

*FERRMED Study of Traffic and Modal Shift Optimisation in the
EU*

**FERRMED study's early findings support only viable roadmap to
EU Green Deal Targets, adding to COP26 momentum**

The best way to attain an efficient and sustainable EU Transport System

KEY EARLY CONCLUSIONS (May 2022)

- High priority investments in 18,000 km (Backbone) of railway corridors over the EU threshold (approx. 27% of the EU Core Network: European Transport Corridors).
- Second priority investments in 8,400 km (Extended Backbone) of railway corridors (13.5% of the European Transport Corridors) in Member States below the EU threshold.
- Main logistic Hubs in the EU identified.
- Definition and configuration of the **FERRMED Fast, Flexible, Integrated Rail-Road System of Transport (+FIRRST)**, with a “pass-through” new Terminals concept, organizing multimodal transport in the form of “Mobility as a Service” (MaaS), considering the railway at the service of the road (as the most flexible mode).

This is the only way to achieve the **EU Green Deal Targets** in the land transport system and should be included in any solution negotiated at **COP26**, say FERRMED.

On the occasion of the FERRMED Conference that will be held via streaming on November 16th, several significant early results of the Study will be presented.

Considering there has been no increase in rail freight share (~18% of land transport system in the EU) in the last 15 years, and that the EU Transport Core Network is too vast (~70,000 km) the shift from road to rail requires: **the concentration of investments in a subset of the Core Network (sections with the highest traffic) and the development of the “FERRMED fast, flexible, integrated rail-road system of transport (+FIRRST)”, able to move isolated truck trailers and containers in a quick and efficient way** to all kinds of destinations, properly combining train and truck as a single logistic element (considering the railway at the service of the road).

The first results of the Study are:

- Detailed analysis of the transportation volume (all modes, road, rail and inland waterways) in small sections related to the EU Core Network.
- Identification of the sections of the EU Core Network with most traffic (all transport modes): “EU Central Backbone Network” (17,800 km with 65% of Core Network traffic) and, complementarily, the “EU Extended Backbone Network” (additional 8,100 Km to cover the 65% of the traffic in each peripheral Member State)
- Detailed analysis of all the intermodal terminals and interconnection links of the EU Backbone Network (main characteristics and capacities)



- Determination of the EU Strategic Logistic Hubs

- Forecast traffic scenarios and modelling of origin-destination matrices
- Analysis of the impact of traffic scenarios in intermodal terminals and interconnection links: first draft of required improvement actions
- +FIRRST concept definition and determination of +FIRRST terminals in EU Member States (under development)
- Operation and rolling stock improvement actions (ERTMS and intelligent trains included) (under development)
- Trans-Eurasian Main Railway Network enhancement (under development with the collaboration of main Eurasian Countries)
- Socio-economic and environmental analysis (main guidelines and ratios already defined)

Never has such a detailed Study of EU land freight transport enhancements been carried out. The conclusions of the Study could facilitate the establishment of a coherent transportation network improvement plan at EU level, to attain the EU targets in railway share by 2030 and the Green Deal environmental achievements with regard to the EU transportation system.

It is a huge Study requiring 3,600 people-days and a task force which includes 24 experts (engineers, economists, geographers, architects, etc) from all over the EU. We envisage the completion of the Study by September 2022.

The study has already shown how existing commitments can only be achieved through the actions and investments identified. Further commitments expected at the COP26 will make this even more necessary. The findings should be taken into account at this momentous opportunity for avoiding climate disaster.

About FERRMED

FERRMED is a non-profit multisectoral Association that was founded by the private sector in Brussels on the 5th of August 2004 to improve rail freight transportation and industrial competitiveness in Europe and neighbouring countries.

Another key FERRMED objective is the optimization of the full logistics chain, considering appropriate intermodality, reducing costs, increasing quality, assuring environmental friendliness, adequate transit times and improving management procedures in the transportation system, in the framework of 5G and Circular Economy.

