); HaCon/KombiConsult analysis
Analysis of current CT market

Freight railway undertakings: Market shares (turnover)

<table>
<thead>
<tr>
<th>2009</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>MÁV Cargo</td>
<td>Rail Cargo Hungaria 66,6%</td>
</tr>
<tr>
<td>GYSEV</td>
<td>GYSEV CARGO 11,6%</td>
</tr>
<tr>
<td>MMV</td>
<td>MMV 4,1%</td>
</tr>
<tr>
<td>Eurocom</td>
<td>Floyd 4,1%</td>
</tr>
<tr>
<td>CER</td>
<td>Train Hungary 3,6%</td>
</tr>
<tr>
<td>Floyd</td>
<td>CER 3,0%</td>
</tr>
<tr>
<td>Train Hungary</td>
<td>AWT 2,2%</td>
</tr>
<tr>
<td></td>
<td>PSŽ 1,3%</td>
</tr>
<tr>
<td></td>
<td>LTE 1,3%</td>
</tr>
</tbody>
</table>

Increasing number of RUs; challenging the incumbent’s market share, but also competing with each other.

Source: 2009: Railwaypro.com, Hungarian railway transportation market of 2009 (30 May 2013)
Source: 2012: KSH (Hungarian Central Statistics Office)

Analysis of current CT market

Rail freight transport volumes (million tonnes), 2001-2013

Rail freight transport volumes mainly related to international relations; recovery of volumes after drop-down in 2009; Domestic rail freight volumes continuously decreased.

Source: KSH (Hungarian Central Statistics Office)
Analysis of current CT market

Rail freight transport performance (million tkm), 2001-2013

Source: KSH (Hungarian Central Statistics Office)

Analysis of current CT market

Rail freight transport volumes (share per transport directions)

DOMESTIC RAIL FREIGHT TRAFFIC
- Transit: 21%
- Inland: 25%

INTERNATIONAL RAIL FREIGHT TRAFFIC
- Import: 28%
- Export: 26%

Major shares are related to international relations, equally shared between import, export and transit traffic.

Source: National Transport Strategy of Hungary (draft version for public discussion 10/2013); based on KSH, 2010
Analysis of current CT market

Development of rail freight transport – summary & conclusions

- Rail freight accounts for some 20% of the total transport volumes compared to 75% for road transport (in the year 2013).
- Increase of rail transport flows (tonnes and tonne kilometres) mainly related to international connections
- Drop-down in rail freight transport between 2008 and 2009 due to economic crisis. In contrast to road transport rail transport volumes have been almost fully recovered since then.

Source: HaCon/KombiConsult analysis

Analysis of current CT market

Intermodal Operators (alphabetical order)

- Adria Kombi
- Alpe Adria S.p.A.
- Eurogate Intermodal GmbH
- GYSEV CARGO Zrt.
- Hupac Intermodal SA
- Integrail / Navismart
- Inter Ferry Boats N.V.
- Kombiverkehr GmbH & Co. KG
- Maersk Line
- Metrans Danubia Kft.
- Rail Cargo Operator

Source: KombiConsult analysis
### Analysis of current CT market

#### Intermodal Transport 2011 [TEU]

<table>
<thead>
<tr>
<th>Category</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unaccompanied CT</td>
<td>560,000</td>
</tr>
<tr>
<td>thereof National</td>
<td>1,000</td>
</tr>
<tr>
<td>International</td>
<td>391,000</td>
</tr>
<tr>
<td>Transit</td>
<td>168,000</td>
</tr>
<tr>
<td>Accompanied CT (RoLa)</td>
<td>72,000</td>
</tr>
<tr>
<td>Total</td>
<td>632,000</td>
</tr>
</tbody>
</table>

Source: Report on Combined Transport 2012; KombiConsult analysis

#### Intermodal transport by country (2011)

- **33%** Germany
- **36%** Italy
- **17%** Turkey

Major trade lanes are served by intermodal transports; mainly Germany (seaports) and Slovenia (Port of Koper) as well as gateway transports to Turkey (depending on production concept).

Source: Report on Combined Transport 2012; KombiConsult analysis
**Round Table Hungary**

**Agenda**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00</td>
<td>Welcome and Introduction</td>
</tr>
<tr>
<td>10:10</td>
<td>Status-quo of the intermodal sector in Hungary</td>
</tr>
<tr>
<td>10:45</td>
<td>Discussion by topic (1):</td>
</tr>
<tr>
<td></td>
<td>- Rail Infrastructure</td>
</tr>
<tr>
<td></td>
<td>- Terminals</td>
</tr>
<tr>
<td>11:30-11:45</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:45</td>
<td>Discussion by topic (2):</td>
</tr>
<tr>
<td></td>
<td>- Intermodal Services</td>
</tr>
<tr>
<td></td>
<td>- Special Case of Rolling Motorway</td>
</tr>
<tr>
<td></td>
<td>- Incentive Schemes</td>
</tr>
<tr>
<td>13:15-14:15</td>
<td>Joint Lunch</td>
</tr>
<tr>
<td>14:15</td>
<td>Continued Discussion and Actions</td>
</tr>
<tr>
<td>15:30</td>
<td>Conclusions</td>
</tr>
</tbody>
</table>

**Analysis of current CT market: infrastructure**

**Railway network**

*Source of base map: Joliet Jake based on database of Hungarian Rail Capacity Allocation Office (VPE), status 2011*
Analysis of current CT market: infrastructure

Railway network

- Characteristics:
  - total length of network: 7,860 km (2012)
  - of which 2,889 km (37%) are electrified
  - of which 1,292 km (16%) are double-track lines
  - of which 6,853 km (86%) permits only an axle load ≤ 20t
  - of which 2,936 km (37%) are restricted by speed limits

- MÁV Co. Zrt. is responsible for 7,427 km
- GYSEV Zrt. is responsible for 433 km (+ 76 km in Austria)

- Hungary's rail infrastructure has a central position with respect to the European rail network, in particular the interfacing between Western and Eastern networks.

