Broad Gauge Potential
broad gauge line Košice-Vienna

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The Idea and The Motive Behind

- **continuous railway connection from Asia to the TWIN-City Region Vienna-Bratislava**
  - Direct connection of the broad gage network (1520 mm) to the Trans-European Transport Network

- **reduction of transportation time between Asia and Europe**
  - Reduce transportation times to 15 days using rail, compared to the 35 days for the transportation of goods by ship.

- **significant macroeconomic benefits**
  - Chances for new markets, creation of employment and development of new businesses, sustainable influence on the Gross Domestic Product (GDP) of European and Asian countries

- **sustainable freight transport system**
  - Reducing CO₂-emissions, strengthening the international railway system, shifting other modes of transport to the railway freight transport
Vision - „Corridor of Development“
freight corridor of more than 10,000 km

PROJECT: BROAD GAUGE LINE KOŠICE-VIENNA

A continuous railway for freight transport from Russia and China to the TWIN-City region Vienna-Bratislava
Direct Connection to the TEN-T Core Network Corridors

Transportation hub for Europe in the twin-city region of Vienna and Bratislava – a direct connection to the TEN-T Corridors:
- Rhine-Danube
- Baltic-Adriatic
- Orient / East-Med
The Project - Closing the Gap Between Two Powerful Railway Networks

- to create a corridor of development connecting the Trans Siberian Railway Network to the western European 1435 mm Railway Network
- the broad gauge connection Košice – Vienna (~ 400 km) is a consequent prolongation of the Trans Siberian Railway Line (~ 10.000 km) and closes the gap between two powerful railway networks
Project History

- 2006-2008: various studies and reports
- 2009: Foundation of the Breitspur Planungsgesellschaft mbH (BPG)

- 2010-2011: Elaboration of the Pre-Feasibility Study
  - Contractor: International Consortium under the leadership of Roland Berger (Progtrans, Deloitte, Atkins, i.a.)

- 05.07.2013: Memorandum of Understanding among the CEOs of the project partners:
  - to support the plans of the joint company BPG to further evaluate and detail the project and provide the funding within the next project phase

- 31.08.2013: the start of the EU-wide bidding for the Feasibility Study
  - Feasibility Study (technical and environmental part) including:
    - corridor and route selection,
    - documents for the execution of Strategic Environmental Assessments (SEA) in Austria and in Slovakia,
    - operational concept,
    - the selection of a terminal location
    - optionally: the pre-design.

- in addition: elaboration of Business Models & Economic Analysis, and Traffic Forecast Update
Pre-Feasibility - Results

- Track length (single track with passing loops; electrified):
  - Slovakia: ~400km
  - Austria: ~20km

- The preferred corridor is in the southern part of Slovakia, in Austria - depending on the terminal location

- Possible terminal location in Austria in a ~30km-Radius around Vienna:
  - In the East
  - In the North

- Terminal location for regional demand in the central part of Slovakia

- Area required:
  - 150-200ha
  - Goal: modular development (capacity expansion on demand)

- Traffic forecast:
  - Broad Gauge 2030 (net): 12,8 Mio. t per year
  - Broad Gauge 2050 (net): 16,1 Mio. t per year

- Cost estimate for implementation (price basis 2010): ~6,7 bn €
Feasibility Study – Current Project Status

- Aim of Feasibility Study:
  - Generation of more detailed information for the overall decision making process of the project (e.g. alignment, costs)
  - Reach first authority approvals in Austria and in Slovakia

- Project Phases Feasibility Study:
  - Phase 1 - System development / terminal – space requirements
  - Phase 2 - Corridor selection / possible terminal locations / documents for possible execution of a Strategic Environmental Assessment (SEA)
  - Phase 3 - Route selection / terminal location
  - Phase 4 – Pre-Design (optional)
High Tech Railway Terminal
for Broad Gauge

- The European gateway for trade flow between Europe and Asia in the TWIN-City region Vienna-Bratislava
- Required area min. 150 – 200 ha, compared to the Railway Freight Center Vienna South with a total area of 55 ha
- Intermodal terminal infrastructure (broad to standard gauge)
- Modular layout 5 modules with storage area – allows expansion depending on the traffic volumes
- Maximal transshipment of 1.5 Mio TEU per year

Capacity design parameters:
- Transhipment modules, sorting of containers, train composition
- Shunting yards for broad and standard gauge
- Maintenance and repair centre for container and for rolling stock
- Transhipment area for bulk commodities and liquid goods
- Number of transhipment tracks for broad gauge: 12 tracks
- Number of transhipment tracks for standard gauge: 18 tracks
- At least 12 gantry cranes for transhipment of containers
- Broad gauge shunting yard with at least 10 tracks
- Standard gauge shunting yard with at least 12 tracks
Business Models & Economic Analysis

- **comprehensive business and financial models** for the project on the basis of current economic analysis data
- possible variants for **ownership & financing structure and operating models** for the different business sectors - infrastructure, terminal, rail transport companies, logistics companies/freight forwarding, etc
- possibilities of **co-financing by third parties, subsidies and grants** for the investment and the operation
- **budget effectiveness** (macroeconomic, financial, socio-economic and ecological) for each of the four countries participating in the project (Austria, Slovakia, Ukraine, Russia)
- **sensitivity analysis** according to key parameters influencing forecast financial results of the project
- **comprehensive legal analysis** within the frame of regulatory economics, considering national and European laws
- **Potential impact of context projects** on state budgets (subject to inputs from technical experts)
Updates of Traffic Forecasts of the Pre-Feasibility Study

- Up-date and forecast of the **underlying economic data base** - current economic data, GDP-forecasts, trade data (country / country) and economic / transport background information of Austria and Slovakia

- Up-date and forecast of **model input transport data**
  - freight railway traffic and hinterland O/D in the catchment area of the planned terminals (Twin City Region and Slovakia)

- Transport forecast – **Approach**
  - trade flows (country to country) of about 35 countries
  - Corridor factors - the share of transport volumes for the BGP
  - Mode share – considering trade development and further transport infra-structure development

**New elements:**

- detailed analysis of the transport flows handled in the planned terminals with regard to the final origin / destinations and the mode choice (road / conventional rail)

- detailed analysis of selected potential commodities – market analysis

- Impacts of new railway infrastructure projects on the transport demand of the broad gauge project

- Risk Analysis

**Results:**

- Annual transport volumes until 2030/2050
- Commodities: Container / Dry Bulk / Liquid Bulk
- Directional transport volumes for westbound and eastbound sections of the broad-gauge railway line
- Origin / destination (O/D) by countries and transshipment volumes in terminals (on the Slovakian and Austrian side)
- Linkage of broad-gauge line with existing transport infrastructure (standard gauge, road, inland waterways)
Russia, China and other Asian countries are important trading partners for die European countries und a great opportunity for the economic development of the European Union.

The major part of the freight transport between Asia and Europe is currently being carried out by sea (30-45 days transport time).

Transport by rail reduces considerably the transport time (down to 15 days) and ensures an attractive alternative for freight transport, especially of capital intensive goods.

A continuous railway connection from Russia, China and other Asian countries to central Europe offers a new dimension of time-competitive, cost-effective and sustainable rail transport in Eurasia.

A significant intersection of three Core Network Corridors of the TEN-T is situated in the Twin-City Region Vienna-Bratislava and provides a unique opportunity for a direct connection with the Asian railway network and for the realisation of an important transport hub and a gateway for west bound and east bound trade flows between Europa und Asia.