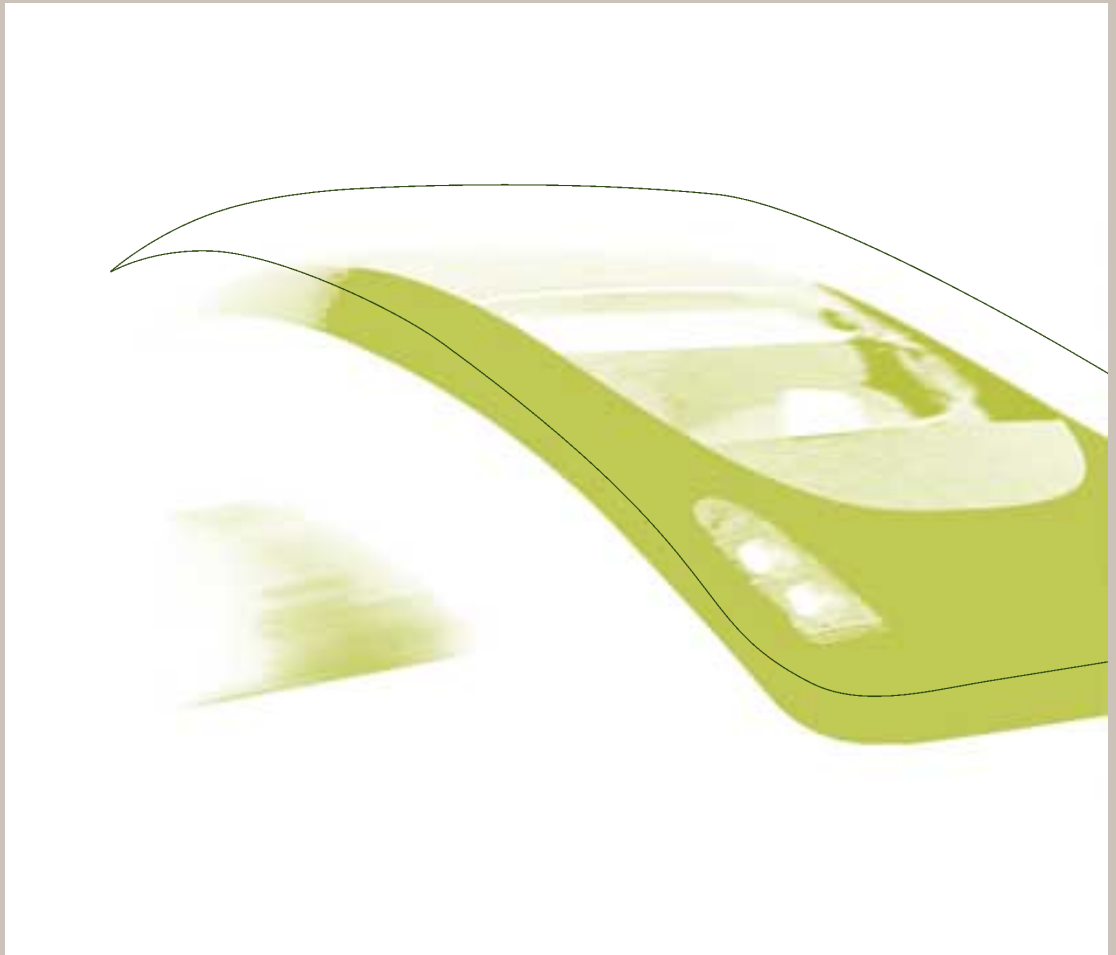


HIGH SPEED TRAINS IN EUROPE



OCTOBER 2002



EUROPE IN THE MAKING

□ A FAST-GROWING ARENA FOR MOBILITY

- a continent on the path to full-scale integration
- a market backed by a single currency
- at the crossroads between enlargement and deeper integration.

→ the development of interoperability and more generally the removal of technical, operational and administrative barriers existing in parts of the European rail network). □

