UIRR
INTERNATIONAL UNION FOR ROAD-RAIL COMBINED TRANSPORT

INTERLOG

"INTERMODAL TRANSPORT, PERSPECTIVE ON THE CORRIDORS AND THE NEW SILK ROAD"

Ralf-Charley SCHULTZE
President

FRANKFURT 30 May 2018

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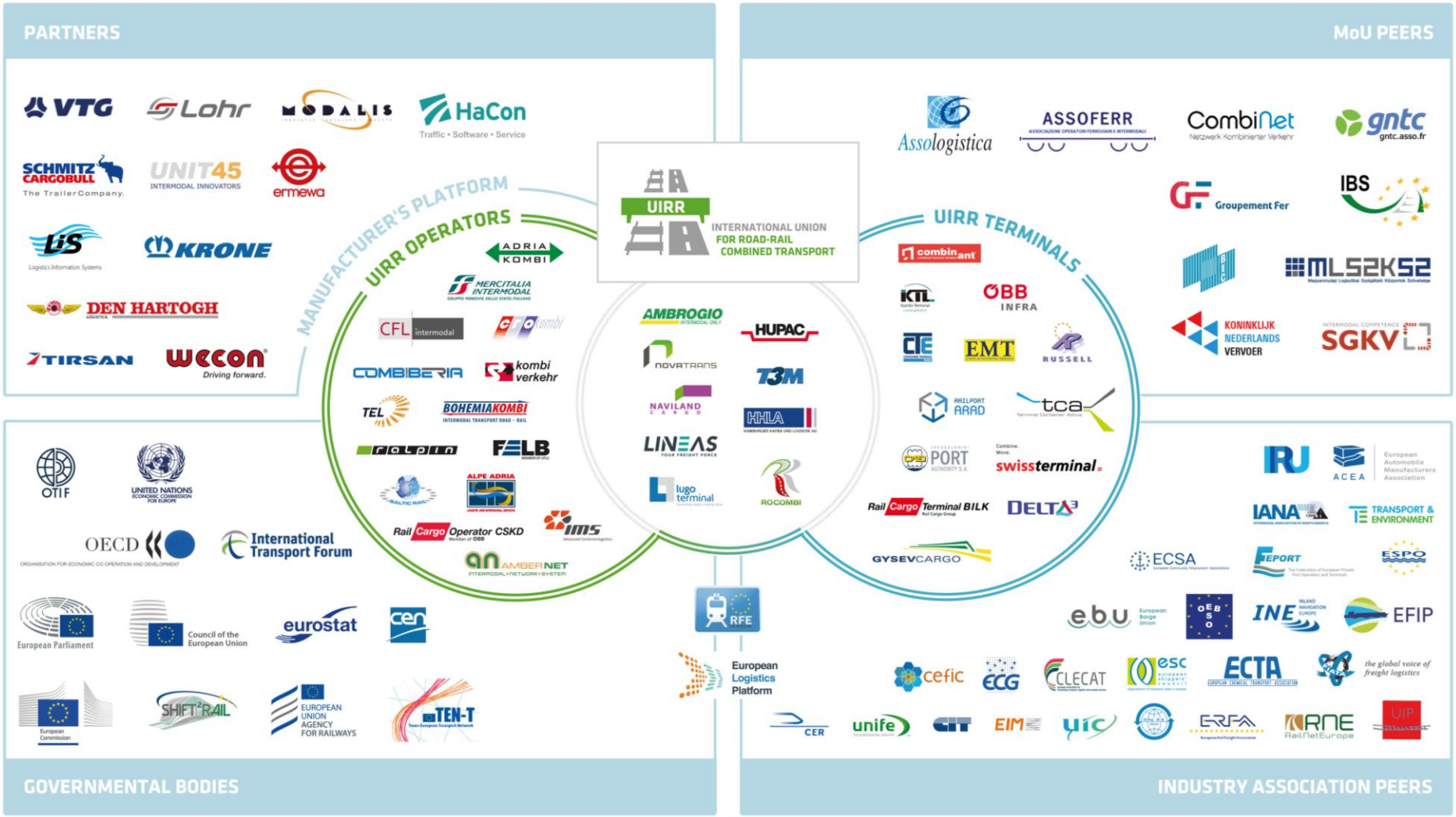
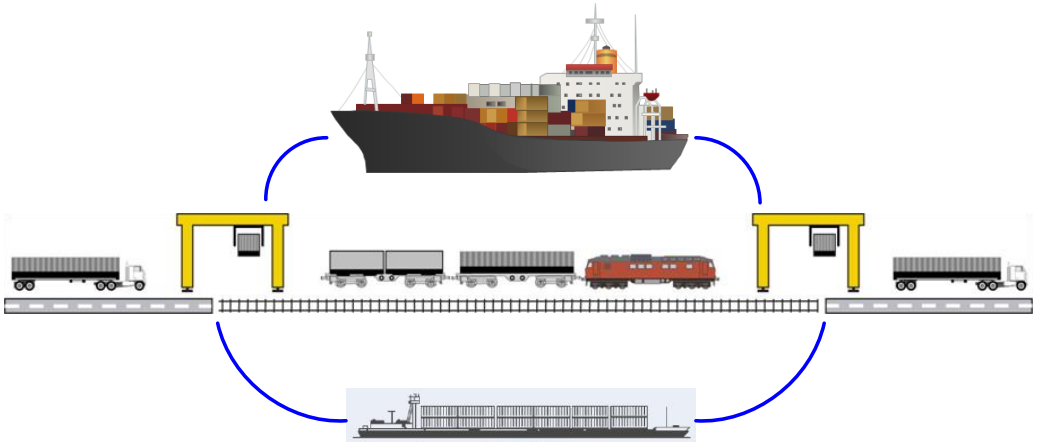
UIRR: the Industry Association of Combined Transport



High density longer distance land freight transport

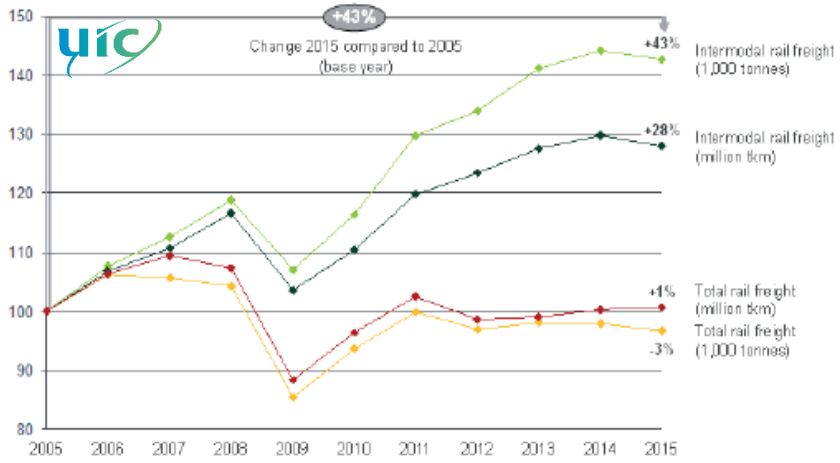
Intermodal Transport: brings the best out of each mode of transport

Intermodal is the most efficient way to insert ecologically sustainable modes of transport – like electric rail, inland navigation and short sea shipping – into long(er) distance transport-chains.

