Hupac solutions

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We shape the future of intermodal transport

763,100 road shipments

1,370,000 TEUs

110 trains per day

470 employees

5,900 rail platforms /

220 rail platforms for 1520 rail network

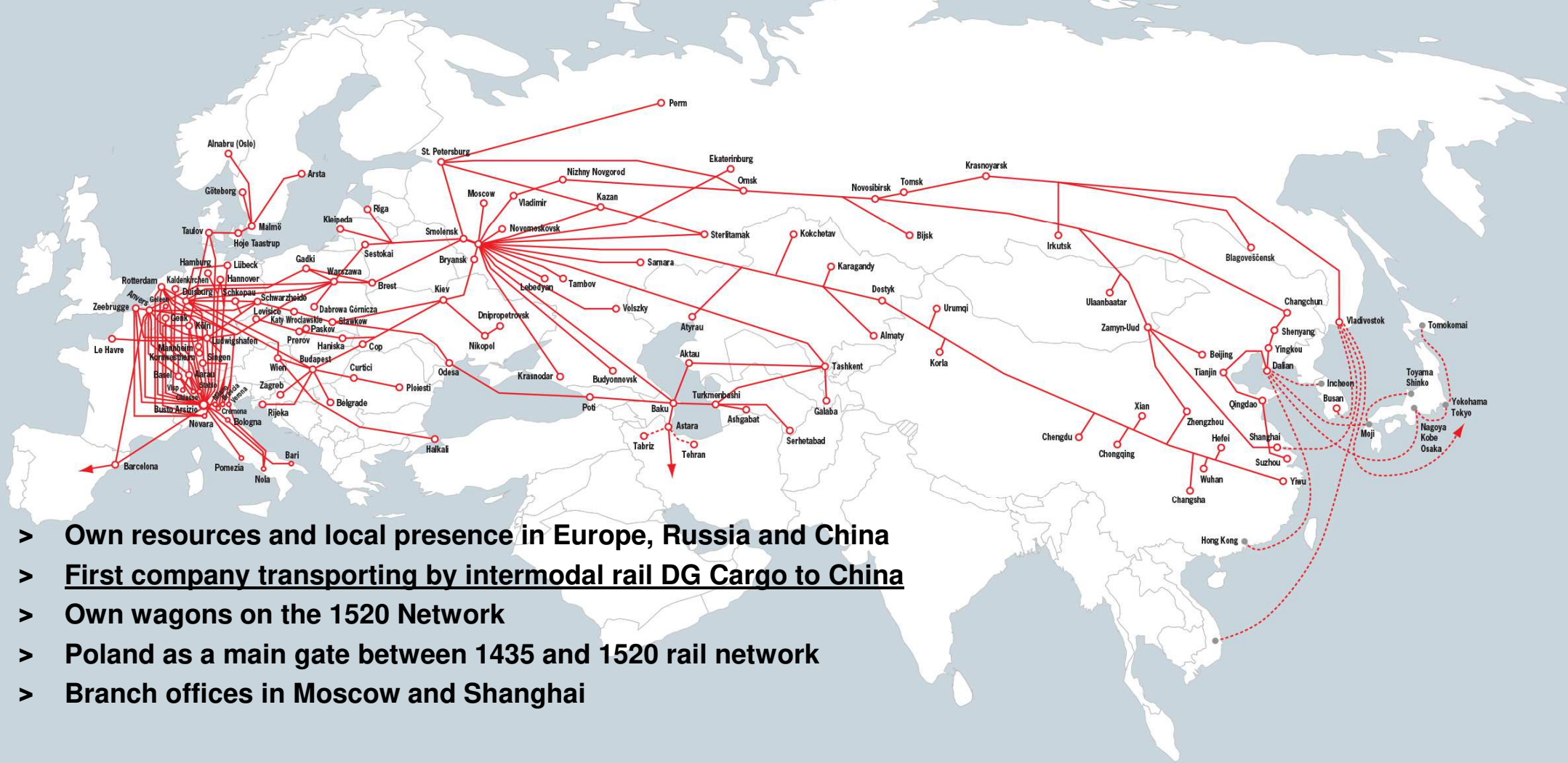**CHF 485.6 million** turnover

CHF 48.0 million EBITDA

100% low-noise wagon fleet

Figures 2017

We link Europe to Russia, CIS, Iran, China, Japan, South Korea

> Own resources and local presence in Europe, Russia and China

> First company transporting by intermodal rail DG Cargo to China

> Own wagons on the 1520 Network