Source: MÁV; GYSEV, 2013

Analysis of current CT market: infrastructure

Railway network – Pan-European corridors

Source: Ministry of Economy and Transport: Transport Infrastructure Development in Hungary
Three TEN-T corridors are touching Hungarian territory, where the “Mediterranean” (ex Corridor V) connects the EU with Ukraine at Zaporozhye, the “Orient/East-Med” (ex Corridor IV) targets to Romania/Turkey and is almost identical with the “Rhine-Danube” corridor in Hungary.

Source: Base map - Joliet Jake based on database of Hungarian Rail Capacity Allocation Office (VPE), status 2011; HaCon/KombiConsult analysis

The two RF-Corridors on Hungarian territory are synchronised with the geographical scope of respective TEN-T Corridors “Mediterranean” (ex Corridor V) and “Orient/East-Med” (ex Corridor IV) despite their additional tributaries to Slovakia, the routing via Debrecen, and the lack of the Serbian connector.

Source: Base map - Joliet Jake based on database of Hungarian Rail Capacity Allocation Office (VPE), status 2011; HaCon/KombiConsult analysis
Hungary is challenged by the implementation of the ERTMS corridors D and E on its territory by the year 2015. The implementation shall consider a parallel operation of existing and new safety systems, so that there is less impact on the railway undertakings equipping their locomotives.

European Corridors – summary & conclusions

- Hungary could maintain the strategic corridors which were known from the pan-European integration and EU-accession process also with respect to the new regulations on TEN-T, RFC- and ERTMS-Corridors.
- They are almost aligned using the same routes, or were expanded, with respect to the needs of the rail freight users. They provide for:
  - The link with Western Europe
  - The connection to the port of Koper
  - The relation towards the Ukraine/Russian broad gauge at Zahony
  - The link with Greece and Turkey
- Railway undertakings and intermodal operators should carefully examine the implementation and whether the promised advantages do materialize.
Almost all principal freight lines (RFC + connection to Serbia) are electrified; some single track sections.

Source: Base map - Joliet Jake based on database of Hungarian Rail Capacity Allocation Office (VPE), status 2011; HaCon/KombiConsult analysis

Analysis of current CT market: infrastructure

Railway network – Electrified lines

- **RFC 6** is entirely electrified, but provides single-track lines
- **RFC 7** is entirely electrified and provides double-track lines

→ All main railway lines generally provide **sufficient capacity** to accommodate more trains (according to the Hungarian Ministry for Transport & RFC implementation plans and statements given during the round table meeting)
Analysis of current CT market: infrastructure

Railway network – Loading gauge

Intermodal loading gauge on Hungarian main freight lines without any restrictions.

Source: Interunit, 2013; HaCon/KombiConsult analysis

Analysis of current CT market: infrastructure

Railway network: Loading gauge – summary & conclusions

- The entire main rail network in Hungary offers a generous loading gauge of **C 80/P 410**
- This permits the transport of
  - any standard 4.00m high semi-trailer and
  - high-cube swap bodies up to an external height of 3.25m
- If intermodal services with or through Hungary are confronted with **restrictions** they are caused by rail networks in neighbouring countries
  - Austria (section Wiener Neustadt – Kapfenberg), Slovakia and Czech Republic, Slovenia
  - Romania, Bulgaria and other SEE-countries have not yet codified their rail lines according to the INTERUNIT principle so that any transport requires special permission
  - Stakeholders shall demand for profile harmonised at high level

Analysis of current CT market: infrastructure

Railway network: Axle Load – summary & conclusions

- Only 228 km of rail lines permit an axle load of 22.5 tonnes
- The majority of tracks only permit up to 20 tonnes
- This limitation reduces the maximum possible train weight, which is due for bulk trains, but also for heavy container and continental intermodal trains
- Operation with increased axle load of 22.5 tonnes only possible
  - with special permissions at limited speed of 80 km/h
  - permissions must be obtained from each infrastructure manager every year, and in case of route changes
- Railway operators require
  - To establish a One-Stop-Shop for obtaining permissions
  - To increase the axle load to at least 22.5 / better 25 tonnes which is possible by the newly purchased wagon


Analysis of current CT market: infrastructure

Maximum permitted train length

Maximum permitted train length is essential for proving efficient intermodal services. Most of the Hungarian rail network provides for maximum permitted train length (including locomotives) of 750m, which is very good, while smaller section on RFC7 and the western part of RFC6 provide only for 600m (determining length).