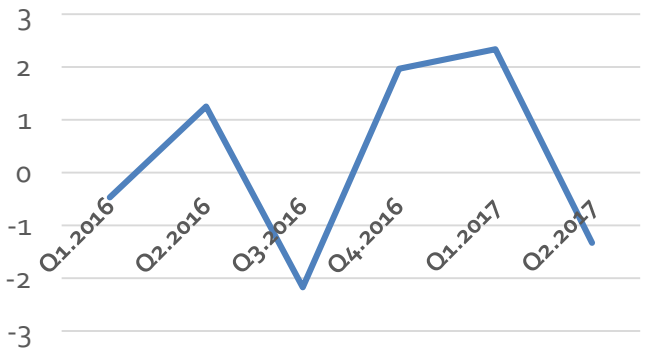


Intermodal/Combined Transport in Europe

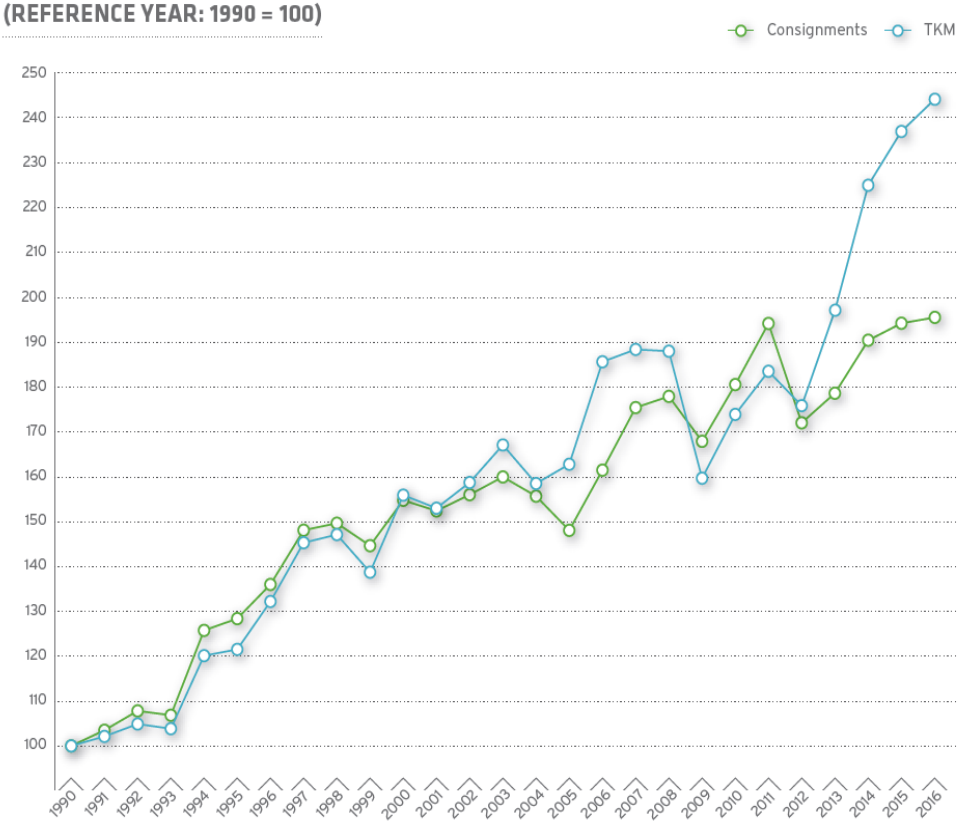
Development of Combined Transport



UIRR Quarterly CT Performance Index since Q1.2016 (in %)



(REFERENCE YEAR: 1990 = 100)



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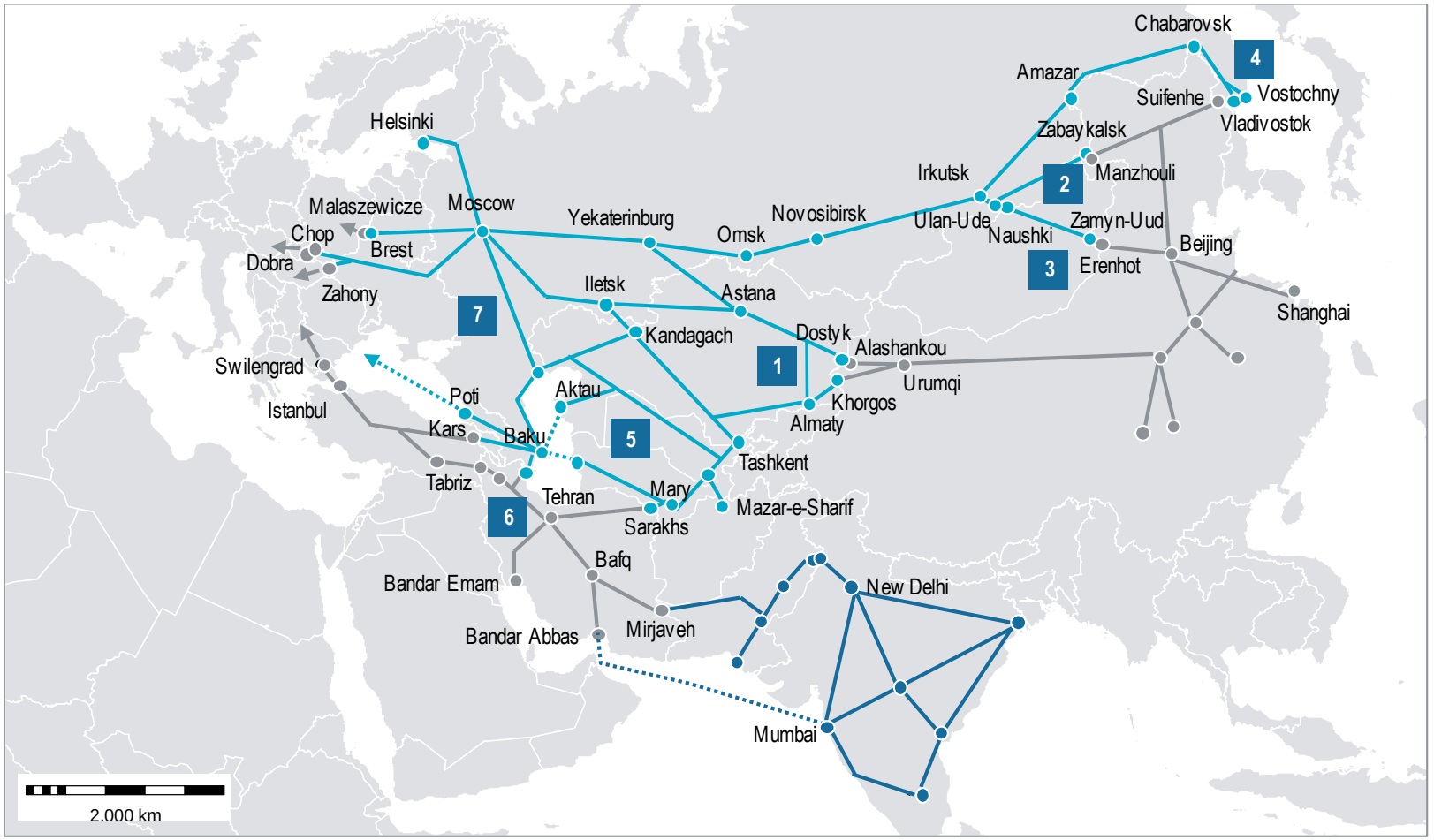
Main Eurasian routes with track gauge



