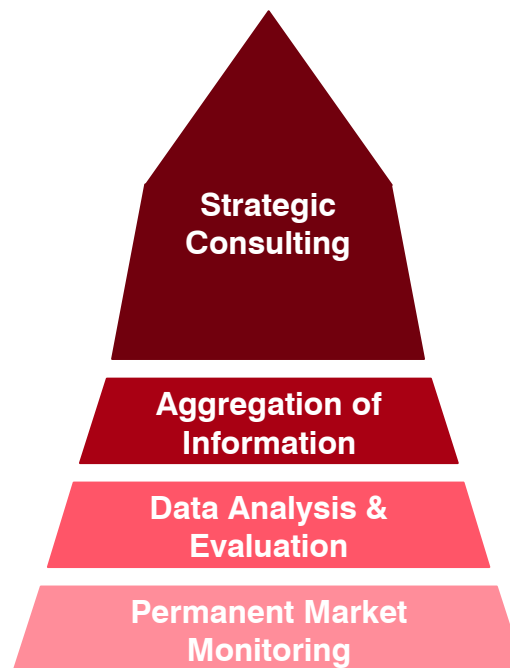


THE INTERNATIONAL CROSS-SECTORAL BALANCE AND TRANSPORT CORRIDORS

Maria Leenen, Dimitri Fiege, Ying Li, Karl Strang, St. Petersburg International Economic Forum, 24.05.2018



INTRODUCTION SCI VERKEHR GMBH



- › SCI VERKEHR is an independent consultancy company specialized in the transport sector with a worldwide range of customers
- › SCI VERKEHR is focused on strategic advice regarding railway assets, markets and strategies with more than 3 500 consulting projects since 1994
- › SCI VERKEHR supports industrial players, operators, investors, banks, and public bodies in their strategic decisions

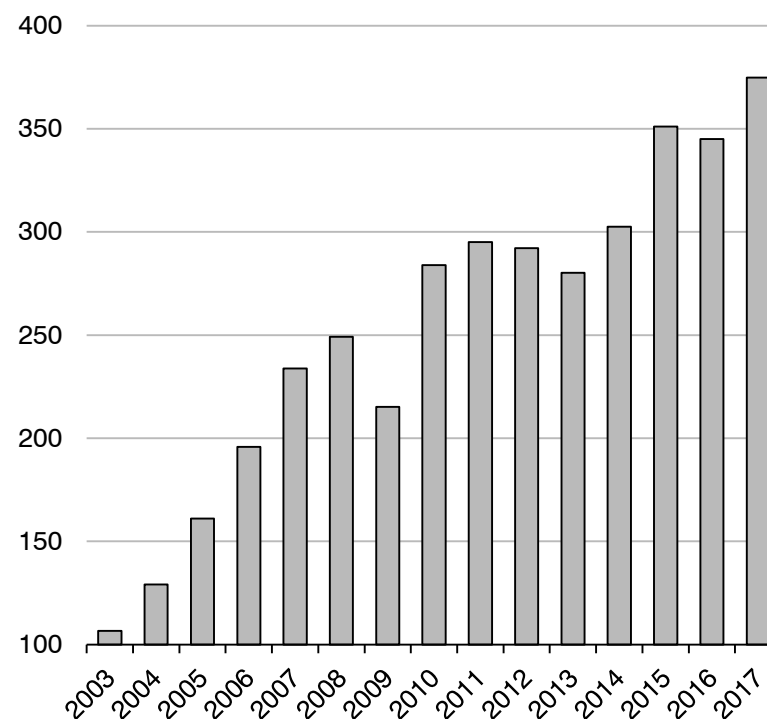
GLOBALIZATION AND SHIFT IN PRODUCTION LOCATION INCREASE FREIGHT TRANSPORT; EURASIAN TRADE GAINING IMPORTANCE

Development of World Trade
[Index 1960=1]



Source: World Trade Organization

Import EU from China
[billion EUR]



