FERRMED

Promotion du Grand Axe Ferroviaire de Marchandises
Scandinavie-Rhin-Rhône Méditerranée Occidentale

Supply/Demand, Technical and Socio-economic GLOBAL STUDY of FERRMED Great Axis Network and its Area of influence

Presentation of General Content, Conclusions and Recommendations

Brussels, 27th October 2009

FERRMED MAIN OBJECTIVES

The FERRMED Association main objectives are:

a) **To stimulate the European competitiveness** through the continuous improvement of the **global/multimodal chain of added value**, with the application of R+D+4i philosophy, in European Union

b) **To promote the FERRMED standards** implementation in the EU and neighbouring countries rail network

c) **To improve ports and airports connections** with their respective hinterlands.

d) To enhance the conception of the **Great Axis Rail Freight Network Scandinavia-Rhine-Rhone-Western Mediterranean**

e) **To improve the intermodal freight transportation being Railway one of the modes-** all over EU and neighbouring countries

f) **To contribute to a more sustainable development** through the reduction of pollution and climate change emissions

FERRMED STANDARDS FOR THE RAIL FREIGHT GREAT AXES

- EU Reticular and polycentric network having a great socio-economic and intermodal impact. In the main branches of great axes two parallel lines:
  - one giving priority or exclusiveness to freight heavy traffic
  - another available for passengers and light freight (high sped trains).
- Loading gauge UIC-C, width of the tracks UIC. Electrified lines.
- Maximum slope 12‰
- Trains length 1500 m. and 3.600÷5000 tonnes.
- Locomotive and wagon new concept
- Availability of a network of intermodal polyvalent and flexible terminals
- Unified labour, management and operational systems
- Free Competition
- 30÷35% of participation of rail in long distance land transportation

A KEY STRUCTURAL GREAT AXIS NETWORK FOR WESTERN EUROPE

The rail freight network of the FERRMED Great Axis interconnects the most important sea and inland harbour fronts; and the main East-West axes of the EU.

Main Trunk Branches Length: 4.500 Km.

TECHNICAL, SOCIOECONOMIC AND SUPPLY/DEMAND GLOBAL STUDY

Totally business/market orientated with double approach, regional as well as European.

Global study will analyze different modes of freight transportation in the whole network of the FERRMED Great Axis from three points of view:

- Supply/Demand Analysis
- Technical Analysis
- Socioeconomic and environmental Analysis

The aim is:

- to match different Supply Scenarios with Demand and to balance and optimize the traffic between different modes of transportation achieving that the rail freight transportation could reach 30÷35% of the long distance land transportation rate
- to put into practice FERRMED standards improving the conditions of capacity, intermodality and interoperability of the railway in the afore mentioned network.

RESULT: High priority Rail Freight network (business oriented)

SELECTED CONSORTIUM

- WYG International (UK)
- DORSH Consult (Germany)
- GESTE ENGINEERING (Switzerland)
- INEXIA (France)
- NTU (Denmark)
- PROGTRANS AG (Switzerland)
- RINA INDUSTRY (Italy)
- SENER (Spain)
- SIGNIFICANCE BV (The Netherlands)
- STRATEC (Belgium)
- WSP AB (Sweden)
- WYG Consulting Group (UK)

MAIN GENERAL CONCLUSIONS

- The application of FERRMED Standards is a key issue in order to reverse the decreasing share of Railway in land transportation.

- The proposed investment and actions in the FERRMED Great Axis Rail Freight Core Network and main feeders, are feasible and sustainable from economic, financial, and environmental perspective.

- As a consequence, FERRMED Association proposes the adoption of FERRMED Great Axis Core Network and main feeders as a part of the EU high priority Rail Freight Network, recommending the approval as **Priority Projects** of all actions to be developed in the Core Network

CORE NETWORK

MAIN GENERAL ACTIONS (I)

- Gradual Implementation of FERRMED Standards
- To built by-passes in big cities
- To reinforce border crossings in the Alps and in the Pyrenees (new crossing line in the Alps and change track width in conventional existing lines in the Pyrenees)
- To upgrade Spanish main corridors to UIC width (1435mm), starting by the Mediterranean one
- To consolidate an intermodal and polyvalent public/private network of terminals with appropriate rail links

MAIN GENERAL ACTIONS (II)

- To enhance the capacity of all main European Ports improving the rail links with their hinterlands
- Policy and management harmonisation
- Liberalization and free competition
- To build new lines in the FERRMED Core Network, in the corridors where double line or interconnections links do not exist (Like Tarragona-Castelló and Almería-Motril-Málaga-Algeciras).

FERRMED PROPOSALS

These main general Conclusions and Actions derived from the Global Study, allows FERRMED Association to make a set of **100 proposals** in order to get a suitable Rail freight Network in the "Red Banana" area.

