



Promotion du Grand Axe Ferroviaire de marchandises
Scandinavie-Rhin-Rhône-Méditerranée Occidentale A.S.B.L

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FERRMED Newsletter June 2023

FERRMED Study of Traffic and Modal Shift Optimisation in the EU about to be completed

A huge comprehensive analysis of the EU freight transport system

KEY TOPICS

The Study started in June 2019 and will be finished in the third quarter of 2023.

The Final Report of the Study will be presented in Brussels and successively in the concerned EU Member States.

Interactive information will be available at the FERRMED website.

PRELIMINARY CONCLUSIONS DEMONSTRATE THAT:

Investing in 26% of the EU Extended Core Network generates 99% of total net present value (NPV). Slightly positive NPVs in further 36% of the network are almost offset by negative NPVs in the remaining 38% (see chart on page 4).

Implementing the Fast Flexible Integrated Rail-Road System of Transport (+FIRIRST) to move all kind of ILUs (semitrailers, containers and swap bodies) to different destinations in the form of "Mobility as a service" (Maas), is the best way to reverse the stagnant share of the railway in land freight transport.

Properly interlinking the identified EU Strategic logistic hubs and key interconnection nodes with the +FIRIRST system, including the intermodal terminals new concept, is key for the Green Deal targets' achievement on transport.

TASK FORCE FOR THE STUDY DEVELOPMENT

24 experts: Professors, engineers, economists, geographers and senior analysts from all over the EU

2 Universities involved: Antwerpen, Barcelona

1 Consultant company: MCRIT

More than 40,000 work hours engaged

PERFORMANCE AND ENVIRONMENTAL IMPACT OF THE EUROPEAN LAND FREIGHT TRANSPORT SYSTEM

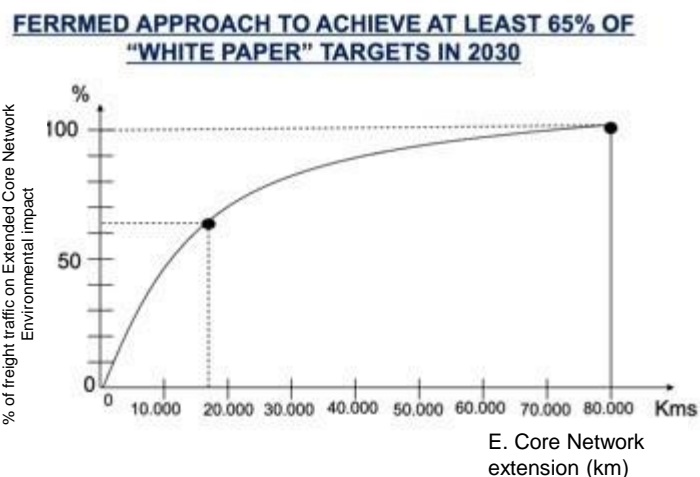
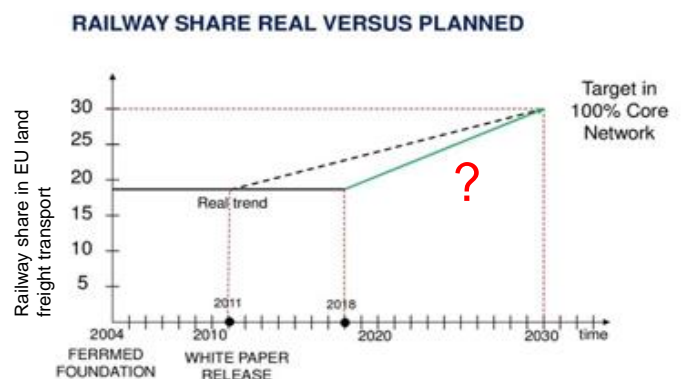
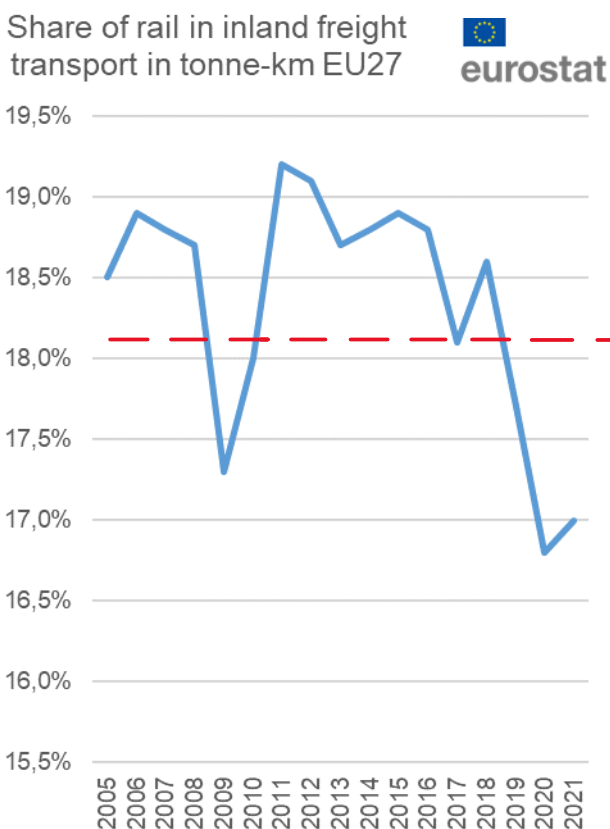
In **2021**, the total **volume of land freight transport** in the EU-27 was approximately **17.7 billion tonnes**, with a **transport performance of 2,478 billion tonnes-kilometres**. The modal shares were roughly **77 % by road**, **17 % by rail** and **6 % by inland waterway**.

