



# The development of high-speed lines in France

Development of high-speed lines in Central Europe  
conference

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# 40 YEARS OF HIGH SPEED LINES HAVE REPRESENTED AN ENVIRONMENTAL, ECONOMICAL AND TECHNOLOGICAL SUCCESS, BOOSTING THE ECONOMY OF REGIONS OF FRANCE & EUROPE



HSL have a positive environmental impact through **modal shift and lower CO2 emissions**

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HSL **boost regional economy** supporting local industries, bringing a new dynamism to cities and communities, to tourism and to the overall economy

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HSL projects are **catalyzers for innovation** in the railway industry

## And the French high-speed network continues its development

# FRANCE: EUROPE'S SECOND-LARGEST HIGH-SPEED NETWORK

**2 700 km**

of high-speed lines

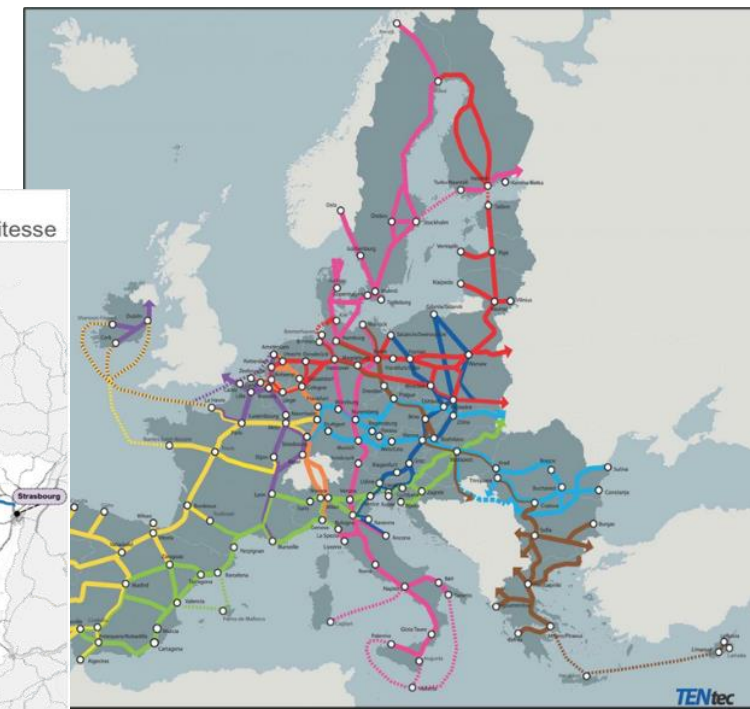
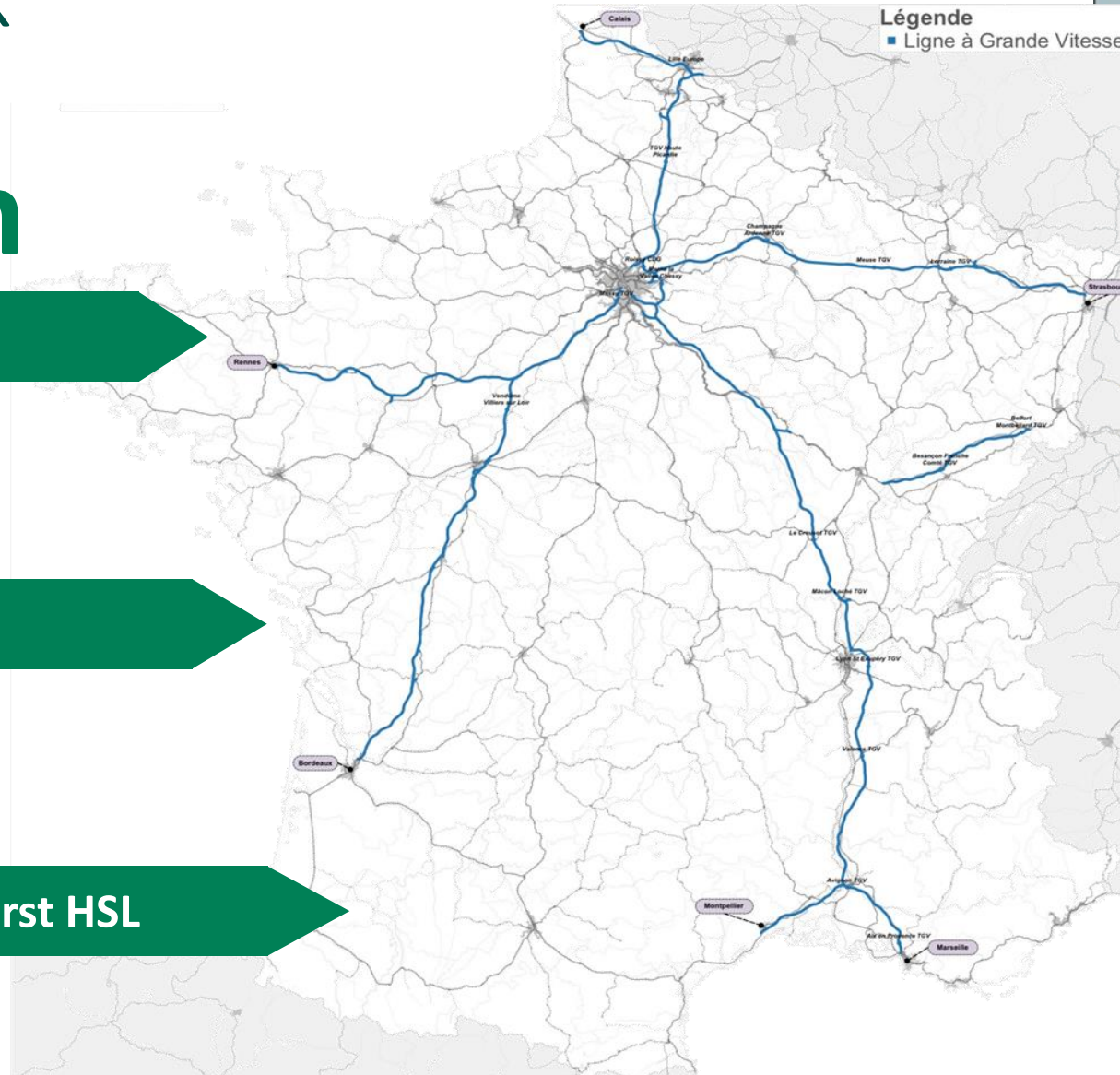
**+120 M**