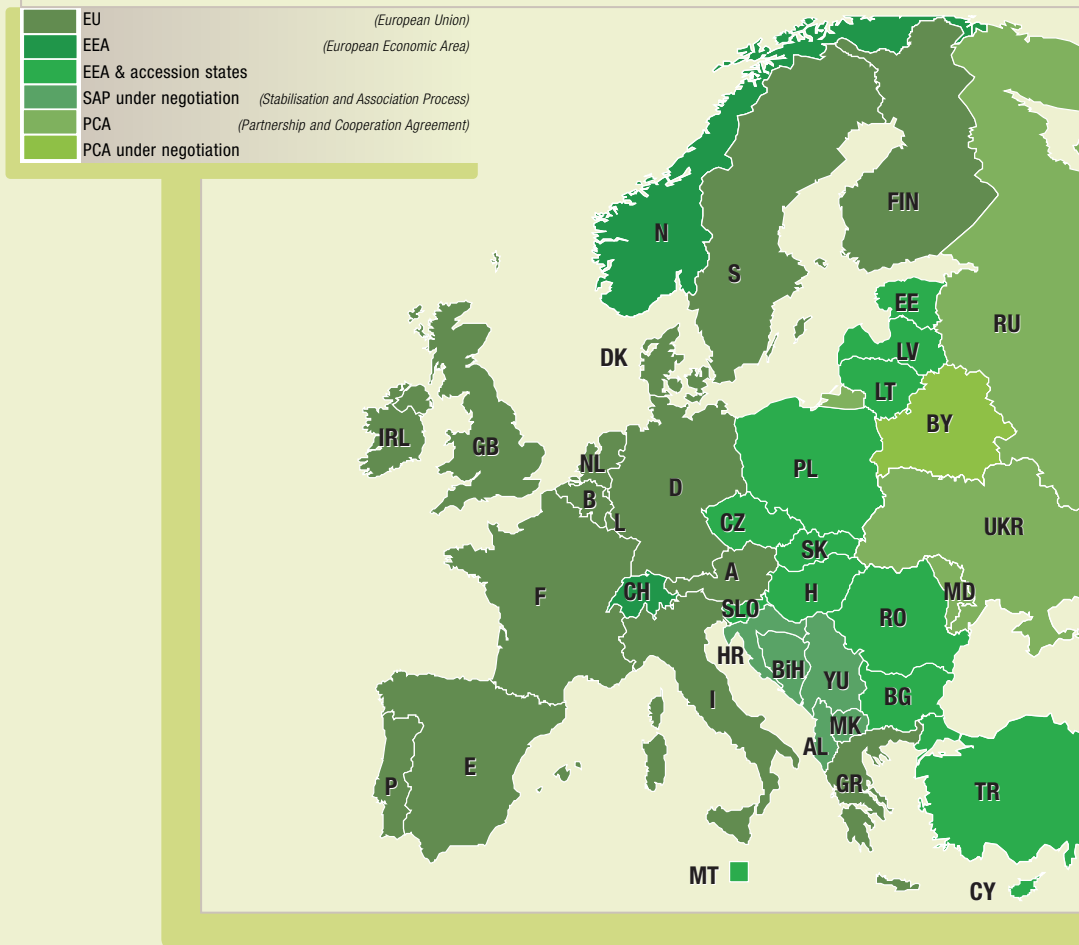
A TRANSPORT SYSTEM TAILORED TO EUROPEAN NEEDS

The railway makes an essential contribution to sustainable mobility and the emergence of an integrated European area, through:

- more environmentally-sound operations
- the implementation of the trans-European network



Railways helping to further European integration.



THE RAILWAYS

□ HIGH SPEED: A POLITICAL PROJECT FOR EUROPE

The high speed passenger train network has the backing of the railways, and national, regional and Community authorities as a truly European project.

This support has in particular been evidenced in several European Union policies projects. The decision taken by the Parliament and the Council in July 1996 laid down the guidelines for the development of the trans-European high speed transport network. These guidelines – currently being amended – place great emphasis on railway projects, in particular ones involving high speed.

The same applies to the priority projects short-listed by the European Council of Essen in 1994.

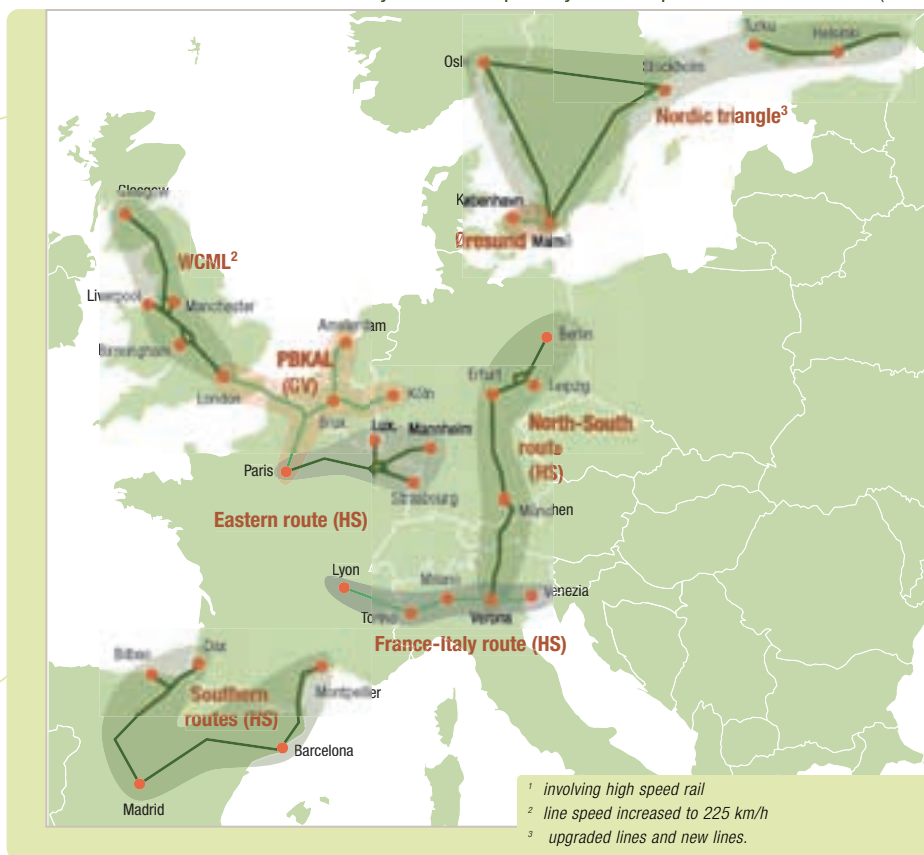


High speed has the backing of the railways, and national, regional and Community authorities as a truly European project.

