

TECHNICAL ANNEX

The descriptive fiches and maps of the priority projects were drawn up on the basis of the information communicated by the representatives of the High Level Group. However certain technical data have however still to be transmitted or confirmed. Therefore, some fiches and maps in Annex might be, where necessary, modified at a later stage.

The European Commission does not guarantee the accuracy of the data or information provided, nor does it accept responsibility for any use made thereof.

ANNEXE TECHNIQUE

Les fiches et les cartes descriptives des projets prioritaires ont été établies sur base des informations communiquées par les représentants du Groupe à Haut Niveau. Certaines données techniques doivent cependant être encore transmises ou confirmées. Certaines fiches et cartes sont dès lors susceptibles d'être modifiées ultérieurement.

La Commission européenne ne garantit pas l'exactitude des données ou des informations fournies et décline toute responsabilité quant à l'usage qui en sera fait.

List 1:
Priority Projects
to start before 2010

PROJECT FICHES

Project N° 1: Galileo – Global navigation and positioning satellite system

European satellite navigation technology will bring low-cost positioning and timing services of unparalleled accuracy and reliability to all sectors of society. It will make Europe autonomous in a technological field of strategic importance.

What is the project?

Galileo is a European initiative to create a global satellite navigation system offering precise positioning and timing services for commercial and private users anywhere in the world using a small and inexpensive receiver. The system will consist of an array of 30 satellites, together with associated ground-based infrastructure and newly-developed applications and services.

Although capable of operating autonomously, Galileo has been designed to be interoperable with the American GPS and Russian Glonass systems. From 2008, the Union will have with Galileo an essential tool for the development of transport. Launched by the 15 Member States, Galileo will benefit all future EU countries. Negotiations are also under way with non-EU countries, in particular China, to give a global dimension to the project.

What are its expected benefits?

Galileo will benefit aviation, maritime shipping, road and rail transport and even pedestrians. Galileo will also benefit other professional and private activities, from civil engineering, social and emergency services to agriculture and fisheries, etc. It has been designed specifically for civilian use worldwide, and will provide both a freely available signal and signals restricted to specific groups, such as commercial service providers, life saving applications, the aviation sector.

In terms of road transport, Galileo will form a basis for guidance and information services, traffic monitoring and management, and positioning systems to improve vehicle fleet management. In terms of air, sea and rail transport, it will provide a safer, interoperable traffic management system.

The Commission estimates that the global market for satellite navigation products and services will exceed €200 billion by 2015 as a result of using Galileo, and that some 100 000 new jobs may be created. A wealth of promising applications are already emerging, especially in the field of transport.

What is its current status?

Galileo is currently at the development phase (2002-2005), which includes the definition and construction of the various system components: satellites, ground-based equipment, individual receivers. Placing of the satellites in orbit will commence in 2005, at the same time as the creation of a minimum ground infrastructure to enable the adjustments necessary prior to the deployment of the entire satellite system between 2006 and 2008.

A joint undertaking has been set up to carry out the development and validation phase and prepare for the deployment phase. The founding members are the EU and the ESA (European Space Agency). The European Investment Bank, and later any private company, may also become a member; indeed, the specific objective is to encourage private sector involvement in the project. During the commercial operation phase, private sector revenue will be derived from the proceeds of the sale of value-added services to operators and will be collected by the concession-holder.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Galileo - Phase 1	Development and validation	-	2005	1 100	1 100
Galileo - Phase 2	Deployment	-	2008	2 100	2 100
TOTAL				3 200	3 200

Project N° 2: Removing bottlenecks on the Rhine-Main-Danube link

Removing bottlenecks on the Rhine-Main-Danube corridor will improve its navigability, favouring the transfer of freight traffic on an increasingly congested route from road to waterways.

What is the project?

The Rhine-Main-Danube corridor is a major freight route connecting the North Sea (port of Rotterdam) to the Black Sea (in particular the port of Constanta). Several sections of this waterway pose navigability problems since the draught is less than 2.8 metres at some times of year. A minimum draught of 2.5 metres is required along the entire length of the waterway to give access to vessels of up to 3 000 tonnes .

Construction work on various stretches of the Danube, in Germany, Austria, Hungary, Romania and Bulgaria, should ensure the minimum draught at all - or most - times of year. A major bottleneck occurs on the Straubing-Vilshofen section¹, in Germany, which has the most limited draught on the entire route. This centrally-located bottleneck is crucial to the efficiency of the Rhine-Main-Danube link. In Romania and Bulgaria, hydro-technical engineering works are required to ensure natural dredging of the river, as well as construction projects to reinforce embankments. Construction work is also necessary on the sections between Austria and the Slovak Republic, and between the Slovak Republic and Hungary, where the water level may at certain times of year drop below 2 metres.

This project also includes work on one of the main branches of the Rhine; the River Meuse, to ensure a 3.5 metre draught giving access to vessels of up to 6 000 tonnes, and to build a new lock on the border between Belgium and the Netherlands (Lanaye).

What are its expected benefits?

The project will improve the competitiveness of the waterway in relation to other means of transport on this multimodal route crossing Europe from east to west, in order to encourage the transfer of freight transport from road to inland waterway. This modal shift is particularly vital along the Danube corridor, which is increasingly congested due to a rapid increase in the volume of traffic, which is expected to continue after enlargement. Some 5 billion tonnes-kilometres of freight could be transferred, each year, to waterways in the long term by increasing overall capacity by around 30%. Improvements in inland waterway navigability will benefit operators by significantly reducing transport costs per tonne of freight, in the order of 20-30%.

It will integrate the networks of a number of candidate countries into the European Union. It will also be instrumental in the economic and social cohesion of the acceding countries by creating jobs.

What is its current status?

In most of the countries concerned, the construction projects are included in the national transport infrastructure development plans. The cost-effectiveness studies and environmental impact analyses for the various projects are in progress or have been completed. Studies have also been carried out to analyse the impact of the construction projects in terms of flood risk. The technical option currently adopted by Germany for the

¹ This section was one of the project identified by the Commission in its proposal of October 2001– see COM (2001)544

Vilshofen-Straubing section will improve the navigability of the river to some extent but will not guarantee a draught of 2.5 metres throughout the whole year.

In addition to the infrastructure construction projects needed to improve the navigability of the Rhine-Main-Danube link, including the Meuse, optimisation of transport conditions will also involve improving the management of inland waterway traffic and improving the services offered to transport operators. In this respect, the joint development of technology such as the RIS (River Information System) is a priority.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Vilshofen-Straubing	Improving navigability	70 km	2013	128	128
Rhine-Meuse	Improving navigability	140 Km	2019	500	500
Lock of Lanaye	Construction of a lock	-	2010	75	75
Vienna-Bratislava	Improving navigability	47 km	2015	180	180
Palkovicovo - Mohacs	Improving navigability	358 km	2014	250	250
Romania	Improving navigability	927 km	2011	640	500
Bulgaria (Bathin-Belene)	Improving navigability	26 km	2011	137	137
TOTAL				1910	1770

Project N° 3 - The motorways of the sea

The development of sea links, in order to by-pass bottlenecks such as the Alps and the Pyrenees or to better connect the peripheral and island areas of the European Union, represents in some cases a genuine competitive alternative to land transport.

What is the project ?