Source: RFC6 draft Implementation Plan, 4/2013; RFC7 Implementation Plan, 11/2013; COSMOS round table 16/10/2013
### Analysis of current CT market: infrastructure

#### Impact of the maximum permitted train length

<table>
<thead>
<tr>
<th></th>
<th>Maritime</th>
<th>Continental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Train length</td>
<td>600 m</td>
<td>700 m</td>
</tr>
<tr>
<td>Wagon length</td>
<td>26 m</td>
<td>26 m</td>
</tr>
<tr>
<td>N'tf wagon</td>
<td>23</td>
<td>26</td>
</tr>
<tr>
<td>Capacity</td>
<td>4 TEU</td>
<td>4 TEU</td>
</tr>
<tr>
<td>Total Capacity*</td>
<td>92</td>
<td>104</td>
</tr>
<tr>
<td>Difference</td>
<td>12 TEU</td>
<td>6 Semi-Trailers (ST)</td>
</tr>
<tr>
<td>Efficiency</td>
<td>+13%</td>
<td>+17%</td>
</tr>
<tr>
<td>Wagon type</td>
<td>Sggnss/Sggr/80'</td>
<td>T3000 104'</td>
</tr>
</tbody>
</table>

* Maximum train weight may reduce the total capacity

---

Source: KombiConsult analysis
Analysis of current CT market: infrastructure

Railway network – Track speed

Vmax = 80 km/h

Vmax = 60 km/h

Source: MAV according to Transport Operational Programme 2009; MAV Network Statement 2013; HaCon/KombiConsult analysis

Railway network – Temporary or permanent speed restrictions

According draft National Transport Strategy of Hungary, “about 40% of the tracks operate with temporary or permanent speed restrictions because of overdue maintenance.”

Source: National Transport Strategy of Hungary (draft version for public discussion 10/2013)
Analysis of current CT market: infrastructure

Railway network: Track speed – Summary & conclusions

- Several sections of the rail network provide for speed limitations, due to a lack of proper maintenance or re-investment in the past
- Only a small percentage of lines is fitted with modern rail traffic control systems
- Thus, already the scheduled time table offered times are a problem, e.g. on the route Koper – Budapest:
  - Road: 10 hours
  - Rail: 22 hours (+120%)
- Additional delays are caused in daily operations so that the punctuality and reliability cannot compete with road
- Railway operators require to improve the situation

Modernisation of railway network

- Update MoT
  - Route AT-RO: only small sections missing; will be completely finished by 2015/2016
  - Border HU/SI: finished (electrification)
  - Southern route Budapest – UA border: construction started

The modernisation of the rail network is essential for developing additional (intermodal) rail freight services and to compete with road transportation. The National Transportation Strategy which is due to be approved in by end of 2013 shall take account of the needs of the rail sector.
Analysis of current CT market: infrastructure

(ongoing) improvement works

- Upgrading of the European corridors by 2013
  - Building double-track lines
  - Improvement of maximum permitted axle weight to 22.5t
  - Increased maximum to 120 or 160km/h (passenger traffic)

- National Transport Strategy (draft 10/2013):
  Rail freight developments by 2030
  “The position of railway freight transport can be maintained, development can be expected on the long run. As a result of the development of interoperability (ETCS-II, GSM-R, electrification), with the construction of V0 the central economic territories of Hungary highlighted by Kecskemét, Szolnok, Debrecen will get by hours, what’s more in certain relations by days closer to Western Europe and to the ports of the Adriatic and of the North Sea.
  The system made interoperable by the infrastructural developments together with the attractive track usage charges may represent attraction force also for the private capital.”

Analysis of current CT market: infrastructure

Border crossing stopping times – examples 2009

Source: CREAM project, HaCon analysis, 2009

Analysis of current CT market: infrastructure

Border crossing stopping times – status 2013

- Generally border crossing is no major problem anymore, since the CREAM measures were widely implemented

- Most trains are processed according trust agreements

- Depending on the border crossing technology the following times are operated at the border crossings on the main routes:
  - 20 min (Hegyeshalom; no locomotive change)
  - 0.5 – 2 hours (with locomotive change)

- At stations which are not open 24/7 the timing of the shift change may cause a problem in case of delayed trains

Source: Round Table Hungary 2013
Analysis of current CT market

Infrastructure access charges

<table>
<thead>
<tr>
<th>Country</th>
<th>Charges for the Use of Rail Infrastructure 2008*</th>
<th>Access charges in 2012**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Access charges for typical 960 gross ton freight train (€/train-km), Years 2008</td>
<td>Access charges for typical 960 gross ton freight train (€/train-km), Years 2012</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>5.82</td>
<td>n/a</td>
</tr>
<tr>
<td>Austria</td>
<td>2.68</td>
<td>3.30</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>4.83</td>
<td>3.87</td>
</tr>
<tr>
<td>Hungary</td>
<td>2.24</td>
<td>3.07</td>
</tr>
<tr>
<td>Romania</td>
<td>3.93</td>
<td>3.99</td>
</tr>
<tr>
<td>Slovakia</td>
<td>9.54</td>
<td>3.60</td>
</tr>
<tr>
<td>Greece</td>
<td>1.05</td>
<td>1.05</td>
</tr>
</tbody>
</table>

*source: Charges for the Use of Rail Infrastructure 2008

**source: Data provided by members of RFC7 Commission, 1€ = 293,14 HUF, 1€ = 4.2379 RON, 1€ = 24,815 Kč

Moderate rail access charges compared to neighbouring RFC7 countries in favour of rail freight.