This policy is reflected in support provided by the European Union through different funding programmes some of which benefit the EU candidate countries.

In view of the benefits rail transport can offer Europe, the rail sector strongly hopes that the European Union will continue to pursue this policy line with Member States as well as the candidate countries actively following suit. □

Priority routes¹ adopted by the European Council at Essen (1994)



THE EUROPEAN HIGH SPEED TRAIN NETWORK

A FEW MILESTONES

The European high speed network started to take shape as from 1981. The first line built was Paris-Lyon (also known as the TGV Sud-est) in France. This 470 km line was originally designed for a maximum speed of 260 km/h, with speed subsequently increased to 270 and then 300 km/h in 2001.

The network gained an international dimension with the partial opening of the PBKAL constellation (Paris-Bruxelles-Köln-Amsterdam-London) in 1994 followed by the Øresund link between Denmark and Sweden in 2000.

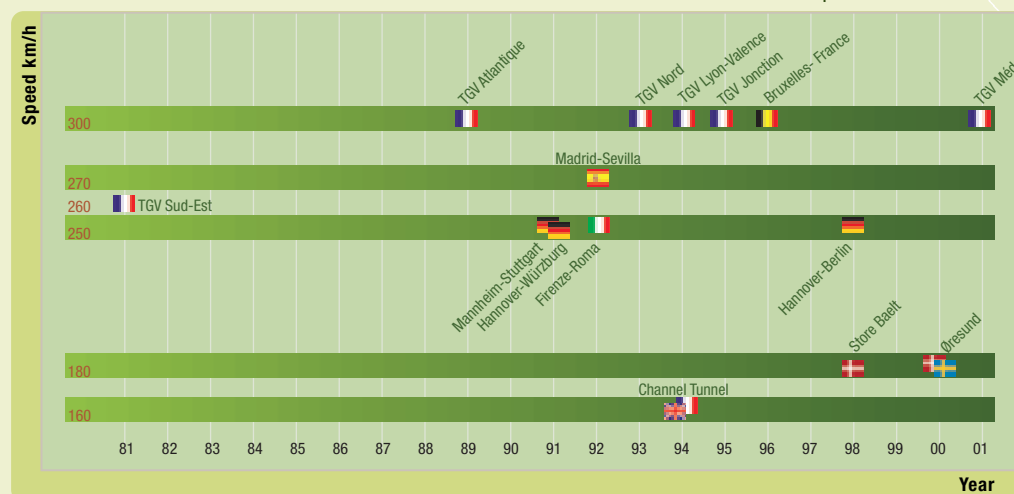
2001 saw the inauguration of the TGV Méditerranée linking Valence to Marseille and Nîmes and offering journey times of 2 hours 55 minutes between Paris and Marseille.

This was followed in 2002 by the Köln-Rhein/Main line (219 km long, including 177 km between Köln and Frankfurt for speeds of 300 km/h).

Finally, a further high speed section of the PBKAL is to open for revenue service on 15 December 2002. This line between Leuven and Bierset near Liège will then add 69 km at 300 km/h. □



New lines in Europe at the end of 2001



A TRANSPORT SYSTEM COMBINING NEW AND UPGRADED LINES

NEW LINES

Total Europe	3,260 km
France	1,520 km
Germany	796 km
Spain	471 km
Italy	246 km
Belgium	142 km
France/United Kingdom	52 km
Denmark/Sweden	18 km
Denmark	15 km

3,260 km
of new high speed lines
in 2002 with 10,000 km
scheduled for 2020.



A COMMERCIAL SUCCESS STORY

□ SPECTACULAR GROWTH IN TRAFFIC VOLUMES

European high speed traffic has tripled in the space of ten years.

Market share up strongly, with the situation completely overturned in some markets.

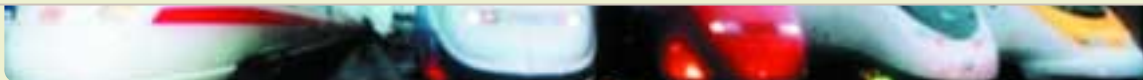
For journey times up to 2 1/2 hours, rail's share of the rail/air market is over 75%, with 50% up to 4 hours.