passengers a year<sup>1</sup>

<sup>1</sup> source : SNCF

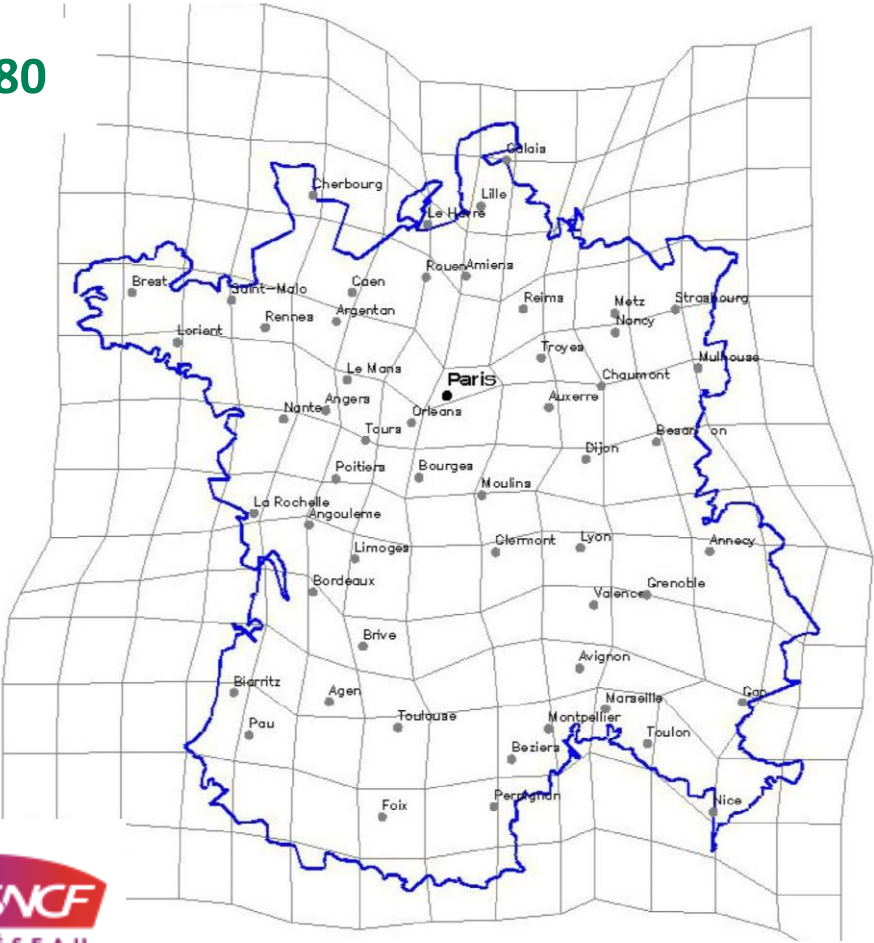
**1981**

commissioning of the first HSL

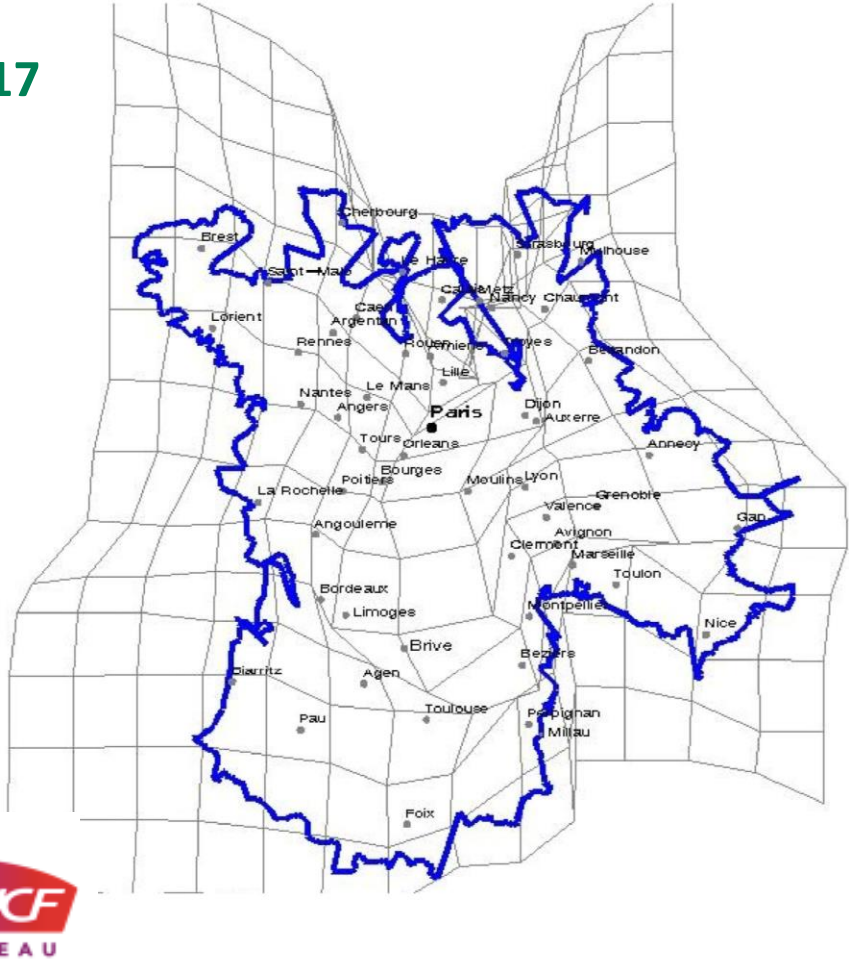


# TIME GAINS DESIGN A DIFFERENT PERSPECTIVE

1980



2017