In spite of the environmental friendly efforts made by the sector, the impact of the traffic of heavy-duty road vehicles on the environment is still severe: some **210 million tonnes of CO2e per annum**, representing 26 % of total GHG emissions from road traffic.

On the other hand, the **lack of flexibility** in freight trains management and the **shortage of adequate intermodal infrastructure**, do not facilitate the growth of combined transport.

Under the scope of the “European Green Deal”, a comprehensive plan at EU level of modal shift optimisation, aiming for an **integrated land freight transport system**, is urgently needed in order to get the transport sector as a whole on track to achieving **carbon neutrality by 2050**.

Shift of modal shares between 2005 and 2021



FERRMED Study of Traffic and Modal Shift Optimisation in the EU about to be completed

Basic structure and contents of the study

Cargo movements of all modes analysed in the **EU Extended Core Network (ECN) (70,000 km of corridors)**, equivalent to 200,000 km of all modal routes).

The sections with more than 65% of cargo movements in the ECN are concentrated in 18,000 km, representing the **“Central Backbone Network”** (Blue color in the map).

The sections with more than 65% of domestic traffic, in not central Member States, represent 8,500 additional kms, corresponding to the **“Extended Backbone Network”** (Red color in the map).

Main EU strategic logistic hubs identified considering three basic factors: freight inflow-outflow, GVA, and population.

See map next page, showing the 30 most important hubs, 8 of them classified as **top strategic hubs**.

Analysis of the **key intermodal terminals** and **main interconnection, back-up and feeder links** in the ECN. Intermodal terminal **new concept** determination.

Analysis of **bottlenecks**.

Determination of **investment requirements in additional intermodal terminals and railway lines**.

Definition of the **“FERRMED Fast, Flexible, Integrated Rail-Road System of Transport (+FIRRST)”**.

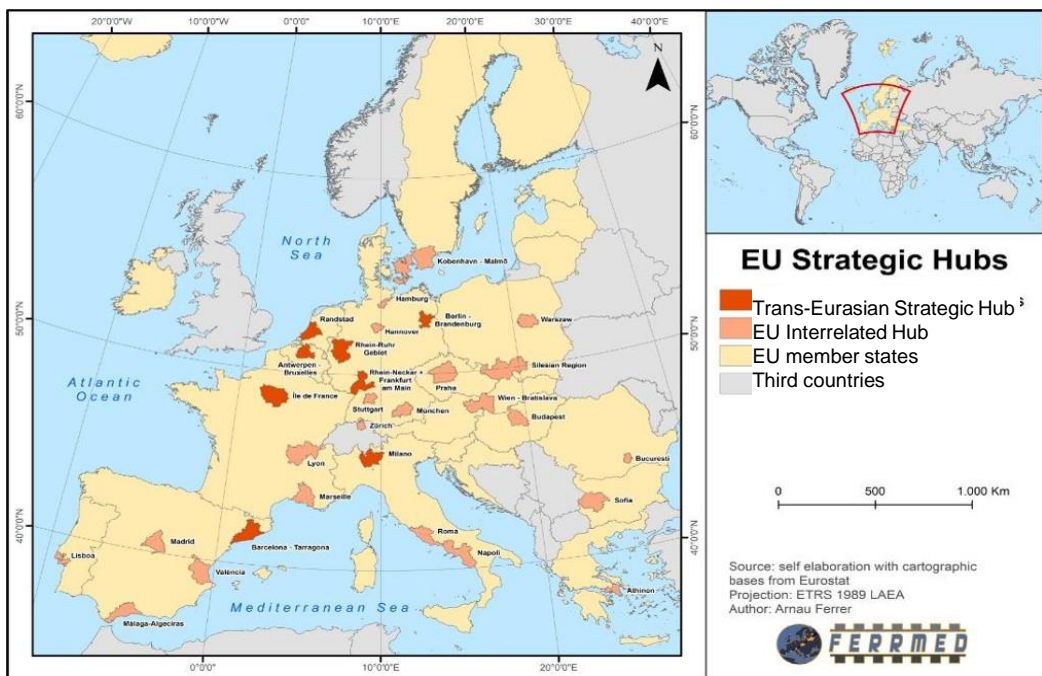
Best interconnection routes in the Eurasian Transport System.

