

European Modular System: 25.25/46

Express industry: it is not the weight,
but the length that makes the difference!

European Parliament, February the 24th, 2010

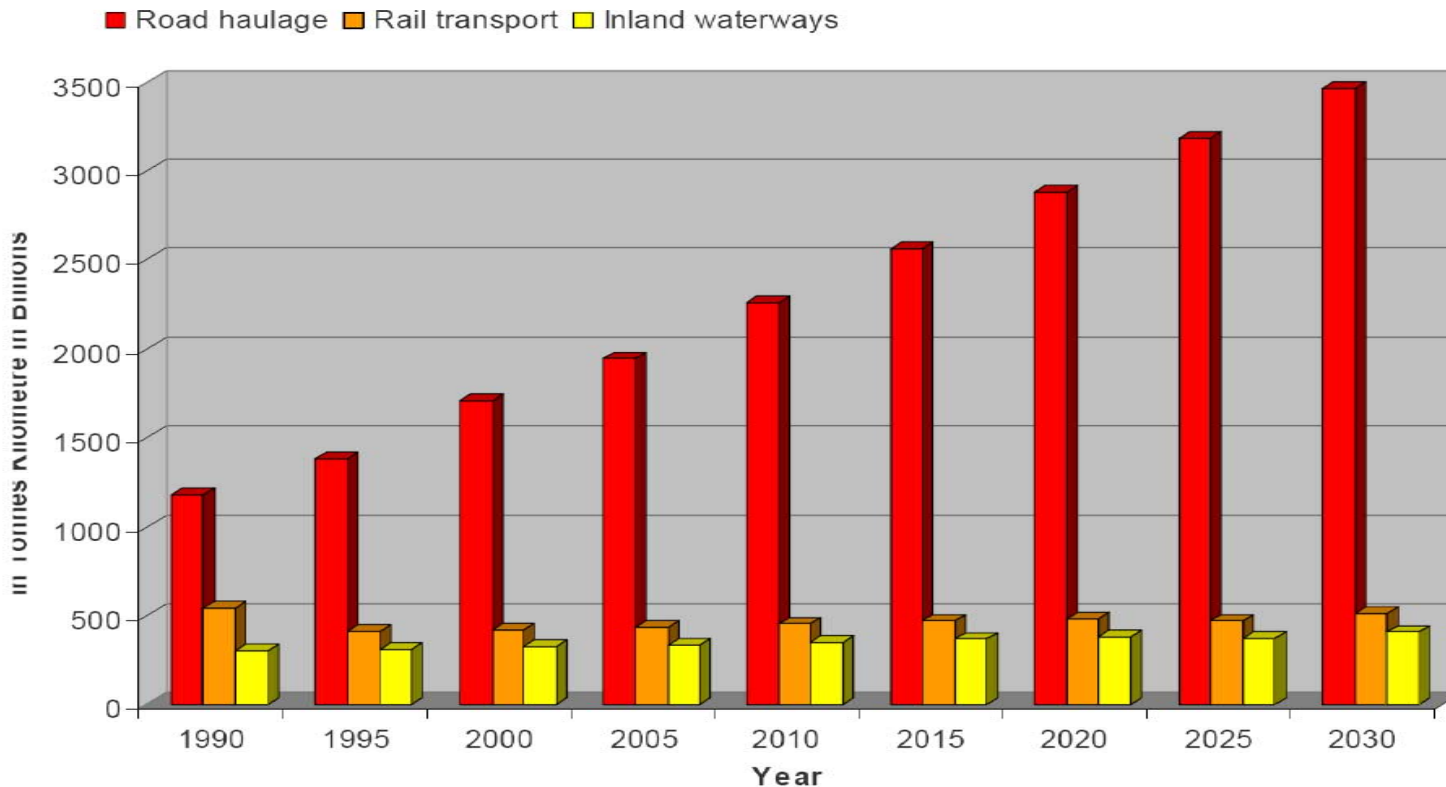
Translating facts into vision

- EMS 25.25/46 elaborates on vehicles in Sweden, Finland and trials in The Netherlands, Germany and Denmark.
- This research is sponsored by UPS and TNT.