18 million passengers for the TGV Méditerranée in its first year of operation:

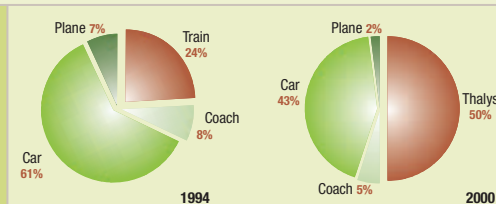
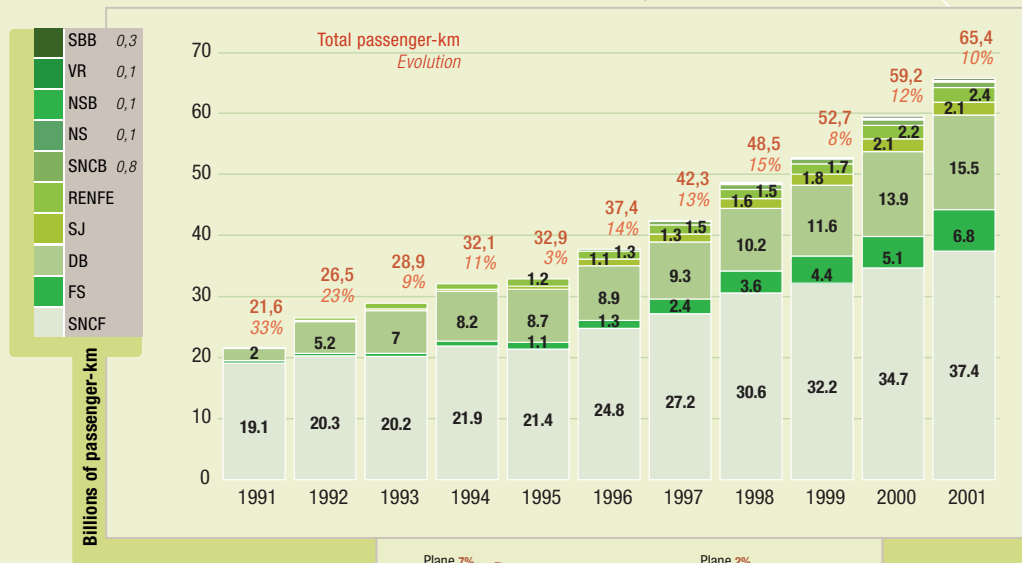
- traffic levels up 35% on 2000
- load factor of 75%
- 90% of trains on time in May 2002
- 61% market share in relation to air (compared with 40% in 2000). □



Over the first five months of 2002, TGV services represented 63% of total SNCF traffic (not including Paris suburban services).



High speed rail traffic in Europe 1991-2001



Market share Paris-Bruxelles (310 km)

before and after introduction of Thalys

INTERNATIONAL HIGH SPEED SERVICES

□ A WARM RECEPTION FROM CUSTOMERS

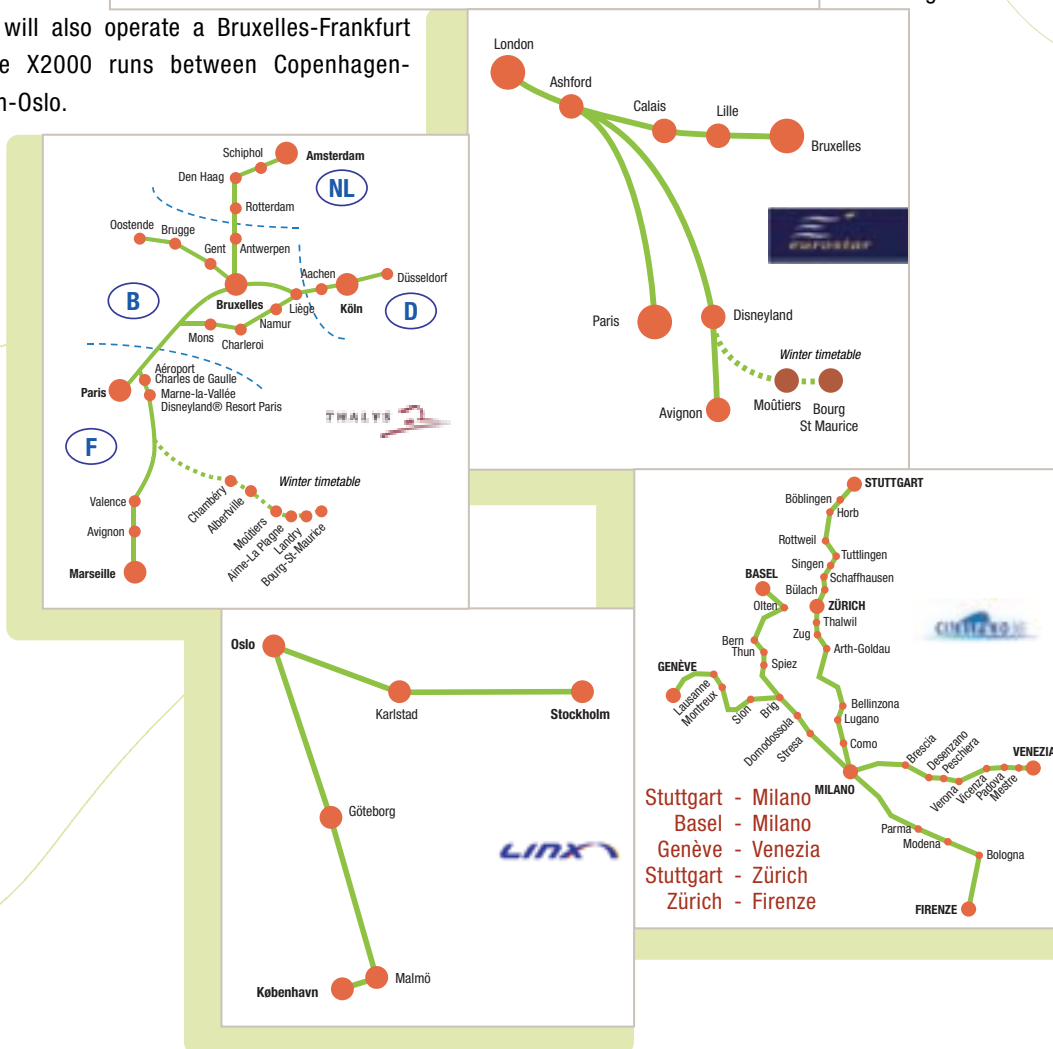
High speed international services are also provided by ICE, X2000 and TGV trains.