In the Closing Session we will present shortly this set of actions, and **other FERRMED Studies** under way.

ACKNOWLEDGEMENTS

Warm gratitude to all that have made possible the realization of this Global Study:

- European Commission (DG TREN and its TEN-T Executive Agency)
- Involved Member States and Regions
- Federal Government of Belgium, particularly "Service Pubic Fèderal Mobilité et Transports"
- FERRMED Technical Working Group members
- FERRMED Advisory Council members
- General Secretariat supporting team
- All FERRMED members for their continuous support to the Association

- European Economic and Social Committee

FERRMED ASBL

Thank you very much for your attention

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Great Axis Rail Freight Network
Scandinavie-Rhin-Rhône-Mediterranée Occidentale

FERRMED PROPOSALS

Brussels, 27th October 2009

FERRMED PROPOSALS

In line with the conclusions of the Global Study, for the gradual development of the FERRMED Great Axis Rail Freight Network, FERRMED ASBL, proposes a total of **100 short, medium and long-term actions (2010-2025)**. These actions are geographically located as follows:

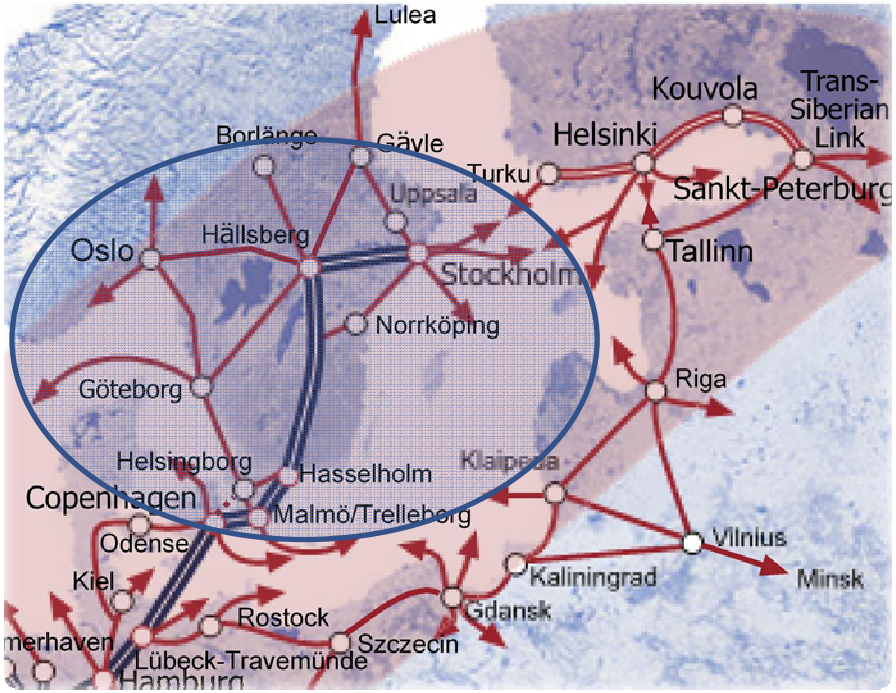
i. Finland – Russia (St. Petersburg area):
ii. Baltic States (Estonia, Lithuania, Latvia);
iii. Sweden;
iv. Denmark;
v. Germany and North-West Poland;
vi. The Netherlands, Belgium and Luxembourg;
vii. France and South-East United Kingdom;
viii. Switzerland and North of Italy;
ix. Spain and North Africa.

ACTIONS IN CORE NETWORK (I)

SWEDEN

Core Network line: Stockholm-Hallsberg – Malmö/Helsingborg

- To introduce FERRMED standards
- New fixed link Helsinborg – Helsingör over the Öresund
- Parallel HSL Stockholm – Jönköping – Helsingborg/ Malmö, with a branch to Göteborg
- To enlarge or to build high capacity multimodal terminals

