Get your business rolling

Innovative rail logistics solutions between China and Europe
Agenda

1. Development rail freight on the New Silkroad
2. Economic and ecological benefits
3. Rail connections
4. Additional options / security concept
5. E2E customer solutions
6. Case studies
Development rail freight on the New Silkroad

**1st train started in 2008** from Beijing to Hamburg

**2010:** tests on Northern and Southern route

**2011:** Company trains
Chongqing – Duisburg and Leipzig – Shenyang

**Growing number of east- and westbound train services**

DB Schenker enlarged service portfolio:
- Rail/Air
- LCL
- Reefer shipments

**3600 trains in 2017**

**5000 trains are announced for 2020 by China Railways**

**6300 trains were operated in 2018 eastbound and westbound**

**3600 trains in 2017**

**over 7000 trains predicted for 2019**

**7756 trains in 2027 (21 trains daily)**

**9880 trains in 2030 (27 trains daily)**

*presented by UIC; August 2017 with Roland Berger in Paris*
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 in a door-door comparison

- **Air** (5 days)
- **Ocean** (45 days)
- **Rail** (20 days)
Green Logistics: apart from economic advantages Rail offers the most environmentally friendly transport mode

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)
DB Schenker’s network of Land Transport is well connected by New Silkroad rail system.

Overview train connections
Overview on main blocktrain services and Routes

- **Shenyang – Leipzig**
  - Southern Route
  - Westbound: 5xweekly
  - Transit time terminal-terminal: **14 days**
  - Eastbound: 4xweekly
  - Transit time terminal-terminal: **17 days**

Other routes:
- **Chongqing – Duisburg**
- **Chengdu-Lodz/Tilburg/Nuremberg**
- **Wuhan-Duisburg/Hamburg/Lyon**
- **Zhengzhou – Hamburg**
- **Changsha – Duisburg**
- **Suzhou – Warsaw**
- **Shenyang – Leipzig**

*TRANSA Spedition GmbH | Multimodal Solutions | Offenbach | February 2019*
Overview on main blocktrain services and Routes

- **Southern Route**
  - **Westbound**: Kutno/Lodz T2T time: 13 days
    - 8xweekly
    - to Nuremberg: 15 days
    - to Tilburg: 15 days
  - **Eastbound**: T2T time from Kutno/Lodz: 17 days
    - 6xweekly
    - from Nuremberg: 20 days
    - from Tilburg: 21 days
Overview on main blocktrain services and Routes

Southern Route

- Shenyang – Leipzig
- Changsha – Duisburg
- Chongqing – Duisburg
- Zhengzhou – Hamburg
- Suzhou – Warsaw
- Shenyang – Leipzig

**Transit time terminal-terminal:**
- **Westbound**: 3xweekly, 15 days
- **Eastbound**: 2xweekly, 18 days
Overview on main blocktrain services and Routes

Southern Route

Westbound
Chongqing – Duisburg
Westbound
Chengdu – Lodz/Tilburg/Nuremberg
Westbound
Wuhan – Duisburg/Hamburg/Lyon
Westbound
Zhengzhou – Hamburg/Munich
Westbound
Changsha – Duisburg
Westbound
Suzhou – Warsaw
Westbound
Shenyang – Leipzig

Transit time terminal-terminal: **15 days**

Eastbound
Zhengzhou – Hamburg/Munich
Eastbound
Changsha – Duisburg
Eastbound
Suzhou – Warsaw
Eastbound
Shenyang – Leipzig

Transit time terminal-terminal: **17 days**
Overview on main blocktrain services and Routes

Northern Route

**Westbound**
- Transit time terminal-terminal: **22 days**

**Eastbound**
- Transit time terminal-terminal: **23 days**
Overview on main blocktrain services and Routes

Northern Route

Chongqing – Duisburg
Chengdu–Lodz/Tilburg/Nuremberg
Wuhan–Duisburg/Hamburg/Lyon
Zhengzhou – Hamburg
Changsha – Duisburg
Suzhou – Warsaw
Shenyang – Leipzig

Transit time terminal-terminal: **14 days**

Westbound

Sun

Transit time terminal-terminal: **23 days**

Eastbound

Fri
Overview on main blocktrain services and Routes

Chongqing – Duisburg
Chengdu – Lodz/Tilburg/Nuremberg
Wuhan – Duisburg/Hamburg/Lyon
Zhengzhou – Hamburg
Changsha – Duisburg
Suzhou – Warsaw
Shenyang – Leipzig