Four maritime areas have been identified, inside which one or more regular maritime service routes will have to be established in order to connect the relevant ports for intra-Community traffic:

- Motorway of the Baltic Sea (linking the States of the Baltic Sea to those of Central and Western Europe);
- Motorway of the Sea of Western Europe (leading from the Iberian Peninsula, via the Atlantic Arc, to the North Sea and to the Irish Sea);
- Motorway of the Sea of the south-east Europe (connecting the Adriatic Sea to the Ionian Sea and the Eastern Mediterranean to include Cyprus.);
- Motorway of the Sea of the south-west Europe (Western Mediterranean), connecting Spain, France, Italy including Malta, and linking the Motorway of the Sea of the South-East Europe (including towards the Black Sea) .

The States concerned will have to develop transnational projects which will contribute to safer and more attractive maritime routes between a restricted number of ports. The projects can include packages comprising port and logistic facilities, direct and easy – sea and land - access and start-up aids implemented through public private partnerships set-up through joint tendering procedures. In the Baltic Sea, the promotion of maritime traffic implies guaranteeing navigability in all seasons, which involves a sufficient fleet of icebreakers. One can also mention ongoing discussions between the ports of Gdansk and Helsinki to launch new regular lines. If the choice of ports proves too difficult at national level, a global tender to both ports and the maritime companies, leaving the choice of ports to the candidate consortia, can be set up. The projects can be linked to traffic management systems, systems of exchange of information between the customs and port administrations and monitoring of the transport of dangerous substances.

What are its expected benefits?

This priority project aims at curbing the increasing congestion of the road and railway infrastructure and at a better integration of all regions of the enlarged Union. It can potentially be rapidly implemented at low cost. It will make it possible to structure the numerous projects necessary for the development of new essential sea routes for intra-Community transport. It also constitutes a framework to promote new forms of public-private partnerships, in order to encourage the logistical chains to reach the sufficient critical mass to ensure the viability of new regular maritime lines.

What is the current status?

The implementation of this priority project is a continuous task which supposes the identification and the implementation in the long term of a multiplicity of projects of different types. It requires establishing new legal provisions in the TEN-T guidelines. Initiatives related to the motorway of the Baltic Sea appear today to be the most advanced. A working group with the various bordering countries of the Baltic Sea was established and has already started a process of selection and development of activities aiming to increase the attraction of this mode of transport. This group already identified transnational projects, such as the development of common management of the traffic in order to improve maritime safety, the development of goods monitoring systems, investments in ice-breakers, etc.

Project N° 4: Mixed railway line Lyon-Trieste/Koper-Ljubljana-Budapest

The construction of this new rail line will encourage the development of intermodal freight transport in the Alpine valleys suffering from high road traffic densities and serious pollution. Its extension eastward will improve the connections to new Member States while reinforcing the access to the Adriatic Sea.

What is the project?

The project is an extension of the former priority project N° 6, endorsed by the European Council of Essen in 1994 (High speed train/combined transport France-Italy - see List 0). The works include the construction of a tunnel of 52 kilometres through the Alps, and its access lines in order to connect the French and Italian high-speed rail networks. Designed for both passenger and freight services, it will offer maximum speeds of 300 kilometres an hour for passengers, while dramatically increasing freight traffic capacity. The works include the construction of an additional track to better link the port of Koper and the modernisation, in particular the suppression of railway-road level crossings, upgrading and electrification of the existing lines between Italy, Slovenia and Hungary. The project includes studies of the relevance, the economics and the time horizon of a possible new high speed line between Trieste and Ljubljana.

What are its expected benefits?

The project will bring very significant reductions in travelling time for both passengers and freight services from Paris to Milano, Venice and from Venice to Ljubljana to Budapest. Along the entire route, capacity will be more than doubled to accommodate future demand. Increased capacity and the possibility of higher-quality services offered by the new infrastructure are expected to enhance rail's competitive position and increase its market share on this route, especially for freight traffic.

When complete, the route will be able to carry over 40 million tonnes of freight per year, freeing capacity on existing railway lines, which are currently saturated in several sections. The shift of traffic from road to rail will make a significant contribution to reducing the number of trucks crossing the Alps — curbing polluting emissions and alleviating the considerable nuisance they cause local residents — and enable smooth traffic flows south of the Alps and further to the Pannonian Basin.

The construction of a new high speed line (increase of speed to 120/160 km/h and of loading capacity to 225 kN axle load between Venezia and Trieste and the upgrade and on some parts electrification of existing line between Trieste, Ljubljana and Budapest will provide attractive alternatives to road traffic currently with a strong increase. Suppression of railway/road level crossings in Slovenia and Hungary will in particular improve safety and enable higher average speeds. The construction of a second track giving access to the port of Koper will develop its hinterland, the possibility of extension of the port of Trieste being limited.

What is its current status?

The economics of the tunnel and its access lines depend on an integrated transport policy favourable to intermodality in the spirit of the Transport Protocol of the Alpine Convention. It will be necessary to limit the development of new road capacities on the competing routes, and to adapt the infrastructure charging policy, so that road tolls from

the competing routes can contribute to the financing of the tunnel in the framework of Public-Private Partnership.

Development of the international section is being co-ordinated by a French–Italian Intergovernmental Commission. Following agreement between the two countries in 2001 to complete the tunnel by 2015/2017, Réseau Ferré de France and Rete Ferroviaria Italiana have taken equal stakes in *Lyon–Turin Ferroviaria*, a joint venture established to manage the construction phase. Studies to fix an exact date for the tunnel opening are under completion. Four test bores have already been carried out. Eastwards, the sections are part of the pan-European Corridor V identified by the Crete and Helsinki Conferences.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Lyon-St Jean de Maurienne	New line	170 km	2015 ²	6250	6250
Mont-Cenis tunnel	Tunnel	70 km	2015/2017	5900	5818
Bussolino-Torino	New line	47 km	2011	2350	2350
Venezia-Trieste	New line/upgrade	125 km	2015	5000	5000
Koper - Divača	Second track	28 km	2015	376	376
Ljubljana-Budapest	Upgrade	494 km	2015	485 (HU) 275 (SI)	485 (HU) 275 (SI)
TOTAL				20636	20554

² 2010 for the first phase (Chartreuse tunnel)

Project N° 5: Mixed railway line Berlin-Verona-Napoli/Milan-Bologna

Ongoing improvements to one of Europe's major rail axes will enable both people and goods to travel much more rapidly between northern Europe and Italy. The construction of a new rail basis tunnel under the Brenner pass will encourage the development of intermodal transport in the Alps.

What is the project?

The project is an extension of the former priority project N°1 endorsed by the European Council at Essen (High speed train/combined transport north-south - see List 0) as proposed by the Commission³. The key section of the project is the construction of a new 55-kilometre rail tunnel, the Brenner tunnel, between Austria and Italy, which is expected to considerably increase the speed of the Alpine crossing and the line's freight capacity.

The project will streamline rail journeys along one of Europe's major transport routes, between Berlin and Napoli. Increased rail freight capacity in particular will contribute to sustainable development.

Improvements between Berlin and Nürnberg are to be achieved by upgrading and rebuilding 550 kilometres of track, allowing trains to reach speeds of 300 kilometres an hour. The line between Munich and Verona and between Verona and Napoli will be similarly improved.

What are its expected benefits?

The project will encourage the development of intermodal transport on one of the major axes of the trans-European network. It will cut rail journey times significantly — by as much as two and a half hours between Berlin and Munich, for example. The additional capacity and improved quality of service will attract new rail traffic, helping to reduce road congestion by shifting freight and passengers to the railway. This is especially important in the ecologically sensitive Alpine region, where heavy road traffic causes serious environmental impacts.