> Poland as a main gate between 1435 and 1520 rail network

> Branch offices in Moscow and Shanghai

Combined transport – future-oriented system

EU target: transportation > 300 km on rail or ship; 2030 = 30%, 2050 = 50%

Standardized system	Advantages for all
> Hundreds of thousands of standard loading units (containers, swap bodies, semi-trailers) > 700 terminals and ports > 60,000 rail platform > 2,000 cargo locomotives > Long-term system commitment	> 5.9 billion EUR turnover > 41,000 jobs > 18.1 million tons CO_2 reduction > 2.2 billion EUR less external costs

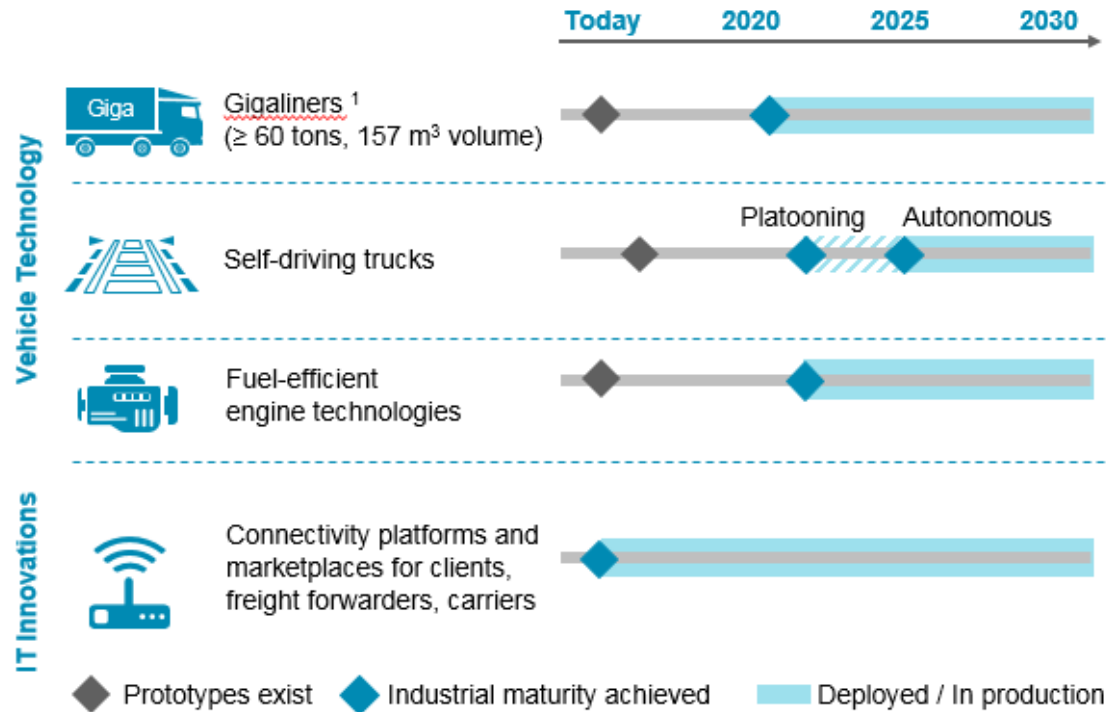Source: UIC Report on Combined Transport 2014