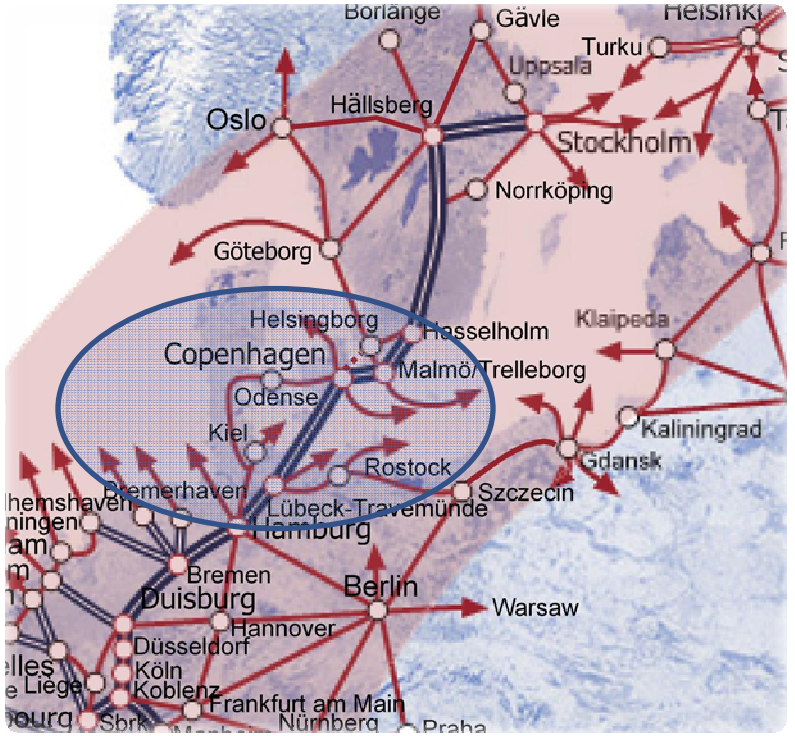


ACTIONS IN CORE NETWORK (II)

DENMARK

Core Network line: Malmö/Helsingborg – Copenhagen – Lübeck (and derivation Copenhagen – Odense – Kolding – Flensburg)

- To build a fixed link over Fehmarn Belt
- To upgrade the line Ringsted to Rødby (First mixed line, latter additional separate HSL)
- Copenhagen by-pass line (Helsingør – Ringsted – Køge),
- Double tracks where necessary in line to Odense-Kolding Flensburg
- To introduce FERRMED Standards gradually and to build/enlarge Terminals where required.

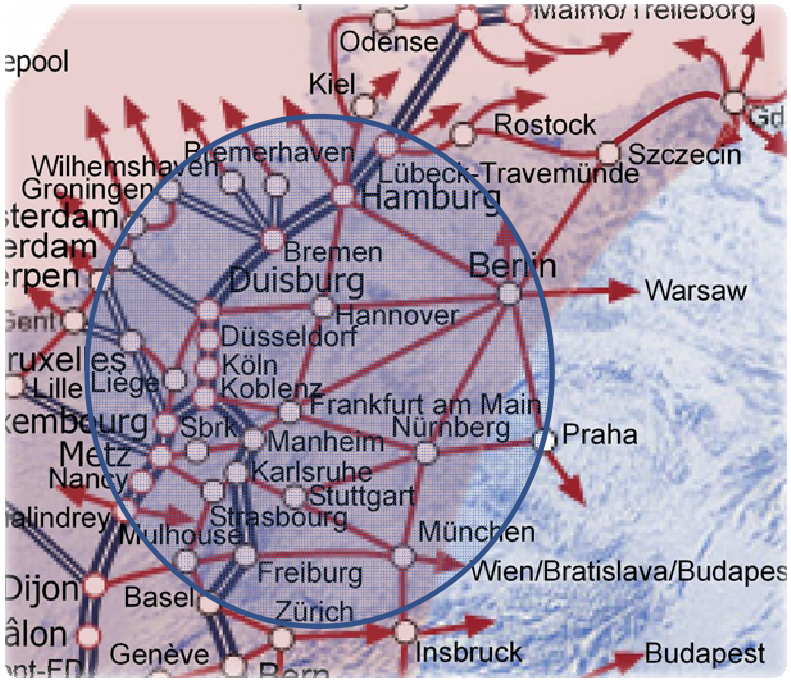


ACTIONS IN CORE NETWORK (III)

GERMANY

Core Network lines: Puttgarden – Lübeck – Hamburg- Bremen –Münster – Duisburg - Düsseldorf- Köln – Koblenz - Luxembourg/Apach-Metz and Koblenz - Mainz/Frankfurt - Mannheim – Karlsruhe - Freiburg – Basel

- To build a new electrified line Puttgarden-Lübeck (mixed traffic)
- Improvements in saturated lines in Hamburg, Ruhr area and Frankfurt
- Refurbishment of main lines in Rhine zone, Koblenz-Luxembourg, Mannheim-Saarbrucken and Offenburg-Strasbourg.
- To introduce FERRMED Standards gradually and to build/enlarge Terminals where required.