What is its current status?

Technical studies for the Brenner tunnel are due to be completed by 2006, when a public-private partnership may undertake construction, with a target completion date around 2015. The economics of the tunnel requires an integrated transport policy favourable to intermodality in the Alps in the spirit of the Transport Protocol of the Alpine convention. It will be necessary to limit the development of road capacities and to implement road tolls on the competing routes. Initial financial plans show that the tunnel can be implemented within the proposed time horizon if road tolls contribute to its financing.

Work to construct new lines is on-going on the sections between Halle/Leipzig and Nürnberg. Between Munich and Kufstein, new capacities will be required once the Brenner tunnel is completed. Work to upgrade the Kufstein-Innsbruck section to four tracks has already started in 2002.

³ See COM (2001) 544

Between the Austrian border and Verona, various sections of the existing line are gradually being upgraded. Several long tunnels have been built to smooth curves and gradients, avoiding previous bottlenecks. Improved signalling and train management systems have significantly increased capacity, in particular for freight or combined transport trains.

Between Verona and Napoli and between Milano and Bologna, infrastructure improvements and new construction have begun. The high-speed line between Rome and Naples is expected to be operational in 2004. Remaining sections will be completed by 2007. By 2010, faster rail travel along these busy routes is expected to lead to the transfer of around ten million tonnes of long-distance freight from the roads each year, while a 30 % growth in passenger traffic will reduce flights between Milan and Rome by 50 %.

Route	Type of work	Distance (km)	End of works	Total cost (€m)	Remaining investment (€m)
Halle/Leipzig-Nürnberg	New line/ upgrade	315 km	2012	5928	5240
München-Kufstein	Upgrade	97 km	2015*	1500	1500
Brenner tunnel	Tunnel	57 km	2015	4312	4302
Verona-Napoli	New line/ upgrade	628 km	2007	10862	3800
Milano-Bologna	New line	182 km	2006	6335	4600
TOTAL		1279 km		28937	19442

* Depending on the completion of the Brenner tunnel

<p style="text-align: center;">Project N° 6: Mixed railway line Greek/Bulgarian border- Sofia-Budapest-Wien -Praha- Nürnberg</p>

This railway project will be the backbone of the railway network of Eastern Europe, connecting the ports of Athens, Thessaloniki and Constanta to the heart of the enlarged Union. Together with new priority project n° 8 of List 1 it will allow connections between the Baltic Sea, the Aegean Sea and the Black Sea.

What is the project?

The project is about connecting the Eastern countries of the enlarged Europe with a major railway axis. The selected sections will complete an axis on which future Member States have already invested through the ISPA programme and will achieve thus a connectivity of networks on the basis of common standards (TER and ERTMS, double track, electrified, with maximum speed from 160 to 200 km/h). The axis is now completed in Hungary.

At its eastern end, the project is divided into one branch in the direction of Constanta and another one in the direction of Thessaloniki/Athens.

What are its expected benefits?

This line, already identified at the pan-European conferences of Transport ministers, will foster traffic and trade within a big part of Europe. It will also provide the Greek network with an important hinterland.

The project will increase rail capacity, especially for freight and reduce rail journey times and costs significantly for both freight trains and passenger trains. On the central sections, the part of inter-Member States traffic is expected to increase from 25% to 50%.

What is its current status?

The Group has put the selected sections on List 1. However, the Group noted that the section between Thessaloniki and Promahonas (Kulata) is being upgraded with a single track and that the doubling of the line has not yet been programmed.

Sections	Type of works	Distance	End of works	Total cost (€ m)	Remaining investments (€ m)
Kulata-Vidin/Kalafat	Upgrading & new line	420 km	2015	2400	2400
Vidin/Kalafat - Craiova ⁴	upgrading & new line	108 km	2010	422	422
Curtici-Brasov	Upgrading	481 km	2010	1455	1455
Budapest-Sopron-Wien	Upgrading	60 km (A) 146 km (HU)	2015	755 (A) 563 (HU)	755 (A) 563 (HU)
Brno- Praha-Czech border	Implementation of ERTMS	553 km	2015	43	43
CZ border Schirnding-Marktredwitz-Nürnberg	Electrification	138 km	2015	467	467
TOTAL				6105	6105

⁴ The inclusion of this section in List 1 is subject to further discussion with the Commission on the alignment from Vidin/Calafat to the North.

Project N° 7: High Speed Railway lines, South - West

The additional capacity and higher quality of service ensured by this project will improve the connection of Portugal, Spain and the south of France to North and Central Europe, contributing to a better accessibility of the Iberian Peninsula through the natural barrier of the Pyrenees.

What is the project?

The project is an extension of former priority Essen project No 3 (High-speed train south with a Mediterranean branch Madrid- Zaragoza- Barcelona- Perpignan- Montpellier and an Atlantic branch Madrid- Vitoria- Dax), of which important sections will be completed before 2010 (in List 0: Madrid- Barcelona- Figueres- Perpignan and Madrid-Vitoria-Hendaya). It is about the construction of new High-Speed Railway Lines for a speed up to 300 km/h.

The scheme as a whole represents a major advance in linking the Iberian Peninsula and the south of France to North and Central Europe through the French high-speed railway network. The extension Montpellier- Nîmes will ensure the link with existing high speed lines from Marseille to Paris, while the Atlantic branch will serve the West of France via Bordeaux and Tours, connecting with the existing high speed line Tours- Paris. The section Lisboa/Porto – Madrid, the alignment of which needs to be decided as soon as possible, will also play an essential role in structuring the Western Atlantic Façade of the Iberian Peninsula.

Improvements will be basically achieved by constructing new high-speed lines, and upgrading existing infrastructure between Irún and Dax in the short term.⁵ New extensions of the project will improve the economic profitability of the project as a whole, while ensuring a high quality connection with a truly European high-speed network.

What are its expected benefits?

Journey times within the areas served and with North and Central Europe will be dramatically reduced: on the link between Madrid and Barcelona alone journey times will be cut from almost seven hours to just under three. Additional capacity and improved quality of service will make a significant contribution to sustainable development by shifting road and air traffic to rail. A mixed use (freight/passengers) of the Atlantic branch of the project will increase capacity for goods traffic. Positive additional impacts on freight transport will be a reality on other sections by freeing reliable and quality paths on international links. This is especially important in the sensitive area of the Pyrenees, which acts as a brake on economic development and where increasing road traffic causes serious environmental impacts. Improved transport links will also provide a substantial boost to economic development in the regions served. The extension of the European standard gauge to the Spanish and Portuguese network will smooth international trade by removing the interoperability barrier at the Spanish-French border.

⁵ The construction of a new line, although initially planned in the former Essen project N°3, is not yet scheduled.

What is its current status?

Most sections in the Essen project adopted in 1994 are already well advanced. The economics of the whole project depend to a great extent on the completion of remaining links across the Pyrenees, in France and to Portugal. The granting of a concession on the section between Figueres and Perpignan (in List 0), on the Mediterranean side should be done as quickly as possible and be followed by the section between Perpignan and Nîmes. Preliminary studies have already been completed for the section between Montpellier and Nîmes, which is currently heavily congested.