Competitiveness of road
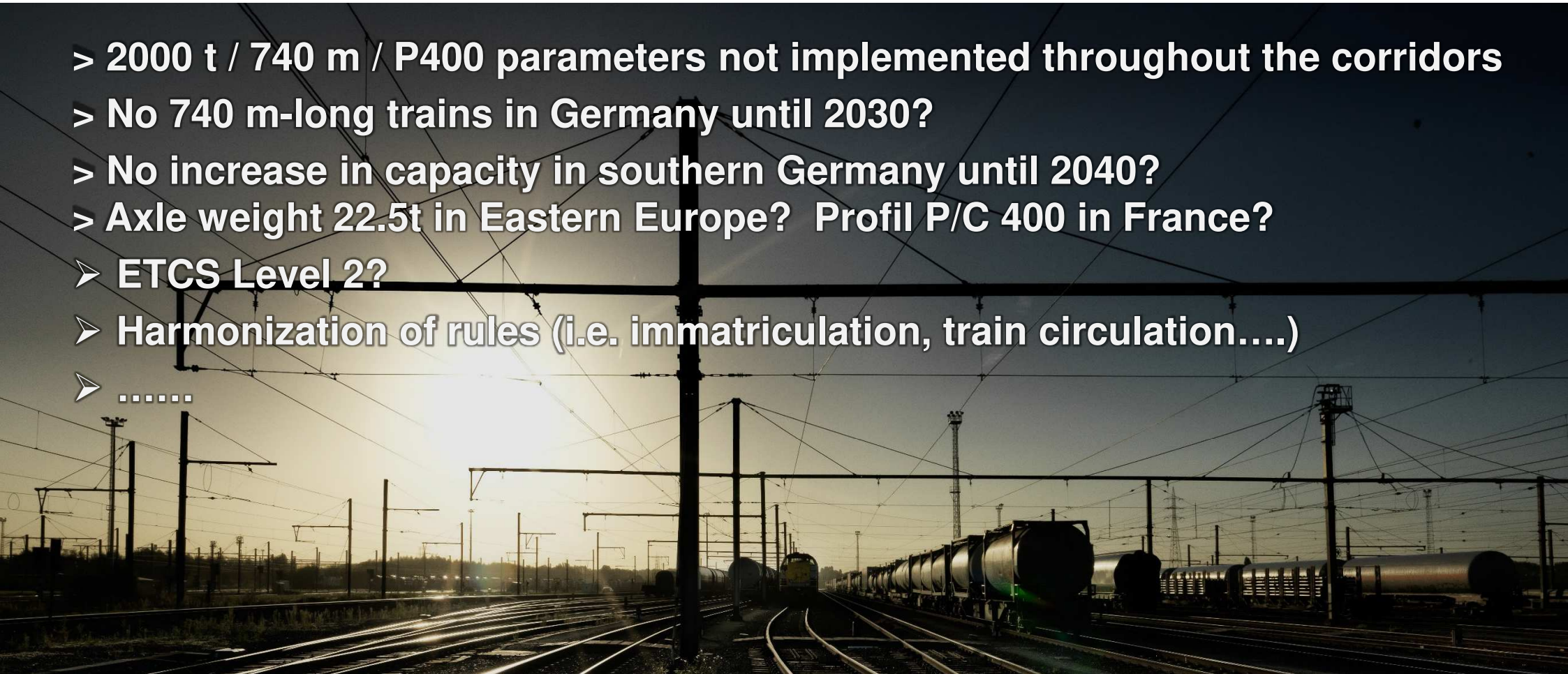
Production costs   Low fuel prices: impact minus 5-7%

Innovations   Enormous productivity boost: potentially up to minus 25%

| Today | 2020 | 2025 | 2030 |

Vehicle Technology

Gigaliners[1]
(≥ 60 tons, 157 m³ volume)

Self-driving trucks — Platooning — Autonomous

Fuel-efficient engine technologies

IT Innovations

Connectivity platforms and marketplaces for clients, freight forwarders, carriers