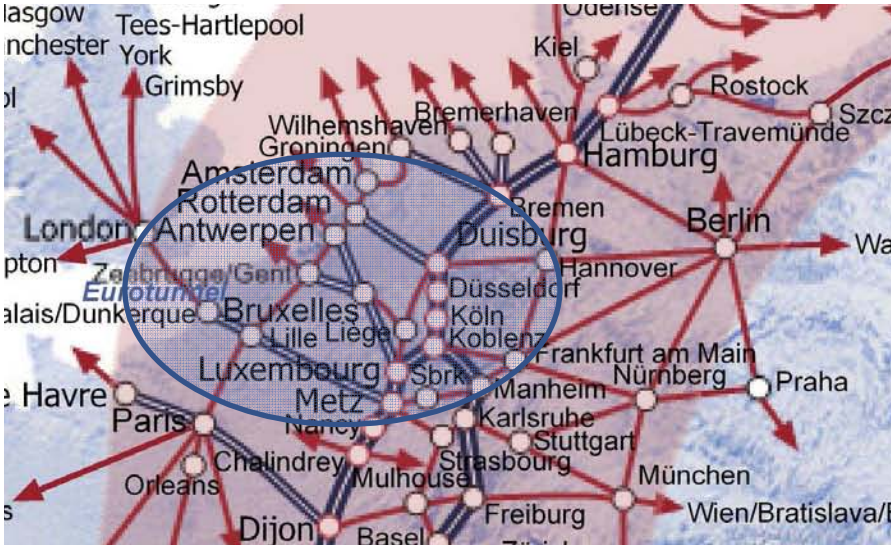


ACTIONS IN CORE NETWORK (IV)

The NEDERLANDS, BELGIUM AND LUXEMBOURG

Core Network lines:Rotterdam/Amsterdam- Duisburg ;Antwerpen/ Brussels – Liège – Aachen – Köln; Antwerpen/ Zeebrugge/ Gent/ Brussels – Namur – Luxembourg – Metz

- To implement FERRMED Standards and to enlarge or to build high capacity Terminals
- To improve the accessibility of ports of Rotterdam, Amsterdam, Antwerpen, Brussels, Gent, Zeebrugge and Liège
- To upgrade the Betuwe line connection with Duisburg in German sector
- To promote a by-pass in Brussels

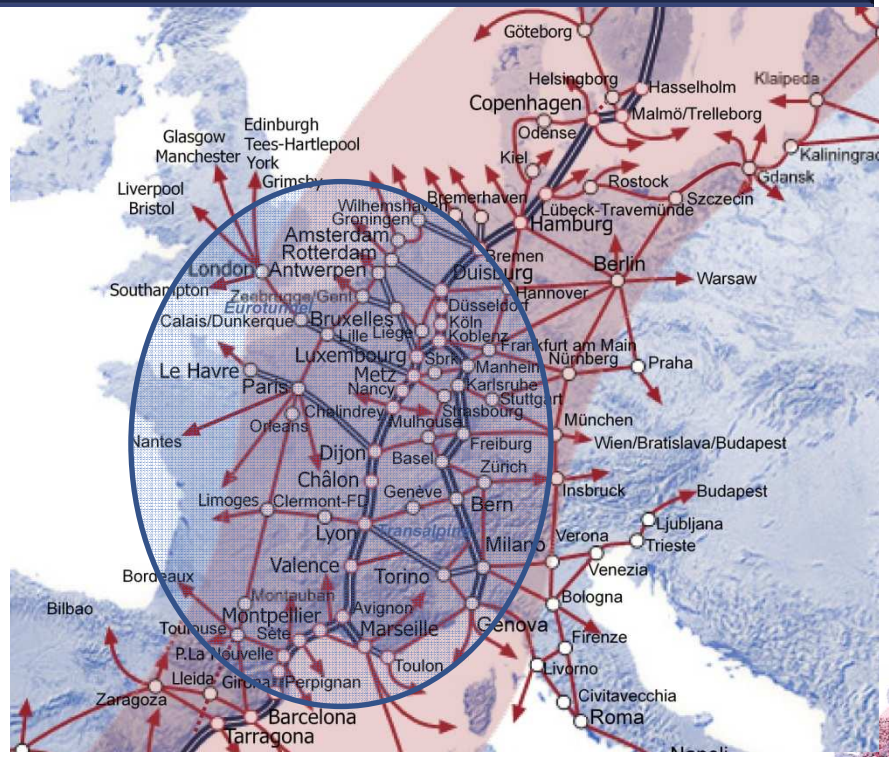


ACTIONS IN CORE NETWORK (V)

FRANCE and SOUTH-EAST UNITED KINGDOM

Core Network lines: London – Calais/Dunkerque – Lille – Metz – Dijon; Le Havre – Rouen – Amiens – Reims – Dijon; Le Havre – Rouen – Paris – Dijon; Luxembourg/Apach – Metz – Nancy – Dijon – Lyon – Valence – Avignon /Marseille – Nimes – Montpellier – Perpignan – Girona/Barcelona; Lyon – Torino/Milano

