

COMBINED TRANSPORT DELIVERS



EU PRIORITY

REDUCE NET GREENHOUSE GAS EMISSIONS BY AT LEAST 55% UNTIL 2030

Trucks are responsible for 29% of transport's CO₂ emissions

Continued growth in road freight transport would mean even more emissions

RAPIDLY REDUCE EUROPE'S DEPENDENCY ON FOSSIL FUELS AND ACCELERATE THE ENERGY TRANSITION

Road transport is one of Europe's biggest fossil fuel users

SHIFT A LARGE PROPORTION OF TRANSPORT FROM ROAD TO RAIL

- The European Union recognised the value of Combined Transport already in 1975 when the first CT legislation [Directive 75/130/EEC] was enacted
- The current Combined Transport Directive [92/106/EEC] catalysed a second boom period when CT averaged 6-7% annual growth rates over more than a decade

Intermodal offers the easiest and most efficient method to insert electric rail freight or waterborne modes into long-distance transport chains of any type of cargo carried in trucks.

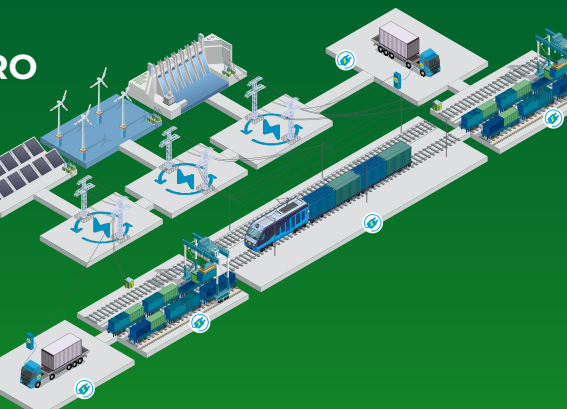


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A PATHWAY TO NET ZERO

CT efficiently transforms **non-fossil electricity** into transport services **on an industrial scale**.

- The technology is here
- Zero carbon, door-to-door CT is already possible



CT in Motion
Achieving zero carbon, door-to-door CT is a reality, having been demonstrated in 2021 between Rotterdam and Vienna.

GREATER ENERGY EFFICIENCY - LOWER CO₂ EMISSIONS

Compared to a Euro6/Euro7 truck, **door-to-door CT offers an effective, affordable and low-risk path** to improving energy efficiency and reducing CO₂ emissions.

Up to **70%** greater energy efficiency

Up to **90%** smaller carbon footprint

CT IS INCREASINGLY GENERATED THROUGH NON-FOSSIL MEANS

CT directly uses non-fossil electricity – its performance improves with each new solar panel, windmill or wave generator.



REDUCED INFRASTRUCTURE DEGRADATION

Steel-on-steel and steel-in-water always outperforms rubber-on-asphalt.

- **11.5 tonne axles**, found on just 2% of the total road vehicle fleet, represent 3-4 times the axle load of the second heaviest vehicle class - leading to accelerated road deterioration
- Rail, on the other hand, is built to support **22.5-tonne axles** making it ideal to handle heavy loads



INCREASED SAFETY, IMPROVED SECURITY

- Fewer accidents: truck-kilometres should be transformed into train-kilometres
- Reduced cargo theft if the goods spend less time on the road



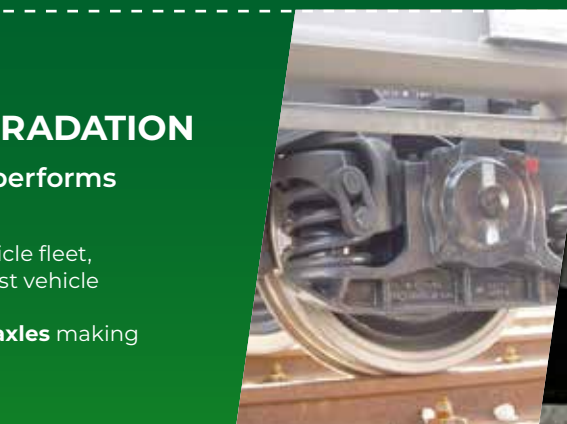
CT is the transport mode of choice for dangerous goods transporters

LESS ROAD CONGESTION

Alternatively powered trucks cause the same amount of road congestion as if the powertrain was fuelled by diesel. Rail freight has the potential to double its market share by 2050. This requires a near three-fold increase in CT performance.



But the benefits of doing so are clear:
→ 350 million less truck hours
→ 170,000 fewer truck driver vacancies
Fewer trucks on the road = less road congestion for everyone!



A BREATH OF FRESH AIR

- No air pollutants from combustion: NOx, PM10, ozone
- No PM2.5 emissions (e.g., from tyre brake pad and clutch powder)



PEACE OF MIND

- 150 million Europeans are subjected to harmful levels of road noise.
- Removing trucks from the roads means less road noise for one in three European citizens
- All intermodal wagons are low-noise wagons already today



QUALITY JOBS

- Door-to-door CT replaces the gruelling lifestyle of long-distance truck drivers with day-trucking and high productivity transshipment jobs.
- CT truck drivers have a better work/life balance
- Intermodal transshipment creates high productivity jobs
- Combined Transport helps answer Europe's truck driver shortage



100% less truck driver vacancies

OPTIMISED USE OF INFRASTRUCTURE

- By adding rail and waterways to transport chains, door-to-door CT reduces the truck-kilometres needed to complete a freight transportation task.
- Railways are built for the safe handling of heavy loads
- Waterways are natural carriers of heavy cargo



SLOWER ROAD-AND BRIDGE DEGRADATION

Heavy truck axles are the number 1 cause of road and bridge degradation. The rail infrastructure is built to carry the heavy loads.



100% less truck driver vacancies

A SHIFT TO RAIL

Freight trains can most easily be filled by intermodal cargo delivered by Combined Transport to meet EU policy objectives. The prerequisite:

- A transport infrastructure network that fulfils the revised TEN-T standards
- Improved quality and increased quantity of train path capacity secured through the new Rail Capacity Management Regulation



Stopping the overloading of roads and bridges starts with more CT.

COST SAVINGS FOR SHIPPERS

- Transporting cargo in stackable, intermodal loading units like containers:
- Provides low cost temporary storage
- Creates more robust supply chains without the need for warehousing
- Simplifies factory layout producing goods directly into intermodal loading units



Fewer truck-kilometres = Slower degradation = Less frequent maintenance works

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