With regard to the new connection between Lisboa/ Porto and Madrid, the Group proposes classifying it in List 1 provided Spain and Portugal decide the route as soon as possible in particular for the cross border sections of the project. Technical feasibility studies are currently on going, with a target completion date around 2011.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Lisboa/ Porto – Madrid	New line	520 km (P)	2011	5 700 (P)	5 700 (P)
Perpignan – Montpellier	New line	140 km	2015	2200	2200
Montpellier - Nîmes	New line/upgrade	80 km	2010	1050	1050
Irún – Dax	Upgrade	85 km	2010	100	100
Dax- Bordeaux	New line	130 km	2020	2400	2400
Bordeaux – Tours	New line	304 km	2015	3900	3900
TOTAL				15350	15350

Project N° 8: Mixed railway line Gdansk-Warszawa-Brno/Zilina

The modernisation of this rail line will allow faster journeys for both passengers and freight transport services. The development of attractive rail services from the Baltic Sea along a new north-south axis constitutes a unique opportunity for providing an alternative to the existing saturated north-south axes from the North Sea.

What is the project?

The existing line ("E65 line"), although currently with two tracks and electrified, is close to saturation with a yearly traffic of 4 million passengers and 5 millions tonnes. Works to straighten tracks, replace the power supply, install signalling and communication systems, to meet AGTC and AGC standards, aim at allowing speed of 160km/h for passenger trains and 120km/h for freight trains. The work includes the construction of an access link to the port of Gdansk, since the port plans to build a new container and ferry terminal (with an expected capacity of 1 million twenty foot equivalent units and 1.5 million passengers). Overall the capacity of the line will increase of 20%.

What are its expected benefits?

The project's route has a particular interest from a European point of view already since it carries a high share of international transport (48 million tonnes of international traffic in transit 2000). The project will reduce rail journey times and costs significantly for both freight trains and passenger trains, on a route crossing populated and industrial areas with a strong increase of transport demand. As examples, travel time will be reduced from 3h30 to 2h40 from Gdansk to Warszawa, and the cost of transporting freight will be cut by 15%. The works will reinforce the attractiveness of rail and make it possible to increase its traffic to 25%, thus reducing the currently observed decline of rail share markets in Poland. The project contributes to a wider strategy to attract new economic activities along the axis, and promote a modal shift on long distance traffic, while serving the mobility needs of regional passengers (see project n°18 in List 1 and project n° 2 in List 2).

What is its current status?

The project is scheduled in the National Development Plan and is part of the Corridor VI identified at the Crete and Helsinki pan-European Conferences. Preliminary economic studies have already been done. Design studies have started and formal (environmental) impact assessments can be expected to be carried out in 2004.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Gdansk-Warszawa-Katowice	Upgrade	722 km	2015	2351	2351
Katowice-Breclav	Upgrade	277 km	2010 (2004 – CZ)	291(PL) 1 240 (CZ)	291 (PL) 440 (CZ)
Katowice-Zilina-Nove-Meston.V.	Upgrade	180 km	2010	471 (PL) 350 (SK)	471 (PL) 350 (SK)
TOTAL				4703	3903

Project N° 9: Mixed railway line Lyon/Genova –Basel – Duisburg - Rotterdam/Antwerp

Developing a rail axis, along the ‘blue banana’, from the North Sea to Mediterranean will contribute to rebalancing the modal split on one of the most populated and industrial area in Europe. While establishing a direct connection from the Iberian peninsula to Germany for passengers, the ultimate goal is the development of a rail freight corridor with dedicated rail freight lines.

What is the project?

Works comprise the construction of new high speed lines (300km/h) in France (South and East branches of the “TGV Rhin-Rhone”), in Germany (between Karlsruhe and Basel and from the Frankfurt airport to Mannheim), upgrade of existing lines to enhance their freight capacity (connect the Betuwe line – former Essen project N° 5- to the German network, upgrade of existing lines from Lyon to Mülheim, access lines from the port of Genova to the Swiss rail crossings) and the construction of a dedicated freight line (the “Iron-Rhine”) from Antwerp to the German network. All the works concern lines with two to four tracks.

What are its expected benefits?

The route has clearly a very high share of international traffic since more than half of the freight traffic and a significant part of the passenger traffic is international on most of the sections. The project will contribute to promote an important modal shift for both freight and passengers. Depending on the sections, it will take from the road, each year, several billions tonnes.km and from the road and air hundreds of millions of passengers.km. It will contribute to passenger air/rail intermodality and rail/sea intermodality for freight by linking airports and several of the biggest sea ports.

What is its current status?

All domestic sections are scheduled in the national plans. Access lines to Switzerland have already been agreed in the EU/Switzerland transport agreement. A trilateral agreement between Germany, the Netherlands and Belgium set up the framework for building of the « Iron-Rhine ». A working group composed of the network managers concerned is studying the options to build the section between Mülheim and Mulhouse. Rail operators and network managers are already co-operating in view of establishing a dedicated rail freight corridor from Genova to Rotterdam.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Lyon - Dijon	New high speed line	180 km	2018	2500	1000
Dijon-Mulhouse	New high speed line	189 km	2010	1880	1880
Mulhouse-Mülheim	Bridge and upgrade	20 km	2015	200	200
Allessandria -Novara-Sempione	Upgrade	170 km	2010	445	445
Genova-Milano-Gottardo	New line/upgrade	195 km	2013	4335	4335
Basel-Karlsruhe	Upgrade / new line	193 km	2015	4235	3123
Frankfurt-Mannheim	New high speed line	66 km	2012	1771	1771
Duisburg-Emmerich	Upgrade	73 km	2009	819	782
"Iron Rhine" Rheidt-Antwerp(*)	Upgrade	170 km	2010	550	550
TOTAL				16735	14086

(*) The distribution of the investments between Belgium and the Netherlands are the subject of an ongoing international arbitration

<p style="text-align: center;">Project N° 10: Mixed railway line Paris - Strasbourg - Stuttgart – Wien – Bratislava</p>

European citizens from west and east alike will benefit from new high speed railway services on a route crossing heavily populated areas in the core of Europe. Freight operators will benefit from rail services on one of the most congested European road axis.

What is the project?

The project is an extension of former Essen priority project N° 4 (High Speed Train East - see List 0) and of a project proposed by the Commission in 2001⁶. Works comprise the construction of new and upgraded high speed lines all the way from Paris to Wien and upgrade of existing lines between Wien until Bratislava. It includes in particular, the construction of a second track on the Kehl bridge over the Rhine to interconnect the French and German networks. It includes upgrade of existing lines which will be used for freight.

What are its expected benefits?

The project will provide a continuous rail axis for both passengers and freight from Paris to Bratislava. The development of this axis will contribute to a successful EU enlargement by connecting new Member States and by providing alternatives to roads for inter-Member States traffic. Today, over half of the rail freight traffic on several sections is inter-Member States traffic, and volumes will grow further following enlargement. This project will improve access to and from the many conurbations along its route.

What is its current status?

Works on all the domestic sections are scheduled in the national transport plans of the countries concerned. A treaty between France and Germany has already established the conditions for carrying out works on the Kehl bridge. In Germany, design studies are ongoing on most of the sections. In Austria, works have started on most of the sections, including the connections to Bratislava. The regions and cities involved have established a framework for co-operation to assess the opportunities for local development and economic integration ('Magistrale for Europe').