Economic recovery needs transport

- ◆ Freight transport is facing major growth.
- ◆ Road freight transport will stay dominant.

Predicted freight traffic development in Europe from 1990 to 2030



Innovation is needed for ecological and economic needs

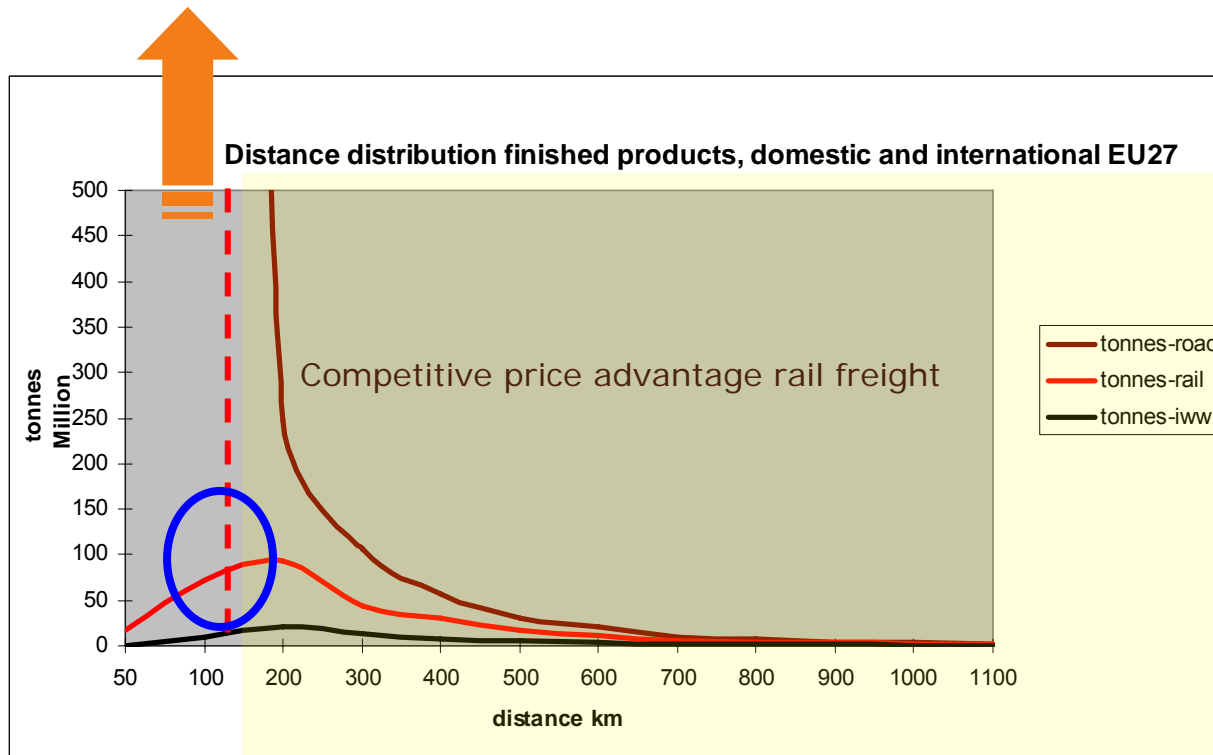
Economies of scale:

	length in meters	weight in tonnes
IWT	80 → 180	2000 → 5000
RAIL	500 → 1000	1000 → 4000
ROAD	18.75 → 25.25?	40 → 44, 46, 50, 60?



Transport of "Finished products"

Road 4500 mln tonnes



Note: only within EU27, not to 3rd countries

- utilization of transport capacity:
volume (m³) and weight (tonnes)



