

In South Korea



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With the Korean TGV, French railwaymen and women contributed, for the first time, to a major project outside of Europe.

Through their professionalism, they have earned the Korean client's confidence. That is why the collaboration started in 1999 with SNCF International continues today.

I have had the pride to see SNCF staff working in Korea before having the privilege to host 400 managers and engineers of Korail, coming to France to be trained in our schools.

The signature, last November, of a Memorandum of Understanding for the maintenance of the KTX in the workshop of Busan carries a lot of hope of further good trade repercussions at a time when new High-Speed lines are going to be built in Korea.

Jean-Pierre Loubinoux
Chairman of
SNCF INTERNATIONAL

The Country

- ◆ Area: 99, 678 Sq. Km
- ◆ Population: 49 million inh.
- ◆ Capital: Seoul
- ◆ Density: 492 inh. / Sq. Km
- ◆ 89, 775 km of roads out of which 1,889 km are motorways



The Railways

The Infrastructure owner is the Korean Railway Network Authority (KRNA) previously named KHRC.

The Railway Operator is the Korean National Railroad (KORAIL) previously KNR.

The Korean Railway Research Institute (KRRI) is a subsidiary company of Korail specialised in Research and Development.



Korail's management strategy:

- ◆ Reinforcing competitiveness of rail transports.
- ◆ General maximizing of customer satisfaction.
- ◆ Extending the role of rail transport.

Management targets client satisfaction and the development of rail transport.



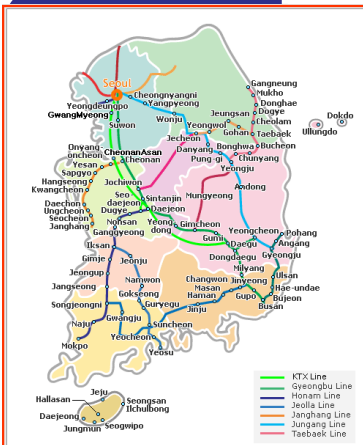
The character :

« Chipochipo » has been designed to promote the image of Korean Railways. The hat on its head symbolizes speed in this era of High-Speed transport and its outstretched arms illustrate the welcoming attitude of Korail's staff towards customers .



The Railways

- ◆ 1899: opening of the first line between Noryangjin and Jemulpo
- ◆ 1905: opening of the Seoul-Busan line
- ◆ 1914: the Daejon-Mokpo line is opened
- ◆ 1948: creation of the Ministry of Transportation
- ◆ 1963: creation of the Korean National Railroad
- ◆ 1973: first studies for a High-Speed train
- ◆ 1994: signature of a contract with Alstom
- ◆ 30th March 2004: inauguration of the KTX
- ◆ 1st April 2004: commercial launching of the KTX



**3,539 km of rail roads,
224 km at High-Speed**



**Korea joins the club of
High-Speed countries**



**The corridor Seoul-Busan
concentrates 71 % of the
inhabitants , 75% of GDP,
65 % of passenger traffic
and 70 % of freight traffic.**

The Korean Train eXpress (KTX)

The first stage of KTX's network is the corridor between Seoul and Busan with a High Speed line of 224 km between Gwang Myeong and Daegu. The KTX also runs on conventional lines between Daegu and Busan and between Daejon and Mokpo.

The second stage of the project will be building the High-Speed Line between Daegu and Busan.

Other extensions are also under study and could lead to creating a Korean High Speed network of about 1,000 km.



*View of the High-Speed line from the
KTX driver's cabin*

The KTX is a modified French TGV type « Réseau » :

- ◆ 2 power-units and 18 carriages amounting to a length of about 400 m.
- ◆ 935 seats, 127 in first class.
- ◆ On-board video.
- ◆ Snacks and drinks can be bought from vending machines or from a trolley.

**KTX is the longest monobloc train of
the TGV family.**



SNCF International's involvement in Korea

1999

Assistance in electrifying the Daegu-Busan and Daejon-Mokpo lines

This contract consisted in advising the client on the electrification process for the portion of track between Daegu and Busan. It not just consisted in electrifying the tracks, but also on linking the existing conventional rails to the High Speed line, making their way of functioning compatible and assuring that the KTX got the electrical power suitable in order to operate.

Client : KNR



The High-Speed line cuts across a hilly topography, necessitating, when completed, building 75 tunnels, totalling 190 km in length.

2000

Supervision of the homologation tests and factory acceptance of the KTX trainsets

SNCF International has been in charge of helping the client to check and sign for the 46 KTX trainsets before test running each of them. KHRC wanted to obtain the viewpoint of a consultant who was "neutral" with respect to the manufacturer.

Client : KHRC

The first phase of the KTX project amounted to a total cost of 19 billion US dollars

2001

Training in High-Speed operations Management in France

SNCF International has trained some 400 senior managers, engineers and executives of the Korean Railways. For example, around fifty training sessions of 15 days have been organised, either at SNCF-specific training schools nor directly on the various sites. A broad range of topics have been covered, including: signalling, catenaries, tracks, rolling stock maintenance, train driving, organisation of shifts, safety management and passengers information systems.

Client : KNR



The maintenance workshop in Goyan. There is another one in Busan.

2003 - 2005

Supervision of maintenance, training and operation assistance on the High Speed line

Experts have been dispatched to the field in the 4 different districts of the line in order to supervise the track maintenance. The infrastructure and civil work manager, located in Daejon, was also assisted by a permanent consultant.

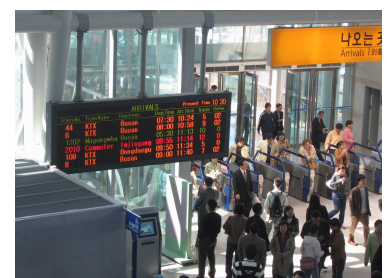
Client : KNR

Currently

Consultancy and assistance on the KTX's maintenance

SNCF experts are sent regularly to Korea in order to assist the client in maintaining its High Speed infrastructure.

Client : KRRI



The project of implementing High Speed in Korea is a very good example of the cooperation and complementarities within the various SNCF subsidiary companies.

Systra :

This subsidiary has been involved in civil engineering, track engineering, supervision of track laying, management of the tests on the pre-production trains and assistance to technology transfer.

Arep :

Winner of an international competition involving around 30 teams, AREP has conducted the studies for the station of Gwang Myeong, crossed by 8 tracks and equipped with 400 meter long platforms.

SNCF is a striking showcase for the French railway manufacturers. Those particularly involved in this project were:

- ◆ Alstom.
- ◆ Corys-Tess for the driving simulator.
- ◆ CSEE Transport for the cabin signalling.
- ◆ Vossloh for the rail fastenings.
- ◆ Cegelec for the catenary.



There are 7 stations on the Seoul-Busan line and among them 3 new stations:

- ◆ *Seoul Centre*
- ◆ *Gwang Myeong*
- ◆ *Chonan*



Seoul Station

Gwang Myeong Station

Some of the projects currently being negotiated by SNCF International:

- ◆ Supervision of the maintenance of the High Speed track.
- ◆ Assistance on the KTX's heavy maintenance.



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*November 2007:
 Signature of a
 Memorandum of
 Understanding in
 Seoul*