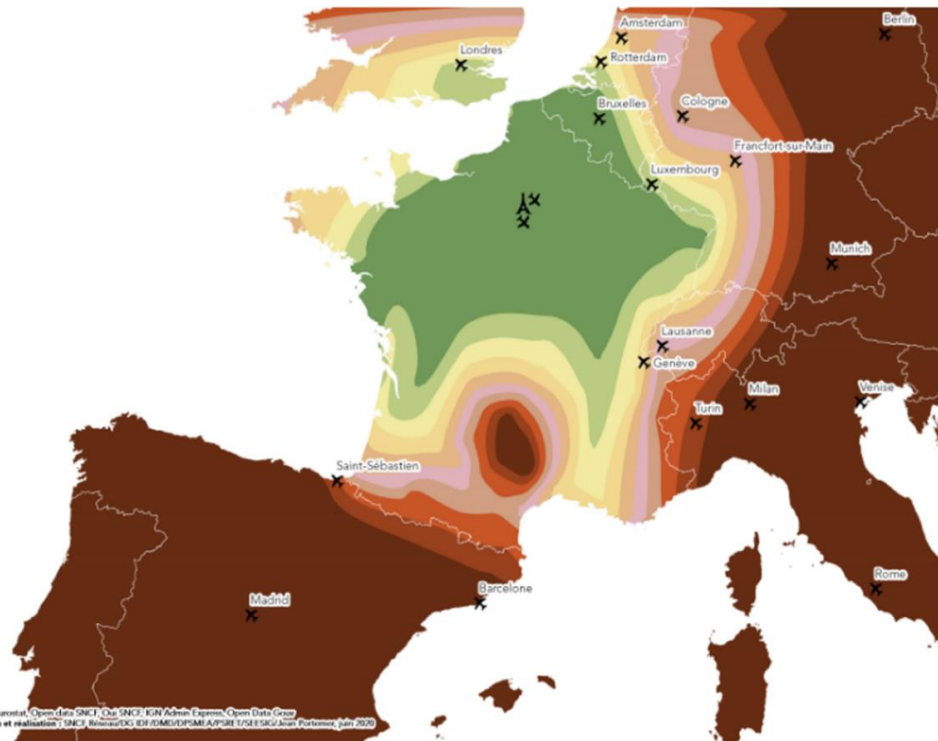
# CONNECTING CITIES IN FRANCE AND IN WESTERN EUROPE

**Paris – Lyon  
(425 km)**

3h45' before HSL vs **1h58' after HSL**

**Paris – Marseille  
(684 km)**

6h30' before HSL vs **3h20' after HSL**



But also enhanced European connections....