- To implement FERRMED Standards and to enlarge or to build high capacity Terminals
- By passes in Lille, Paris (Rocade Nord) and Lyon
- New mixed lines Nimes-Montpellier-Perpignan and Lyon-Torino
- To imporve the access to Le Havre and Marseille ports
- To refublish the line Marseille-Montgenèvre (long term)

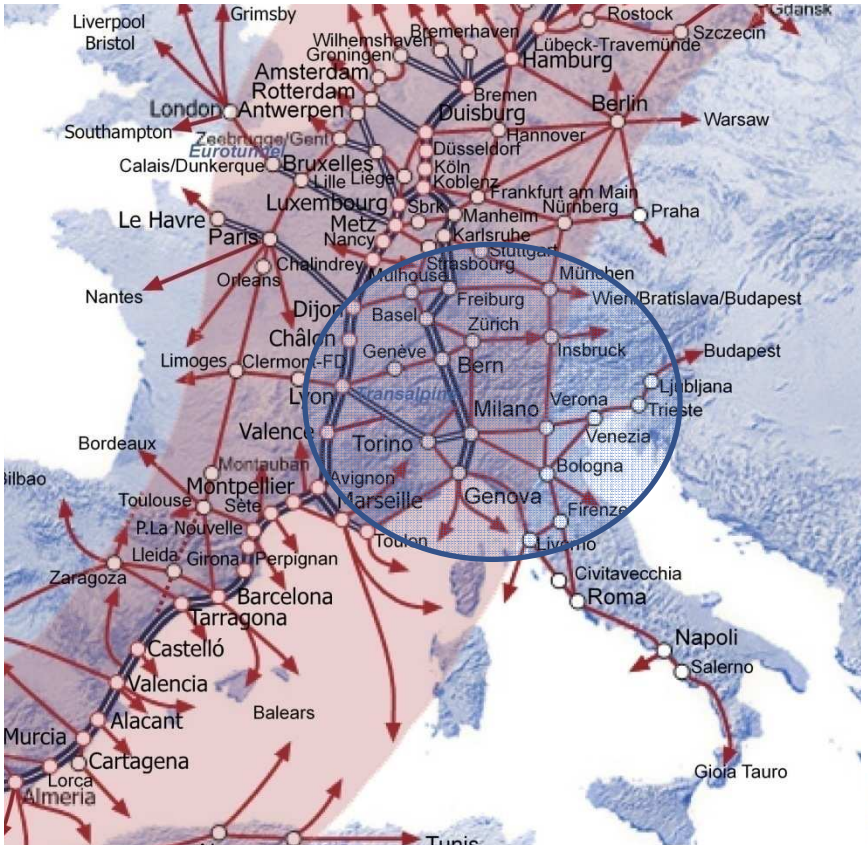


ACTIONS IN CORE NETWORK (VI)

SWITZERLAND-NORTH of ITALY

Core Network lines:Basel – Bern – Milano – Genoa; Basel - Zurich - Milano – Genoa; Lyon – Torino – Milano - Venezia

- New base tunnels: Lotschberg, Simplon , Sant Gottard
- New transalpine line Torino-Lyon
- New line Milano - Genoa
- New HSL Torino-Milano-Venezia-Trieste
- To introduce FERRMED Standards and to enlarge or to build high capacity Terminals
- To improve the access to ports (Genoa, Savona, Livorno, ...)