Northern Route

Westbound
Fri

Transit time terminal-terminal: **23 days**

Eastbound
Sun

Transit time terminal-terminal: **23 days**
Basic Process and Transit Time

Westbound

| country  | Process                           | -6 | -5 | -4 | -3 | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|----------|-----------------------------------|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| China    | Pre-carriage                      |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| China    | Cargo Cut-off at rail station     |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| China    | Train departure                   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Transit  |                                   |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Germany  | Train arrival                     |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Germany  | On-carriage                       |    |    |    |    |    |    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

Transit time door-door: 22 days
### Basic Process and Transit Time

#### Eastbound

**Transit time door-door: 25 days**

<table>
<thead>
<tr>
<th>Country</th>
<th>Process</th>
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<tbody>
<tr>
<td>Germany</td>
<td>Pre-carriage</td>
</tr>
<tr>
<td>Germany</td>
<td>Cargo Cut-off at rail station</td>
</tr>
<tr>
<td>Germany</td>
<td>Train departure</td>
</tr>
<tr>
<td><strong>Transit</strong></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>Train arrival</td>
</tr>
<tr>
<td>China</td>
<td>On-carriage</td>
</tr>
</tbody>
</table>

-5 -4 -3 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
DB Schenker’s security concept provides safety and full visibility

Audited Security Concept

24/7 Monitoring & Intervention

Monitored in real-time

<table>
<thead>
<tr>
<th>Door</th>
<th>Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>Tilt</td>
</tr>
<tr>
<td>Light</td>
<td>Impact (Shock)</td>
</tr>
<tr>
<td>Temperature</td>
<td>Vibration</td>
</tr>
</tbody>
</table>
E2E customer solutions

DB Schenker takes the responsibility “end to end“ including the integration of all key processes
Case Studies
1. Case study: regular block trains from Chongqing to Duisburg for a leading electronics customer

**Challenge**
- Relocation of customer’s production facilities from coastal areas to Chongqing
- Customer needs to find transport solution matching or surpassing the previous ocean lead time
- Up to 2011 no rail service available on the Southern route making DB Schenker a pioneer on this route

**Solution**
- Special trains with short booking timelines,
- Innovative sea-air and rail-air solutions are created
- Innovative security concept based on DB Schenker Smartbox

**Customer benefits**
- Door-to-door lead-time reduction by 12-15 days compared to previous ocean transport
- Time to market advantage and capital-costs reduction
- High flexibility to accommodate additional transport volume
- High reliability in regard to delivery accuracy and safety

**Key facts**
- Commodity: electronic goods
- Route: Chongqing to Duisburg (10,800 km by rail), on-carriage to the Netherlands and to Germany
- Lead time: 23 days decreased to 17 days (door-door)
- Volume: 41-50 FEU per train

**Client:** World famous multinational electronics manufacturer

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**Commodity:** electronic goods

**Route:** Chongqing to Duisburg (10,800 km by rail), on-carriage to the Netherlands and to Germany

**Lead time:** 23 days decreased to 17 days (door-door)

**Volume:** 41-50 FEU per train

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**Client:** World famous multinational electronics manufacturer
2. Case study: High value electronics from Kunshan to Leipzig

Challenge
- Customer is producing in bonded area and was seeking for **seamless shipment start** after production
- **High security standards** and well prepared customs processes for bonded trucking on ex- and import are required
- High priority on **lowest waiting times** for rail departures and at interfaces truck-rail-truck

Solution
- **train product** with highest train frequency
- **pro-active arrival management** with destination terminal for customs, oncarriage and delivery slots
- **Innovative security concept** based on DB Schenker Smartbox

Customer benefits
- **High flexibility** due to high frequency of trains
- **High reliability** in regard to delivery accuracy and safety
- **Moving inventory reduction** with short lead time at appropriate costs

Key facts
- Commodity: high value electronic goods
- Route: Kunshan to Leipzig, using train product from Chongqing to Duisburg (10,800 km by rail), bonded pre- and oncarriage
- Lead time: 19 days (door-door)
- Volume: single 40 ft HC container shipments
Your contact at TRANSA

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