⁶ See COM (2003)544

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Baudrecourt-Strasbourg	New line	106 km	2015	1300	1300
Strasbourg-Appenweier ⁷	Upgrade	20 km	2015	150	150
Stuttgart-Ulm	New line	91 km	2012	1266	1266
München-Mühldorf-Salzburg	Upgrade/ electrification	141 km	2015	738 (D)	726 (D)
Salzburg-Wien	Upgrade to four tracks	315 km	2012	6000	4644
Wien-Bratislava	Upgrade	70 km (A)	2010	134	134
TOTAL				9588	8220

⁷ The section Appenweier-Karlsruhe is in project N°9

Project N° 11 - Interoperability of the high speed train on the Iberian peninsula

The application of new construction and equipment technologies will make it possible the integration of Spain and Portugal into a fully interoperable trans-European rail network

What is the project?

This project covers new high-speed lines (with European gauge) and adapted lines for dual gauge of the Iberian Peninsula. The project was identified by the Commission in its proposal.⁸ The Group has stuck to the definition proposed by the Commission, including the line Vigo-Porto. It is a technological project by its very nature.

The difference in gauges between the rail networks of the Iberian peninsula and the rest of Europe has been a major obstacle to the efficient operation of Europe's rail transport system. This project involves the construction of new lines and the adaptation of existing lines. Techniques like installation of polyvalent sleepers, third tracks or axle-gauge changeover stations on the future Iberian high speed network will be used in order to make it fully interoperable with the Trans-European rail network.

What are its expected benefits?

Promoting interoperability on the high-speed rail network will help to channel investment by the countries concerned towards technologies that allow interoperability. This horizontal project will not only improve connections between Spain and Portugal and the rest of Europe, but also help rail gain ground vis-à-vis air and road transport on increasingly congested routes.

What is its current status?

Pilot tests have been successfully performed over the last years. The final cost of this priority project will hinge on the technical solutions chosen for each line and the mileage of the Iberian rail network that will be equipped.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Madrid-Andalucia	New line/ Adaptation of existing line	1019	2010	4074	3737
Nordeste	New line/ Adaptation of existing line	589	2010	1439	1250
Madrid-Levante y Mediterráneo	New line/ Adaptation of existing line	1347	2010	9359	9219

⁸ See COM (2001)544

o					
Corredor Norte-Noroeste	New line/ Adaptation of existing line	1314	2010	7536	7503
Extremadura	new line	418	2010	1338	1295
TOTAL				23745	23005

Project N° 12: Multimodal links Ireland – United Kingdom – Continental Europe

Improving road and rail links will reduce journey times between Ireland, the United Kingdom and the heart of mainland Europe, which will contribute to a better accessibility of all regions of the Community, while also improving network reliability and safety conditions.

What is the project?

The construction projects in Ireland follow on from the priority road and rail projects adopted by the Essen European Council in 1994 [the Cork-Dublin-Belfast-Larne-Stranraer conventional rail link (Project No 9) and the Ireland-United Kingdom-Benelux road link (Project No 13)]. Both these projects helped appreciably reduce passenger and freight journey times between Ireland, the United Kingdom and the European mainland. Further investments in rail and road are now required to better connect Dublin with the North and the South, given traffic developments and the need to improve links between outlying regions and the rest of Europe. In the rail transport sector, further modernisation is needed to increase the frequency, reliability and safety of trains. In the road transport sector, investment is needed to complete the upgrading of the major inter-urban routes to the North and to the South from Dublin, linking the three principal cities on the island and to set up a driver information system to improve traffic management.

The United Kingdom's modernisation projects relate firstly to the Felixstowe-Nuneaton railway link. In addition, there are plans to install the ERTMS rail traffic management system along the length of the Crewe-Holyhead railway line. These projects should help increase the capacity of a line crossing the United Kingdom from east to west, from the port of Felixstowe, from the current 13 trains to approximately 30 trains a day in each direction. In addition, this rail line intersects the UK's main north-south line, the West Coast Main Line. The projects in the United Kingdom also include improvements on a road/railway East-West axis between Liverpool and Hull. This route is of particular importance for the transport of freight, linking two major ports of the East and West coasts of the United Kingdom, and requesting therefore the necessary upgrading to increase the capacity.

What are its expected benefits?

The new Irish rail network construction projects will help increase the speed and frequency of passenger and freight services. It is estimated that 30 minutes will be saved on the journey time between Dublin and Cork, and a saving of 15 minutes on the journey time between Dublin and Belfast, thus making this means of transport more attractive. Road projects, particularly the development of a driver information system, will help optimise the use of the system, with benefits in terms of traffic flow and safety. It is anticipated that the road infrastructure investment on the Dublin – Border route will result in journey time savings of 24 minutes on the full route (based on 1999 journey times) and investment on the Dublin – Cork route will result in journey time savings of 58 minutes on the full route.

In the United Kingdom, the modernisation of the Felixstowe-Nuneaton / Crewe-Holyhead rail link is in keeping with the strategy of developing rail-based freight transport and rail-sea intermodality. Felixstowe is Europe's fourth largest container port. Connecting with the West Coast Main Line, this line is a key route for the shipment of containers to

terminals in Birmingham, Crewe, Holyhead, Manchester, Liverpool and Scotland. . The project between Liverpool and Hull will also significantly shorten journey times for passengers and freight between Ireland and the ports of Belgium and the Netherlands, contributing to the economic and social cohesion of one of Europe's peripheral regions.

What is its current status?

The most mature projects are included in the United Kingdom and Ireland national infrastructure development plans. Moreover, the rail network projects are accompanied by significant investment in rolling stock, ensuring the optimum use of the new capacity created. It should also be noted that the first phase of installation of the ERTMS rail traffic management system is scheduled to be launched by 2005 on the Crewe-Holyhead route. The system could be operational on this section as of 2008.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Strategic Road/Railway corridor linking Dublin with the North and South	Modernisation and traffic management	400 km	2010	170	170 ⁹
Felixstowe-Nuneaton rail line	Modernisation	265 km	2012	300	300
Crewe-Holyhead rail line	ERTMS	180 km	2008	120	120
Road-Railway corridor Liverpool-Hull	Modernisation and improvement of capacity	190 km	2020	1750	1750
TOTAL				2340	2340

⁹ Additional works on roads (243 km) and rail (365km) from Cork to Dublin and border with Northern Ireland were not included in this fiche and in the overall cost figures of the report at the time of its release, and should be considered.

Project N° 13: Bridge over the Strait of Messina

The project consists of long mixed use bridge over the Strait of Messina, which will connect the second most populated island of Europe (5 m inhabitants) after Great Britain to the rest of Europe. This link will constitute a landmark infrastructure for Europe with a magnitude comparable with that of the Öresund bridge.

What is the project?

The project consists of mixed use bridge- with a distance of 3.3 km between the two main piers - over the Strait of Messina. Most of the accesses which are not part of the priority project (20.3 km of road links and 19.8 km of railway links) will be developed in tunnels connecting directly the bridge to the new routes. On the mainland, the bridge will connect to the new section of the Salerno-Reggio Calabria motorway (A3) and to the planned Naples-Reggio Calabria High-Speed railway line. On the Sicilian side, to the Messina-Catania (A18) and Messina-Palermo (A20) motorways as well as the new Messina railway station (to be built by *Rete Ferroviaria Italiana*).

What are its expected benefits?

The Strategic Environment Assessment led to the conclusion that the project would be economically feasible, even in “low” GDP growth scenarios associated with unfavourable transport growth. The benefits should exceed the costs in all scenarios considered, with an economic internal rate of return between 9% and 12%.