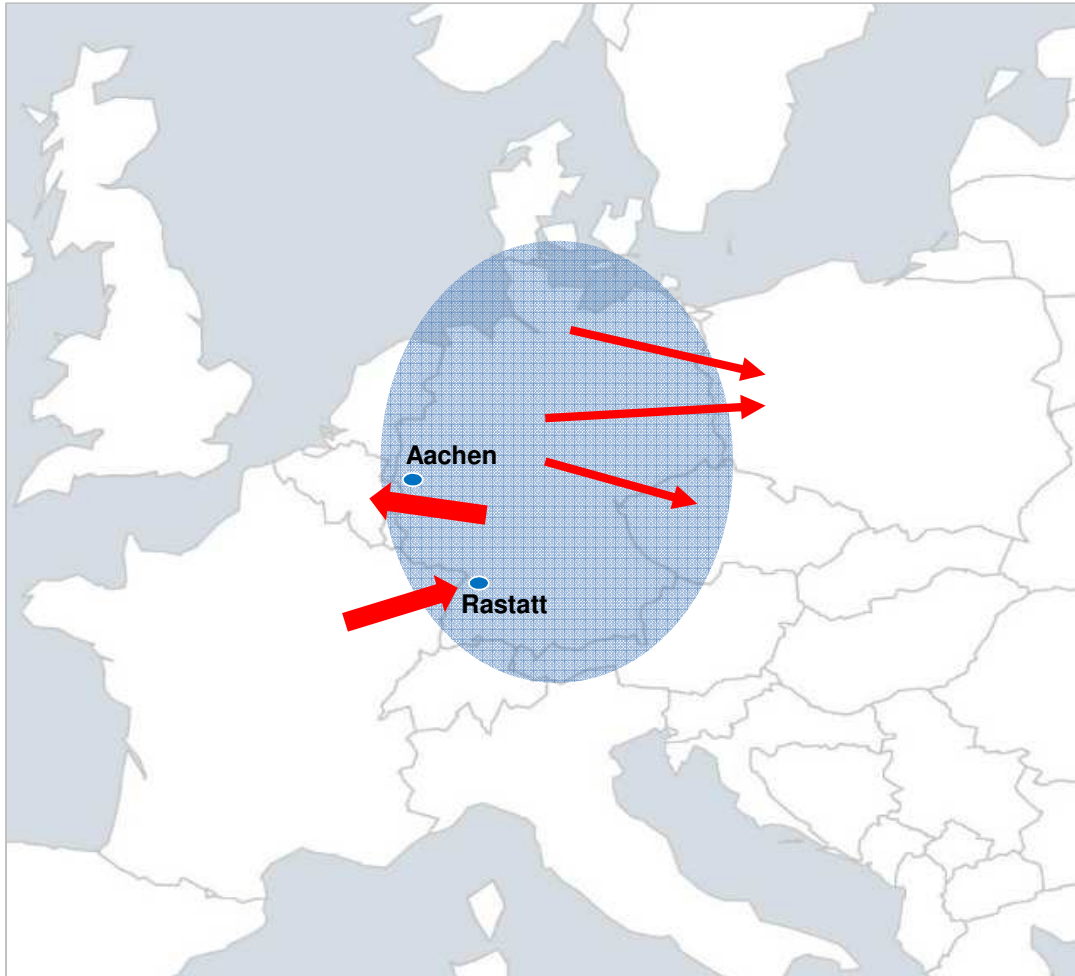◆ Prototypes exist ◆ Industrial maturity achieved ▬ Deployed / In production