ICE (*InterCity Express*) services from Hamburg run through to Wien and from Kiel, Hamburg, Frankfurt and Stuttgart to key cities in German-speaking Switzerland (Zürich, Basel, Bern, Interlaken and Chur). Amsterdam and Köln are also linked by ICE, with 7 return runs a day. ICE3 trains will also operate a Bruxelles-Frankfurt service from 2003. The X2000 runs between Copenhagen-Stockholm and Stockholm-Oslo.

Railway groupings provide international high speed services, using either high speed trains (Eurostar and Thalys) or tilting trains (Linx and Cisalpino).

TGV (*Train à grande vitesse*) services originating in Paris fan out to serve key Swiss cities Bern, Zürich, Genève, Lausanne (plus Brig during the winter timetable period) as well as Torino and Milano.

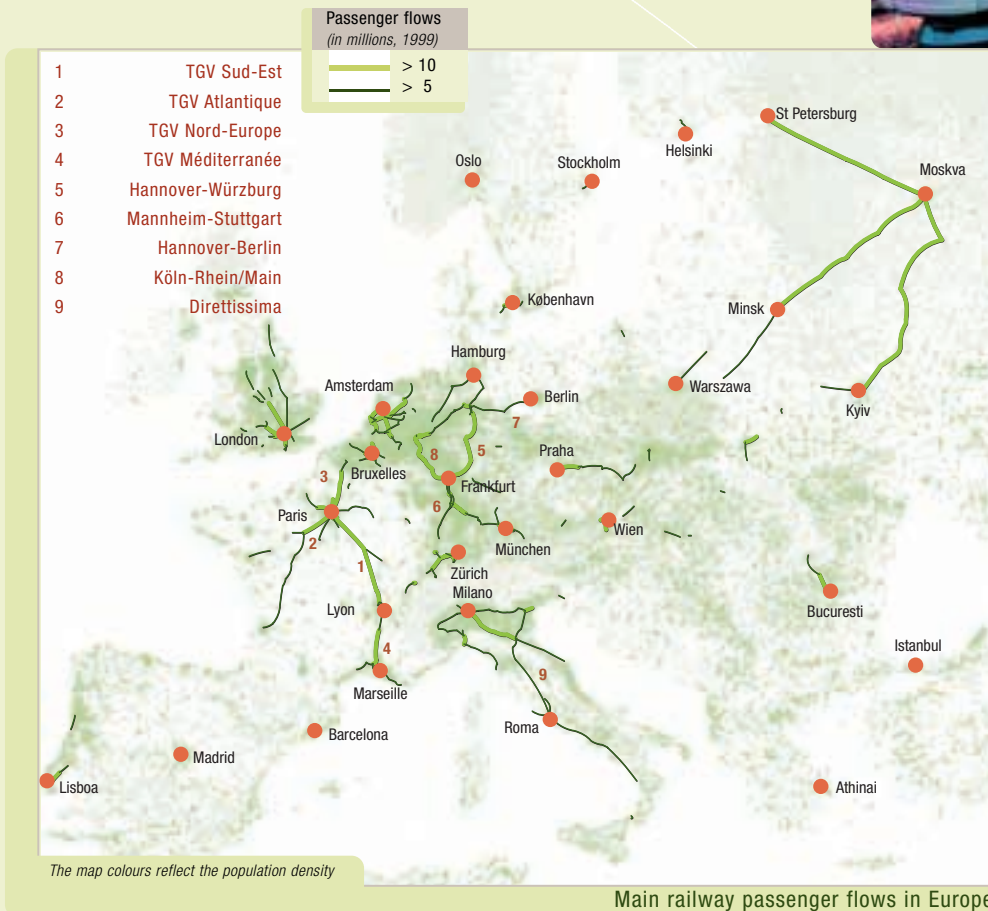
The TGV also serves Paris Charles de Gaulle airport and the Rhône-Alpes and Provence-Alpes-Côte d'Azur regions from Bruxelles. □



MAJOR GROWTH POTENTIAL



The Japanese travel by high speed train six times more than the Europeans.



□ In addition to the high speed network, long-distance (more than 80 kilometres) passenger transport in Western Europe is set to record a 30% increase in passenger-km between 1999 and 2010 and a 60% increase between 1999 and 2020.

This growth will be mainly due to the projected increase in disposable income but also in demographic movements, the reduction of the “border effect” and the development of infrastructure.

It will be particularly marked in Ireland and Portugal (approximately +90% between 1999 and 2020) although Greece, Norway, Luxembourg and Spain will be affected too with a projected increase of more than 70%. □

60% growth projected
between 1999 and 2020.



