Euro-Asian land transport links – Trends and perspectives

Lisbon–Vladivostok
Vienna – 14 June 2019

Dr. Gerhard Troche

Rail Policy and International Rail Transport
IIASA, Viena / Austria
What is IIASA?

- Established in 1972 by USA and USSR: **bridge between East and West** → science diplomacy
- **2019**: International, independent, interdisciplinary research on **major global problems**; currently **22 member countries**
- Dimensions: Economy, energy, land use, climate, air quality, technology, biodiversity, demography, natural hazards
- Solution oriented, **integrated systems analysis** into the issues of sustainability and global transformation
IIASA project: Challenges and Opportunities of Economic Integration within a Wider European and Eurasian Space

• Since 2014, focuses on plausible futures of economic cooperation between the EU, EAEU, and their neighbours, including the key Asian players
• A unique platform to facilitate a science-based de-politicized dialogue between experts, high-level policy makers and representatives of business across all relevant domains and regions
• More information: http://www.iiasa.ac.at/web/home/research/eurasian
IIASA project: Challenges and Opportunities of Economic Integration within a Wider European and Eurasian Space

- Ten events, 250+ international participants
- Reports synthesizing state-of-the-art in relevant dimensions
- Three in-depth studies on the most relevant issues: transport, FDI, convergence of standards
- Building trust
Development trends in Euro-Asian transport

Trend 1: Increasing trade volumes between EU and economies in Asia/China

Trend 2: Increasing interest by shippers and freight transport operators in rail transport between China and EU as complement to maritime transport

Trend 3: Russian initiatives to improve the Trans-Siberian rail landbridge in terms of capacity, transit time and transport efficiency

Trend 4: Chinese initiatives to develop new Euro-Asian transport routes (e.g. Iron Silk Road)
Development trends in Euro-Asian transport

Increasing trade volumes between EU and economies in Asia/China

Development of total trade EU – China 2006-2016
(Data : EC-DG TRADE)

Prognosis for development of trade with EUs top five export partners (excl intra-EU-trade).
(Source : EATL project, Phase III, 2016)
Route options for Euro-Asian rail freight

Northern Routes

Southern Routes
Comparative analysis of route options

**Northern routes:**

- Distance advantage from most parts of China to most parts of Europe
- Few border crossings
- High standard and good state of infrastructure – further improvements of capacity and standard on-going
- High transport efficiency due to relatively generous infrastructure standards
- High operational performance in terms of quality (punctuality) and reliability
- Use of joint CIM/SMGS consignment note facilitates transport
Development trends in Euro-Asian transport

Improvements of the Trans-Siberian rail landbridge

"Transsib in 7 days"

Development of transit time for freight trains on the Trans-Siberian Railway (Source: RZD)
Northern routes (cont.):

Challenges:

- Need for change of gauge (1435 $\rightarrow$ 1520 $\rightarrow$ 1435)
- Geographical alignment less suitable to serve economies in Southern Asia, e.g. Middle East and India (though possibility currently emerges to combine Northern Routes with new RU-AZ-IR North-South corridor)
Comparative analysis of route options

Southern routes:

- Possibility to create a complement / alternative to Northern routes (creating certain "route competition")
- In certain route options in the long term potentially no need for change of gauge (all standard gauge route)
- Geographically suitable to link economies even in Southern Asia (e.g. Middle East and India)
- Implementation facilitated i.a. under the Chinese OBOR-initiative
Comparative analysis of route options

Southern routes (cont.):

**Challenges:** All Southern route options face (often severe) challenges regarding:

- **Missing links** – currently no (convenient) continuous rail route EU – China available
- **Weak links** – parts of current rail links are of low standard
- **Distances** – in many cases transport distances EU – China are longer via the Southern routes
- **Political instability** along certain route sections
Comparative analysis of route options

Southern routes (cont.):

Challenges (cont.):

- Topography – major mountaineous areas to be passed
- Certain route options require combination with sea transport (across Black Sea and/or Caspian Sea)
- Many border crossings – creating interoperability and management issues
- Lack of harmonised regulatory framework
- No common target standard for entire routes
### Connectivity of Euro-Asian rail links with the EU rail network

**Entry points**

- Baltic seaports
- EU eastern land border
- Black Sea seaports
- EU-Turkey border
- Eastern Mediterranean seaports

**EU Rail Freight Corridors concerned**

- North Sea-Baltic RFC 8
- OEM RFC 7 / Rhine-Danube RFC 9
- OEM RFC 7 / Alp.-Westbalkan RFC 10
- OEM RFC 7
Connectivity of Euro-Asian routes with the EU TEN-T Network

All major entry points connected by TEN-T network and most also by EU Rail Freight Corridors – but:

• Generally lower technical standard on EU railway lines (esp. train length and axle-load)
• ”Incompatible” train parameters hamper efficiency
  → Even TEN-T target standard of 740m is ”incompatible” with the typical train length of 1000m on Euro-Asian rail routes east of the EU!
• Transshipment 1520 ↔ 1435
• Border procedures at EU border
• Border crossings within EU
Recommendations

- Improve capacity and operation of transshipment terminals 1520-1435
- Solve border crossing issues
- Investigate target standard beyond TEN-T and TSI minimum requirements on relevant rail links in EU to strategic border crossings
- Investigate optimised integration and connectivity of 1435- and 1520-networks/lines in Central-Eastern Europe
- Develop cooperation with OSJD corridors
- Learn from EU experience in freight corridor management
- Harmonised end-to-end corridor development!
Corridor concepts along the Euro-Asian rail links

EU Rail Freight Corridors

OSJD Rail Corridors

- Corridors partly overlapping in EU
- Cooperation between corridors promoted by:
  - Joint Eastern Partnership Declaration, Riga 2015
  - Memorandum of Understanding on cooperation in technical, operational and commercial development of OSJD Rail Corridors from 2013
Thank you !