Analysis of current CT market: intermodal terminals

Intermodal Terminals – Survey Map

- Terminal
- no traffic
- closed
- siding

Source: KombiConsult analysis, COSMOS round table 16/10/2013
Analysis of current CT market: intermodal terminals

Intermodal Terminals – Capacity and Volume 2012

<table>
<thead>
<tr>
<th>Name</th>
<th>Gantry cranes</th>
<th>Mobile</th>
<th>Total tracks</th>
<th>Capacity (LU p.a.)</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budapest BILK</td>
<td>x</td>
<td>-2</td>
<td>4</td>
<td>7</td>
<td>4,900</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>320,000</td>
<td>204,000</td>
</tr>
<tr>
<td>Budapest MAHART</td>
<td>x</td>
<td>-1</td>
<td>4</td>
<td>5</td>
<td>2,970</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>240,000</td>
<td>124,000</td>
</tr>
<tr>
<td>Sopron CCT</td>
<td>x</td>
<td>-2</td>
<td>1</td>
<td>4</td>
<td>1,400</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200,000</td>
<td>58,000</td>
</tr>
<tr>
<td>Budapest Törökbálint</td>
<td>-</td>
<td>-0</td>
<td>3</td>
<td>3</td>
<td>600</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>120,000</td>
<td>25,000</td>
</tr>
<tr>
<td>Zahony Port</td>
<td>x</td>
<td>-2</td>
<td>-</td>
<td>4</td>
<td>750</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>160,000</td>
<td>125,000</td>
</tr>
</tbody>
</table>

1,040,000 536,000 536,000 211,000

Assumptions: 16 hours per day; 250 days p.a.; RMG 30/RS 15 LU/hr; 1.5 LU/wagon; flow factor 1 (which is low and could be increased if storage tracks were available; further limitation by small storage space not considered.

Sources: Terminal websites; intermodal-terminals.eu; KombiConsult analysis, COSMOS round table 16/10/2013

Analysis of current CT market: intermodal terminals

Intermodal terminals - Conclusions

- **Budapest-Bilk** is the largest terminal in Hungary.
- Jointly with **Budapest Mahart** and **Sopron CCT** it is also the most advanced in terms of infrastructure, handling, information technology and process organisation.
- It is also the only intermodal facility in Hungary to provide handling tracks accommodating the full length of international direct or shuttle trains of 600 to 700m.
- **Port of Zahony** provides capacity for changing of containers between broad and normal gauge.
- **Smaller sites** are not served with regular intermodal block train services.
- **Terminals Dunajska Streda (SK) and (partly) Rail Port Arad (RO)** are serving the Hungarian market as well.

Source: KombiConsult analysis; COSMOS round table 16/10/2013
**Analysis of current CT market: intermodal terminals**

**Terminal database: www.intermodal-terminals.eu**

Intermodal Terminals in Europe

- Budapest BILK
- Komáromi Tornádőkút
- Mátészalka Container Center
- Szépifontervállalat
- Szinva Container Terminal

Terminal database: www.intermodal-terminals.eu

Budapest BILK

- **Basic Information**
  - **Road, Rail, Road:***
  - **Terminal Operator:** BILK Komáromi Termál Kft.
  - **Address:** Szinva út 14, 1299 Budapest
  - **Contact Person:** M. Dózsa
  - **Phone:** +36 (1) 290 0600
  - **Fax:** +36 (1) 290 0601
  - **Email:** info@bilk-kombiterminal.hu
  - **Web:** http://www.bilk-kombiterminal.hu

- **Contact Hours:**
  - Mo-Fr: 08:00 - 18:00
  - Sa: 09:00 - 13:00
  - Se: 09:00 - 12:00

**This is my Terminal. I want to update this entry.**
Analysis of current CT market: infrastructure

Terminal developments

- National Transport Strategy (draft 10/2013):
  Terminal developments by 2030
  - "Development of ports of water TEN-T "trunk system", building of missing elements.
    Multimodal development, further development of TEN-T ports, including the related information services in order to more efficiently connect the different transport modes and to achieve a better model split.
  - Development of ports not belonging to the water TEN-T "trunk system" in order to replace the missing background infrastructure.
    Ensuring the good quality, utilization and extension of the river water freight transport offer in order to increase traffic volume with the development of domestic public freight ports (not belonging to water TEN-T "trunk system")
  - "Master plan" for intermodal logistics centres (dated 2007) is not maintained any more.
  - Developments of intermodal terminal infrastructure is not a top priority according to the draft National Transport Strategy.

Source: National Transport Strategy of Hungary (draft version for public discussion 10/2013);
KombiConsult/HaCon analysis: COSMOS round table 16/10/2013

Round Table Hungary

Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00</td>
<td>Welcome and Introduction</td>
</tr>
<tr>
<td>10:10</td>
<td>Status-quo of the intermodal sector in Hungary</td>
</tr>
<tr>
<td>10:45</td>
<td>Discussion by topic (1):</td>
</tr>
<tr>
<td></td>
<td>- Rail Infrastructure</td>
</tr>
<tr>
<td></td>
<td>- Terminals</td>
</tr>
<tr>
<td>11:30-11:45</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:45</td>
<td>Discussion by topic (2):</td>
</tr>
<tr>
<td></td>
<td>- Intermodal Services</td>
</tr>
<tr>
<td></td>
<td>- Special Case of Rolling Motorway</td>
</tr>
<tr>
<td></td>
<td>- Incentive Schemes</td>
</tr>
<tr>
<td>13:15-14:15</td>
<td>Joint Lunch</td>
</tr>
<tr>
<td>14:15</td>
<td>Continued Discussion and Actions</td>
</tr>
<tr>
<td>15:30</td>
<td>Conclusions</td>
</tr>
</tbody>
</table>
Analysis of current CT market: intermodal services

Intermodal Services, 2013

10 intermodal operators are providing regular services with a total of 185 trains per week

Source: company websites, KombiConsult analysis

Analysis of current CT market: intermodal services

Continental Intermodal Services, 2013

Continental services account for about 40-50% of the trains

Source: company websites, KombiConsult analysis
Analysis of current CT market: intermodal services

Continental intermodal services – summary & conclusions

- Continental freight transport in total achieved a **high market share** of ~40-50%.
- **Principle trade lanes** are between the Hungarian intermodal “hot spot” of Budapest and the “Ruhr” and other area in Germany which are connected via gateway terminals, as well as Ljubljana.
- The terminal in **Sopron** lost market volume after the productions concept of IFB was changed.
- **Main commodities** were chemicals, food, non-food and various industrial and consumer merchandise.
- **Infrastructure limitations** (max. axle load < 21t) and driving times on rail (speed limitations) hinder continental intermodal services development and competitive edge towards road.

