



CargoBeamer

The Road to Rail – Zero Carbon Transport



IBS Brexit Expert Talk
HJ Weidemann, CargoBeamer AG, May 17, 2022



OUR MISSION

is to improve the environment
with innovative and cost-effective
solutions to shift freight
transport from road to rail

Our vision is to transform freight transport from diesel to zero carbon

Shifting long haul freight transport from road to rail



Evolution to an automated and de-carbonized logistics chain

Status-quo: classic road transport ramp-to-ramp



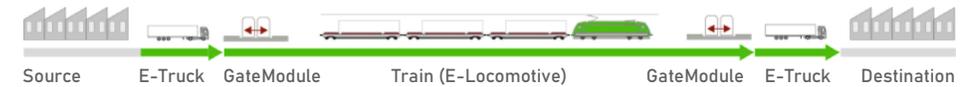
Environmental score card per semi-trailer

Energy used: 380 liter diesel = 3,700 kWh

CO₂ emissions: 1 ton

NO_x emissions: 1.7 kilogram¹⁾

Future with CargoBeamer: automated, electric, sustainable



Environmental score card per semi-trailer

Energy used: 1,100 kWh

CO₂ emissions: ~0 tons²⁾

NO_x emissions: ~0 kilogram²⁾

Notes: 1) NO_x limit for EURO VI trucks: 0.46g per kWh, 1 liter diesel = 9.8 kWh, 30 liter diesel consumption per 100 km. 2) Assuming electricity from renewable sources with close to zero CO₂ and NO_x emissions.

CargoBeamer rail wagons

Versatile wagons to load all kinds of semi-trailer

CargoBeamer wagons

- incorporate a versatile pallet for loading of all standard semi-trailers - which thus become compatible to rail
- compatible with all kinds of terminals (ReachStacker, Container crane, CargoBeamer automated terminal)



CargoBeamer Terminals are compact, cost-effective and versatile

CargoBeamer Terminals offer tangible advantages for customers



4-step loading procedure in a CB Terminal

1



Before the train arrives, the departing semi-trailers are pre-loaded onto empty **CB Pallets**; each CB Pallet is positioned precisely at a GateModule

2



When the train has arrived, the side walls of the CB Railcars fold down for fully automated unloading and loading of the CB Pallets by the Gate Modules

3



Double GateModules are installed in CB Terminals with two parallel rail tracks; they unload two arriving and load two departing semi-trailers in one procedure lasting 20 minutes

4



Before the train leaves, the side walls are folded up and each railcar is subjected to a physical safety check by a technician of the traction provider

Benefits for customers



Fast turnaround times

- 75 minutes for full cycle turnaround in a 800m long terminal with 36 GateModules
- 85 minutes for full cycle turnaround in a typical 400m long terminal with 18 Double GateModules



Fully automated loading / unloading

- Low operating costs
- No waiting times for customers' drivers



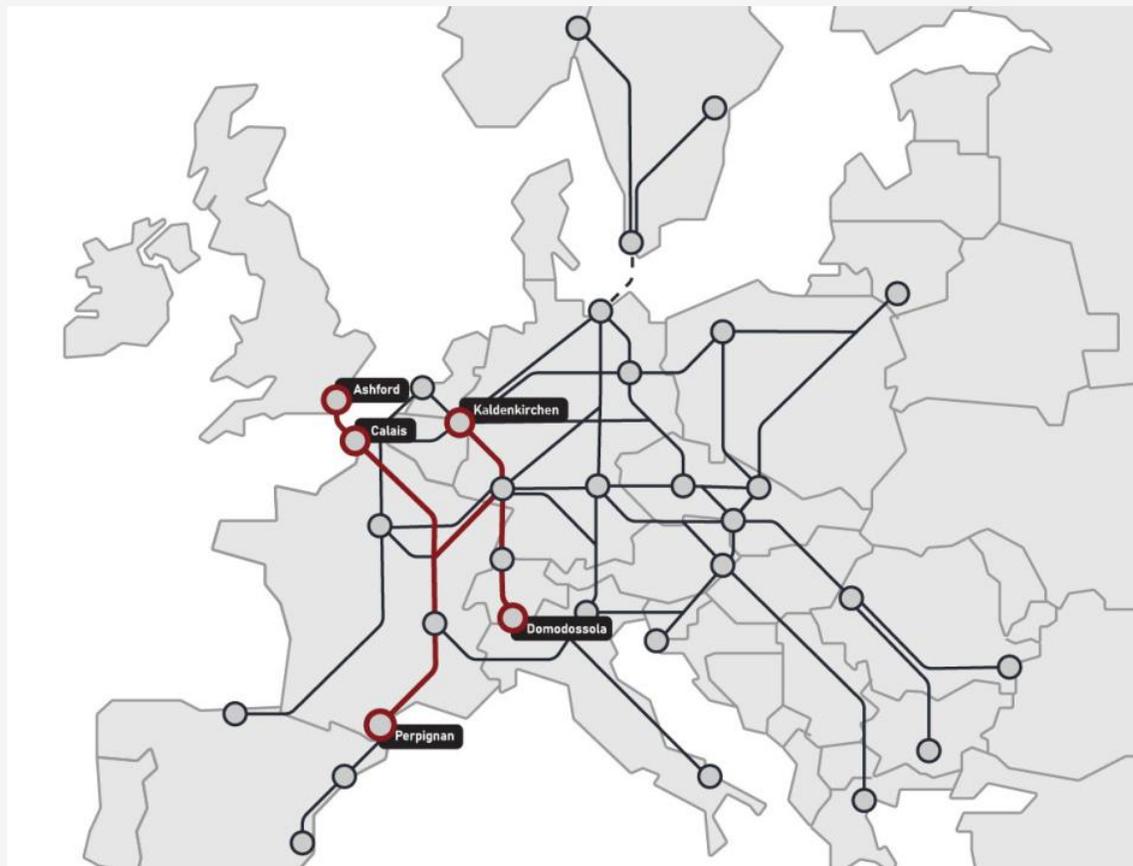
Energy efficient & environmentally friendly