Competitivness by rail?
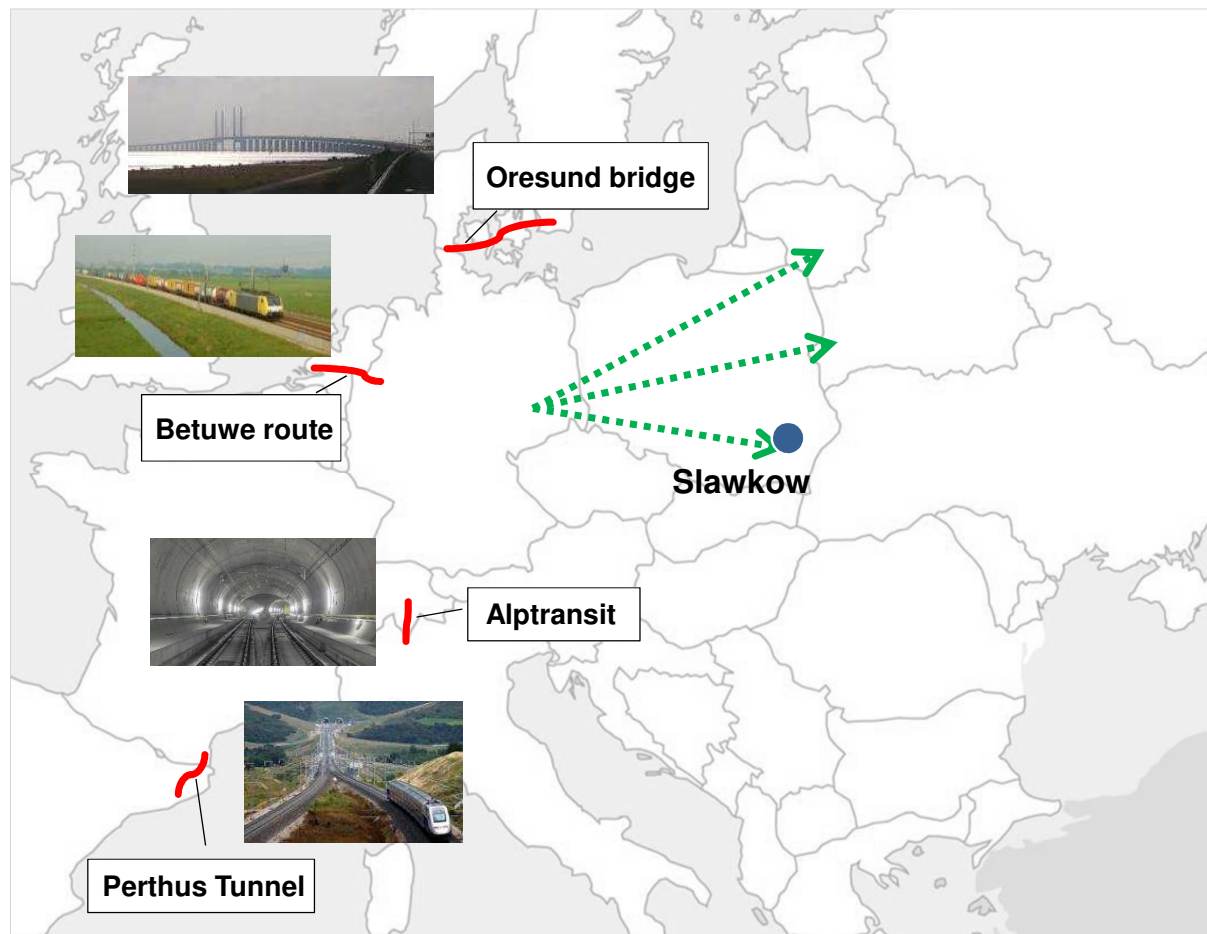
> 2000 t / 740 m / P400 parameters not implemented throughout the corridors

> No 740 m-long trains in Germany until 2030?

> No increase in capacity in southern Germany until 2040?

> Axle weight 22.5t in Eastern Europe? Profil P/C 400 in France?

➢ ETCS Level 2?

➢ Harmonization of rules (i.e. immatriculation, train circulation….)

➢ ……

Germany border bottlenecks

The usage of new railway infrastructures and the readiness for new ones

Oresund bridge

Betuwe route

Alptransit

Perthus Tunnel

Slawkow

Productivity increase and enhancement of the competitiveness of Multimodal transport

Infrastructure

➔ **Longer and heavier trains: in addition harmonisation in Europe as well as between 1435 EU, 1520 and in China**