Route assessment

Route		Length	Transit time[1)]	Capacity and Comments
1	**Via Alashankou/ Dostyk or Khorgos (Kazakhstan)**	> 10,000 km	> 16-17 days	> High reliability, good infrastructure > Sufficient capacities, new terminal in Khorgos
2	**Via Manzhouli/ Zabaykalsk (Russia)**	> 11,000 km	> 17-18 days	> High reliability, good infrastructure > High volume but limited free capacity in Zabaykalsk
3	**Via Erenhot/Zamyn-Uud (Mongolia)**	> 10,500 km	> 18-19 days	> Alternative to route 2, additional border crossings > Weak infrastructure in Mongolia, limited capacity
4	**Via Suifenhe/ Vostochny (Russia)**	> 11,500 km	> 18-19 days	> Suitable route for traffic from South Korea > High reliability, good infrastructure
5	**Via Dostyk or Khorgos/Baku**	> 12,000 km	> 19-23 days	> Alternative for traffic to Southern Europe > Two times RoRo shipping[2)], limited capacity
6	**Via Khorgos/Tash-kent/Tehran**	> 12,500 km	> Hardly used	> Weak infrastructure, route has to be developed > Limited capacity
7	**Via Tehran/Baku/ Moscow**	> 13,500 km	> Hardly used	> Suitable route for traffic from India to Europe > Weak infrastructure, route has to be developed

Intercontinental Combined Transport

- UIRR Members active between Europe and China

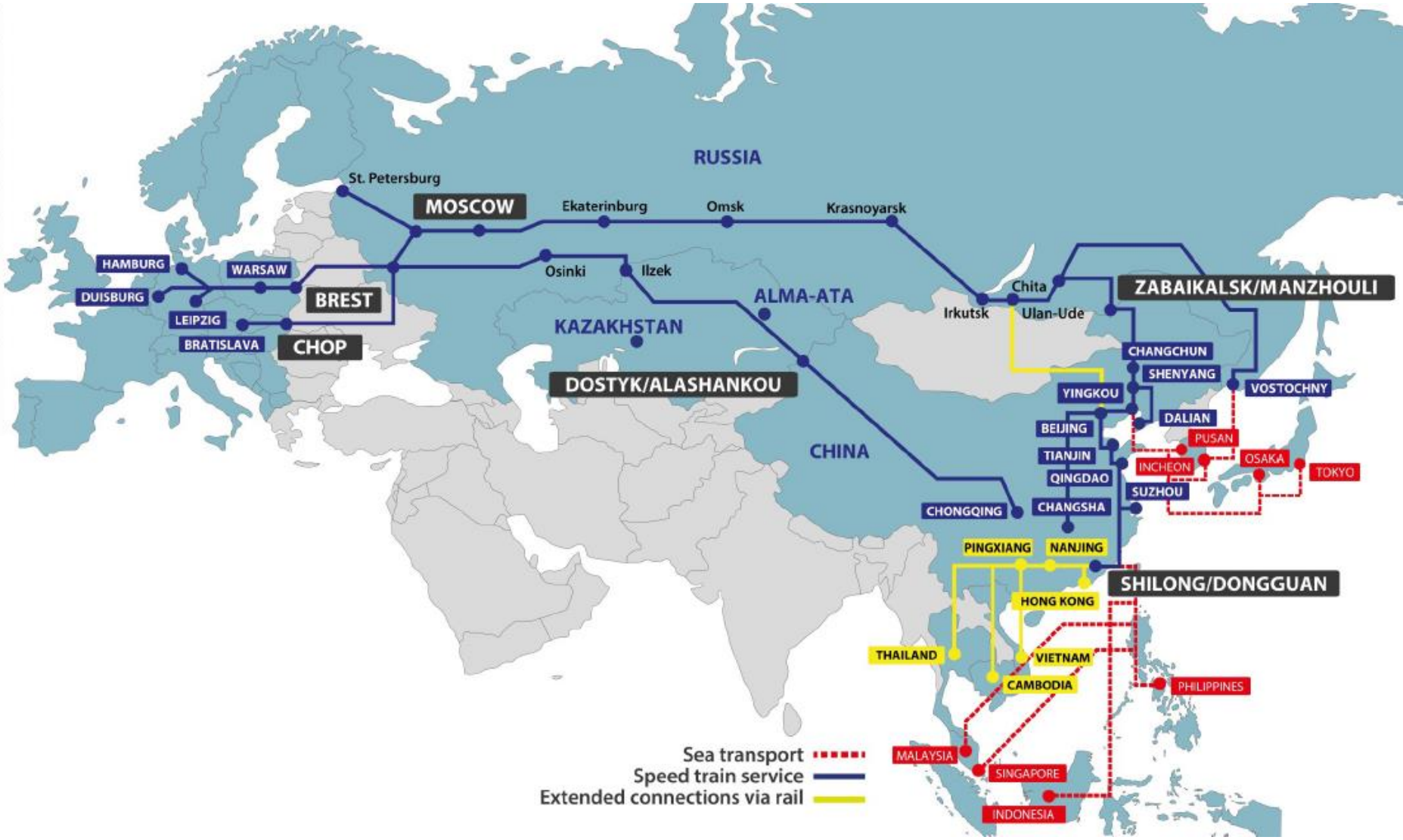
FELB MEMBER OF UTLC

HUPAC

TEL

- 2015 traffic volume (export+import): **over 100.000 TEU**

Well identified routes – high level quality



FELB POST

FAR EAST LAND BRIDGE LTD. ILLUSTRATED NEWSPAPER

Monday, February 15, 2016

120 KM/H ON THE RUSSIAN STRETCH
WILL THIS ALSO IMPROVE TRANSIT TIME OF FELB'S SERVICE?

Reduction from 14 to **10 days terminal-to-terminal service** between Asia and Europe is identified as a new ambitious goal within the Russian Railway Group.

For the first time, wagons in Russia will be able to carry out transports at the speed of 120 km/h, loaded or empty. As the wagon manufacturer Altaivagon has been granted approval for the Type 13-2114-11 container flat wagon design with 18-2145 bogies, TransContainer prepares to use this new type of container wagons on the Moscow – St. Petersburg route.

The approval and the upcoming production are the result of collaboration with Russian Railways (RZD). The modelling and projecting went smoothly – only minor changes in the braking system were required to reach the new speed, Altaivagon reports. Ultimately, this is one more important step towards the reduction of transit time and maintenance costs.

The transit time development of FELB's railing service between Asia and Europe improved gradually from 26 days to 22 days in 2010; from 22 days to 20 days in 2012 and from 16 days to 14 days in 2014. With the arrival of the 120 km/h wagon in Russia, FELB will be able to reach a transit time of only 10 days in the nearest future.