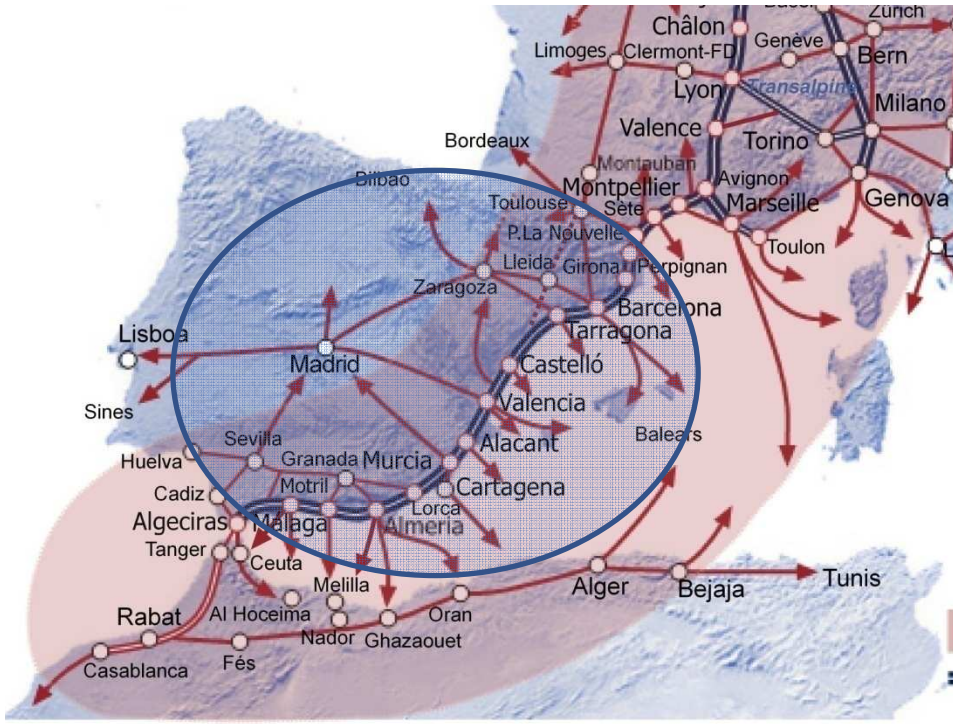


ACTIONS IN CORE NETWORK (VII)

SPAIN AND NORTH OF AFRICA

Core Network lines: Perpignan-Girona-Barcelona-Castelló-València-Alacant-Murcia/Cartagena-Lorca-Almería-Motril-Málaga-Algeciras; Lorca-Granada-Antequera-Bobadilla-

- To change the widht of the tracks in all Mediterranean Corridor in the existing conventional line
- New HSL Tarragona-Castelló, València -Alacant-Murcia-Almeria.
- Double gauge in surroundings of huge cities
- Great by-pass Girona Nord-Tarragona Sud
- Great by-pass Castelló-Xativa
- By-passes in Alacant, Murcia, Málaga, etc.

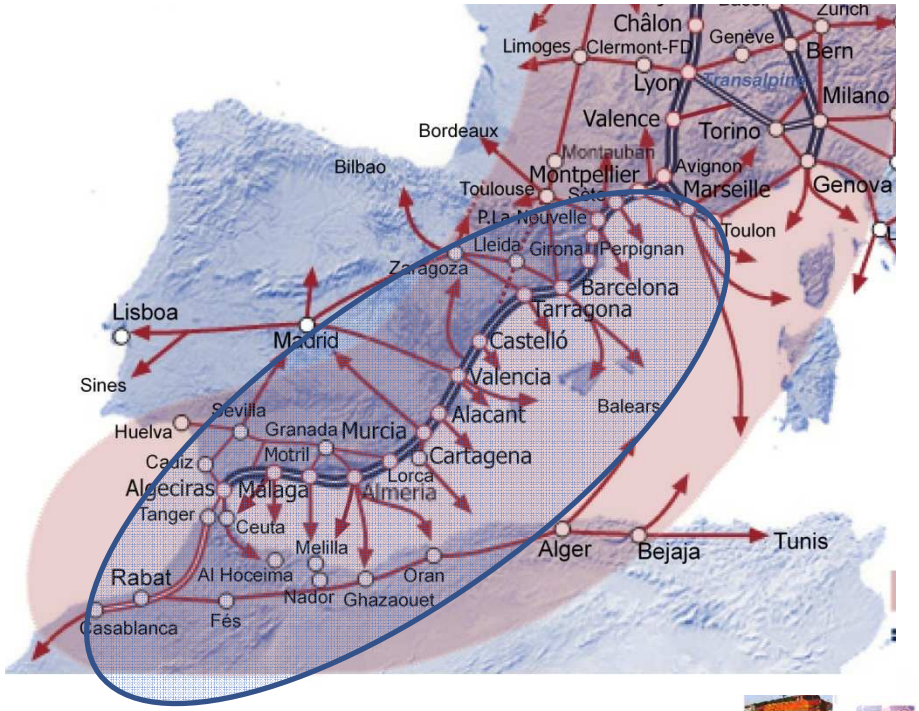


ACTIONS IN CORE NETWORK (VIII)

SPAIN AND NORTH OF AFRICA

Core Network lines: Perpignan-Girona-Barcelona-Castelló-València-Alacant-Murcia/Cartagena-Lorca-Almería-Motril-Málaga-Algeciras; Lorca-Granada-Antequera-Bobadilla-

- New mixed line Almería- Motril-Málaga-Algeciras (HSL+freight)
- To electrify and to put double track in the line Alacant-Murcia/Cartagena-Lorca-Aguilas
- To refurbish and to change the widht of the tracks in the line Sevilla/Algeciras-Bobadilla/Antequera-Granada-Almería
- To introduce FERRMED Standards and to enlarge/to built high capacity Terminals
- Study more suitable Gibraltar crossing