FERRMED has more than 130 members all over Europe.

Presidency

May 2022

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Promotion du Grand Axé Ferroviaire de marchandises
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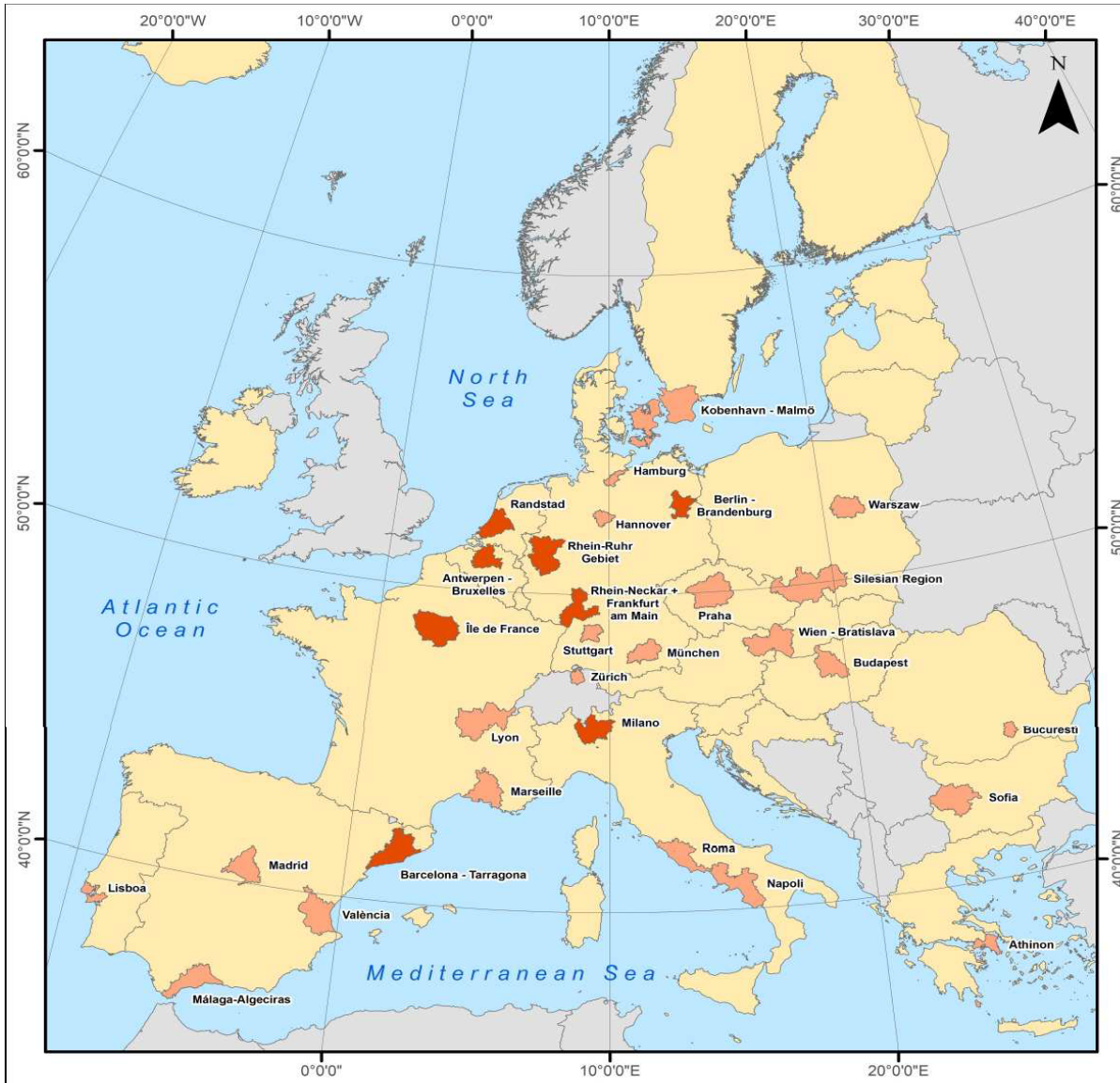