THE HIGH SPEED NETWORK IN 2010

❑ WORK IS IN PROGRESS ON MANY SECTIONS,
AND MORE IS PLANNED

By 2010, there are also plans for more new lines in Germany (Köln-Düren, Leipzig-Erfurt, Nürnberg-Ingolstadt and Karlsruhe-Basel), France (Eastern branch of the Rhein-Rhône TGV line, Le Mans-Laval section of the TGV line to Brittany), Italy (Milano-Verona and Milano-Genova), Spain (Madrid to Valencia and Alicante), Austria (high speed sections of the Wien-Salzburg line) and Finland (Kerava-Lahti). ❑

As of 2007, the TGV Est Européen will put Strasbourg a mere 2 hours 20 minutes from Paris, offering a 40% saving (1 hour 33 minutes) on previous travel times.

CONSTRUCTION TIMESCALES

Work in progress

2003	Madrid-Lerida	481 km
	Channel-Ebbsfleet	72 km
2004	Roma-Napoli	220 km
	Antwerpen-Amsterdam	158 km
2005	Torino-Novara	92 km
	Liège-Welkenraedt	33 km
2006	Milano-Bologna	196 km
	Bologna-Firenze	77 km
2007	TGV Est-Européen	302 km
	Lötschberg	37 km
	Ebbsfleet-London	40 km

Planned extensions

2008	Lerida-Barcelona	170 km
	Barcelona-Perpignan	170 km
	Córdoba-Malaga	155 km
	Novara-Milano	51 km
2008	Madrid-Valladolid	175 km
	Angoulême-Bordeaux	120 km
	Nîmes-Montpellier	60 km
	Verona-Padova	77 km



THE NETWORK IN 2010

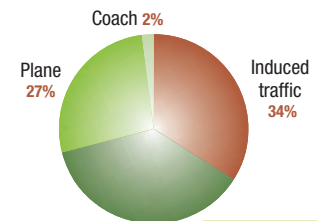
NEW LINES

Europe	7,550 km
France	2,280 km
Spain	1,950 km
Germany	1,200 km
Italy	1,160 km
Austria	310 km
Belgium	210 km
Netherlands	110 km
United Kingdom	110 km
Finland	60 km
Switzerland	40 km
Denmark/Sweden	18 km
Denmark	15 km
France/United Kingdom	50 km

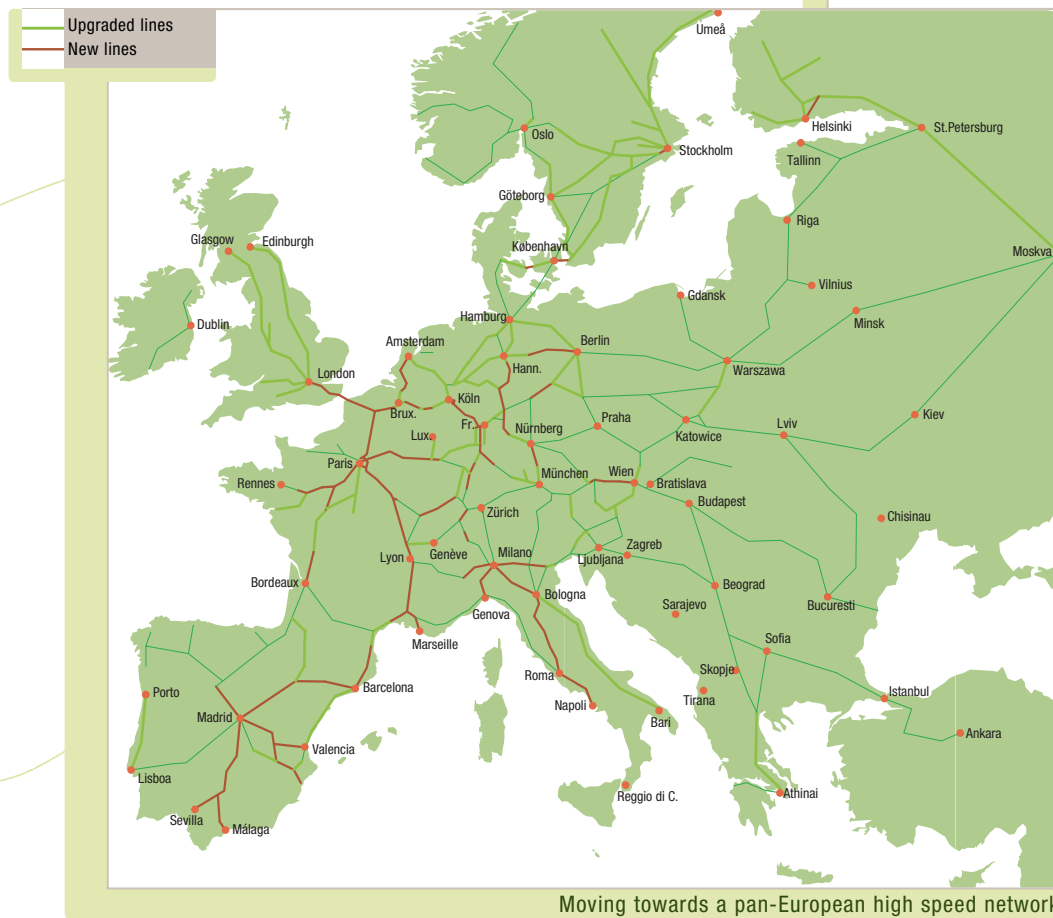


A recent study* reveals that by 2010 high speed will have garnered an extra 51 billion passenger-km, two thirds of which will have come from the other transport modes.

