
Railway projects

Convensa 



Railway projects

bringing people closer

Convensa, Contratas y Ventas is an FCC subsidiary company which specialises in the execution of railway works. Convensa has extensive experience of almost **50 years in this sector**, together with a large inventory of railway machinery owned and operated by us.

The addition of an exceptional human team made up of great professionals, allows us to successfully tackle the most complex railway projects.

Being part of the FCC group gives Convensa an unmatched technological and financial capability among railway construction companies to guarantee project success.

Convensa's undertakings include; the study, design, construction and monitoring of new and existing works; maintenance of lines and facilities in operation; and advice and support in everything related to railway matters.



Spain

High Velocidad

"Eje Atlántico"

- **Length of infrastructure and superstructure built:** 46 kilometers.
- **Tunnels length:** 27.6 kilometers. Double tube.
- **Viaduct length:** 7.1 kilometers.
- **Singular projects:** Vigo Tunnel - Das Maceiras, AVE Vacariza - Rialíño and Padrón - Santiago.



Spain

Madrid - Galicia

High Speed Line

- **Length of civil infrastructure executed:** 18 kilometers.
- **Length of superstructure executed:** 104.8 kilometers.
- **Tunnels length:** 15.4 kilometers.
- **Singular projects:** Civil lots: Vilariño-Campobeceros and Amoeiro-Carballiño.
- **Track assembly:** Campobeceros-Taboadela and O Irixo- Santiago.



Spain

Railway line new access to **Asturias**

- **Length of civil infrastructure executed:** 37 kilometers.
- **Tunnels length:** 36.7 kilometers. Double tube.
- **Viaduct length:** 0.3 kilometers.
- **Individual Projects:** Pajares Tunnels Lot 1 and Pajares Tunnels Lot 5.
- Track assembly contract between La Robla and Campomanes was added to the Pajares tunnels project: Eighty-two kilometers of different track typologies: ballasted track, slab track, precast slab track...



Spain

High Speed Line Madrid - Barcelona French border

- **Length of infrastructure executed:** 202.9 kilometers.
- **Length of superstructure executed:** 174.7 kilometers.
- **Tunnels length:** 16.6 kilometers.
- **Total length of viaducts:** 11.6 kilometers.
- **Length of track assembly:** 174.7 kilometers.
- **Individual Projects:** Civil and tracks of urban tunnels and Girona Station; Sub-sections II, IX-X and XIV of Madrid - Zaragoza; Ricla (execution of the longest tunnel on the entire line); Sub-section IVb of the Lleida-Martorell section; track assembly between Calatayud and Zaragoza.



Spain

Corredor Mediterráneo

Railway line

- **Length of infrastructure executed:** 13,2 kilometers
- **Length of superstructure executed:** 79,38 kilometers
- **Length of Tunnels:** 3,9 kilometers
- **Length of Viaducts:** 0,725 kilometers.
- **Individual Projects:** Benicassim - Oropesa civils (15 kilometers), Vandellós - Tarragona track assembly (70 kilometers).



Spain

Arterial railway to Palencia

- **Length of civils infrastructure and superstructure executed:** 10.1 kilometers.
- **Total length of viaducts:** 0.1 kilometers.
- **Length of track assembly:** 13.5 kilometers.
- Improves the Palencia rail connection, creating links with the north and centre of the country.



Spain

Madrid - Valladolid

High Speed Line

- **Length of infrastructure and superstructure executed:** 99 kilometers.
- **Tunnels length:** 38.5 kilometers. Double tube.
- **Viaduct length:** 2 kilometers.
- **Singular projects:** Guadarrama Boca Norte Tunnel.
- The Guadarrama tunnel Project is remarkable. It is the eighth longest tunnel in the world and the fourth in Europe.



Spain

Zaragoza - Huesca

Railway Line

- **Length of civil infrastructure and superstructure built:** 34.5 kilometers.
- **Viaduct length:** 1.5 kilometers.
- **Individual Projects:** Complete railway section Zaragoza - Huesca.



Spain

Zaragoza - Teruel

Railway Line

The project consisted of the line upgrading between the Villafranca del Campo and Cella stations with a length of 27 kilometers.

It included the execution of a 66-meter viaduct as well as 13 overpasses and 3 underpasses, eliminating all level crossings.