Simplification of communication among the railways in the Eurasian platform

➔ **Telegraph…….among all the railways…..solutions to overtake this system**

➔ **Shorter block intervals: more trains, better use of the network capacity**

Rolling stock

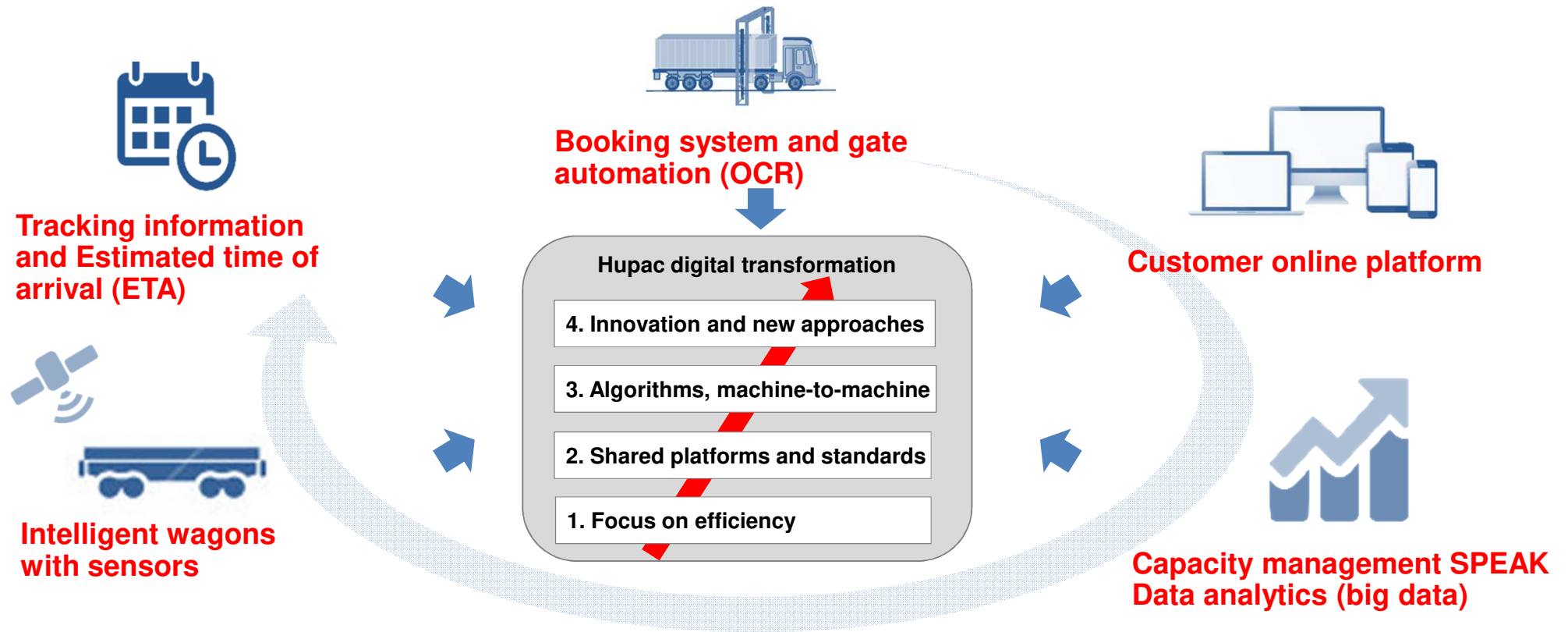➔ **Higher payload: harmonisation of axle load 22.5 and increase to 25 t**

Transportation of dangerous cargo

➔ **Harmonization among all railway networks**

Transportation of tank container and chemical goods

➔ **Better harmonization among all the railways networks**

Digital transformation focus

HUPAC

Tracking information and Estimated time of arrival (ETA)

Intelligent wagons with sensors

Booking system and gate automation (OCR)

Customer online platform

Capacity management SPEAK Data analytics (big data)

Hupac digital transformation

4. Innovation and new approaches

3. Algorithms, machine-to-machine

2. Shared platforms and standards

1. Focus on efficiency

Innovation with focus on:

> **Service to customers: booking-to-billing, tracking information & Estimated time of arrival**
> **Production: capacity management, information flow, processes**
> **Safety: detection of irregularities**
> **Rolling stock: predictive maintenance**

Thank you for your attention!