What is its current status?

Stretto di Messina S.p.A. is a company set up by Law 1158/71 to become the concessionaire in charge of studying, designing, building and operating the infrastructure linking Sicily with the mainland. A legislative decree approved on 4 April 2003 declared the bridge “an infrastructure of national interest”.

On the 28 April 2003, the extraordinary shareholders’ assembly approved a € 2.5 billion share capital increase in several instalments. On this occasion *Fintecna S.p.A.*, *Anas S.p.A.* and *Rete Ferroviaria Italiana S.p.A.* expressed their commitment to subscribe the share capital increase up to respectively 70%, 15% and 15%, if the Sicily and Calabria Regions decide not to participate to the equity injection. Specific loans negotiated on the international financial markets and guaranteed solely by the cash flows generated by the project will cover the remaining financial requirements, i.e. approximately 60% of the total amount.

Route	Type of work	Distance (km)	End of works	Total cost (€m)	Remaining investments (€m)
Bridge	Construction of new bridge	5 km	2015	4491	4491

Project N° 14: Fehmarn Belt fixed road and rail link

The Fehmarn Belt is an essential construction project, which will provide a fast, direct land-based transport link, for passenger and freight traffic, between Scandinavian countries and the heart of the European mainland.

What is the project?

The project is an extension of one of the project identified by the Commission.¹⁰ It will involve the construction of a bridge or a tunnel to establish a fixed road and rail link spanning the 19-kilometre Fehmarn Belt Strait between Germany and Denmark. On the same route as the recently completed Øresund Link between Denmark and Sweden (Essen Project N° 9), the Fehmarn Belt crossing is a key component in the completion of the main north-south route connecting central Europe and the Nordic countries. When the project has been completed, it will be a substitute for the ferry link between Rødby (Denmark) and Puttgarden (Germany).

The completion of the project will also necessitate improvements to domestic links both in Denmark, between the Øresund and the Fehmarn Belt, and in Germany, between Puttgarden and Hamburg and also in direction of Hannover and Bremen. The main objective will be to ensure sufficient capacity on the whole north-south route consistent with the transport capacity of the Fehmarn Belt fixed link.

What are its expected benefits?

Increasing trade between the Nordic countries and countries at the centre of the European Union makes the creation of a fast direct link essential. It will enable a considerable increase in the volume of traffic on this route, particularly on the rail link. Once completed, the Fehmarn Belt will attract passenger and freight traffic estimated at 3.3 million vehicles and 30,400-35,100 trains a year, helping to relieve congestion on the Great Belt route across Denmark. Currently, less than 20 % of goods transported between Scandinavia and the European mainland are carried via the Fehmarn Belt (by ferry) between Denmark and Germany. When the fixed link has been built, the proportion of goods being transported via the Fehmarn Belt route is expected to increase to 33-37 %, or approximately 15 to 17 million tonnes of freight per year, thereof 8 to 11 million tonnes of rail freight per year.

Lastly, the project is expected to stimulate economic development in the Baltic Sea region of Denmark and Germany, creating a cross-border area of economic development similar to that created around the Øresund Bridge.

What is its current status?

The project is included in German and Danish transport infrastructure development plans. A series of feasibility studies have been completed in 2000. An Enquiry of Commercial Interest to determine the extent to which the private sector could participate in the realisation of the link was completed in June 2002. The total cost of the project will depend on the technical solution adopted, and this has not yet been selected.

¹⁰ See COM (2001)544

The projects for the improvement of the railway connections in Germany (between Puttgarden and Hamburg) and in Denmark (between the Øresund and the Fehmarn Belt) are closely linked to the construction of the Fehmarn Belt. Their implementation will therefore depend, including for the timetable, on the construction of the fixed link between Denmark and Germany.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Fehmarn Belt Strait	Road-rail bridge and/or tunnel	19 Km	2014	2800-4400 ⁽¹⁾	2800-4400 ⁽¹⁾
Copenhagen-Rødby	Improvement of the railway connection	185 Km	2014	400 – 1000 ⁽¹⁾	400 - 1000 ⁽¹⁾
Puttgarden-Hamburg	Improvement of the railway connection	130 Km	2014	1092	1092
Hamburg/Bremen-Hannover	Improvement of the railway connection	114 km	2015	1284	1284
TOTAL				5576-7776	5576-7776

(1) The final assessment of the cost of the project depends on the technical solutions, which have not yet been decided.

Project N°: 15 Nordic Triangle

Improving rail, road and maritime infrastructure in the Nordic countries will serve to overcome their remoteness from the centre of the European continent and help integrate these outlying regions into the European Union.

What is the project?

The multimodal Nordic Triangle transport scheme is aimed at upgrading road, rail and maritime infrastructures in Sweden and Finland to improve freight and passenger transport between the Nordic countries and central Europe. Upgrading rail lines should make it possible to reach speeds of 160 kilometres an hour and even, on some sections, more than 200 kilometres an hour. There are also plans for construction projects aimed at encouraging the transport of freight by rail, such as strengthening the network so that it can carry trains with an increased tonne capacity.

The construction of the Øresund fixed link between Denmark and Sweden (Essen project No 11) and the planned land-based transport link between Germany and Denmark (the Fehmarn Belt) are key components of the Nordic Triangle scheme, establishing a direct physical intra-Community link between mainland Europe and Scandinavia.

The distances covered by this project connecting Malmö, Stockholm, Oslo, Turku, Helsinki and the Finno-Russian border are immense: 1 900 kilometres of road and 2 000 kilometres of rail track.

What are its expected benefits?

The project involves the construction of the most important ground transport route for passenger and goods traffic from Scandinavia. It helps integrate outlying EU regions which are geographically cut off and located at the periphery of the Community. The project will appreciably reduce journey times by both road and rail, as well as improving traffic flows and making significant progress in environmental and safety matters. Lastly, it will provide high-quality infrastructure linking the main urban centres.

Modernisation of the road and rail links will contribute to balanced modal development in the Nordic countries, with road used for high added-value goods and perishables and rail used for the carriage of bulky shipments.

What is its current status?

In Sweden, although investment of € 4 700 million for rail and €2 600 million for road development is still required, work has made excellent progress. It is expected that most parts of the network will be completed by 2010, including the Stockholm-Malmö line and the two lines towards Norway. Only some minor sections remain to be completed by 2015.

In Finland, the investment required for the work outstanding is € 785 million for rail and the same amount for road development. The road link between Helsinki and Turku and the rail line between Kerava and Lahti are under construction and should be in service by 2010. After 2010, work will focus on the road network between Helsinki and Vaalimaa (Russian border) and the section of rail line between Helsinki and Vainikkala (Russian border).

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments ⁽¹⁾ (€m)
Helsinki-Vaalimaa	Modernisation of road links	100 km	2015	405	230
Helsinki-Vainikkala	Modernisation of rail link	150 km	2012	260	85
TOTAL		250 km		665	315

(1) These amounts include only the investment required after 2010.

Project N° 16: Multimodal link Portugal-Spain-Central Europe

Improving the Iberian peninsula's road, rail, air and maritime infra-structure will make an important contribution to strengthen its connections with the rest of Europe and its position as a western European gateway.

What is the project?

