Future Potentials of the New Silk Rail Routes for automotive and machinery supply chains

Kees Verweij
Partner

November 26, 2020
1 Profile Buck Consultants International
2 The New Silk Route
3 Assessment of the Silk Route
4 COVID-19 Impact
5 Mid-term Perspectives
6 Conclusions
7 Q & A
1 Introduction Buck Consultants International

Corporate clients
- Manufacturing footprint strategy
- Supply chain optimization
- Location advice
- Business strategy development
- Strategic outsourcing
- Real estate strategy and projects

Profile
- Established in Nijmegen, the Netherlands in 1985
- Offices in
  - Asia: Shanghai, Singapore
  - Europe: The Netherlands, London, Frankfurt
  - US: Atlanta, San Mateo, Los Angeles
- Performed studies in more than 50 countries worldwide
### Clients in High Tech, ICT & Electronics

- Belkin
- Dell
- ABB
- Texas Instruments
- Dataram
- HP
- Microsoft
- Samsung
- Loud Technologies Inc.
- Fairchild
- IBM
- Emerson
- Flex
- NCR
- Fresh Books
- Logitech
- Farnell
- Toshiba
- Novell
- RICOH
- X-rite
- SAP
- Lumileds
- Siemens
- Philips
- Mastervolt
- IMS
- Spectra-Physics
- Polaroid
- Lanier
- Westcon
- Comstor
- Ericsson
- Sun Microsystems

### Clients in Industrial & Automotive Industry

- Pirelli
- Tredegar Corporation
- Boral
- 3M
- Amcor
- Lely
- Silgan
- Pella
- Corning
- MSA
- ALCAN
- Alcan
- Gentherm
- Hilti
- United Technologies
- Tennant
- Hilti
- Zebra
- Pitney Bowes
- Mitsubishi
- Cummins
- Donaldson
- Mitsubishi
- John Deere
- Gatx
- Milacron
- Aava
- Brembo
- Yamaha
- Wärtsilä
- Polaris
- Videojet
- Fabor
- Caterpillar
- Oukokum
- ArcelorMittal

### Clients in Logistics

- FedEx
- arvato
- Bertelsmann
- Penske Logistics
- UPS
- DSV
- Geodis
- DHL
- Maersk
- Sea Trans
- TMI
- DB Schenker
- PGL
- Emirates
- Gebrüder Weiss
- Kuehne + Nagel
- TNT
- APL
- Genco
- DP World
- SBB CFF FFS
- Ewals Cargo Care
- Vos Logistics
- RSC
- XPO Logistics
- Keyrail
2 The New Silk Route

The New Silk Route: expression of a new role for China in the global economy
Sea transport is dominant in PRC-EU trade, but rail shows huge growth between 2015 - 2019

- Deep sea transport is responsible for 94% of trade volumes and 63% of trade value
- Import is 69% of total trade volume
- **Rail transport has a minor role in the China - Europe trade: rail accounts for 1% of trade volume and 3% of trade value (import and export)**
- Rail transport increased by 150% in terms of volume and 200% in term of trade value
- Strong reduction of transit times for rail transport
  - Transit times are now 12-18 days (compared to 30+ days in 2006)
  - The new transit times position rail transport between sea transport (35 – 42 days) and air transport (4-7 days)
75% of total trade volume is related to machinery and transportation equipment

Trade of machinery and transport equipment is both import and export

Focus of transport via rail of non-electrical and electrical machinery and transport equipment

- 75% of total trade volume is related to machinery and transportation equipment
- Trade of machinery and transport equipment is both import and export

Source: Eurostat, 2020
30 participating companies in the research from China, The Netherlands, Belgium, Germany, UK, Switzerland, France

### Shippers (n=17)

#### Industries of activity

<table>
<thead>
<tr>
<th>Industry</th>
<th>No. of participating shippers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipper Automotive</td>
<td>9</td>
</tr>
<tr>
<td>Shipper Machinery</td>
<td>7</td>
</tr>
<tr>
<td>Shipper Electronics</td>
<td>9</td>
</tr>
</tbody>
</table>

#### Position in the supply chain

<table>
<thead>
<tr>
<th>Position</th>
<th>No. of participating shippers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original equipment manufacturing (OEM)</td>
<td>11</td>
</tr>
<tr>
<td>Tier 1: Supplier of OEM</td>
<td>10</td>
</tr>
<tr>
<td>Tier 2: Supplier of components</td>
<td>3</td>
</tr>
</tbody>
</table>

### Logistics Services Providers (n=13)

#### Services provided by LSP

<table>
<thead>
<tr>
<th>Service</th>
<th>No. of participating 3PL/SP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport operations</td>
<td>12</td>
</tr>
<tr>
<td>Warehouse operations</td>
<td>12</td>
</tr>
<tr>
<td>VAL/VAS</td>
<td>12</td>
</tr>
</tbody>
</table>

Client base of LSP for rail transport China-Europe:
- Automotive, machinery and electronics
- Chemical industry
- Consumer goods
- Pharma & health
- Food & agriculture
4 COVID-19 Impact

Overview COVID-19 crisis

- **Lockdown China**
  - Impact on production

- **Lockdown Europe**
  - Impact production and consumers

- **Transportation hurdles**
  - Postponement of sailings (blank sailings), cancellation of trains

- **Relief lockdown**
  - China/Europe
  - Restart of production

- **Uncertainties for 2nd wave**

What is the direct impact of Covid-19 for your business?

- **Shippers (n=17)**
  - 42% V-shape: decrease and quick recovery
  - 58% Decrease of market

What results do you expect at the end of the year?

- **Shippers (n=17)**
  - 17% Small/medium decline (0-10%)
  - 33% Large decline (>10%)
  - 50% Small growth (0-5%)

What do you think is the structural impact of Covid-19?