- 10x less energy consumption than conventional terminals
- Less noise emission
- Less visual pollution as there are no cranes

Setting up a true European network

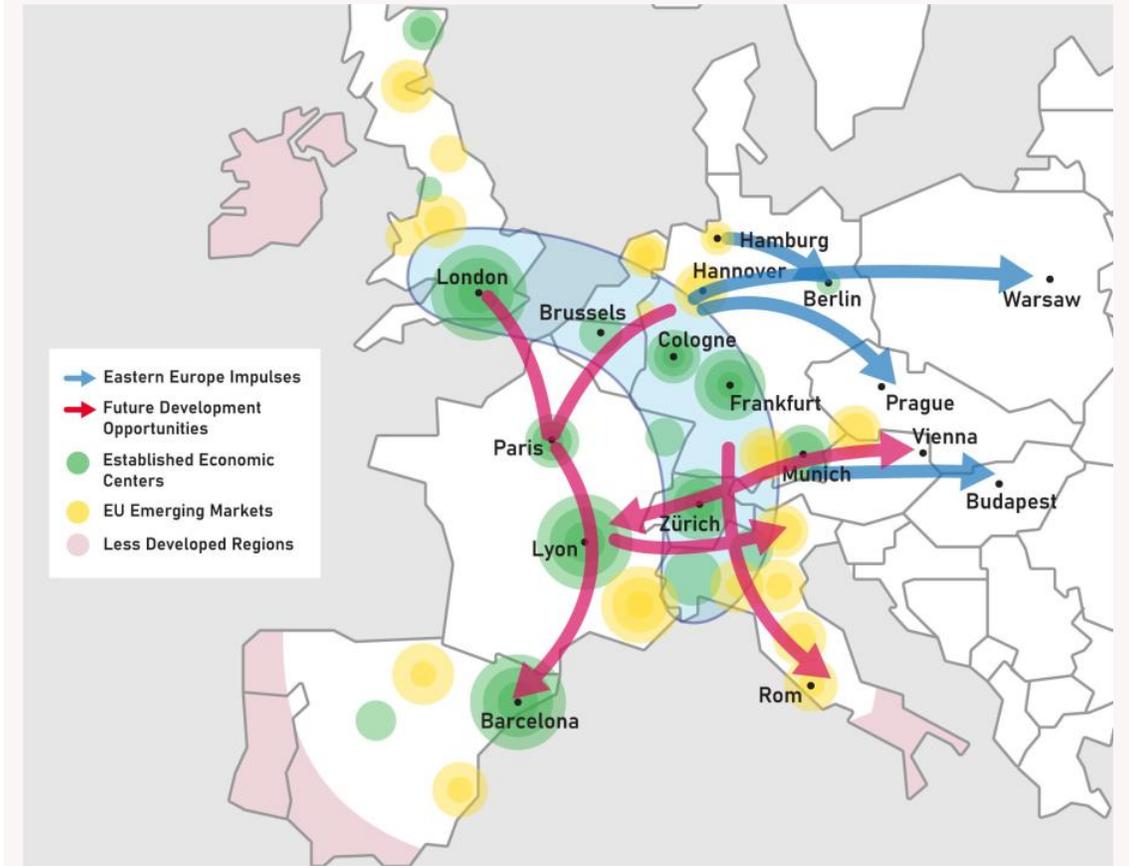
Start of route development along the “Blue Banana” and key economic areas