Source: European Commission

POLITICAL INITIATIVES AIM TO IMPROVE EUROASIAN FREIGHT TRANSPORT - ESPECIALLY CHINA'S ONE BELT ONE ROAD

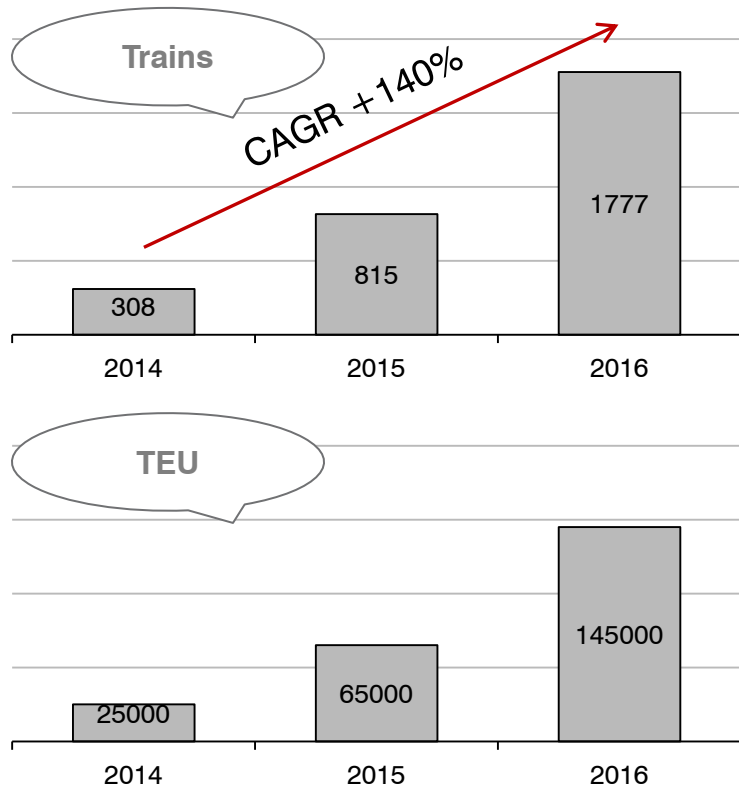


- **China:** One belt – one road (OBOR) - China's outbound direct investment in the OBOR Initiative will reach \$300 billion by 2030, according to the chief economist of the Bank of China. About 50 Chinese state-owned companies have invested in nearly 1,700 OBOR projects since 2013. Political relationships with the recipient countries is one of the major challenges
- **Russia:** To facilitate rail freight transport, Russia is cooperating with several states serving as transit countries such as Kazakhstan, Belarus and Mongolia
- **Others:** Australia, the United States, Japan and India are negotiating a joint regional infrastructure scheme in order to be an alternative to China's One Belt One Road, and to counter the growing influence of Beijing

Source: The Economist

VERY HIGH DEMAND FOR RAIL FREIGHT LOGISTICS BETWEEN EUROPE AND ASIA, INCREASED BY 140% P. A.

Development of rail freight transport between Asia and Europe



Source: UIC

- Eurasian rail cargo transport has grown significantly in the recent years. The number of operated trains rocketed from ~300 in 2014 to nearly 1,800 in 2016, while the transport volume grew from 25,000 TEU to 145,000 TEU
- Despite this strong development, rail transport still has a low intermodal market share of ~1% in the trade between Asia and Europe. The bulk of freight is transported by ship (more than 90%)
- According to forecasts⁽¹⁾ of the UIC, the total traffic potential between the 28 European and five Asian countries is forecasted to reach 25.6 m TEU in 2027 for sea, air and rail transport combined, compared to 11.1 m TEU in 2016 (CAGR 8%). For 2027, total rail potential of around 636,000 TEU is forecasted, with a significant amount coming from a shift from sea transport (CAGR 14.7%)
- Production locations are moving towards each other: In Europe „go east“ – in China „go-west“

(1) The analysis encompasses 33 countries in Europe and Asia: the 28 countries of the European Union plus Japan, South Korea, China, Mongolia and Kazakhstan.