FELB

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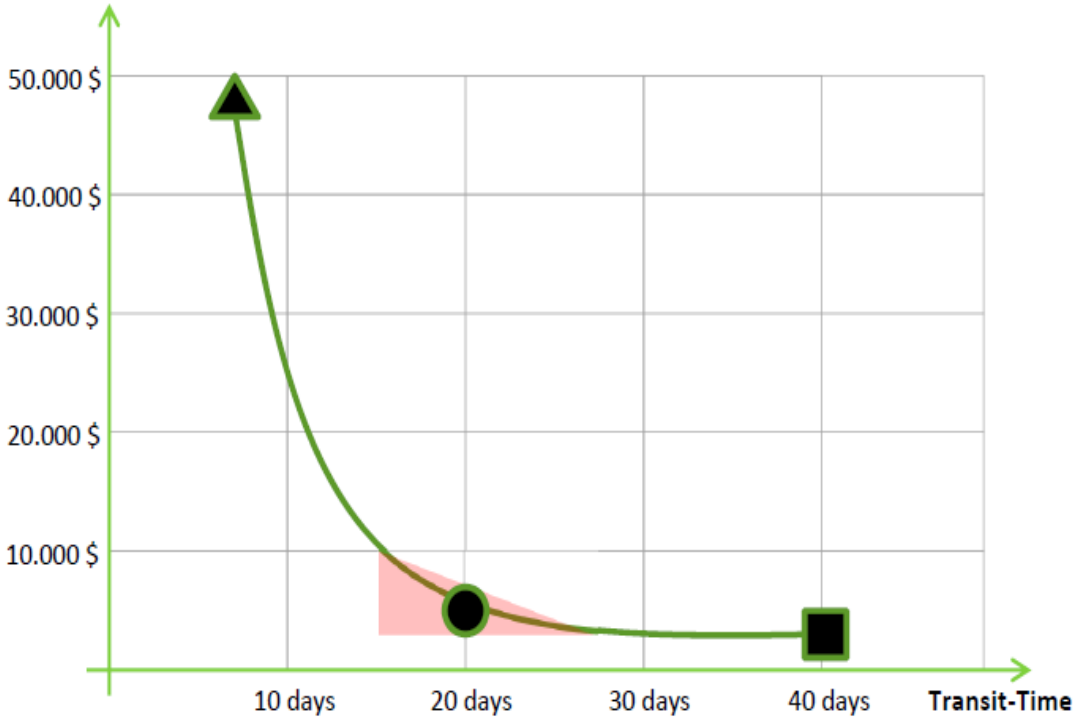
Evaluation of success factors

Parameter	Importance for rail link[2)]	Gap 2017	Comments regarding Southern Routes
Transport time			> Speed slower than Northern routes (e.g. 17-20 days China-Turkey) > Long distance, more border crossings/customs or mode changes
Reliability			> No established regular services yet > Trial services TRACECA (DHL 2016) with delays of more than 4 days each
Balanced quantities			> Smaller eastward transport volumes are expected > Need to examine possibilities for stepwise transports
Target goods			> Target goods in European O/Ds for Southern routes (East Europe) and in new O/Ds (Turkey, Iran) need to be specified and seasonality considered
Price			> Even bigger competition from sea freight through shorter distance and good accessibility of Middle East and East European countries > High network costs in Iran and Turkey
Frequency, flexibility			> Routes not established as regular services yet
Target geogra-phical coverage			> Routes not established as regular services yet
Availability			> Routes not established as regular services yet
Customs			> Many transit countries are not part of a customs unit (Ukraine, Iran, Azerbaijan and Turkmenistan)

Ratio of transit time vs. freight rate

40ft Cntr.
Door-to-Door costs (Beijing – Duisburg)



- It offers a faster transit time compared to sea freight
- It is a cheaper alternative to air freight
- The costs and the transit time performance of the sea and air transportations influence directly the sales / revenue of our service.

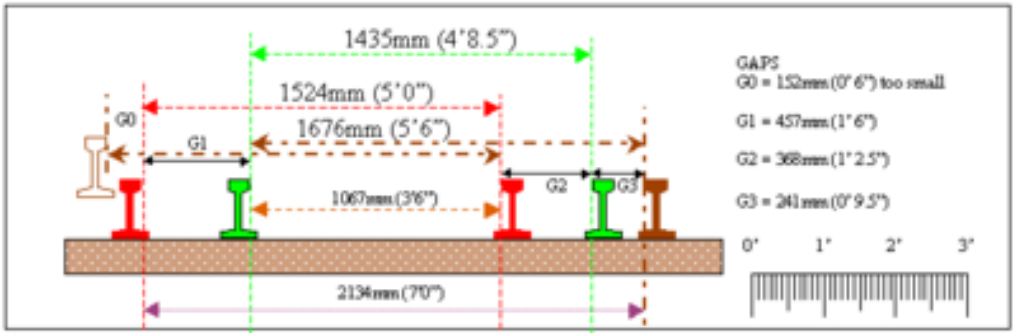
	RATE in USD (D-to-D)	TRANSIT TIME (days)
AIR	$ 50.000	6-7
SEA	$ 3.000	40
RAIL	$ 5.500	20

Technical challenges

- Track gauge difference

Current solution: transhipment

Long-term solution: southern route on UIC gauge all the way



- Extreme temperatures

Current solution: diesel powered reefer units or lots of insulation + reliable transit times

Long-term solution: electric powere on wagons to maintain temperature and improved 'Eurasian containers'

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Major rail routes for Eurasian traffic in Europe

