

## FERRMED CONTRIBUTION TO THE DEBATE ON THE FUTURE OF TRANSPORT

FERRMED is a multi-sectoral association that was founded by the private sector in 2004 in order to improve rail freight transportation and to boost the industrial competitiveness in Europe.

FERRMED drew up a list of priorities, including the implementation of common technical railway standards, the so-called “FERRMED standards” all over the European Union, the improvement of the connections of Ports and Airports with their respective hinterlands and the conception of a Great Axis Rail Freight Network Scandinavia-Rhine-Rhone-Western Mediterranean covering the most important socioeconomic area in Western Europe (“Red Banana”)

It is the first initiative in favor of a European rail freight network that is completely “business-oriented” and takes into account regional interest with a European vision. What’s more, with more than 130 members from 10 European countries and even in North of Africa, FERRMED has turned into a powerful lobby and a forum of exchange of new ideas in order to optimize the global chain of added value.

<p><b>The FERRMED Global Study and the definition of a “business-oriented” high priority rail freight network</b></p>
---

Since August 2007, FERRMED has commissioned a “*Supply and Demand, Technical and Socio-Economic Global Study of the FERRMED Great Axis network and its area of influence*”. The overall objective of that study, financed by DG TREN<sup>1</sup> and by Member States and Regions, is to match supply and demand freight transportation during the period 2007-2025 in the “Red Banana” and to formulate recommendations aiming at optimizing traffic between the different modes of transportation, with a view of taking up to 30-35% of the land traffic onto rail and improving management systems and railway infrastructures for freight transport.

This Global Study is developed by the Consortium constituted by:

- WYG International (UK)
- DORSH Consult (Germany)
- GESTE ENGINEERING (Switzerland)
- INEXIA (France)
- NTU (Denmark)
- PROGTRANS AG (Switzerland)
- RINA INDUSTRY (Italy)
- SENER (España)
- SIGNIFICANCE BV (The Netherlands)
- SPIEKERMANN GmbH (Germany)

---

<sup>1</sup> Project n°2006-EU-93018-S / Decision C (2007) 1766

- STRATEC (Belgium)
- WSP AB (Sweden)
- WYG Consulting Group (UK)
- 

The forecasted results will allow to determine a high priority “business-oriented” rail freight network inside the “Red Banana” (area of influence of the FERRMED Great Axis).

Six parallel tasks are currently being carried out:

- **Data collection and Market consultation**

The aim of this task is to collect, analyze and evaluate the collection and review of the base data and information, which will provide input for the assessment of the existing total freight market, including all transportation modes. In addition to the collection of specific data, the Project surveys the views of key opinion makers in the “Red Banana” area of the FERRMED Great Rail Network. The total number of scheduled face-to-face interviews in order to cover a large percentage of the European market is 195 and the total number of report-based interviews is 201, resulting in a grand total of 396 interviews.

Data for the network information (road, rail, air and waterways) has been collected and a list of the major committed projects considered determining the future configuration of the reference scenario networks has been compiled. Stakeholders’ interview program methodology has been established and a list of interview candidates agreed. To date, 53 direct interviews and 22 questionnaires based interviews have been conducted.

- **Supply and Demand Analysis**

Considering the economic development and opportunities of all activities sectors, the impact of different transport modes for period 2007-2025 will be analyzed. The aim is to determine – with particular attention to the years 2015, 2020 and 2025 – the reasonable evolution of the distribution of traffic between the different transport modes increasing rail freight to 35% of land transportation (long-distance).

According to the study area, the types of traffic to be analyzed, the whole scope of the project and the availability of data, the TRANS-TOOLS model has been selected as the main modelling tool (For port flows, the Consortium is using a different software: TransCAD). The output of the TRANS-TOOLS trade model is a forecast Origin/Destination matrix for freight including origin region, between transshipments and destination region as well as transport mode at origin, between transshipments, and at destination, commodity group and tonnes.

Throughout the last year, TRANS-TOOLS 2000 has been updated to 2005, which is the base Year of the present study. The first run of TransTools fitted with 2005 data has been undertaken with the aim to verify the main results for passenger and freight with regard to the traffic flow and the demand assigned to the network. Port Flows Distribution Model using TransCAD has also been calibrated. A gravity model has been built for each sector (demand). What’s more, future demand for the target years (2015, 2020 and 2025) has been calculated.

Three scenarios will be taken into account: “Reference Scenario” (existing transportation systems infrastructure plus national and regional forecasted improvement plans) and two FERRMED Scenarios (Full FERRMED Scenario, considering full FERRMED standards implementation, and medium FERRMED Scenario considering FERRMED Standards partially implemented)

At the present time, the building, running and validation of 2025 Reference Scenario are completed. The resulting traffic of 2015 and 2020 Reference Scenario are being validated by the country experts.