---

Analysis of current CT market: intermodal services

Maritime Intermodal Services, 2013

Maritime services account for about 50-60% of the trains.

*Source: company websites, KombiConsult analysis.*
Analysis of current CT market: intermodal services

Maritime intermodal services – summary & conclusions

- Maritime freight transport in total achieved a high market share of ~50-60%
- Principle trade lanes are between the German sea ports of Bremerhaven and Hamburg, Rotterdam on the one hand and in particular Koper on the other hand, while Constanta does not play a role.
- The traffic focuses on Budapest with its intermodal terminals and container depots, as well as Dunajská Streda (SK) from where road transportation is provided.
- Infrastructure limitations (max. axle load < 21t) and driving times on rail (speed limitations) as well as the train length limitations in Slovenia hinder maritime intermodal services development and competitive edge towards road.

Source: KombiConsult analysis; COSMOS round table 2013

Analysis of current CT market: intermodal services

Intermodal Services by main operators, 2013

<table>
<thead>
<tr>
<th>Country</th>
<th>Relation</th>
<th>Service</th>
<th>Capacity</th>
<th>Main Operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>Hamburg</td>
<td>Dunajská Streda</td>
<td>1</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>CZ</td>
<td>Prague</td>
<td>Dunajská Streda</td>
<td>2</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>SI</td>
<td>Koper</td>
<td>Dunajská Streda</td>
<td>7</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>SK</td>
<td>Koper</td>
<td>Dunajská Streda</td>
<td>10</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>DE</td>
<td>HH/HB/M</td>
<td>Budapest BILK</td>
<td>3</td>
<td>EGIM</td>
</tr>
<tr>
<td>DE</td>
<td>Duisburg DIT</td>
<td>Budapest BILK</td>
<td>4</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>HU</td>
<td>Curitso/Maľa</td>
<td>Budapest BILK</td>
<td>5</td>
<td>Hudac</td>
</tr>
<tr>
<td>DE</td>
<td>Neuss</td>
<td>Budapest BILK</td>
<td>6</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>AT</td>
<td>Wels</td>
<td>Budapest BILK</td>
<td>7</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>SI</td>
<td>Koper</td>
<td>Budapest BILK</td>
<td>8</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>SI</td>
<td>Ljubljana</td>
<td>Budapest BILK</td>
<td>9</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>SI</td>
<td>Koper</td>
<td>Graz/Bratislava</td>
<td>2</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>IT</td>
<td>Trieste / Wien</td>
<td>Budapest</td>
<td>4</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>DE</td>
<td>Bremerhaven</td>
<td>Budapest Mahart</td>
<td>5</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>RO</td>
<td>Curitso/Maľa</td>
<td>Budapest BILK</td>
<td>6</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>AT</td>
<td>Diversa</td>
<td>Diversa</td>
<td>7</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>BE</td>
<td>Genc</td>
<td>Genc</td>
<td>8</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>AT</td>
<td>Wien</td>
<td>Tibet</td>
<td>9</td>
<td>Mihtrans</td>
</tr>
<tr>
<td>RO</td>
<td>Constanta</td>
<td>Budapest Mahart</td>
<td>10</td>
<td>Mihtrans</td>
</tr>
</tbody>
</table>

Source: company websites, KombiConsult analysis, COSMOS round table 16/10/2013

Page 87
Analysis of current CT market: intermodal services

Intermodal Services in relation with Hungary 2013

Source: company websites, KombiConsult analysis

Analysis of current CT market: volume

Intermodal Traffic 2011 by country and market segment

<table>
<thead>
<tr>
<th>Country</th>
<th>TEU p.a.</th>
<th>Share</th>
<th>maritime</th>
<th>continental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>23,114</td>
<td>6%</td>
<td>0</td>
<td>23,114</td>
</tr>
<tr>
<td>Belgium</td>
<td>389</td>
<td>0%</td>
<td>0</td>
<td>389</td>
</tr>
<tr>
<td>Croatia</td>
<td>3,212</td>
<td>1%</td>
<td>3,212</td>
<td>0</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>70</td>
<td>0%</td>
<td>0</td>
<td>70</td>
</tr>
<tr>
<td>Germany</td>
<td>127,956</td>
<td>33%</td>
<td>38,387</td>
<td>89,569</td>
</tr>
<tr>
<td>Italy</td>
<td>6,944</td>
<td>2%</td>
<td>0</td>
<td>6,944</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>9,550</td>
<td>2%</td>
<td>7,640</td>
<td>1,910</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>886</td>
<td>0%</td>
<td>886</td>
<td>0</td>
</tr>
<tr>
<td>Slovenia</td>
<td>142,462</td>
<td>36%</td>
<td>135,339</td>
<td>7,123</td>
</tr>
<tr>
<td>Turkey</td>
<td>64,606</td>
<td>17%</td>
<td>0</td>
<td>64,606</td>
</tr>
<tr>
<td>Greece</td>
<td>9,748</td>
<td>2%</td>
<td>0</td>
<td>9,748</td>
</tr>
<tr>
<td>Romania</td>
<td>1,593</td>
<td>0%</td>
<td>0</td>
<td>1,593</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>390,520</strong></td>
<td><strong>100%</strong></td>
<td><strong>185,464</strong></td>
<td><strong>205,056</strong></td>
</tr>
</tbody>
</table>