Interconnection points of routes from Asia to European Rail Freight Corridors

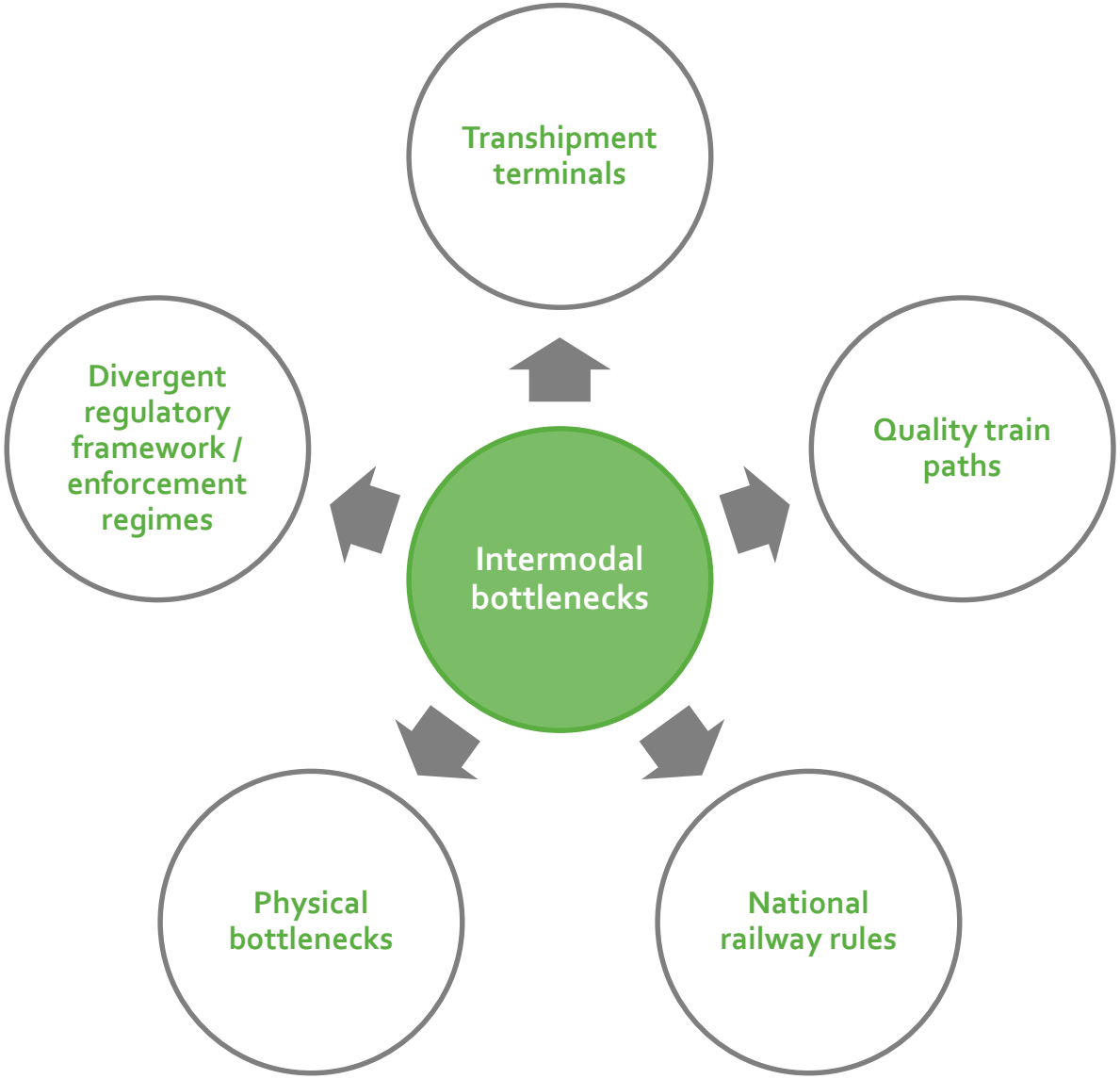
1. Malaszewicze – Brest (RFC 8)
2. Cierna – Chop (RFC 9) and Zahony – Chop (RFC 6)
3. Swilengrad – Kapikule (RFC 7)
4. Via Stockholm (RFC 3)

European Rail Freight Corridors[2)]

- RFC 1: Rhine – Alpine
- RFC 2: North Sea Mediterranean
- RFC 3: Scandinavian – Mediterranean
- RFC 4: Atlantic
- RFC 5: Baltic – Adriatic
- RFC 6: Mediterranean
- RFC 7: Orient – East Mediterranean
- RFC 8: North Sea – Baltic
- RFC 9: Rhine – Danube or Czech – Slovak[3)]
- RFC 11: Amber[4)]

RAIL FREIGHT CORRIDOR NORTH SEA - BALTIC

Bottlenecks to the development of intermodal transport



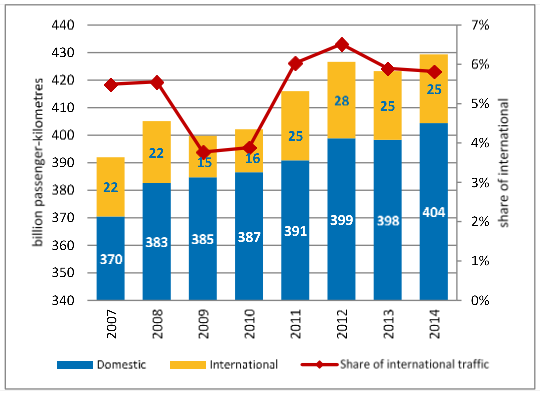
Terminal capacity

- **Uneven terminal density**:
  good subsidy scheme > no CAPEX support
- **Lack of urban terminals**:
  close to downtown to directly support city logistics
- **Quality/homogeneity**: upgrade to CNC parameters
- **Operational standards**: Implementing Act on Access to Service Facilities
- ***'Not in my back yard'* effect**: fear of noise and traffic is hurdle to new projects
- **Lack of coherent intermodal plans and/or commitment to modal-shift**: insufficient input to encourage developers and/or to reduce risks

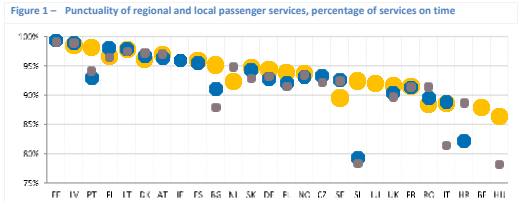
Quality train paths

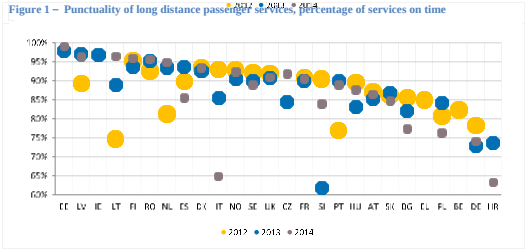
- **Passenger traffic**: 10% growth (no data of trainkm growth) | punctuality: 80-85% (to 5 minute)

Figure 1 – Evolution of rail passenger traffic volumes



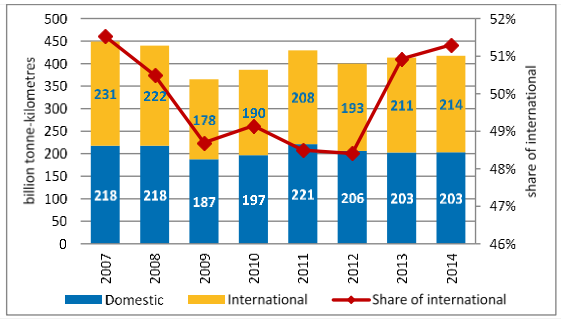
Source: RMMS





- **Freight traffic**: 10% shrinking (no data of trainkm growth) | punctuality: **n/a**

