The Eurasian Landbrige
Importance for the Danube Region

Igor Hribar | The Danube Region Transport Days 2018 | Ljubljana | December 2018
Current development
The railfreight system in China connects the megacities and all industrial regions.

China’s Rail System

**East Route**
- Connects the main East Coast Cities
- Linked to the Transsib and Transit Russia

**Middle Route**
- Connects Beijing with Hongkong
- Linked to the Transsib and Transit Russia

**West Route**
- Connects the western Regions of China
- Linked with the New Silk Road and Trans-Kasachstan Rail
- CKU Railway Project in negotiation (China-Kyrgyzstan-Uzbekistan)
The western regions are in the focus of the „Belt-and-Road“ initiative

‘One Belt, One Road’

- Started in 2013
- Project to create new trans-continental trade routes that will benefit different areas to general globalized trade
- 13 provinces are expected to benefit, primarily western areas
- Investments will lead to creation of new markets
- Key areas:
  - Healthcare
  - High-tech manufacturing and transport
  - E-commerce
  - Finance
  - Agriculture
  - Infrastructure

1. Jiangsu
2. Zhejiang
3. Fujian
4. Guangdong
5. Hainan
6. Yunnan
7. Chongqing
8. Shaanxi
9. Ningxia
10. Gansu
11. Sichuana
12. Quinghai
13. Xinjiang

‘Go West’
Boosting economic development of western provinces (~400m people)
10 years of the success story „China by Rail“

- The first containers were shipped on the Trans-Siberian Railway back in 1973.
- It takes an average of 14 to 16 days for a train to make the journey between China and Germany.
- Trains travel 10,000 km or some 12,000 kilometers between Germany and China depending on the route.
- The longest freight rail link ever traveled covers 13,000 km between Madrid and Yiwu, China.
- Each train must undergo at least two changes of track gauge.

- At least five languages are spoken during the journey: German, Polish, Russian, Belarusian, and Chinese.
- Trains cross eight time zones and four climate zones.
- Trains are upwards of 1,000 meters long on sections of the route in Russia and 600 meters long in Europe.
- A train loaded with 41 containers, including the cars, can weigh up to 1,600 metric tons. That’s roughly as much as 320 African elephants.
- Deutsche Bahn hopes to transport 100,000 standard containers a year between China and Germany by 2020.
5000 trains will be operated in 2020

1st train started in 2008 from Beijing to Hamburg
2010: tests on Northern and Southern route
2011: Company trains Chongqing – Duisburg and Leipzig – Shenyang

Regular trains east- and westbound (CN-EU v.v.)
Regular container shipments from China to CIS countries
First regular multi-customer train Zhengzhou–Hamburg

Growing number of east- and westbound train services
DB Schenker enlarged service portfolio:
- Rail/Air
- LCL
- Reefer shipments

2200 trains WB and 1100 trains EB were operated in 2017 by the end of November
ChinaRailways announced to increase number of trains per year up to
- 5000 trains in 2020

Until 2011

2012 + 2013

2014 + 2015

Rail potential according UIC*-study:
- 7756 trains in 2027 (21 train daily)
- 9880 trains in 2030 (27 trains daily)

*presented August 2017 with Roland Berger in Paris

No. of trains

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Considering capital and freight costs
Rail is the most economic option among the 3 transport modes, if freight and capital cost are considered.

Rail is superior to ocean. Whether rail or air should be used depends on time-cost preferences.

Example: freight & capital cost for High Value Goods

<table>
<thead>
<tr>
<th>Mode</th>
<th>Lead Time</th>
<th>Freight Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td>(5 days)</td>
<td></td>
</tr>
<tr>
<td>Ocean</td>
<td>(40 days)</td>
<td></td>
</tr>
<tr>
<td>Rail</td>
<td>(20 days)</td>
<td></td>
</tr>
</tbody>
</table>
Green Logistics: apart from economic advantages Rail offers the most environmentally friendly transport mode

We break the correlation between CO2 emissions and transport growth... …using our network

- From an environmental perspective Rail transport is the preferred choice for shipments between China and Europe
- Rail is not only the most ecological mode of transport in terms of CO2 emission but also regarding other pollutants\(^1\)

Rail service between China and Europe makes sense from an environmental as well as a business perspective

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\(^1\) e.g. PM (particulate matter), NMHC (non-methane hydro carbons), SO2 (sulphur dioxide), NOx (nitrogen oxide)
Product overview
DB Schenker’s network of Land Transport is well connected by New Silkroad rail system

- Key USP: leading networks of Schenker Land Transport in Europe and China are seamless connected by Trans-Eurasian intermodal blocktrains
China: DB Schenker connects New Silkroad rail network with own local presence and expertise

DB Schenker China at a glance

- More than 50 years in China
- Full regional coverage with offices in 60 cities
- 5,700 logistics specialists
- 87 warehouses*
- 940,000 m² warehouse area*
- Class A licensed international freight forwarding company
- **Operational expertise**
  + creation of blocktrain products for Chongqing and Zhengzhou
  + documentation, customs, routing options, local presence etc.
- **Close ties to China Railway**
  CRCT, CRIMT, Local Railway stations, Terminal JV CR Intermodal

*Includes air freight, ocean freight and contract logistics warehouses

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Full scope of rail products is operated on the Trans Eurasian corridor

LCL Shipments
- 5 LCL services from Wuhan to Europe and from Germany to Wuhan
- Regular departures with own controlled services on an end-to-end basis
- Transit time door-door: around 23-29 days

Single containers, Group of containers
- Full door-to-door FCL service incl. pre- and on-carriage as well as additional services
- Several departures per week on various routes possible
- Short booking deadlines