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FERRMED Study of Traffic and Modal Shift Optimization in the EU

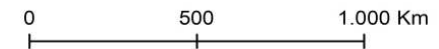
EU Backbone determination





EU Strategic Hubs

- Trans-Eurasian Strategic Hubs
- EU Interrelated Hubs
- EU Countries
- Non EU Countries



Source: self elaboration with cartographic bases from Eurostat
 Projection: ETRS 1989 LAEA
 Author: Arnau Ferrer





FERRMED Fast, Flexible, Integrated, Rail-Road System of Transport (+FIRRST)

+FIRRST Integrated System. Introduction:

According to the FERRMED Study of Traffic and Modal Shift optimisation in the EU considerations', the only way to achieve the EC targets of road traffic transfer to rail is to incorporate a System that can move "isolated truck trailers and containers from/to different destinations in a fast, flexible, Integrated System of Transport. It is a novel way of organising multimodal rail-road transport in the form of "Mobility as a Service" (MaaS).

+FIRRST is a combined transport System at the service of the road (as the most flexible mode)

+FIRRST Integrated freight control System:

For an optimal functioning of the +FIRRST System, a full control of the

+FIRRST trains and trucks in a single data base is required. This will allow to define, case by case, the stops of the +FIRRST trains –in the intermediate terminals that are the origin/destination of trailers/containers transported or to be transported-in advance.

Several +FIRRST trains will be operative interlinking the EU Socio- Economic Strategic Hubs (and related intermediate hubs) defined in the FERRMED Study.

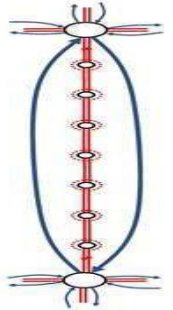
+FIRRST INTEGRATED SYSTEM NETWORK

LEGEND

- Strategic Socio-economic Hub +FIRRST HUB TERMINAL
- Intermediate Hub +FIRRST INTERMEDIATE TERMINAL
- Hub +FIRRST train (direct)
- Intermediate +FIRRST train (stop at request)

Three kind of trains are envisaged: Point-to-Point (PtP), Stop at intermediate terminals (SaI), stop at request (SaR).

+FIRRST FREIGHT WAGONS FOR VERTICAL



LOADING/UNLOADING

Pocket wagon for semi-trailers



+FIRRST trains are usually a mix of pocket and platform wagons.

Complete trains with only pocket wagons for trailers could be considered as well.

+FIRRST train composition & trucks/terminals

continuous:

Hybrid/Dual locomotive plus "pocketed wagons" for trailers and FERRMED long wagons for containers and +FIRRST Terminals

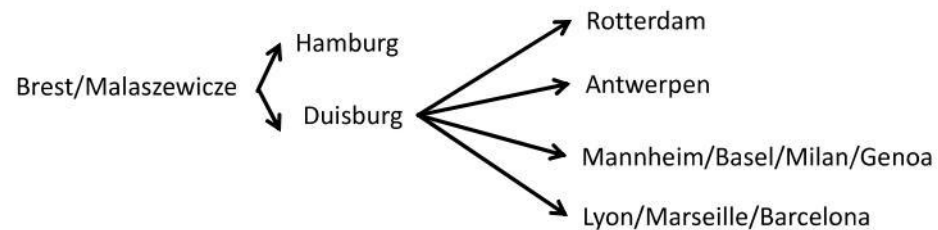


FERRMED Study of Traffic and Modal Shift Optimization in the EU

Trans-Eurasian main railway network enhancement



Main trans-Eurasian routes in the EU (able for 1.500m length trains)



Other complementary main routes

- Ukrainian border – Slawkow – Katowice – Ostrava
- Ukrainian border – Fényeslitke – Budapest – Vienna – Milan - Lyon

Brussels, May 2022

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