Figure 1 – Evolution of rail freight traffic volumes

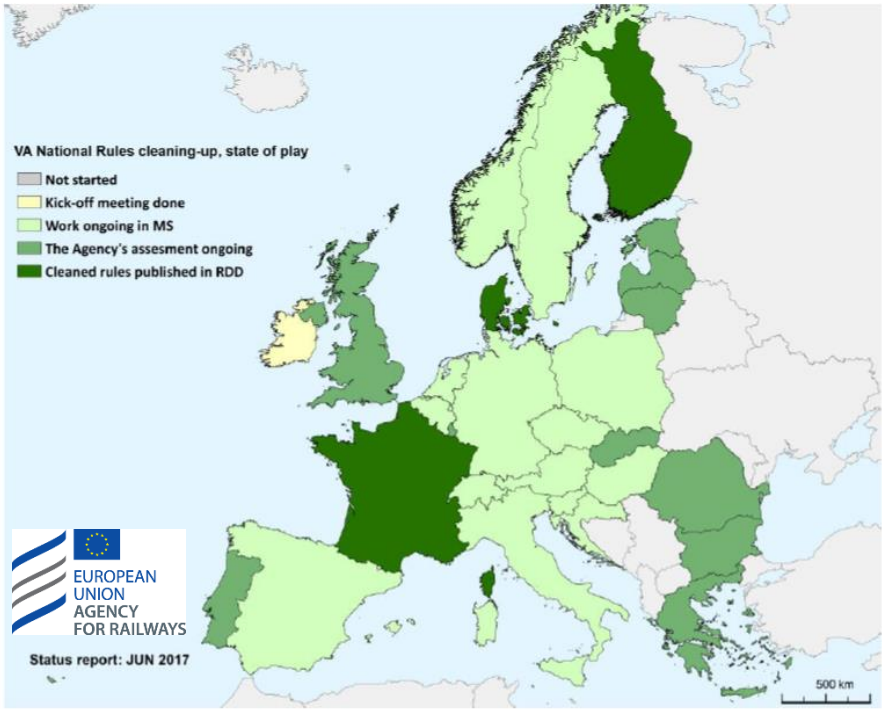


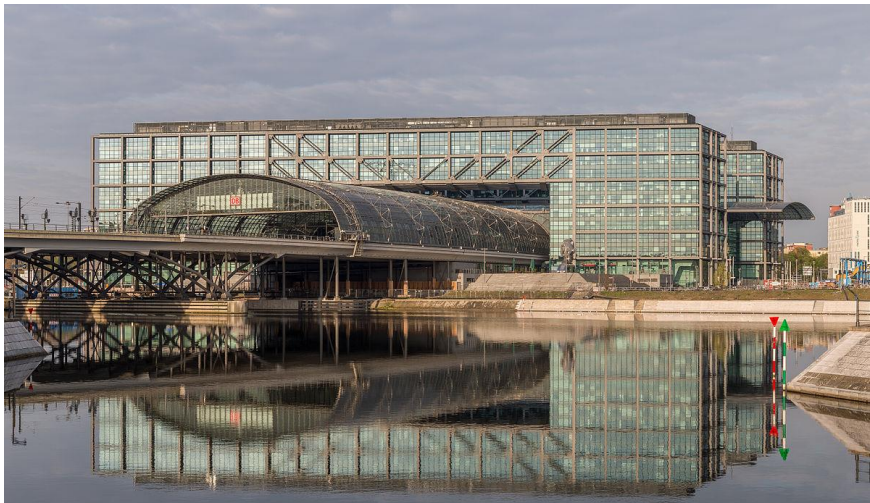
Source: RMMS

Rail freight quality:
- The EU RMMS Report does not contain data
- Sector data collection (UIRR, RFCs) shows great variations with average est. below 50% (to 30 minute standard)

National rules (railway)

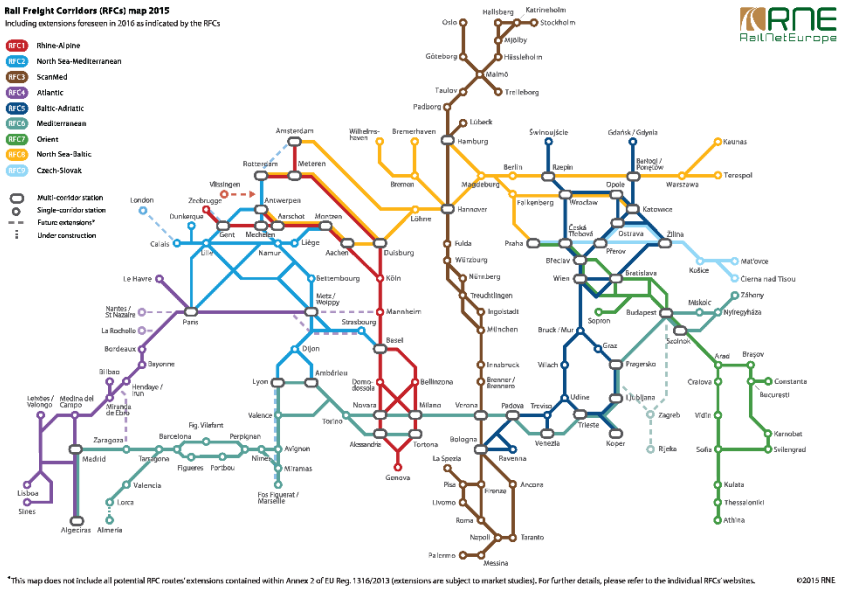
- **Clean-up of national rules**: work in progress at ERA – core countries lagging behind
- **UIC Leaflets vs ERA TSIs**: persistent lack of clarity; some progress in changing UIC Leaflets
- **Traffic rules**: no European priority rules, passenger traffic is prioritised over freight (even when latter is on time)
- **Path allocation rules**: freight comes after passenger when deciding access to the tracks – without proper social benefit analysis
- **Infrastructure development**: lack of fair competition for investment resources between freight and passenger needs





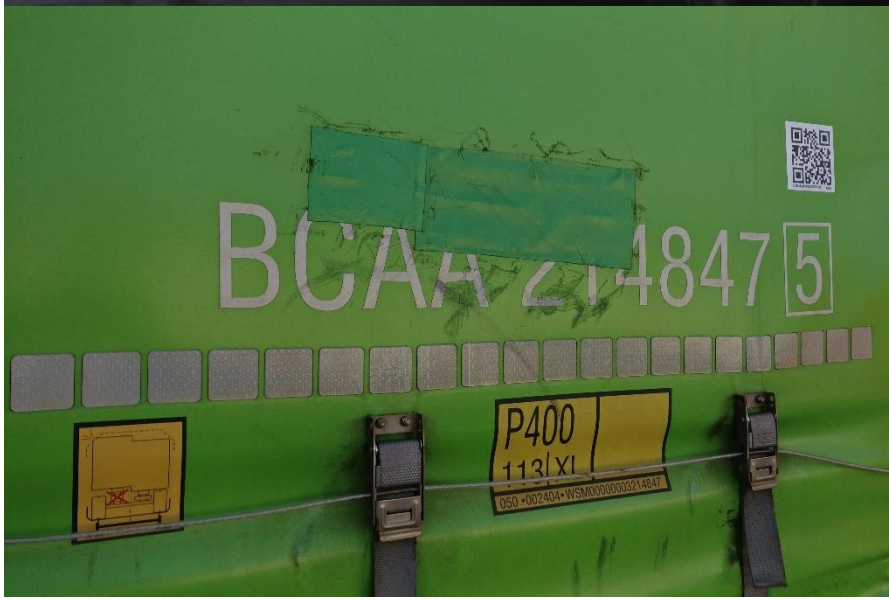
Physical bottlenecks (railway)

- **Symbolic infrastructure**: uneven progress – some big projects advance faster than others
- **Connecting lines**: uncoordinated upgrades of connecting lines to/from symbolic infrastructure like Gotthard Base Tunnel
- **TEN-T parameters**: inconsistent progress in train length, axle load and profile gauge upgrades and ERTMS implementation
- **Small-scale bottlenecks**: replacement of switches, extension of bypass lines, completion of missing electrification progresses slowly and often lacks funding
- **Coordination of works**: deficiencies both in the coordination of planning and the implementation of works is a shortfall of cooperation foreseen under the Rail Freight Corridors



Divergent regulatory framework and enforcement

- **Intermodal uncertainties**: ageing and imprecisely worded Directive 92/106 impedes uniform application of rules, which results in enforcement-related disruptions in some Member States
- **Voluntary standards**: codification- and identification-related heterogeneity causes extra costs and losses of efficiency
- **National compensation schemes**: unpredictable national schemes reduce the value and effectiveness of compensation and promotional measures extended to intermodal actors and/or users
- **Unclear goals**: lack of coordination between Member States and mode-specific regulators in the goals to be achieved by intermodal transport result in wasteful use of resources