Blocktrains
- Available as multi-customer public train for different customers: min. 1 FEU (FCL)
- Top speed due to blocktrain prioritization
- Available as company train for one customer volume requirement: 41-51 FEU per train
Overview on main blocktrain services and routes

**Southern Route**

- **Westbound**: Transit time terminal-terminal: 14 days, 5xweekly
- **Eastbound**: Transit time terminal-terminal: 17 days, 4xweekly
Basic Process and Transit Time Westbound

<table>
<thead>
<tr>
<th>Country</th>
<th>Activity</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>booking and Pre-carriage</td>
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<tr>
<td>China</td>
<td>Consolidation</td>
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<tr>
<td>China</td>
<td>Cargo cut off at rail station</td>
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<tr>
<td>China</td>
<td>Train departure</td>
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<td>Transit</td>
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<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<tr>
<td>Germany</td>
<td>Train arrival</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
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<td>14</td>
<td>15</td>
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</table>

Door-to-door time of 19 days
Your benefits:
- Frequent and reliable connections to all destinations in Europe via DB Schenker’s broad Land Transport network
- Complete DB Schenker end-to-end responsibility
- Flexible and fast solutions for your time critical and high-value groupage and part loads

LCL service:
- Depending on the destination area various routes are viable
- Western European as well as Eastern/South Eastern European market connect
- Transit time door-door: 24-28 days including terminal cut off, consolidation, transit and de-consolidation
- Groupage and part loads
### Basic Process and Transit Time

**Westbound Wuhan-Duisburg**

<table>
<thead>
<tr>
<th>Country</th>
<th>Activity</th>
<th>Activity Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>booking and Pre-carriage</td>
<td>-8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 … 19 22</td>
</tr>
<tr>
<td>China</td>
<td>Consolidation</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>Cargo cut off at rail station</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>Train departure</td>
<td></td>
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<tr>
<td>Transit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>Train arrival</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>De-consolidation</td>
<td></td>
</tr>
</tbody>
</table>

**Terminal-terminal: 19 days**

**CFS-CFS transit time of 26 days**

Please note that due to construction works and congestion, the transit time terminal-terminal takes currently 2 to 3 days longer than usual (included in the timeline above).
3 Trends and Challenges
China plans the creation of new corridors through the Middle East to Europe

China – Eurasian Rail services
2014 YiWu- Madrid
2015 Changsha to Duisberg
2016 Zhejiang to Tehran
2017 YiWu - London

Freight traffic
Cross-border rail
Railways – 15 days
Sea – 30 to 40 days
Air – expensive

Rail is more efficient for Western provinces
Estimated Rail Potential – 636,000 TEU in 2027

Roland Berger

Forecast Rail Transport [000 TEU]

Market share rail 1.2% 2.5%

CAGR 14.7% 636

30

141

2016

2027

330

276

810

2030

Forecast Rail shifted from sea
Forecast Rail shifted from air
Forecast Rail
Rail Present

1) Rough estimate based on shift factors of 5% from overall Asia-Europe air traffic
2) Length of an European train

Source: Eurostat, Roland Berger

On a roll
China-Europe rail volumes, ’000 tonnes

2013

57 To Europe

57 To China

2016

311

200

By industry, 2016

Raw materials
Machinery parts
Automotive
High-tech
Consumer goods
Fashion
Capital equipment
Chemicals

Sources: Seabury Group; Accenture

Economist.com
Estimated Rail Potential > 1 mio TEU in 2025

UTLC – Eurasian Rail Alliance*

UTLC ERA one million club

The total number of containers transported by deep sea between South Eastern Asia/China and EU in 2017 exceeds 23 million TEU

Source: UTLC, September 2018
* UTLC ERA Shareholders: JSC Russian Railways, National Union Belarusian Railway, JSC National Company Kazakhstan Temir Zholy
## Capacity, Capacity, Capacity

UTLC – Eurasian Rail Alliance*

### Main dry border terminals in UTLC ERA services *

<table>
<thead>
<tr>
<th></th>
<th>Container trains, day</th>
<th>Capacity, thousand TEU/year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chinese border</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dostyk</td>
<td>12</td>
<td>360</td>
</tr>
<tr>
<td>Altynkol</td>
<td>30</td>
<td>900</td>
</tr>
<tr>
<td><strong>EU border</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brest</td>
<td>20</td>
<td>450</td>
</tr>
<tr>
<td>Bruzhi</td>
<td>4</td>
<td>60</td>
</tr>
<tr>
<td>Svislach</td>
<td>4</td>
<td>60</td>
</tr>
<tr>
<td>Kaliningrad</td>
<td>16</td>
<td>450</td>
</tr>
</tbody>
</table>

* Capacity expected for 2019

Source: UTLC, September 2018

* UTLC ERA Shareholders: JSC Russian Railways, National Union Belarusian Railway, JSC National Company Kazakhstan Temir Zholy
The dynamics of the market development is increasing – but…

Source: Rail Cargo Group, Powerday Feldkirch, June 2018

Sustainable?

Source: Rail Cargo Group, Powerday Feldkirch, June 2018
The Potential for the Danube Region?

- **Intermodal terminals**: currently limited logistic infrastructure to be expanded

- **International railway lines**: to be modernized and capacities increased
  - Beograd – Budapest
  - Budapest – Malaszewicze

- **Local railway lines**: upgrading of the lines and signalling systems, modernization of the rail stations

- **Customs**: improvement of the customs processes and counterfeit practices

The Hungarian government is to deploy eight new intermodal yards; seven in the countryside and one near Budapest to accommodate rail freight traffic from the Far East to Europe. It is eyeing a strategic position as an eastern European gateway on the New Silk Road.

Source: www.railfreight.com
Thank you for your attention!

The Eurasian Landbridge: Importance for the Danube Region

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