Socio-economic and environmental impact assessment at prefeasibility level.

Action Plan to achieve the EC White Paper on Transport and Green Deal targets.

Key recommendation: To establish a **“EU integrated land freight transport priority investment plan”** with first priority for sections with the highest freight volumes.





Main preliminary conclusions of the study

INFRASTRUCTURE

First priority investments in the part of the Extended Core Network that supports 65% of land freight transport performance (18,040 km, 25.7%).

Second priority to be devoted to sections of peripheral Member States that concentrate 65% of the land freight traffic of the country (8,500 km, 12.1%).

Third priority in the rest of the Network (43,700 km, 62.2%) Investments gradually assigned according to transport volume of different sections.

In summary: To achieve the EC 2011 White Paper targets on transport, additionally to the actions already identified by EU Member States, 2,000 km of new lines and 400 new intermodal terminals are required.

OPERATIONS

Gradual implementation of +FIRRST system for rail freight transportation in the Central and Extended Backbone Network (~27,000km).

KEY ACHIEVEMENTS

58% operational cost reduction
76% externality reduction.

MAIN RESULTS PRESENTATION

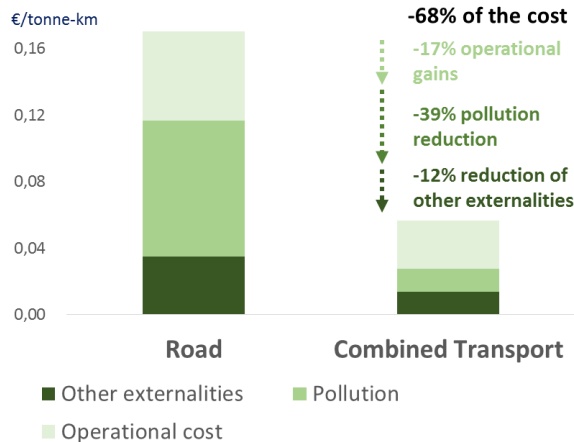
EU level, Member State level and Corridor level.

SOCIO-ECONOMIC AND ENVIRONMENTAL IMPACT ASSESSMENT

PRELIMINARY

1. Marginal economic cost of transport

(€/tonne-km)



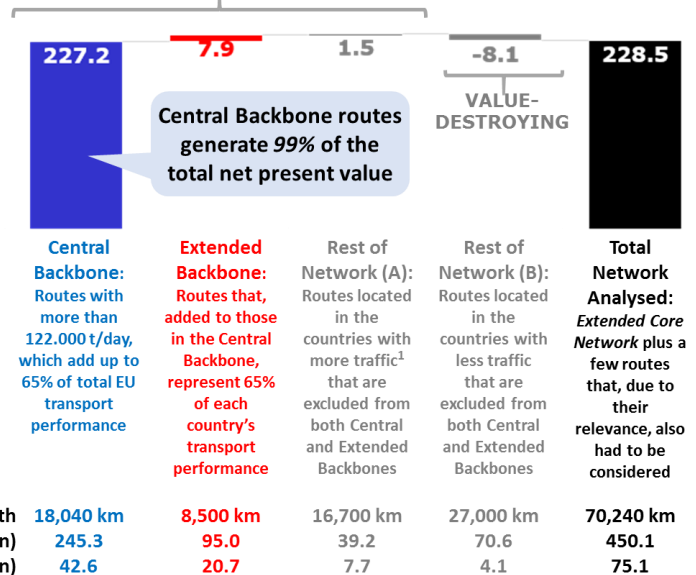
Overall savings:

- 68% of the cost
- 17% operational gains
- 39% pollution reduction
- 12% reduction of other externalities

2. Net present value generation

(€billion, discount rate = 4%)

VALUE-ADDING



- ❖ **Operational cost reduction.** Road vs +FIRRST combined transport (including taxes): **58%**
- ❖ **Externality reduction.** Road vs +FIRRST combined transport: **76%**

	Central Backbone	Extended Backbone	Rest of Network (A)	Rest of Network (B)	Total Network
Length	18,040 km	8,500 km	16,700 km	27,000 km	70,240 km
TEN-T investment (€billion)	245.3	95.0	39.2	70.6	450.1
FERRMED investment (€billion)	42.6	20.7	7.7	4.1	75.1

1. These countries are Austria, Belgium, Czech Republic, France, Germany, Hungary, Italy, Netherlands, Slovakia and Switzerland.

Source: FERRMED, preliminary data as of May 2023 (some details might differ from those published in the final report to be issued later in 2023).