Enables the use of eco-friendly trucks for last mile

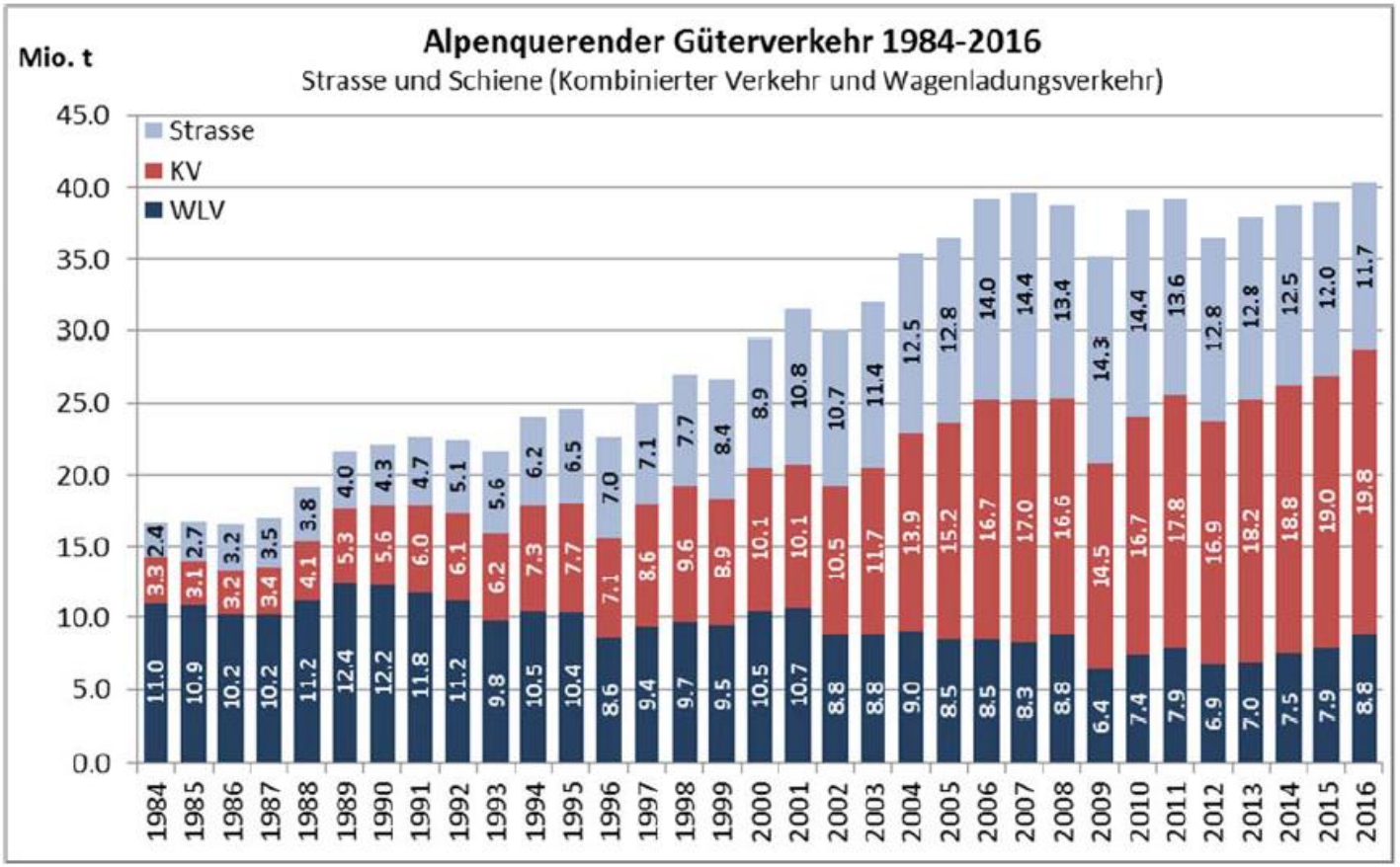
LNG and electric delivery vehicles: positive air quality and noise results – greater flexibility

Intermodal can do the job

...if and where the framework conditions are right

- ✓ Rail infrastructure is developed coherently with strategic goals
- ✓ Recognition of freight: train path capacity allocation and traffic rules
- ✓ Development of capacities: lines and terminals (infrastructure)
- ✓ Intermodal rules are clearly defined and predictable compensation is offered to bridge discrepancies

Transalpine traffic through Switzerland 1984 – 2016



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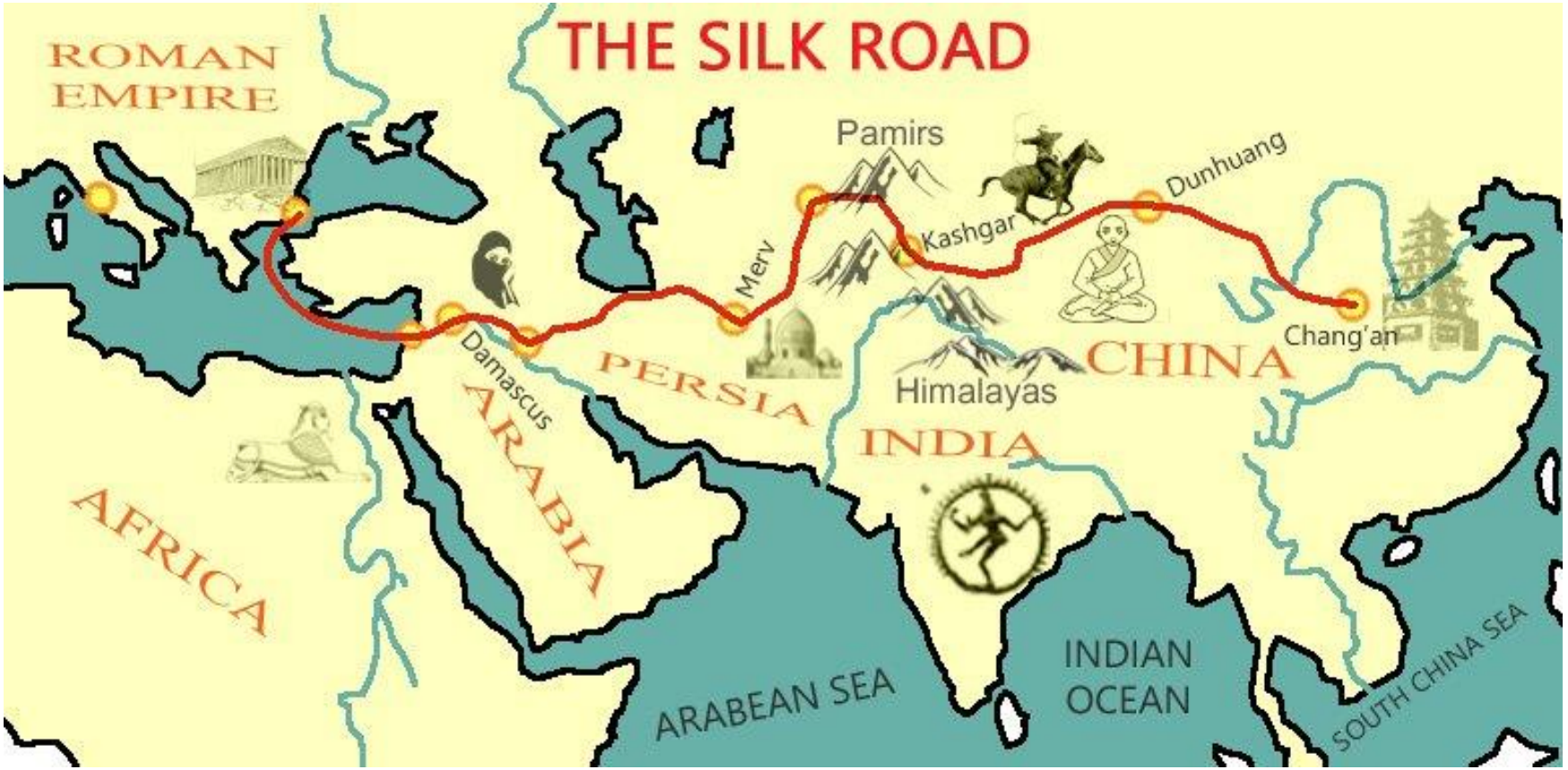
The future: one belt one road



