HSR “EURASIA”

A FUTURE OF EU-EAEU-CHINA COOPERATION IN TRADE AND RAILWAY TRANSPORT

Vladimir Kosoy
The corridor shall be created step by step. "Moscow-Kazan" high-speed trunk line will be the first stage.

Prior to creation of the whole transit corridor, the existing infrastructure can be used.

The greatest efficiency for the concession participant will be given by freight traffic. For the state – passenger traffic.

<table>
<thead>
<tr>
<th></th>
<th>Demand, mln tons</th>
<th>Capacity mln tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 by existing infrastructure (based on forwarders’ interviews)</td>
<td>2,4</td>
<td>&lt; 1,4</td>
</tr>
<tr>
<td>2035 by new freight-passenger HSR line (modelling)</td>
<td>5 - 6</td>
<td>&gt; 10</td>
</tr>
</tbody>
</table>
Over this 10-year period, trading has increased 9% by weight and 46% by value.

In the composition of all freight transport between China and the EU, railroad accounts for the smallest percentage, yet shows the fastest growth.

Rail transport has begun to occupy the middle competitive niche between aviation and shipping.

By value of goods transported, shipping has no monopoly. This fact only further highlights the potential demand for high-speed freight transport by rail.
According to the volume of trade between China and the EU in the base year, by 2030 trade levels are expected to reach just under 150 million tons and 843 billion euro.

In the event of crisis, trade is expected to be 30% lower. In the event of accelerated technologic progress, trade will increase by 10%.

Exports in tons from the EU to China will exceed exports from China to the EU by 2020. The cost gap between exports from the EU to China and exports from China to the EU will gradually close.
THE GEOGRAPHIC COMPOSITION OF TRADE BETWEEN EU COUNTRIES AND CHINA IS HIGHLY CENTRALIZED

CHINA’S MAIN TRADE PARTNERS IN THE EU

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>29%</td>
</tr>
<tr>
<td>Benelux</td>
<td>19%</td>
</tr>
<tr>
<td>Great Britain</td>
<td>12%</td>
</tr>
<tr>
<td>Italy</td>
<td>8%</td>
</tr>
<tr>
<td>Spain</td>
<td>5%</td>
</tr>
<tr>
<td>France</td>
<td>8%</td>
</tr>
<tr>
<td>East Europe</td>
<td>9%</td>
</tr>
<tr>
<td>Others</td>
<td>10%</td>
</tr>
</tbody>
</table>

Source: Eurostat

THE SHARE OF THE MACROREGIONS OF CHINA IN TRADE WITH EU

- Currently, routes between Germany/Benelux and eastern China create the greatest demand for freight transport.
- A significant proportion of imports from the EU is concentrated in the provinces near Beijing.
- The largest center of online trading is concentrated in the provinces near Guangzhou.
- The central and western provinces show the largest growth rates of exports.

Source: National Bureau of Statistics of China
GENERAL TRANSPORTATION COSTS: THE INDICATOR OF COMPETITIVENESS

GENERAL TRANSPORTATION COSTS = tariff + inventory costs (“frozen” capital)

For the transport of expensive electronics, “classic” rail falls behind air transport. High-speed rail in this sector occupies the leading position.

When the necessary conditions are met for transport, even ‘classic’ rail can compete with sea shipping in the medium-priced clothing sector.

For the transport of automobiles and automobile components, ‘classic’ rail can also be competitive with sea shipping.

For the transport of metal construction materials neither classic rail nor high-speed rail can compete with sea shipping.

In the transport of foodstuffs, high-speed rail can only compete with air transport.

Source: research performed by IEC
RUSSIAN IMPORT CAN BE A KEYSTONE FOR EURASIAN RAILWAY TRANSIT CONCERNING DISPROPORTIONS IN EU-CHINA TRADE

Modelling of modal shift of freight flows to speed trains

<table>
<thead>
<tr>
<th>WESTBOUND</th>
<th>1000 Tons</th>
<th>BLN Euro</th>
<th>EASTBOUND</th>
<th>MLN Tons</th>
<th>BLN Euro</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN to FR</td>
<td>720</td>
<td>8</td>
<td>FR to CN</td>
<td>256</td>
<td>3</td>
</tr>
<tr>
<td>RU to FR</td>
<td>0,...</td>
<td>0,...</td>
<td>FR to RU</td>
<td>405</td>
<td>5</td>
</tr>
<tr>
<td>TOTAL</td>
<td>720</td>
<td>8</td>
<td>TOTAL</td>
<td>661</td>
<td>8</td>
</tr>
</tbody>
</table>

If scheduled freight trains would carry European export not only to China but also to Russia Westbound and Eastbound demand will be equalized at least on the half distance to China
The most optimal weighted-average tariff is within the 1300-1600 euro per ton range. For freight traffic, the optimal level is within 5 to 10 million tons with profit between 6,4 – 6,5 billion euro.

**Indicators of economic efficiency of the Project**

- **NPV of the Project**, trillions rub.: 25,8
- **IRR of the Project**, %: 5,2
- **PBP of the Project**, years: 23,6

*Source: calculations of PwC*

*Source: calculations of IEC*
THE CAPACITY OF FREIGHT TRANSPORT BY HSR «EURASIA CAN INCREASED WITH 5.3 MLN TONS IN 2027 TO 11.9 MLN TONS IN 2050

Forecast of freight transport by HSR «Eurasia» on the directions, mln tons

Source: calculations of PwC
OTHER GLOBAL TRADE ROUTES WHICH CAN INCLUDE HSR “EURASIA” CAN ENHANCE GROWTH OF EUROPEAN TRADE

- CHINA – BRAZIL
- HARBIN – IRAN
- INDIA – EUROPE
- KOREA – EUROPE, KOREA – IRAN

- Seoul - Frankfurt: 10 days
- Seoul - Tehran: 12 days
NECESSARY CONDITIONS FOR LONG-TERM FUTURE GROWTH IN RAIL TRANSIT (ACCORDING TO INTERVIEWS CONDUCTED WITH FREIGHTING AND SHIPPING COMPANIES)

1. Provision of basic conveniences, the absence of which causes freighters to turn down the benefits of rail transport, such as optimal correlation of prices and delivery times

- **Transparency**
  - One window of control for the entire freighting process
  - Simplification of tariff system
  - Electronic documentation

- **Reliability**
  - Trains which follow tight schedules and accurately
  - Online monitoring of the condition of the freight. Monitoring of the terms of transportation. Ability to inform the client of the status of transit online

- **Diversity**
  - Diversity of the types of containers - shipping containers, refrigerated, isothermal, air and sea containers
  - Diversity of services (mail/freight, from door to door, between stations, 4PL, etc.)

2. **Active communicable politics** directed towards promoting rail as an optimal alternative to other forms of transport, considering joint transportation expenditures for freight handlers

Now logistics companies do not offer transit by rail, as they do not assess customer costs, associated with negotiable lending
ONE WINDOW- IMPLEMENTATION OF FREIGHT TRANSPORT BETWEEN EU, RUSSIA, CENTRAL ASIA AND CHINA

Formation of a international consortium for organizing container-based (and potentially high-speed) freight transit, transparent tariff on freight, and the provision of accelerated, punctual train traffic.

This analogous initiative is proposed within the limits of the Central Asian (CAREC) corridors under the auspices of the Asian Bank of Development.
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