This project will prolong and complete former Priority project n° 8 (endorsed at the Dublin European Council), which aims at a coherent and complementary structure for road, rail, sea and air transport, throughout of the northwest of the Iberian Peninsula, the Atlantic coast and the Iberian southwest. The project consists on the strengthen of three multimodal corridors linking Portugal and Spain, helping to connect the two countries with the rest of Europe.

This project remains as it was when defined at European Council of Dublin, except that it includes a new corridor, connecting Sines and Southern Portugal to Madrid through a direct freight double-track line from Sines to Badajoz at the border between Portugal and Spain. Since works completed before 2007 are in List 0, works considered as part of List 1 are therefore the line Sines-Badajoz, and the construction of the Ota airport and minor port investments which both was included in former Priority Project N° 8 but that did not materialise.

What are its expected benefits?

Former Priority Project N°8, together with this extension, improves links between the centre of the European Union and an peripheral area. It will allow a dramatic improvement in journey times and safety for international traffic and has potential to invert the trend of fall in the weight of maritime transport in trade with EU and to modernise the railway lines, leading to the integration of the European rail transport market.

The new line Sines-Badajoz is key to the development of the Port of Sines and will foster traffic from Lisboa and Setubal to central Spain. Its construction with new standards of speed and polyvalent sleepers will make possible the future fully interoperability between Portuguese and Spanish freight networks with the rest of the trans-European rail network.

What is its current status?

The costs/benefits analysis, the impact assessment and the technical studies should start in a very near future.

Sections (a)	Type of works	Distance	Timetable (of works)	Total cost (€ m)	Remaining investments (€ m)
Sines-Badajoz rail link	new construction	200 km	2010	700	700
Airports	Upgrade/new construction	-	2015	3 430	3003
Ports	Upgrade		2015	1 082	113
TOTAL				5 212 (b)	3 816 (b)

(a) sub-projects of former PP 8 to be achieved before 2010 are included in list 0; (b) does not include sub-projects referred in list 0, to be completed until 2010.

Project N° 17: Motorway Greek/Bulgarian border-Sofia-Nadlac-Constanta

This motorway project will structure the road network of Eastern Europe, connecting the ports of Athens, Thessaloniki and Constanta to the heart of the enlarged Union.

What is the project?

The project is about an extension of the greek motorway PATHE (former Essen priority project N° 7). It will complete the missing links of one the most important road axis in the Eastern countries of the enlarged Europe. The selected sections will complete an axis on which future Member States have already invested through the ISPA programme.

The project consists of two branches joining at Nadlac: one in the direction of the port of Constanta and another one in the direction of Thessaloniki/Athens.

What are its expected benefits?

This line, already identified at the pan-European conferences of Transport ministers, will foster traffic and trade within a region suffering from a relatively low level of development. It will also connect the Greek motorway network (*Pathe* and *Via Egnatia* motorways) to the rest of the European network.

What is its current status?

The Group has decided to include the selected sections in List 1. The other sections (Sibiu-Constanta, Thessaloniki-Athens, Nadlac-Vidin, Vidin/Calafat-Sofia) are either finished or on the way of being completed by 2008 at the latest.

Sections	Type of works	Distance	End of works	Total cost (€ m)	Remaining investments (€ m)
Nadlac-Sibiu	Upgrading/new motorway	316 km	2007	1561	1561
Sofia- Kulata	Upgrading	160 km	2010	675	675
TOTAL				2101	2101

Project N° 18: Motorway Gdansk –Katowice –Brno/Zilina –Wien

The construction of this motorway will trigger the economic development of core areas of new Member State and, by offering a new route from the Baltic Sea to the central Europe, constitutes a unique opportunity for providing in the long term an alternative to the existing saturated north-south axes from the North Sea.

What is the project?

The project is to build a new motorway with two lanes in each direction from Gdansk to Wien through Loz in Poland and Brno in Czech Republic. On some sections between Katowice and Brno/Zilina, the works are to upgrade existing roads. The project includes the construction of an access link to the port of Gdansk which plans to build a new container and ferry terminal (with an expected capacity of 1 million twenty foot equivalent units and 1.5 million passengers).

What are its expected benefits?

The project's route has a particular interest from a European point of view already since it carries a high share of international transport (48 million tonnes of international traffic in transit 2000). Poland is one of the new Member States with the least developed network of motorways. Hence, existing road infrastructure allows lorries with European weights and dimensions with limitations. Building this motorway will allow to improve road safety, reduce congestion and thus facilitate trade. Cost/benefit analyses have shown a very high rate of return. Moreover, the project contributes to a wider strategy to attract new economic activities along the axis (see project n° 8 in List 1 and project n° 3 in List 2).

What is its current status?

The project is scheduled in the National Development Plans and is part of the Corridor VI identified at the Crete and Helsinki pan-European Conferences. Formal (environmental) impact assessments have been done for most of the sections. Works have already started on some sections. The full completion of the project is planned before 2010.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Gdansk-Katowice	New construction	508 km	2010	2754	2754
Katowice-Brno	Upgrade of road/New construction	312	2010	306(PL) 2 480 (CZ)	306(PL) 2 295 (CZ)
Katowice-Zilina	Upgrade of road	160 km	2010	604 (PL) 624 (SQ)	604(PL) 624 (SQ)
Brno-Wien	New construction	60 km (A)	2010	373 (A) 110 (CZ)	373 (A) 110 (CZ)
TOTAL				7251	7066

List 2:
Longer term
Priority Projects

LIST 2

Project N° 1: High capacity rail link across the Pyrenees

A high-capacity line linking the French and Spanish rail networks will significantly increase rail's share of international freight between the Iberian peninsula and the rest of Europe.

What is the project?

This project consists of the construction of a new high-capacity rail link across the Pyrenees on a route that is still to be defined amongst several options under consideration. This link, dedicated mainly to freight, should include European gauge lines and would require the construction of a long distance tunnel. The project was identified by the Commission in its proposal.¹¹

What are its expected benefits?

The project will create an indispensable bridge between the Iberian rail freight network and that of the rest of Europe capable to absorb the impressive growth in the transpyrenean traffic (currently increasing at a 10% rate per year). Road connections between Spain and France are close to saturation and even if some existing road axes are going to be improved, a rail link dedicated to freight will be needed in the medium term.

The objective is to capture in future 30% of freight traffic on rail (compared with a share of 3% today).

What is its current status?

Initial studies and detailed surveys on cross-border traffic were carried out in 1999 with the support of the Community. At the joint ministerial summit of July 2001, the Spanish and French ministers agreed to examine in further detail a possible work structure between the two countries to supervise co-ordinated socio-economic studies for this project. Informal contacts have also taken place between the French and Spanish delegates in the margin of the High Level Group in the run-up to the next bilateral summit to take place in July 2003.

The absence of agreement between the concerned countries on the alignment does not allow the same level of reliability as for the other projects in estimating the cost. However, a recent study¹² by the Aragon region estimates the cost of a central crossing at 3 billion € (including a cross-border tunnel of 40 km and 110 km of access lines in Spain – therefore without access lines in France). Cost of other variants with a different alignment is not available.

¹¹ See COM (2001)544

¹² “Estudio informativo de la Travesía Central de los Pirineos -Túnel de Baja Cota” – October 2002

LIST 2

Project N° 2: Rail Baltica: Helsinki - Tallinn - Riga - Kaunas - Warsaw

Renewing the rail network in Estonia, Latvia and Lithuania, including making it interoperable with the rest of the European network, will help develop what is currently an under-used mode of transport in the three Baltic countries.