ACTIONS IN CORE NETWORK (IX)

Lines to be declared as EU Priority Projects
FERRMED PROPOSAL

Country	Lines to be declared as EU Priority Projects
Germany	➢ Line *Bremen-Münster-Duisburg* (to be included as an extension of corridor number 20). ➢ Line *Koblenz-Luxembourg/Apach*
France	➢ Line *Calais/Dunkerque-Lille-Metz-Dijon* ➢ Line *Le Havre-Amiens-Reims-Dijon*
Spain (Mediterranean corridor)	➢ Line *Tarragona-Castelló-València-Alacant-Murcia/Cartagena-Almería-Motril-Málaga-Algeciras* ➢ Line *Lorca-Granada-Antequera*

OTHER FERRMED STUDIES (I)

Studies under way

- **FERRMED Locomotive Concept**

Developed by ALSTOM; APPLUS; BOMBARDIER; COEIC, COIIV, FAIVELEY, Universitat Politècnica de Catalunya; VOSSLOH

- **FERRMED Wagon Concept**

Developed by Royal Institute of Technology Stockholm (KTH) – Railway Group; Institute of Technology Berlin (TIB)

- **Conference presentations: 2nd quarter 2010**

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Other Forecasted Studies (business Oriented)

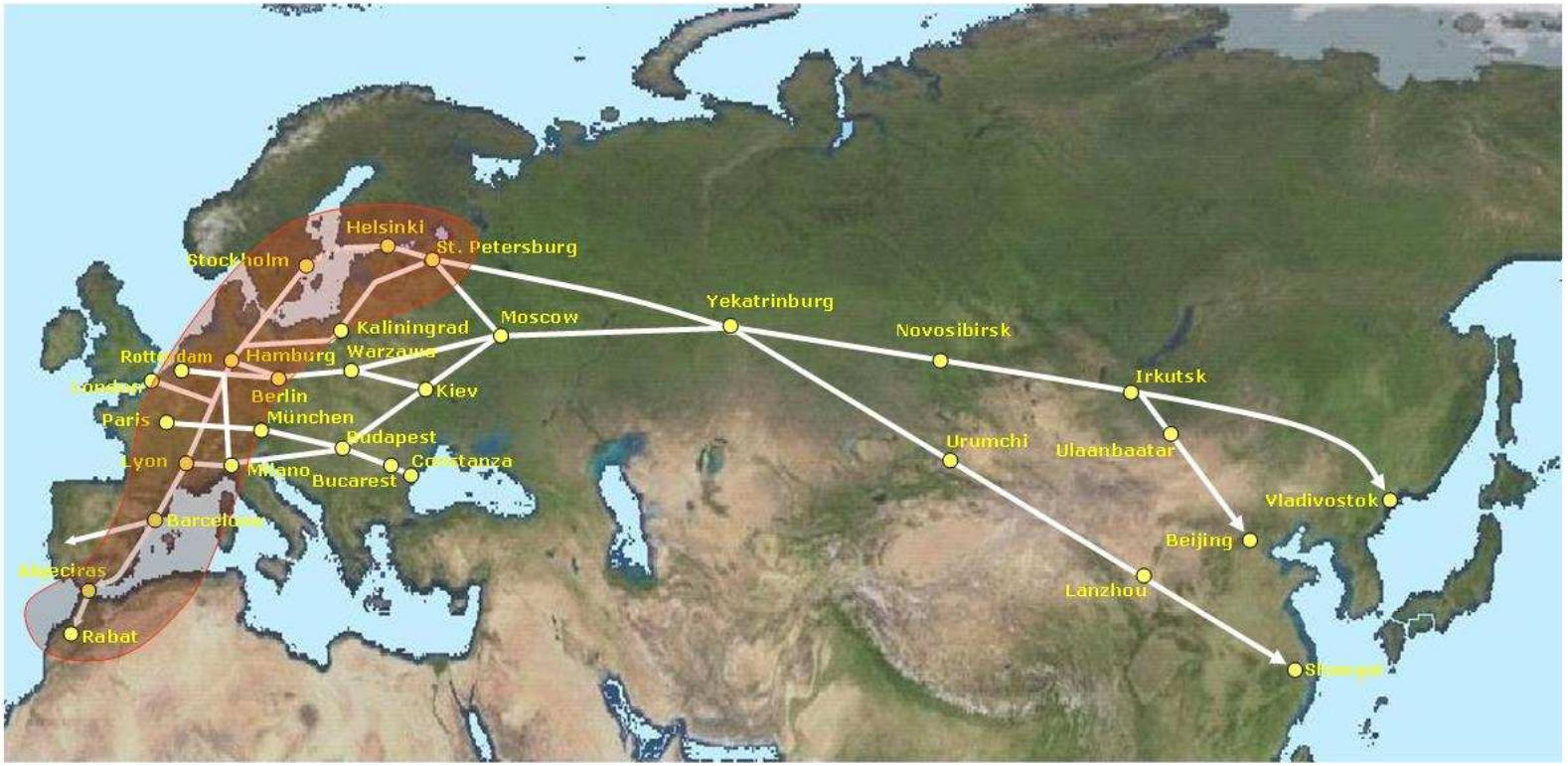
Mediterranenan Orbital Rail Network and Munitmodal links