+25% is the rail traffic increase the expansion of the high speed network is expected to generate by 2010.



Reasons for increase in railway traffic



MARKETING STRUCTURES SUITED TO EUROPEAN OPERATIONS

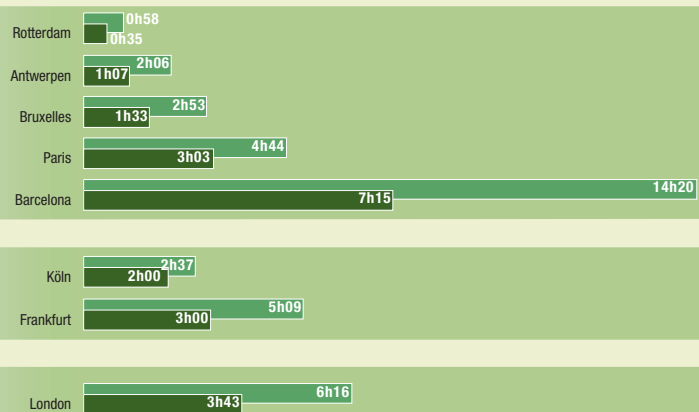
NEW SERVICES IN THE RUN-UP TO 2010

New international services will be offered on the PBKAL network (Eurostar, Thalys and ICE) and by Rhealys, the grouping of French, Luxembourg, German and Swiss railways that will operate the new TGV Est line.

High speed services will also be introduced on routes from Barcelona and even Madrid bound for France (Toulouse, Marseille, Lyon, Paris) and Switzerland (Genève). □

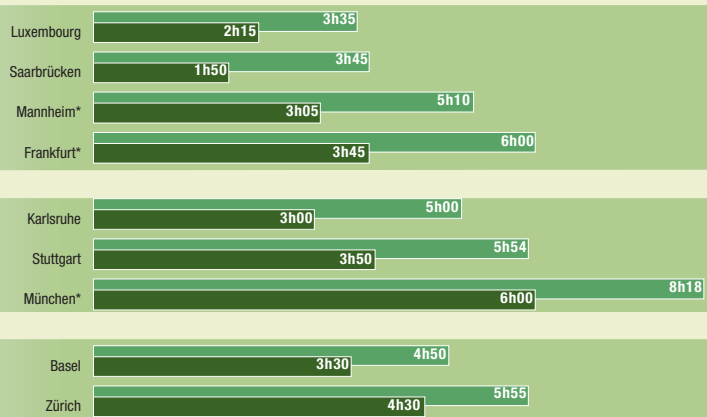


AMSTERDAM



■ Journey time in 2007
■ Fastest timing in 2001

PARIS



* best indicative journey times, depending on upgrading work in Germany

Source: SNCF

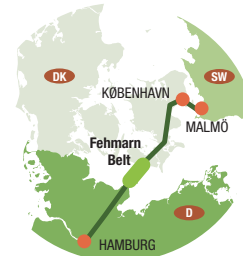
KEY NETWORK EXTENSIONS

□ The decade from 2010 and 2020 will be marked in particular by the extension of the high speed network into central and eastern Europe and by a range of Alpine crossings into Italy with the lines:

- Bern-Milano via the Lötschberg, scheduled for 2007
- Lyon-Torino (2015)
- Zürich-Milano via the Saint Gotthard (2012)
- München-Innsbruck-Verona via the Brenner
- Wien-Venezia via the Tarvisio, with a new high speed section between Graz and Villach.



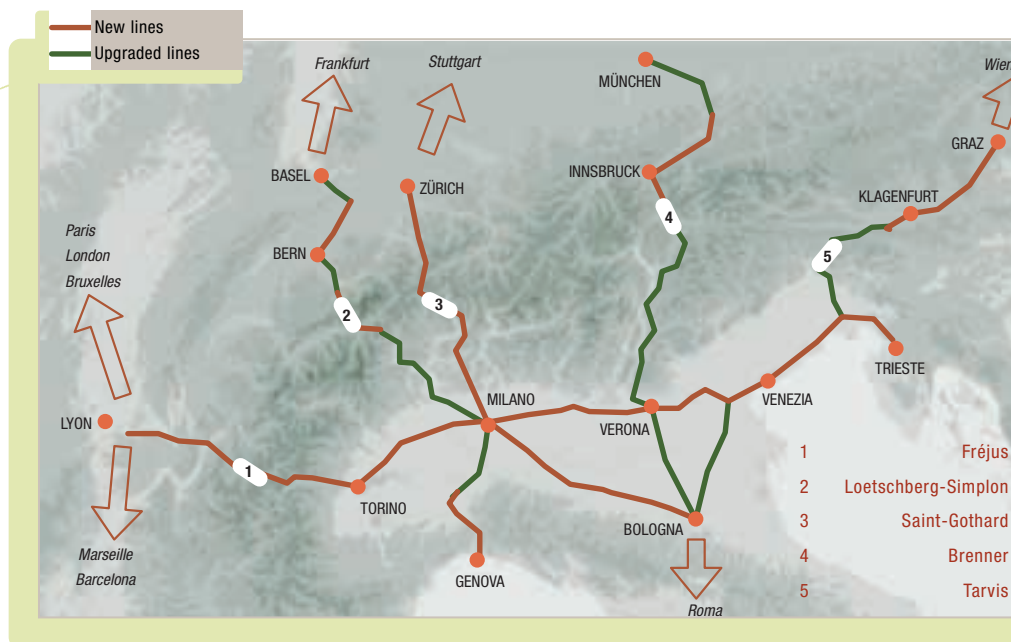
Major engineering projects reflecting the policy of sustainable mobility.