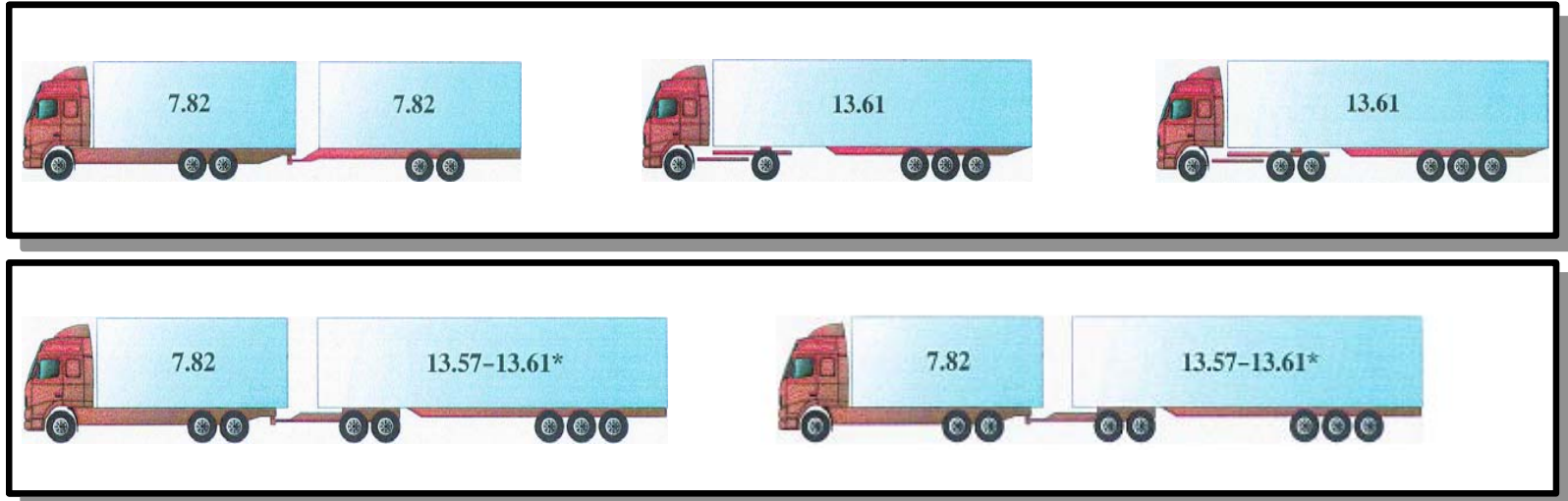
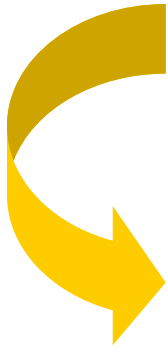
Loading capacity: 150 m³, 25 tonnes

Typical trip assignment: 140 m³, 15 tonnes

Weight utilization: 15/25 tonnes = 60% !

Volume utilization: 140/150 m³ = 93% !

European Modular System



35%-50% extra loading capacity in volume.