**Paris CdG – Brussels  
(240 km)**

**1h36' after HSL**

**Brussels – London  
(317 km)**

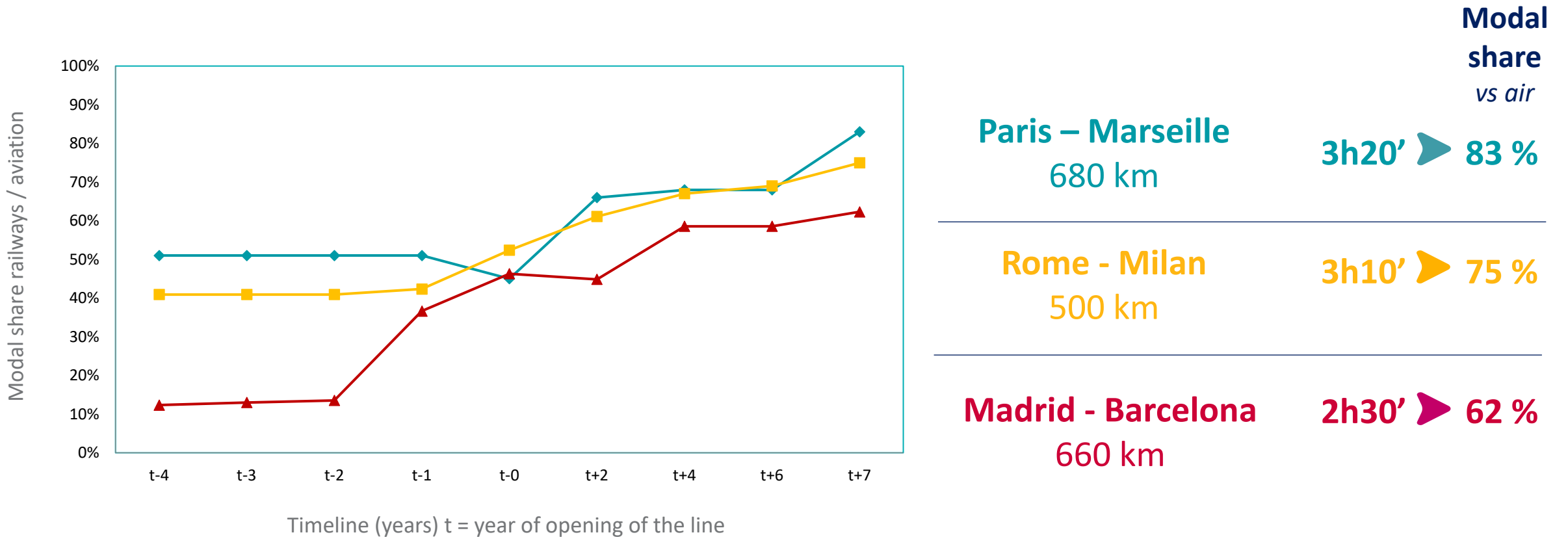
**2h00' after HSL**

**Geneva – Paris  
(409 km)**

**3h13' after HSL**

# THE IMPACT OF TIME GAINS ON MODAL SHARES

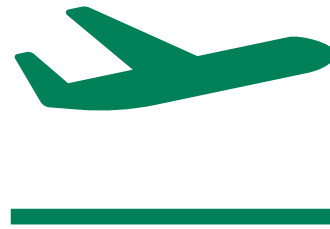
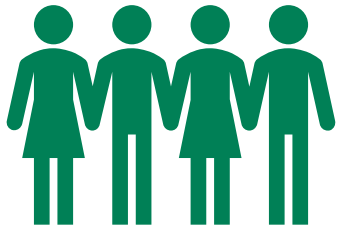
**7 years** after the creation of the line, rail transport reaches between **60 % and 80 % of the modal share** as compared to aviation



Note : for France, t = 2001 ; for Italy, t = 2009 ; for Spain, t = 2009

# THE IMPACT OF TIME GAINS ON CARBON EMISSIONS

## The example of Paris – Lyon



• Induced traffic :  