CURRENT EURASIAN RAIL FREIGHT ROUTES REACH THEIR BOTTLENECK, ESPECIALLY AT BREST

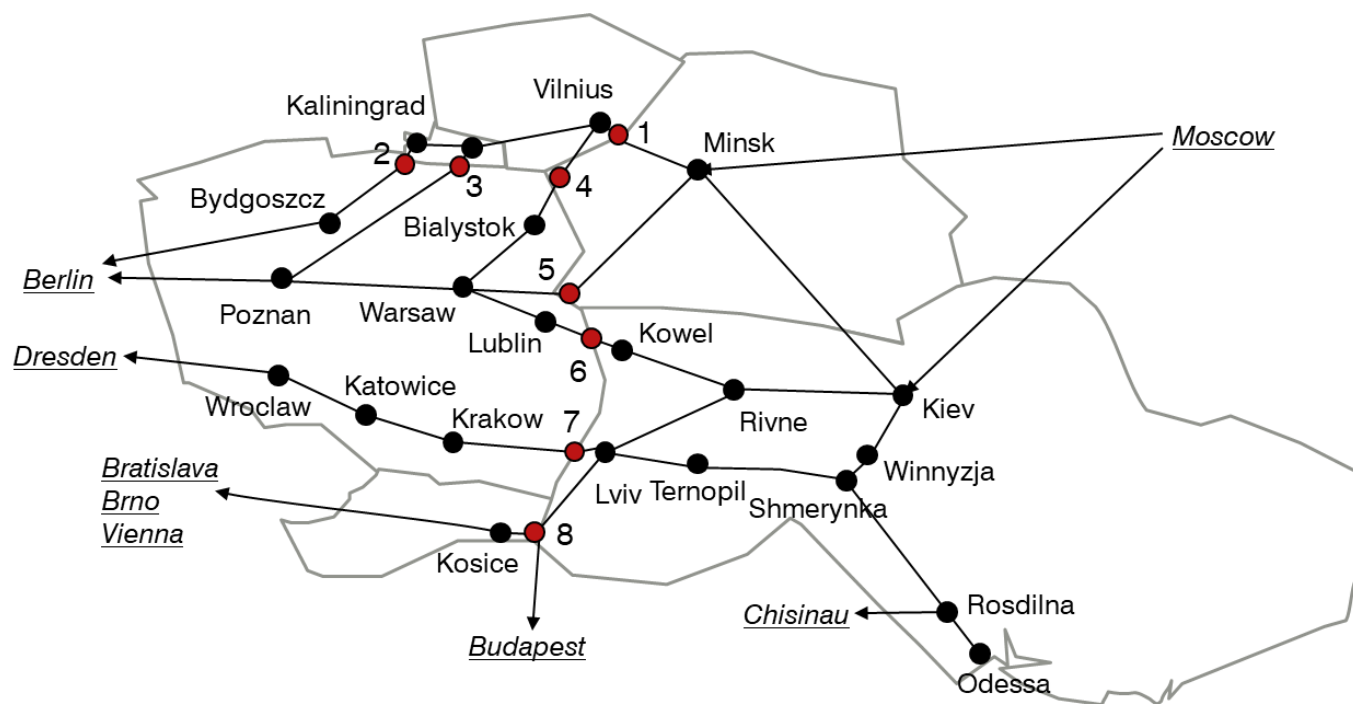


- Northern route
- Southern route
- - - Short sea connected
- - - Tested routes
- Regular services
- Tested services
- ◻ Border crossings
- Standard gauge 1,435 mm
- Broad gauge 1,520 mm
- Iberian broad gauge 1,668 mm

Source: Deutsche Bahn 2017

VARIOUS RAILWAY BORDER CROSSINGS BETWEEN CIS AND EU COUNTRIES – OBSTACLES NEED TO BE OVERCOME

Railway routes (selection):