Source: Report on Combined Transport 2012; KombiConsult analysis
Analysis of current CT market

Intermodal transport by country (2011)

Source: Report on Combined Transport 2012; KombiConsult analysis

Analysis of current CT market: volume

Development of unaccompanied CT 1992-2011, TEU

Analysis of current CT market: volume

Development of unaccompanied CT 1992-2011, TEU – summary & conclusions

- The development since the beginning of the 1990th was characterized by a stable increase until the year 2007 when the all-time high was reached.
- The economic crisis had a dramatic negative impact on the development of unaccompanied intermodal transport in Hungary with a loss of volume in all three segments.
- Domestic volume could hardly be attracted due to the relatively small distances and the quality of service of the single wagon load production concept.
- Transit services as well as gateway or hub services were lost to the road or neighbouring corridors including the short sea shipping (ferry services) to/from Trieste to Turkey due to the bad functioning of the corridor traffic and the low road prices.
- Only recently the volume could be stabilised and even increased, so that the 2007 size is almost reached.

Source: KombiConsult analysis; COSMOS round table 16/10/2013

Analysis of current CT market: competition

Intermodal Competition

Road transport operators are forming alliances, industrialize their operation on domestic / international routes.

Source: Verkehrsroundschau, January 2013; KombiConsult analysis
Analysis of current CT market: rolling motorway

Development of accompanied CT, 2000-2013

Trucks carried on RoLa services via Hungary

Source: UIRR statistics; Hungarokombi website for picture; KombiConsult analysis

Analysis of current CT market: rolling motorway

Special case of Rolling Motorway

Accompanied intermodal traffic in Hungary by services, 2002-2008

<table>
<thead>
<tr>
<th>Year</th>
<th>Trucks (units) carried per accompanied service</th>
<th>Goods moved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Szeged (Budapest) - Wels</td>
<td>Szeged (Budapest) - Ljubljana</td>
</tr>
<tr>
<td>2002</td>
<td>51,974</td>
<td>2,773</td>
</tr>
<tr>
<td>2005</td>
<td>51,008</td>
<td>3,788</td>
</tr>
<tr>
<td>2006</td>
<td>51,963</td>
<td>3,525</td>
</tr>
<tr>
<td>2007</td>
<td>33,373</td>
<td>-</td>
</tr>
<tr>
<td>2008</td>
<td>36,818</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: UIRR, KSH, KombiConsult analysis
### Analysis of current CT market: rolling motorway

#### Development of accompanied CT, 2000-2013

- Heyday of accompanied traffic in Hungary was around the turn of the century (year 2001)

- Since 2001, the number of accompanied shipments annually has decreased

- This decline considerably accelerated in 2004 when Hungary became member of the EU
  - Liberalisation of international road traffic

- The future for accompanied traffic in Hungary appears to be rather bleak

---


---

### Development of CT market: rolling motorway

#### Accompanied CT „RoLa“ – summary & conclusions

- RoLa services are rather a political than a market measure

- Depending on a couple of factors, e.g.
  - Transport permissions for international traffic, Visa regulations
  - Driving bans at night, weekends, holidays, or for specific type of goods or trucks
  - Subvention by the state to compensate operational losses (real rail costs vs. marginal truck costs)

- Hardly impossible to forecast

- Traditionally in transit through Hungary:
  - Szeged – Maribor (until 2004)
  - Szeged – Wels (until 2012)

- Have become obsolete after the end of the Austro-Hungarian subvention terminated and Rail Cargo Austria stopped the services in December 2012

---

Analysis of current CT market: legal framework

Legal system implemented by the Hungarian government: National Transport strategy - Targets

- **Social objectives**
  - Reduce environmental impacts
  - Promote economic growth
  - Reduce regional differences
  - Reinforce international relations

- **Transport objectives**
  - Develop socially beneficial transport structure
  - Improve transport service level
  (transport services, transport infrastructure)

Source: National Transport Strategy of Hungary (draft version for public discussion 10/2013); based on KSH, 2010

Documents containing the policy objectives and the actions envisaged

- National Transport Strategy (2013/14-2030), drafted 10/2013
- Transport Infrastructure Development in Hungary (2006)
- Transport Operational Programme (2007)
- Intermodal Logistics Strategy (2006)

Legal system implemented by the Hungarian government

The Hungarian state had implemented three instruments to promote intermodal traffic:

1. Derogation from the general 40t limit for intermodal road vehicles, increased to a gross weight of up to 44t under the following provisions:
   - Only applicable for 40ft containers
   - Compliance with the technical requirements of road vehicles
   - Road journeys up to 70km to/from intermodal terminal
   - Gained authorisation from the Hungarian road administration

Unlike in other countries such as Germany or Austria the exemption is applied only for the transport of 40' containers. The Hungarian Government should validate if the exemption can not be applied to all forms of combined transport irrespectively of the type of unit.