The Fehmarn Belt fixed link will generate huge time savings on routes between Germany and Scandinavia.

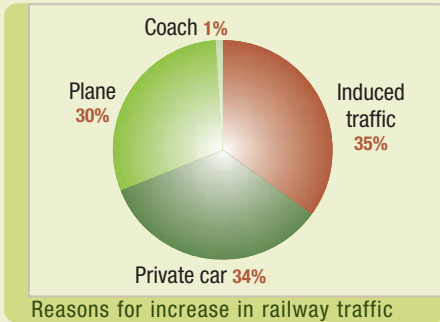
By 2020 the three largest cities in Sweden (Stockholm, Göteborg and Malmö) and the two largest in Portugal (Lisboa and Porto) will be connected by new high speed lines. Portugal will also be linked up to the European network through the new line between Lisboa and Madrid.

In Central and Eastern European high speed will be mainly be developed through upgraded lines. □



THE NETWORK IN 2020

□ A recent study* reveals that by 2010 high speed will have garnered an extra 51 billion passenger-km, two thirds of which will have come from the other transport modes.



+39% is the rail traffic increase the expansion of the high speed network is expected to generate by 2020.



RAIL SECTOR ORGANISATIONS


INTERNATIONAL UNION OF RAILWAYS

The International Union of Railways (UIC) is the worldwide cooperation organisation for the railways. It numbers 158 members spread over five continents. Its activities encompass all areas affecting rail transport development. The role of UIC is to promote cooperation between railway companies and to orchestrate any activities aimed at developing international rail transport (in all sectors: passenger, freight, infrastructure management, research, etc.). Other projects carried out involve guaranteeing interoperability and safety, developing information systems, promoting the environment, cutting costs and fostering international training.

The UIC High Speed Task Force

UIC high speed activities are dealt with by a dedicated structure called the High Speed Task Force. The aim of the Task Force is to coordinate the activities of the different countries in the field of high speed and thereby play a part in helping create a genuine European high speed network and promoting high speed worldwide.

It carries out technical work (reducing journey times on conventional lines, lines up to 350 km/h, high speed freight, tilt technology, etc.) but is also involved in economic research (cost of high speed lines and rolling stock) and carries out or oversees different cross-sector studies: 2010-2020 passenger traffic study, impact of demographics on transport demand in 2030, monograph on different countries, etc.

Communications initiatives – website, electronic newsletter, publication of brochures, organisation of the Eurailspeed congress – complete the range of high speed activities. 



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□ THE COMMUNITY OF EUROPEAN RAILWAYS

The CER and EU politics

As of 1 October 2002 the Brussels-based Community of European Railways brings together 29 railway undertakings and rail infrastructure managers in the member states of the European Union, Switzerland, Norway and eight Central and Eastern European countries candidate to EU membership).

The CER acts as a collective voice for the railways vis-à-vis the European institutions and the political, economic and social stakeholders at European Union level.

Its main focus is promoting the development of rail as essential to the creation of a transport system which is both efficient and environmentally sound. A key priority in this respect for the CER is the achievement of a new modal split in the transport system to better match collective demand, minimise costs arising to society and improve economic efficiency.

The CER deals with all policy areas of significance to railway transport and offers advice and recommendations to policy-makers within the European Institutions. Beyond the regulation of the railway market and all transport-related issues, its interests span the whole spectrum of European policy, concentrating mainly on policies towards the environment, infrastructure planning, public service and social dialogue.

In the field of high speed transport, special attention is paid to the issues of interoperability, research and development and the trans-European transport networks. □



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UNIFE IS:

The Union of European railway industries. Based in Brussels, it represents the interests of its members and maintains relations with the key European institutions. Its membership spans a wide variety of suppliers, including system integrators, railway components manufacturers, etc. UNIFE works in partnership with associations the world over to promote transport by rail.

UNIFE REMIT:

Is to contribute to the development of the railway supply industry and promote rail transport initiatives, monitor and influence EU policies and support members with products and services.

KEY STATISTICS:

UNIFE members manufacture 70% of the world-wide production of rail equipment. The European rail supply industry employs 130,000 people and generated a revenue of 34 billion EUR in 2002.



UNION OF EUROPEAN RAILWAY INDUSTRIES

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