To be developed jointly with the Euro Mediterranean Business Association

OTHER FERRMED STUDIES (II)

Other Forecasted Studies (business Oriented)

Trans-Eurasian Rail Network



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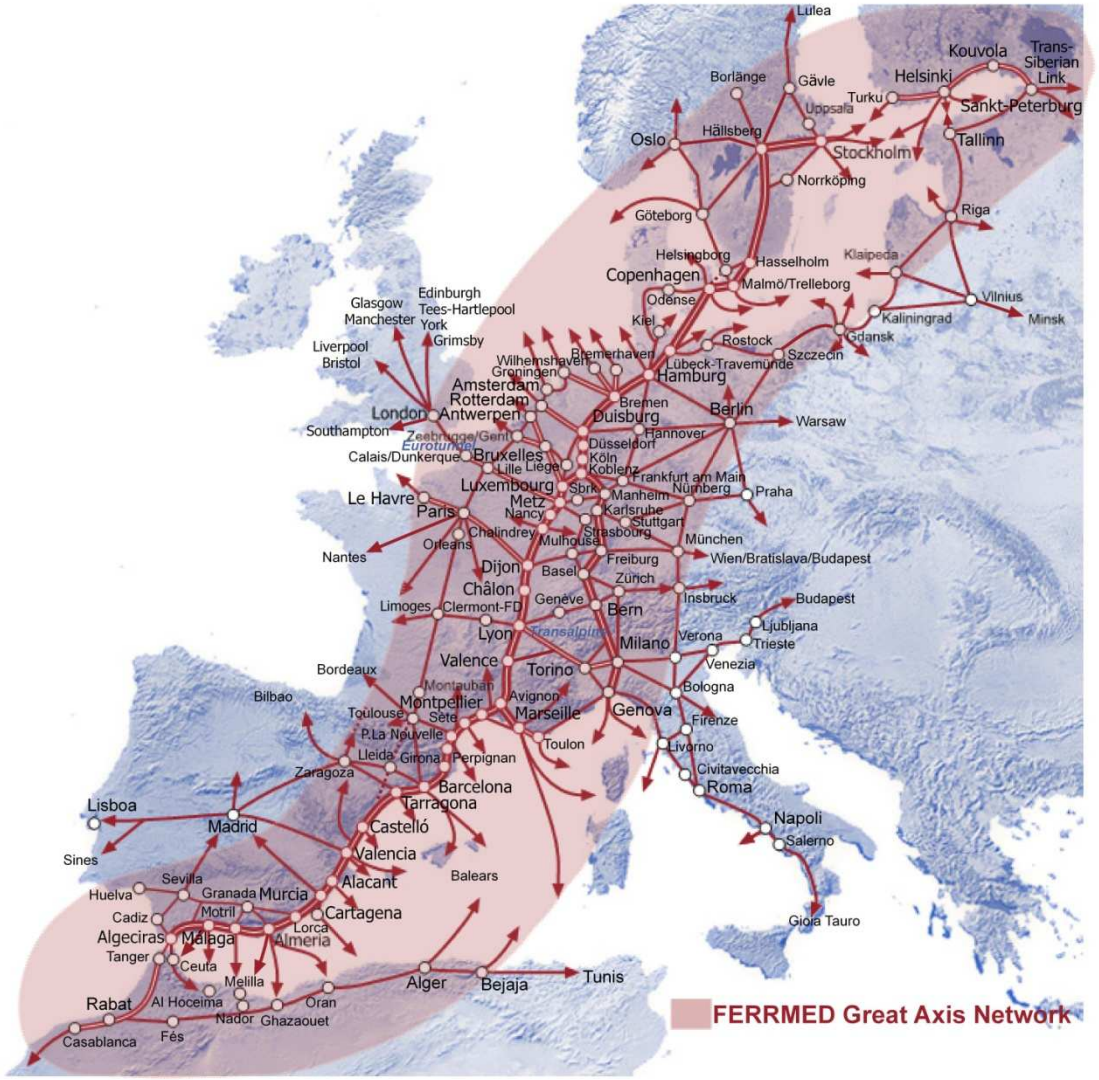

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