What is the project?

The Baltic countries currently make little use of rail for international traffic in North-South direction. The existing network, built according to Russian standards, is extremely slow in the said direction and is not interoperable with the Polish and German networks. At the border between Lithuania and Poland, for example, there is a hold-up of approximately 40 minutes for passenger trains and 130 minutes for goods trains. On some sections, speed is limited to 40-60 km/h.

The three Baltic countries already have a recently renewed north-south road network which provides an efficient link with Central Europe (Via Baltica). In the interests of European integration, the technical options for developing the rail network on the same route now need to be examined.

What are its expected benefits?

Better traffic conditions on this north-south route will help improve the three Baltic countries' links with the heart of the European continent, thus helping to integrate these outlying countries into the future enlarged Union. As far as goods are concerned, the project will help increase the capacity of the rail network and introduce intermodal transportation, thus boosting trade with all European countries. As far as passengers are concerned, cutting journey times to Central Europe will bring an appreciable reduction in the volume of road traffic to Poland and Germany. This makes the project a priority both environmentally and in terms of promoting the free movement of citizens in the enlarged European Union.

What is its current status?

Most of the detailed studies will be launched as of 2004. As things stand at present, estimates of traffic loads and, more specifically, of the potential shift from road to rail still need to be confirmed by more detailed analysis.

Project implementation will, moreover, depend on the closest possible coordination between the three Baltic countries, and also with Poland, as the Rail Baltica line extends into that country to connect with the important rail link running from Berlin via Warsaw towards Kiev and Moscow. At present, the three Baltic countries still have to settle on the technical options. The technical choices, which will determine how much investment is needed, should take account of the expected profitability of the rail link. Particularly focus should be given on studying one of the long term solution, namely the construction of a modern European standard gauge railway line.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Kaunas-Polish border	New construction	100 km	-	230	230
Kaunas – Joniskis	Modernisation/New construction	267 km	-	550	550
Latvian Section (via Riga)	Modernisation/New construction	220-250 km	-	1 000	1 000
Estonian Section (as far as Tallinn)	Modernisation/New construction	170-250 km	-	800	800
Total				2580	2580

LIST 2

Project N° 3: Dedicated freight railway line Gdansk-Bydgoszcz-Katowice-Zwardon

The modernisation of this rail line and its dedication to freight trains will allow Poland to remain one of the European countries with the highest share of rail freight on a key north-south axis.

What is the project?

The existing line („C-E 65 line”), called “Coal Trunk Line”, although currently with two tracks and electrified on all length from Gdansk to Katowice is close to saturation with a yearly traffic of 2 million passengers and 15 million tonnes. The line has its prolongation to the South from Katowice through Bielsko-Biala to Zwardon. The section from Bielsko-Biala to Zwardon is single track and not electrified, i.e. it constitutes narrow gauge for international traffic from Poland directly to Slovakia and other countries in the Central and South-Eastern Europe. The implementation of projects No 8 and No 18 will provide new capacities for both freight and passengers in the medium term. Depending on the evolution of freight traffic, in particular the type of goods in relation with the development of the port of Gdansk (unitised transport or bulk), it must be envisaged to upgrade the capacity of the line. If studies confirm such a need, works to straighten tracks, replace the power supply, install signalling and communication systems, to meet AGTC and AGC standards, should aim at allowing speed 120 km/h for freight trains. In the South, more important works may be needed due to shortage of infrastructure and difficult mountain area.

What are its expected benefits?

The project’s route has a particular interest from a European point of view already since nearly half of the traffic currently carried by the line is international traffic (export, import, transit) and this share is expected to increase. The project will reduce rail journey costs significantly for freight trains, on a route crossing populated and industrial areas with a strong increase of transport demand. Cost of transporting freight would be cut by at least 15%. The works would reinforce the attractiveness of rail and make it possible to increase its traffic to 25%, thus reducing the currently observed decline of rail share markets in Poland. The project contributes to a wider strategy to attract new economic activities along the axis, and promote a modal shift on long distance traffic, while serving the mobility needs of regional passengers (see project No 3 – Baltic sea motorways - and No 18 in List 1).

What is current status?

The project is scheduled in the National Development Plan and is part of the Corridor IV identified at Crete and Helsinki pan-European Conferences. Detailed economic and feasibility studies can be envisaged in 2007.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Gdansk-Katowice-Bielsko-Biala	Upgrade	592 km	--	2000	2000
Bielsko-Biala - Zwardon	Upgrade/new construction	58 km	--	355	355

TOTAL				2335	2335
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Project N° 4: Seine-Scheldt river link

Improvement of the Seine-Scheldt river link will connect the Parisian Region and Seine basin with the entire Benelux inland waterway network.

What is the project?

The Seine-Scheldt river link forms part of a vital transport route in a highly-developed economic and industrial region, connecting in particular the ports of le Havre, Rouen, Dunkirk, Antwerp and Rotterdam. However, one obstacle to promoting inland waterway transport between Benelux and the Parisian Region is the bottleneck at the north of Paris, between Compiègne and the Dunkirk-Scheldt channel. Indeed, the navigability on that section is at the lower end of international standards, with access restricted to vessels of no more than 400 to 750 tonnes on some stretches. The project comprises the construction of a channel with large gauge of about hundred kilometres which will allow the conveying of loadings which can reach 4,400 tonnes. The route selected departs from valleys and from the inhabited areas, thus limiting the impact of the project on the natural inheritance. Belgium also plans to improve navigability on the Scheldt north of this bottleneck to give access to vessels of up to 4 400 tonnes. The works will therefore ensure a continuity between the inland waterway basins of the North of France and the Benelux.

What are its expected benefits?

The project will not only assist transit traffic and alleviate land-based transport congestion but will also have a beneficial effect on the adjacent regions, where transport platforms could be developed. Numerous jobs could be created, about 8,000 units over five years following certain estimates.

According to estimates, removing the French bottleneck could help free up 15 million tonnes of freight in the first year of operation thereafter. Going from a maximum gauge of 750 tonnes load to 4,400 tonnes could reduce the transport costs from 30 to 40 €/1 000 tonnes-kilometers to a cost between 10 and 15 €/1 000 tonnes-kilometers once work are completed on the French territory. The positive impact on the environment and the population, by a better diversification of the modes of transport, would also be considerable.

What is its current status?

In France, the project is included in the trans-european Master Plan of inland waterways with large gauge of 29 October 1993. The French authorities have on many occasions acknowledged the importance of the planned construction project for enhancing this mode of transport in an economic region that is highly-developed and, consequently, highly congested. However, the launch of the project still depends on the French Government's commitment on the broad outline of the project and in particular on the financial aspect and on the realisation timetable. Firstly, analyses complementary to the preliminary surveys already carried out should be launched, covering in particular the establishment of multimodal platforms and the development of the current "canal du Nord" which would be replaced by the new channel to be built.

Route	Type of works	Distance	End of works	Total cost (€m)	Remaining investments (€m)
Belgium (Deulemont-Ghent)	Improving navigability	80 km	2020	110	110
France (Compiègne-Cambrai)	Improving navigability	105 km	-	2 600	2 600
TOTAL				2710	2710

List 1:
Priority Projects
to start before 2010

MAPS

Note: Maps of projects related to mixed rail lines depict either high speed lines or conventional lines. related to projects

List 2:
Longer term
Priority Projects

MAPS