+ 3 million passengers



• Modal shift from road:  
+ 2 million passengers



• Modal shift from air:  
+ 2 million passengers



**+ 7 million passengers**

01

### TIME GAINS

- ½ Induced traffic
- ½ Modal shift

02

### CLIMATE GAINS

- Are linked to modal shift
- Are strong if other modes unitary emissions do not increase in time
  - 10% of construction costs

# A POPULAR AND COMMERCIAL SUCCESS



High Speed services transport **yearly 120 M passengers** in France



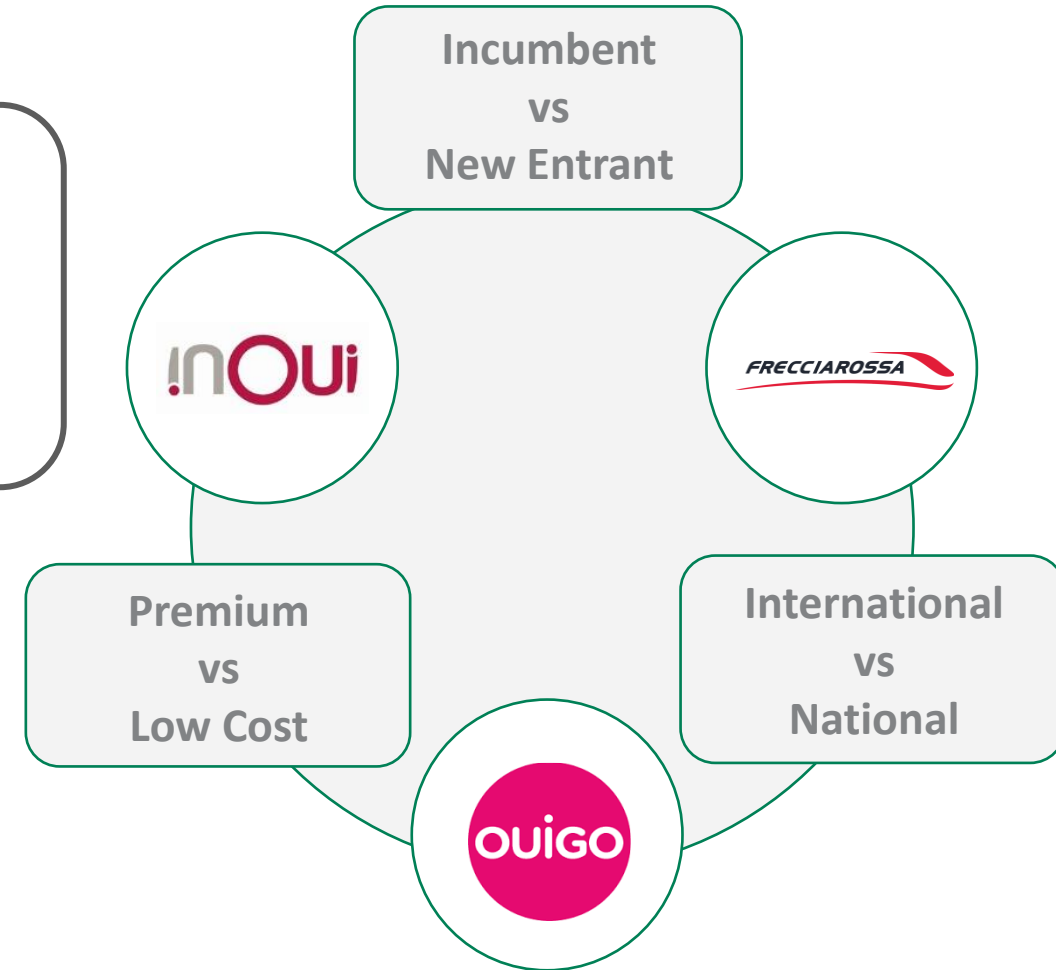
**1/3 of high-speed trains travel beyond the high-speed line** to their final destination