## ▪ **Technical Analysis**

The Technical Study is focusing on investigating the current situation of the infrastructure, its current bottlenecks as well as the investment proposals for improving the transport infrastructure, operational systems, and evaluation of the extent to which these will meet future demand. The investment plans of public and private parties are taken into account, which together with the traffic forecasts and the future implementation of FERRMED Standards and proposals will form the scenarios for the target years (2015-2020-2025). The Technical Study will use the results of the Supply/Demand Study in order to identify bottlenecks in the target years for the considered scenarios.

Throughout the last year, the assessment of the current Rail Network in all countries involved has been completed. A methodology for capacity calculation has been developed. The analysis on the feasibility of using long and heavy trains in the Red Banana, taking into account infrastructure and rolling stock aspects, has been finalized. ERTMS/signaling/power aspects have also been examined from a technical point of view. The different projects proposed in the Red Banana have been examined, in terms of infrastructure improvements and required investments. Finally, costs for different solutions to bottlenecks have been estimated and categorized. At the moment, the infrastructural bottlenecks arising in the target years have been identified. At this stage of the study, their existence and type have to be confirmed by the technical experts of each country. Then solutions to the bottlenecks will be proposed and their costs will be estimated.

## ▪ **Socio-economic Analysis**

The Socio-Economic Study is based on the calculation of the socioeconomic impact of developments in freight transportation within the time period from 2010 to 2025 (Cost Benefit Analysis-CBA). The general objective is to provide a critical investment assessment and evaluate the investment alternatives, based on transport demand and traffic forecasts resulting from the selected demand and supply scenarios and also to provide FERRMED with basic information on the future needs and options for funding.

Throughout the last year, the Consortium has developed the methodology, defining the expected project impacts on the CBA output and the future scenarios. The Consortium is now awaiting the results of the Supply and Demand Study and the Technical Study, which will be analysed by the CBA. Already, the study team has developed and run a test CBA analysis, which is providing encouraging results, showing significant benefits by the use of some FERRMED standards, with a focus on long trains.

## ▪ **Environmental Analysis**

The Environmental part of the Study will estimate the environmental impacts (positive or negative) of the anticipated developments in goods transportation by all modes. The environmental Study mainly focuses on the following issues: the environmental impact due to the transfer of up to 35% of the land transportation to rail along the FERRMED network, noise mitigation measures and potential conflicts with protected environmental interests. The effects of the recommendations on the environment will be translated into monetary values into the Cost-Benefit Analysis.

Throughout the last year, preparatory work has been finished. The Consortium is now awaiting the results of the Supply and Demand Study and the Technical Study.

- **Legal and Administrative Assessment Analysis**

The main purpose of this Study is to examine the policy and legal framework around the development of the FERRMED Great Axis Rail Network, at the European and also at the National levels, to review the existing legislation and policies and to develop legislation and policy recommendations.

So far, all the EC and National policies and legal frameworks have been examined. The legal/administrative proposals will be combined with the technical proposals and Cost-Benefit analysis, in order to back up any recommendations towards the end of the Global Study.

Throughout the last year, background work has been finished (collection of information regarding the legal instruments and the regulations in the studied geographical area).

***The Global Study will be finished in summer 2009. In order to demonstrate its results, FERRMED is going to organize a Final Conference in Brussels by October 2009, as well as some public presentations all over Europe.***

***The main result of the FERRMED Global Study will be the definition of a high priority rail freight network in Red Banana area (business oriented). FERRMED strongly believes that the “FERRMED Global Study” final recommendations will have a great impact on the European rail freight transport policy and could be considered as an example to be followed on other future studies.***



### Background

Aiming to cover all European Union countries, FERRMED standards have been defined addressing issues like loading gauge, axle-loads, meter weight and train lengths. The goal is to considerably improve the conditions for international customer-oriented, competitive and profitable rail freight services across Europe.

In order to fully exploit the new prospects for rail freight offered by the FERRMED Standards, it is also necessary to deploy rolling stock and apply train operating methods, which make use of the future, more generous technical standards of the infrastructure.

### Goal

The studies aim at developing on outline of a “FERRMED locomotive concept” and a “FERRMED wagon concept”, which utilizes the possibilities of the FERRMED Standards.

This includes, in the case of the locomotive, the specification of a basic design and technical equipment, in order to define a powerful and versatile freight locomotive.

In the case of wagon, this considers the specification of a basic vehicle design, of vehicle dimensions and the technical equipment.

The concept will incorporate state-of-the-art technology and combine a number of solutions, which so far only have been implemented or tested independently of each other, but which have not yet been combined in a joined concept.

The FERRMED Standards make it meaningful to merge these solutions into one concept. By doing so, the full effects and benefits of the implementation of the FERRMED-Standards can be more widely quantified and illustrated.