Legal system implemented by the Hungarian government

The Hungarian state had implemented three instruments to promote intermodal traffic:

2. Grants for the construction or expansion of intermodal terminals, depending on planned location, financial sources are:
   - The European Regional Development Fund (85%)
   - The Hungarian central budget (15%)

The Hungarian Government will analyse the effectiveness of the programme in the light of setting up the new National Transport Strategy.

Analysis of current CT market: legal framework

Legal system implemented by the Hungarian government

The Hungarian state had implemented three instruments to promote intermodal traffic:

3. Funding scheme for accompanied intermodal services (rolling highway), launched by the Hungarian Ministry for Economy and Transport in 2007, provisions:
   - Management by MÁV Zrt. Rolling Highway Unit
   - Only licensed railway undertakings for rail freight in Hungary
   - Loading/unloading of the accompanied service has to be located in Hungary
   - Operating costs could be subsidised up to max. €6 per train-km and €2500 per train
   - Maximum subsidy could only be obtained if at least an average of 14 trucks were carried per train


Round Table Hungary

Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00</td>
<td>Welcome and Introduction</td>
</tr>
<tr>
<td>10:10</td>
<td>Status-quo of the intermodal sector in Hungary</td>
</tr>
</tbody>
</table>
| 10:45 | Discussion by topic (1):
|       | - Rail Infrastructure                      |
|       | - Terminals                                |
| 11:30-11:45 | Coffee Break                     |
| 11:45 | Discussion by topic (2):
|       | - Intermodal Services                    |
|       | - Special Case of Rolling Motorway         |
|       | - Incentive Schemes                       |
| 13:15-14:15 | Joint Lunch                   |
| 14:15 | Continued Discussion and Actions           |
| 15:30 | Conclusions                                |
### Evaluation of CT: SWOT-Analysis

#### SWOT Analysis

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Manufacturing industry e.g. automotive offers good opportunities for intermodal transport.</td>
<td>- Network of logistics centres not much developed; “Master plan” for intermodal logistics centres (dated 2007) is not maintained any more.</td>
</tr>
<tr>
<td>- Central geographical position between Western Europe and and Eastern EU countries / Balkan states on the other.</td>
<td>- No access to a deepsea port on Hungarian territory</td>
</tr>
<tr>
<td>- Integration into European corridors</td>
<td>- Connection to Serbia (Corridor X) is not a part of the new TEN-T/RFC corridor framework.</td>
</tr>
<tr>
<td>- Main rail freight lines provide for sufficient capacities and a comparably high technical standard (with respect to loading gauges, train lengths, electrification, ETCS implementation)</td>
<td>- Several sections of the rail network provide for speed limitations, due to a lack of proper maintenance or reinvestments in the past.</td>
</tr>
<tr>
<td>- Further terminals for serving Hungarian markets are available in neighbouring countries’ border regions (Dunja, streda, Curlici)</td>
<td>- Smaller economic centres not connected to intermodal transports; most terminals, opened in recent years, are closed again due to volatile transport volumes depending on single train services</td>
</tr>
<tr>
<td>- Terminal capacities are limited; no national programme for intermodal terminal investments in place</td>
<td>- Redirection of transport flows between Western/Central Europe and Turkey via Adriatic ports mainly Trieste) due to insufficient quality of rail freight along related rail axes</td>
</tr>
<tr>
<td>- Numberous railway/intermodal operators secure competition in this field</td>
<td>- Still, road is the benchmark and dominates the Hungarian transport market</td>
</tr>
</tbody>
</table>

Source: HaCon/KombiConsult analysis
The market parties expect an increase only in the range of the GDP growth of about 2% p.a.


- The DIOMIS Report published in 2010, but completed before the strength, length and impact of the economic crisis became visible forecasted an annual growth of the total unaccompanied market in Hungary of 8.7% p.a. The growth affected the international transport to and from Hungary as well as some domestic services (to and from Sopron as the main hub of that time) and in particular transit services generated by positive development SEE countries.

- The economic crisis, the current development of the competition situation of the intermodal sector and the forecasted economic growth of the region which is behind the expectations of the year 2008, influenced the market parties to reduce the growth perspective which might only be in the range of the GDP growth of about 2% p.a., thus leading to a total of 466,000 loading units.

- The transit is not predictable since it depends on the development of the neighbouring countries as well as production concepts of the railways and operators.

Source: KombiConsult analysis; COSMOS round table 2013
Conclusions

Summary of conclusions (1/4)

- Favourable location on the cross-roads between Western Europe, Balkan states, South-East-European countries and Ukraine.
- Manufacturing industry e.g. automotive offers good opportunities for intermodal transport.
- Different business models applied in HU: Terminal-to-Terminal & Door-to-Door, with basically the CT operator bridging between shipper or forwarder and railways, not the railways directly.
- Continuous decrease of transport volumes since beginning of economic crisis in 2009. Dominance of road transport (70-80% of total transport volume excluding pipelines) over rail and inland waterways.
- Major shares in rail freight transport are related to international relations, equally shared between import, export and transit traffic.
- Major trade lanes are served by intermodal transports; mainly Germany (seaports) and Slovenia (Port of Koper) as well as gateway transports to Turkey (depending on production concept).