28% less road occupancy

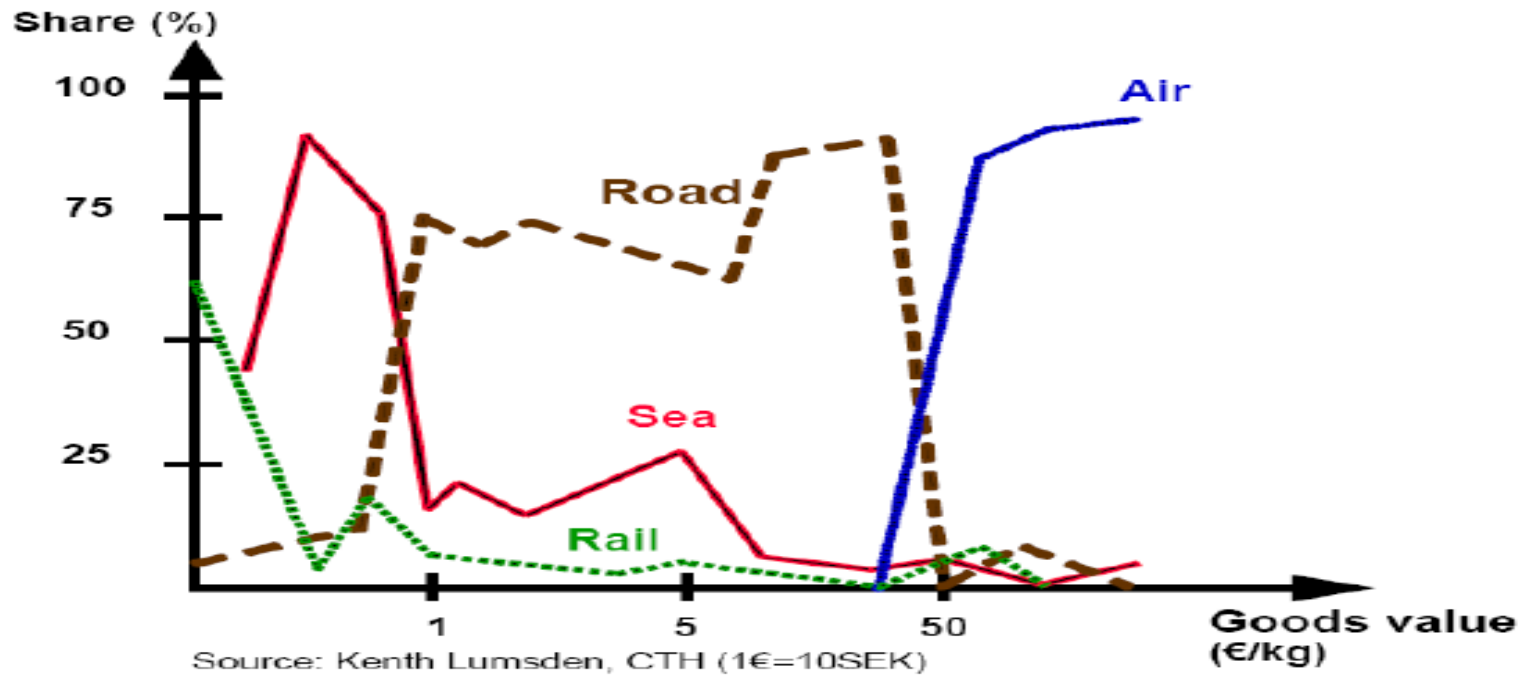
33% less truck movements

15% less emissions of NO_x, CO, PM₁₀

In other words EMS 25.25
contributes to less congestion a
better environment and higher
safety.

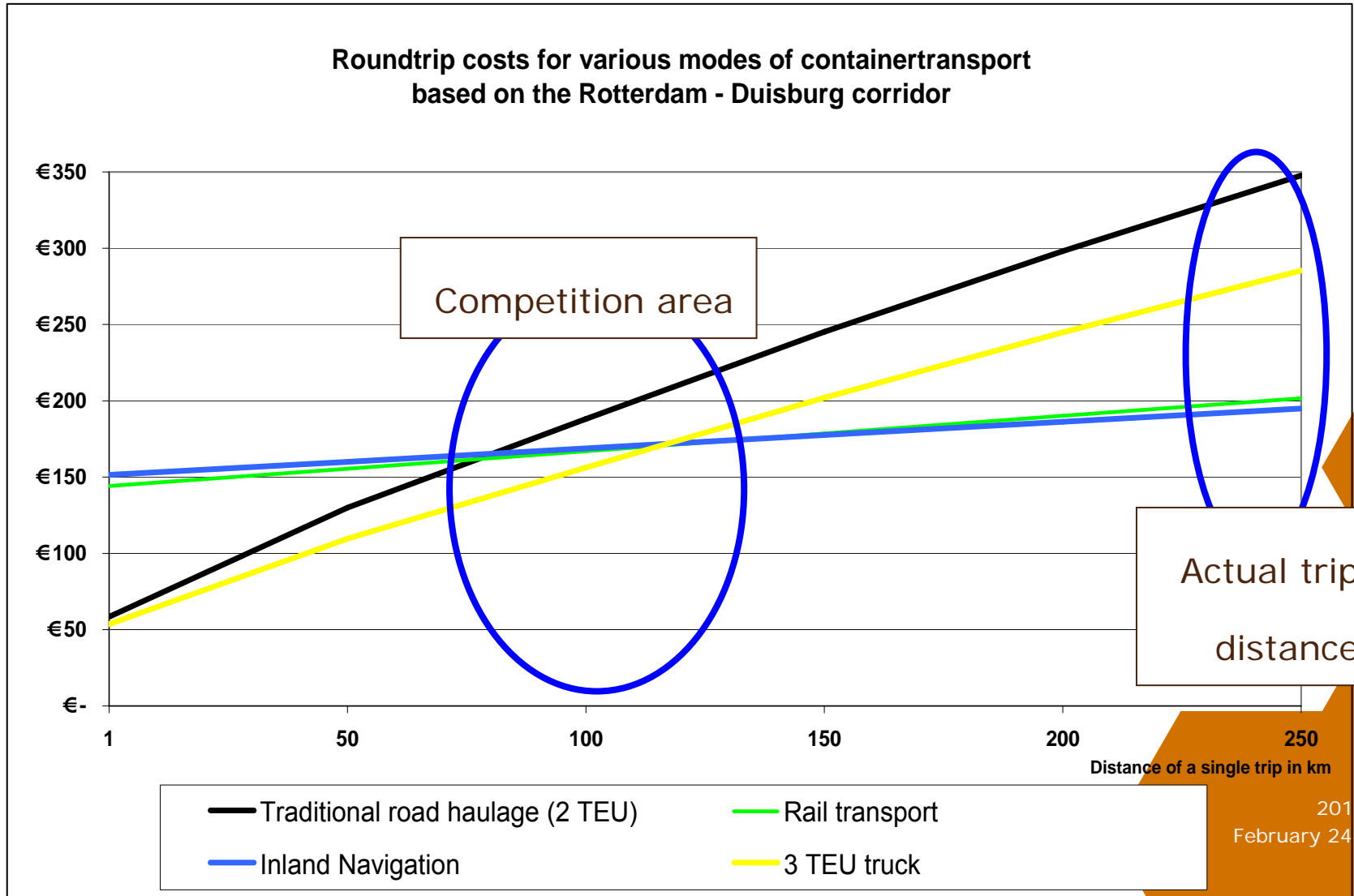
Limited competition between road en rail