Map of CB routes and terminals



○ Current CargoBeamer terminals ○ Future CargoBeamer terminals

European economic areas



Source: Economic areas in Europe, Ernst Klett Verlag, <https://www.klett.de/alias/1019091>, retrieval: 15.07.2021.

Brexit Impact on Transports

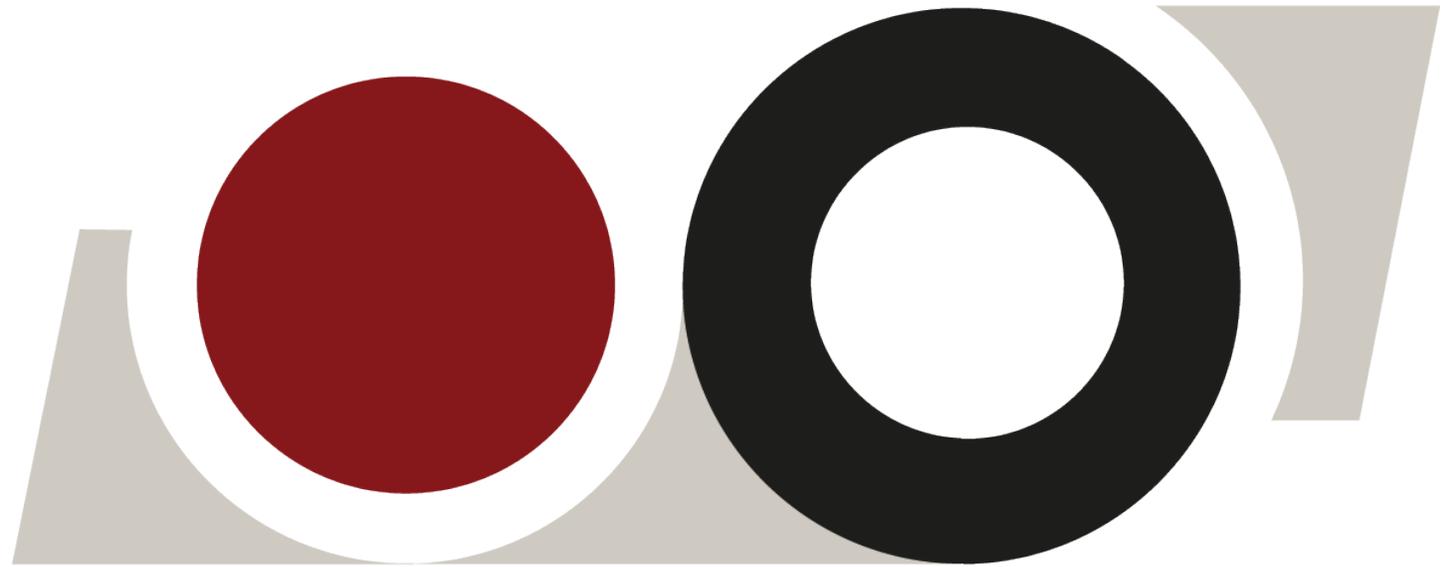
Reduced transports, local opportunities in Calais.

Brexit reduced overall transports to UK

- Brexit reduced the number of UK imports being nowadays a pretty expensive destination for hauliers from the continent
- With the departures of foreign drivers and the various restrictions, lack of drivers in the UK increased
- Struggle to find a driver in the UK reduces transports
- Introduction of the GMR (Goods Movement reference) was at first a painful change
- CargoBeamer teamed up with Eurotunnel's operations now offering a very smooth process
 - One-stop-shop service for Customers:
 - Domodossola (IT) to Calais (FR) or Ashford (UK)
 - Perpignan (FR) to Calais (FR) or Ashford (UK)

Brexit has a positive impact on local business in Calais region

- Brexit seen from Calais local economy was actually a rather positive point in term of attractivity
- The port and the Tunnel prepared themselves to it and were able to keep a good efficiency as customs controls became more complex
- Calais was able to attract more logistics services such as warehousing



CargoBeamer®