Source: HaCon/KombiConsult analysis; COSMOS round table 16/10/2013

---

Conclusions

Summary of conclusions (2/4)

- Three TEN-T corridors are touching Hungarian territory, where the “Mediterranean” (ex pan-European Corridor V) connects the EU with Ukraine at Zahony, the “Orient/East-Med” (ex Corridor IV) targets to Turkey and is almost identical with the “Rhine-Danube” corridor in Hungary which ends at the border with the non-EU member state Serbia.
- The two RF-Corridors on Hungarian territory are synchronised with the geographical scope of respective TEN-T Corridors
- Hungary is challenged by the implementation of the ERTMS corridors D and E on its territory by the year 2015. The implementation shall consider a parallel operation of existing and new safety systems, so that there is less impact on the railway undertakings equipping their locomotives.
- Hungary could maintain the strategic corridors which were known from the pan-European integration and EU-accession process also with respect to the new regulations on TEN-T, RFC- and ERTMS-Corridors.
- Railway undertakings and intermodal operators should carefully examine the implementation and whether the promised advantages do materialize.

Source: HaCon/KombiConsult analysis; COSMOS round table 16/10/2013
Conclusions

Summary of conclusions (3/4)

- Almost all principal freight lines (RFC + connection to Serbia) are electrified; some single track sections.
- All main rail lines provide sufficient capacity to accommodate more trains.
- The entire main rail network in Hungary offers a generous loading gauge of C 80 / P 410. Restrictions are caused by neighbouring rail networks.
- The maximum permitted train length is essential for proving efficient intermodal services. Most of the Hungarian rail network provides for a maximum permitted train length (including locomotives) of 750m, while smaller sections on RFC7 and RFC6 western parts provide only for 600m.
- The majority of tracks only permit an axle load of up to 20t. Only 228 km of rail lines permit an axle load of 22.5t. Operators require a One-Stop-Shop for obtaining permissions and to increase the axle load to at least 22.5 t.
- Several sections of the rail network provide for speed limitations, due to a lack of proper maintenance or re-investments in the past.
- About 40% of the tracks operate with temporary or permanent speed restrictions because of overdue maintenance.

Source: HaCon/KombiConsult analysis; COSMOS round table 16/10/2013

---

Conclusions

Summary of conclusions (4/4)

- Generally border crossing is no major problem anymore; Most trains are processed according trust agreements.
- Moderate rail access charges compared to neighbouring RFC7 countries in favour of rail freight.
- Hungary provides well developed intermodal transshipment terminals in the economic centres of Budapest (Bilk, Mahart) and Sopron (GySEV terminal) that serve the Hungarian market together with terminals in neighbouring countries: Dunjaska Streda (SK) and Rail Port Arad (RO).
- Smaller intermodal transshipment sites are not served with regular intermodal block train services.
- No National terminal development plan in place, increasing traffic volumes together with limited investments in terminal infrastructure might lead to capacity limitations.

Source: HaCon/KombiConsult analysis; COSMOS round table 16/10/2013
Conclusions

What's next?

- HaCon/KombiConsult will send the draft road map (based on the round table presentations) to all invited participants.
- All invited participants are asked to validate the facts, findings and conclusions and send additional information or modification requests to HaCon/KombiConsult. Feedback in English or German preferred.
- HaCon/KombiConsult will consolidate the comments and send the final version to all participants. The final version will be in English.
- Participants are invited to use the joint findings whenever possible to promote intermodal transport in Hungary.
- Additional Round Tables will take place in further countries (see next page)

Series of Round Tables

3rd Round Table Hungary October 2013

Series of Round Tables

3rd Round Table Hungary October 2013

- 3rd Round Table Hungary October 2013
- 2nd Round Table Czech Republic September 2013
- 1st Round Table Slovenia April 2013
- 6th Round Table Croatia March 2014
- 4th Round Table Romania December 2013
- 5th Round Table Bulgaria 25 February 2014
- Final Conference Austria June 2014
Announcement of the 2014 Report on CT in Europe

2012 Report on Combined Transport in Europe

- Survey on Intermodal Industry
- Business Models
- Unaccompanied Transport
- Accompanied Transport
- Outlook 2012/15
- Service Providers

We kindly invite you to support us with statistical data for the 2014 report, that will be elaborated on the year 2013 in spring/summer 2014.

Source: www.kombiconsult.com

KombiConsult Profile

Page 95

Page 96
**HaCon Profile**

- **Consulting**
  - IT and Projects
  - Transport and Logistics
- **Software**
  - Train Planning System (TPS)
  - Timetable Information System (HAFAS)
- **Intermodal Systems**
  - Network Capacity Management
  - Information Management

---

**Intermodal Road Map Hungary**

*(Main) Sources of Information*

- CREAM Project Reports, www.cream-project.eu
- DIOMIS Project Reports, www.uic.org/DIOMIS
- National Transport Strategy of Hungary (draft version for public discussion, October 2013)
- KSH (Hungarian Central Statistics Office)
- RFC6 and RFC7 Implementation plans
- VPE (Hungarian Rail Capacity Allocation Office), Network Statement 2013

- Websites, information and data provided by the Round Table Participants
Intermodal Road Map Hungary

Disclaimer

The present Road Map presentation has been compiled by one or more COSMOS partner with the support of third parties and may contain business sensitive information. You may use the content totally or selectively without changing the content of the single slides, if clearly identifying the source:

COSMOS Project, Intermodal Road Map Hungary, HaCon / KombiConsult, 2014, www.cosmos-project.eu

Thank you for your attention.

Klaus-Uwe Sondermann
KombiConsult GmbH
Zum Laurenburger Hof 76
60594 Frankfurt am Main, Germany
Email: usondermann@kombiconsult.com
Phone: +49 69 244 32 93 172

Niklas Galonske
HaCon Ing. GmbH
Lister Str. 15
30163 Hannover, Germany
niklas.galonske@hacon.de
+49 511 33699 134