Goods value: **rail and road** are mostly active in **different market segments**.



25.25m: NL: Every day practice

	Number of passings 25.25m	Share (%)
Below 40 tonnes GVW	11,329	84.3%
Between 40 and 50 tonnes GVW	1,103	8.2%
Above 50 tonnes GVW	1,012	7.5%
Total	13,444	100.0%



27% CO₂ Emission reduction using EMS

If TNT could use EMS between Hubs in Duiven and Liege and some depots (Brussels, Wiesbaden, Nurnberg and Northhampton) would result in a CO₂ emissions reduction of more than 3,000 tons per year (27%).



Regular HGV

- 27,300 movements
- Average 456 km
- 4.15 mln liters Diesel
- 10,955 ton CO₂

EMS

- 18,200 movements
- Average 456 km
- 3.01 mln liters Diesel
- 7,953 ton CO₂

Major potential in cross border trials

- UPS participated in the trial in NRW in Germany from June 2007 till June 2008 by one ecocombi between Herne en Cologne.

Reduction of

- - 70,000 km
- - 21,700 liters
- - 57.2 ton CO₂

- When cross border trials are allowed, UPS would be able to reduce a major number of runs/trips between Germany and for example

	Number of runs (regular trucks)	Number of runs (including EMS)	Ton CO2 reduction
Denmark	3012	2008	558
Austria	2259	1506	552
Netherlands	4267	2761	426
Belgium	2259	1506	296
Switzerland	1004	753	215

Road wear is no issue for 25.25/46

Imaging a line of one kilometer of trucks.

Type and number of trucks	Number of Axle	Calculation	Ton per axle
60 semi-trailers of 40 ton	5	$60 \times 40 / 60 \times 5$	8
40 EMS of 46 ton	8	$40 \times 46 / 40 \times 8$	5.75

EMS 25.25 with 46 tons has **39.1%** less road wear

Critical about:

- Driver competence
- Accessibility network
- Regulation, enforcement and monitoring
- Rebound effect (long term effect on economy/distribution)
difficult to value, however Lisbon Agenda requires innovation

Observations:

25.25/46: 25.25 m and 46 tons

Thus:

- Allowing **trials** with 25.25 trucks in the express market would constitute a very **low risk** experiment:
- There is virtually **no competition** from other modes in this market
- And the vehicles will **not be heavier** than conventional trucks.