**Railway Undertakings are not subsidized** and act as **purely commercial enterprises**



The transition **from monopoly to open access competition** has brought **more services and new services**, within an altogether **growing market**.





# FOR THE INFRASTRUCTURE, HIGH SOCIO-ECONOMIC VALUE, YET A NEED TO SUBSIDIZE INVESTMENT

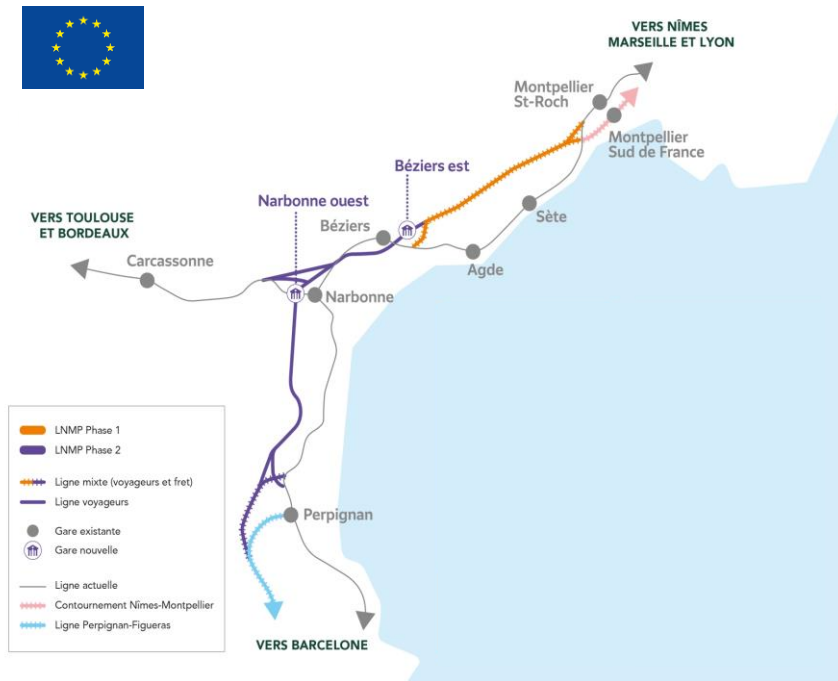
Line	Socio-economic internal rate of return	Public sector funding (% of total investment)
HSL Paris-Lyon	16,5%	-
HSL Paris-Tours	23,4%	-
HSL Paris-Lille	20,3%	-
HSL Lyon-Marseille	12,2%	-
HSL Paris-Strasbourg phase 1	8,5%	77%
HSL Rhin-Rhône	7,8%	76%
HSL Paris-Strasbourg phase 2	5,7%	74%
HSL Tours-Bordeaux <sup>1</sup>	8,3%	45%
HSL Bretagne - Loire Région	8,8%	57%
HSL Nîmes-Montpellier	9,9%	76%

1 Tours-Bordeaux HSL is a **concession**, with higher track access charges and lower subsidies - the concessionaire carrying the risk on traffic

# An expanding and more international HSL network

## New Montpellier-Perpignan Line (LNMP)

**2034 - 2040** year of achievement of phases 1 and 2  
**€6.12 bn** of budget  
**-39mn** between Perpignan and Montpellier



## Grand Projet du Sud-Ouest (GPSO)

**2032 - 2037** year of achievement of phase 1 to Toulouse and phase 2 to Dax  
**€10.36 bn** of budget  
**-1h** between Toulouse and Paris