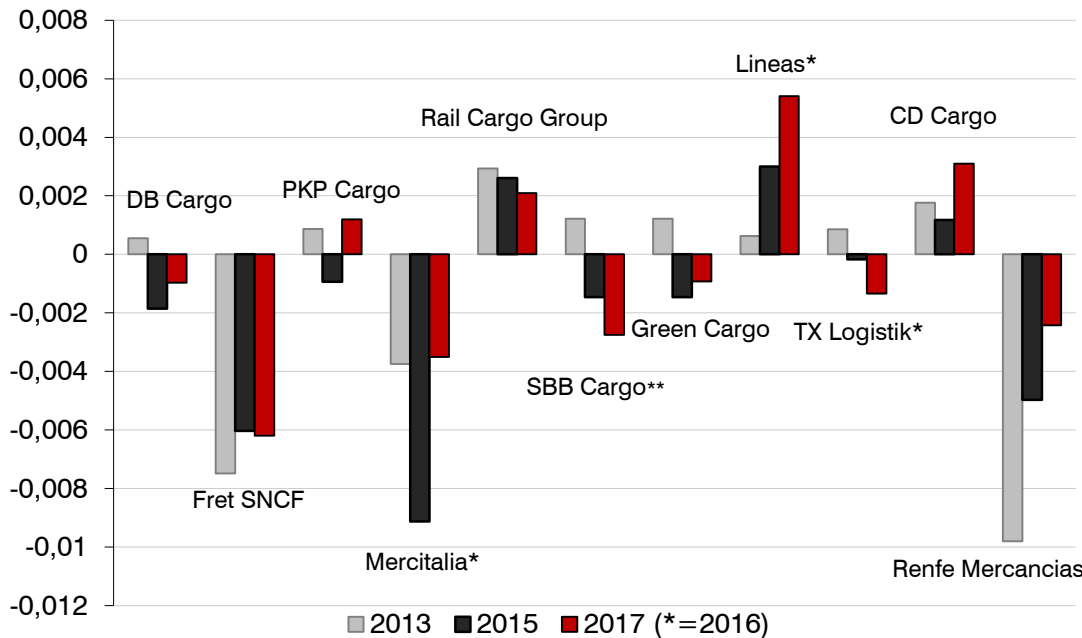
Border crossings (selection):

1. Sumskas (BY/LT)
2. Mamonovo (RU) / Braniewo (PL)
3. Zheleznodorozhnyi (RU) / Skandawa (PL)
4. Grodno (LT/BY/PL)
5. Brest (BY/PL)
6. Jagodzín (UA) / Dorohusk (PL)
7. Lviv (UA) / Przemyśl (PL)
8. Uzhgorod (UA) / Kosice (SK), Chop (UA) – Cierna nad Tisou (SK) and Zahony (HU)

Source: Own representation based on railway maps

EURASIAN RAIL FREIGHT: LARGE GROWTH POTENTIALS FOR ALL PARTIES INVOLVED, BUT CHALLENGES HAVE TO BE FACED

EBIT per transport performance [2013-2017, EUR/tkm]



Challenges for international rail freight transport on the corridors

- Insufficient or negative margin for European rail freight transport operators
- Most of the traffic is unpaired, i.e. Westbound
- Several factors impede further growth, such as average distance travelled (Russia around 1,100 km/day vs. Europe around 300 km/day) or maximum amount of containers allowed
- Existing border and gauge crossing terminals are bottlenecks for rail freight transport (e.g. Brest in Belarus)
- Long waiting times and processes for border crossings and customs

**SBB Cargo: excl. allowances of -173 mEUR

Source: Annual reports from the companies and SCI Verkehr

INTERNATIONAL COOPERATION AND FAIR CONDITIONS FOR ALL PARTIES INVOLVED ARE KEYS TO THE SUCCESS

Strengthening of international cooperations

- reduce custom and border crossing waiting times
- Fiscal duty plays an important role for European customers: Customs clearance possible in EU-broad-gauge countries?
- Develop international routes (incl. Infrastructure)

Exploitation of existing potentials

- Utilization of the full capacities of freight trains can only be achieved with an active role of Russia:
- E.g. integration of the domestic container transport in Russia
- Further potential west-east transports (not only EU-China)
- Existing network capacities should be extended to avoid bottlenecks

Increase operational efficiency

- It will be necessary to continuously enhance the infrastructure, processes and service quality along the Eurasian rail freight routes
- The focus of operators and railways should be on operational efficiency and on customer-friendly product development

Further growth of rail transports

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