### Studies development

The studies are entrusted by FERRMED to:

- The FERRMED locomotive concept will be developed by locomotive manufacturers that are FERRMED members jointly with Industrial Engineers Superior Technical Schools of Barcelona and València
- The FERRMED wagon concept is under development by the Royal Institute of Technology of Stockholm (KTH) and the Institute of Technology of Berlin (TUB).

Both studies will be finished at the same time that the “Global Study”.

## FERRMED opinion on the future of Rail Freight Transport

The European Commission 2001 White Paper on European Transport Policy “*European Transport Policy for 2010: time to decide*”<sup>2</sup> identified as main challenges the imbalance in the development of the different transport modes, the creation of a true internal European transport market, the congestion on routes and cities and the impact on the environment. Accordingly, the White Paper proposed policies to adjust the balance between the modes and stressed the need to do away with bottlenecks in the Trans-European Networks (TEN).

Since 2001, many initiatives have been taken, both at national and Community level. Rail freight services have been opened up to competition. Successive railway packages have set the Member States on the path to modernising their railways and to integrating national systems. With provisions relating to access and the levying of charges for infrastructure, managing its capacities and traffic, railway safety and the development of interoperability, the directives making up the first, second, and third railway packages encourage the modernisation of rail transport. Furthermore, the Transeuropean Transport Network (TEN-T) programme, the development and the deployment of the European Rail Traffic Management System (ERTMS), and the technical specification relating to telematics applications relating to freight (TAF-TSI) contribute to the development of interoperability and better-integrated management of the railway infrastructure in Europe.

However, these measures are not sufficient on their own and rail freight transport still has a fair way to go. Here are the issues FERRMED would like to outline regarding the future of rail freight transport:

- **The definition of a “business-oriented” high priority rail freight network**

For FERRMED, the rail freight network in EU should be based on the most “market-relevant” freight corridors linking the EU locomotive economic regions. In that sense FERRMED, with the economic help of the DGTREN and several member’s states and regions, is developing the FERRMED Global Study that aims at defining a “business-oriented” high priority rail freight network in the Great Axis Scandinavia-Rhine-Rhone-Western Mediterranean (Red Banana).

But FERRMED also thinks that, besides the ones already included, some other axes in Red Banana should be taken into account in the Trans-European transport network and should be declared “priority projects”:

- Railway axis Lübeck-Hamburg-Bremen-Duisburg
- Railway axis Luxembourg-Koblenz
- Railway axis Luxembourg-Metz-Lyon
- Mediterranean corridor Barcelona-Tarragona-Valencia-Murcia-Almeria-Málaga-Algeciras

FERRMED also regrets that much more attention is still paid to passenger trains than to freight trains, both in terms of investment choices and in terms of managing capacity and traffic, which greatly penalises freight transported by rail in the majority of Member States. Creating a better balance, in terms of the use of the railway network, between the different types of traffic represents a primordial factor in the improvement of the quality of rail freight services in Europe.

---

<sup>2</sup> COM (2001) 370 final.

Thus, FERRMED is promoting the development (all over EU), in the main branches of the great axes, of two parallel lines: a conventional line with double track giving priority or exclusiveness to freight traffic and a high performance line for passengers and light freight.

- **The implementation of the so-called “FERRMED Standards”**

In order to improve the quality of rail freight services and infrastructures, FERRMED is promoting the implementation of common technical railway standards, the so-called “FERRMED Standards”, and especially: UIC width of the tracks, UIC C loading gauge and sidings and terminals adapted to 1.500 meters long and heavy trains.

FERRMED also recommends better connections from ports and airports to their hinterland rail networks and inland terminals in order to achieve the customer requirements in quality, cost, delivery reliability, flexibility, security and from environmental point of view, as well.

- **The extension of the trans-European transport axes to the neighbouring countries**

Several important transport routes across central, eastern and south-eastern Europe — known as pan-European corridors — were developed from the early 1990s. Largely lying outside the EU, the pan-European corridors helped to link the EU to its then neighbours.

However, with the entry into the EU in 2004 and 2007 of 12 new countries, the pan-European corridors are now mainly within the EU and thus form part of the TEN-T network, leaving a policy gap in terms of improving transport links between the larger EU and the new neighbours on its reshaped frontiers. But hindrances to transport between the EU and its neighbours also stem from the different technical, administrative, organisational and legal systems and procedures used in different countries. This lack of interoperability and policy harmonisation causes bottlenecks and unnecessary delays, especially at border crossings.

Following the example of the *“Supply and Demand, Technical, Socio-Economic Global Study of the FERRMED Great Axis Network and its area of influence”*, FERRMED would like to carry out other two Global Studies aiming at defining key “business-oriented” axes linking Trans-European transport network to the Trans-Eurasian and Trans-Mediterranean transport networks respectively.