- **Shippers (n=17)**
  - 30% Decline of markets
  - 70% Limited impact

- **Logistics Services Providers (n=13)**
  - 11% Growth rail transport
  - 11% V-shape: decline and recovery
  - 78% Decline of markets

- **Logistics Services Providers (n=13)**
  - 29% Increase of rail transport +50%
  - 29% Increase of rail transport 20-30%
  - 42% Structural growth of rail
  - 28% Decline of markets
  - 28% No change compared to 2019
  - 44% Period of (economic) uncertainty
The main driver for the modal choice for the shipper are transport costs
The main driver to choose for rail is the reduction of lead times

Shippers and LSP have almost opposite experiences with current rail transport between China – Europe vv
## Trends impacting the New Silk Route

### Top 10 supply chain trends

<table>
<thead>
<tr>
<th>Opportunity</th>
<th>Drivers</th>
<th>Impact on The New Silk Route</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Regionalisation in supply, production and inventory</td>
<td>Flexibility and resilience, Market opportunities, Operational costs, Trade tariffs / China-USA Trade war</td>
<td>Reduction of intercontinental transport of components and end products. Risk for rail, due to lower total transport volumes</td>
</tr>
<tr>
<td>2. Diversification in sourcing</td>
<td>Flexibility and resilience, Trade tariffs / China-USA Trade war</td>
<td>Reduction of intercontinental transport and divergence of transport flows. Risk for rail, due to lower total transport volumes.</td>
</tr>
<tr>
<td>3. Lower inventory and smaller shipments, higher frequency in supply</td>
<td>Flexibility and resilience, Operational costs</td>
<td>Rail could serve as preferred modality because of reliability and reduction of lead times</td>
</tr>
<tr>
<td>4. Go-West strategy of production in China</td>
<td>Lower production costs in central and western China</td>
<td>Improved competitiveness for rail transport, compared to sea cargo in term of total transport costs and lead times.</td>
</tr>
<tr>
<td>5. Shoring to low cost countries in SE Asia as well as Central and Eastern Europe (CEE)</td>
<td>Operational costs</td>
<td>Rail services in SE Asia is not in place. Accessibility for sea cargo. Production locations in CEE benefit from connectivity of Silk Route</td>
</tr>
<tr>
<td>6. Emerging markets in China/Asia</td>
<td>Market opportunities</td>
<td>Increasing eastbound transport of luxury goods and components for Asian markets and production</td>
</tr>
<tr>
<td>7. Improvement of rail product to reduce transport costs and congestion</td>
<td>Flexibility and resilience, Operational costs, Product/Market innovations</td>
<td>Rail is likely to become more competitive and becomes more known and attractive to shippers</td>
</tr>
<tr>
<td>8. Supply chain management innovations (e.g. direct deliveries, contingency plans, sustainability)</td>
<td>Flexibility and resilience, Operational costs, Product/Market innovations</td>
<td>Opportunity for rail, if it improves reliability and service level and develops a competitive proposition for LCL and direct delivery</td>
</tr>
<tr>
<td>9. Transparency and digitalisation in the supply chain</td>
<td>Flexibility and resilience, Operational costs, Product/Market innovations</td>
<td>Rail has to improve transparency and visibility to meet new requirements</td>
</tr>
<tr>
<td>10. E-commerce automation and channel development</td>
<td>Operational costs, Product/Market innovations</td>
<td>Rail has to develop supply chain solutions that fit with the replenishment strategy of e-fulfillment centers.</td>
</tr>
</tbody>
</table>

- 🔴 Risk for rail transport via The New Silk Route
- 🟦 Challenge for rail transport via The New Silk Route
- 🟢 Opportunity for rail transport via The New Silk Route
The Future of the New Silk Rail Route

The future of the New Silk Route will be determined by the LSP and not by the shippers

- LSP are focusing focus on improvement of the rail product
  - Improvement of services for LCL and the integration of rail transport with the continental road network
- LSP will expand the network of the New Silk Route, by developing new hubs for accessibility to new regions
- Impact of the development of the rail product on the strategic choices of shippers is very limited
  - For the vast majority, sea cargo is the default transport mode and accounts for 90-95% of total transport
  - Shippers are well positioned in Europe and the supply chain networks of the shippers are customized for sea cargo
- Shippers moreover challenge LSP to develop logistics products that meet new demands, in terms of flexibility, contingency and the reduction of total logistics costs
  - Expected growth of rail transport in the next 5-10 years: 3-5% of total volume
6 Conclusions

1 Rail in China – Europe trade is 1% in volume and 3% in value. The volume could grow to 2030 to maximum 3 – 5% of the transport volume.

2 COVID-19 has shown the benefit of a third transport mode

- Shippers need an alternative due to blank sailings and high transport costs for air cargo
- Rail transport has proven to be effective in contingency planning for shippers

3 The sectors Automotive, Machinery and Electronics have high volumes rail transport China – Europe vv. but 2 out of 3 face substantial challenges

   - **Automotive**
     - Decline of the European market
     - China is the top electric vehicles (EV-)market; producers have to be there with production plants
     - China wants supplier plants to move to China

   - **Machinery**
     - Regionalisation of production results in shorter supply chains and less China – Europe vv transportation
     - Producers in machinery focus on regional production in South-East Asia, more than production in Europe, as part of a China + 1 strategy

4 Geographical hotspots, related to the New Silk Route, are determined by accessibility to markets and expansion logistics networks by LSPs
Questions?

Kees Verweij  
Partner  
Buck Consultants International

Mail  
kees.verweij@bciglobal.com

Phone  +31 24 379 0222
Cell  +31 651 100 950