Outlook until 2020

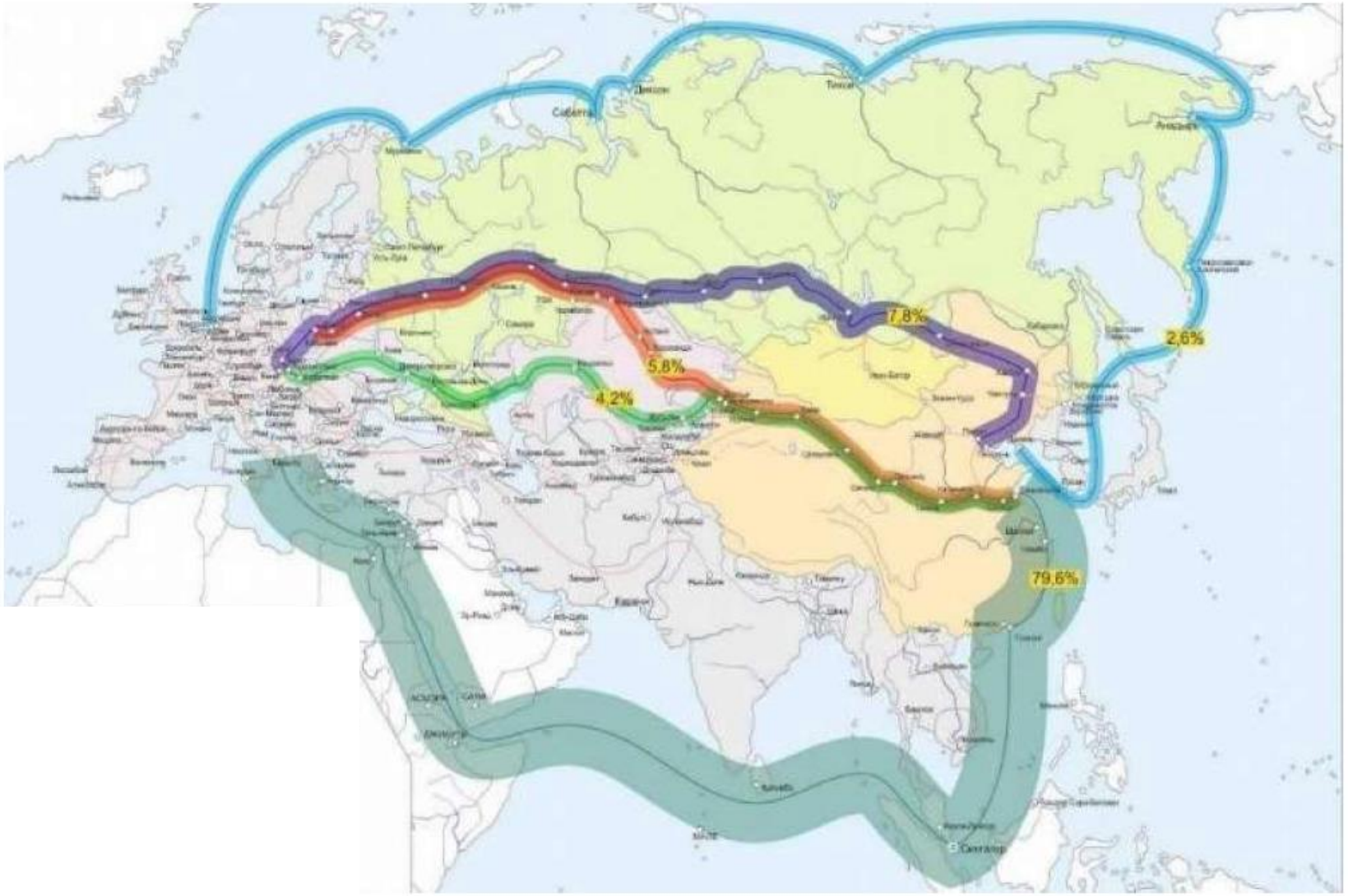
- From 28 cities is China, as well as several other points in South Korea
- To 29 cities in 12 EU Member States (2016)
- 1700 trains on 51 routes (2016)

and these numbers are rapidly growing

The declared goal of the Chinese government is to reach 500.000 TEU traffic in 2020.

---which is backed by $160 billion pledged to rail infrastructure developments

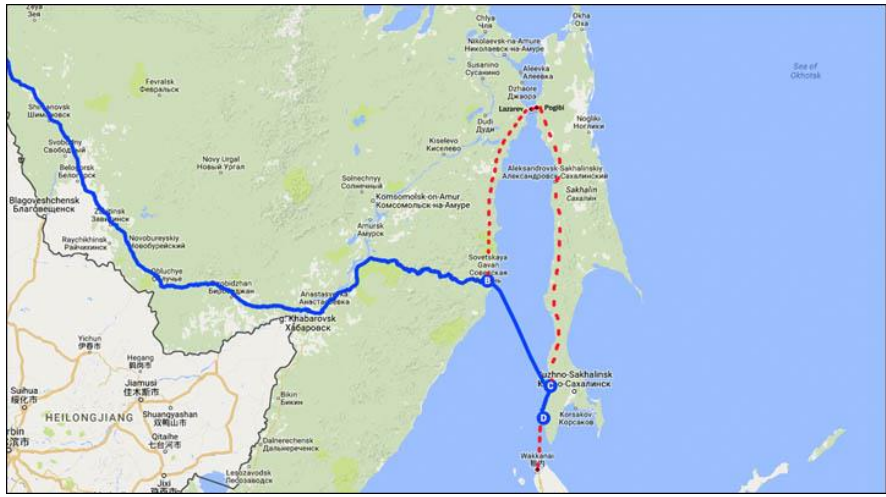
Projected market share of different routes in 2020



New horizons: via the Trans-Siberian to Japan

Russia proposed to extend the Trans-Siberian Railway from Vladivostok via a newly constructed railway bridge over the Shakhalin strait to Hokkaido.

(Eastern Economic Forum, 6-7 September 2017)



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THANK YOU

For your attention