Sagunto - Zaragoza line. Adaptation project for the railway line between Sagunto and Teruel for the circulation of 750 meters long freight trains.



Madrid - Levante

High Speed Line

- **Length of infrastructure executed:** 24 kilometers of civil works.
- **Length of superstructure executed:** 116 kilometers.
- **Tunnels length:** 53.2 kilometers.
- **Total length of viaducts:** 3.4 kilometers.
- **Length of road mounted:** 116 kilometers.
- Individual projects: Siete Aguas - Buñol; section Villena - Sax stretch, and Alberquerías - Cartagena section. The Siete Aguas-Buñol stretch was bored with TBM, beating several times the excavation world record.



Spain

Madrid - Extremadura High Speed Line

- **Length of infrastructure and superstructure executed:** 12.67 kilometers.
- **Total length of viaducts:** 3.05 kilometers.
- **Individual Projects:** Alcántara Reservoir - Garrovillas and Arroyo de la Charca - Grimaldo sections.
- The Alcántara - Garrovillas section presents the Almonte viaduct. Once built, it became the largest concrete arch railway viaduct, and the third largest bridge (for railway and roads) worldwide, with a lower concrete arch of 384 meters long span.



Madrid - Sevilla

High Speed Line

- **Length constructed:** 80.8 kilometers.
- **Individual Projects:** Ciudad Real - Brazatortas. **FCC executed four sections:** Alcodea - Adamuz, Guadajoz - Majarique, Ciudad Real - Puertollano and Almodóvar - Lora del Río.
- **It constitutes the first high-speed line built in Spain.**



Spain

Sevilla - Cádiz

Railway Line

- **Length of civil infrastructure executed:** 17.5 kilometers.
- **Length of superstructure executed:** 17.5 kilometers.
- **Viaduct length:** 0.8 kilometers.
- **Individual Projects:** Jerez Norte.
- It is a key railway line in the connections and railway network of Andalucía (Spain).



Spain

Córdoba - Málaga

High Speed Line

- **Length of Civils infrastructure:** 2.66 kilometers.
- **Tunnels length:** 2.43 kilometers.
- **Individual projects:** Cártama tunnel.



Spain

Murcia - Almería

Railway Line

- **Length of civil infrastructure and superstructure:** 46.97 kilometers.
- **Tunnels length:** 15.74 kilometers.
- **Viaduct length:** 5.14 kilometers. 16 viaducts stand out on the Nijar - Andarax River section (5 kilometers of viaducts).
- **Individual projects:** Alhama - Totana; Sorbas -Barranco de los Gafarillos; Totana - Lorca and Nijar -Andarax River. The Sorbas tunnel has become the longest in Andalusia.



Madrid, Spain

Atocha Station

The work consisted of the demolition of the old building and the subsequent construction of the Atocha Station. This included the new High Speed lines, which made it the first station in Spain to be constructed on a live line. The project also included rail assembly works for the 15 existing tracks.



Madrid, Spain

Puerta del Sol - **Gran Vía** Station

It is a multimodal station, designed by architect Antonio Fernández Alba, located under the central Puerta del Sol in Madrid.

At this station, lines 1, 2 and 3 are for the Madrid Metro and C-3 and C-4 for the Cercanías Madrid network converge.



Madrid, Spain

Transport interchange station **Moncloa**

The station compose both lines 3 and 6 of Madrid Metro and proximity bus terminal creating a transport communications node.

This station hosts much of the interurban transport in the northwest area of Madrid.



Girona, Spain

Girona

High Speed Station

This station that stands out for its dimensions; designed with 450 meters long and double composition platforms.

It includes two underground levels in anticipation of future station development.



Zaragoza, Spain

Delicias

High Speed Station

It is the sixth busiest station in Spain for number of travellers. The station has become an important connection node within the Madrid - Barcelona High Speed Line. **This station constitutes the largest covered space without piers in Spain.**



Sevilla, Spain

Santa Justa

High speed station

The station, opened in 1992; consists of 12 tracks to serve the Madrid - Seville high-speed line. **The Santa Justa station is the first passenger terminal built for the first high-speed line in Spain**



Barcelona, Spain

Access to the Station **La Sagrera**

This project is developed in two sections, one at the entrance of the future AVE station and another at the station exit.

The total length covered by this is 2,500 meters. The platforms for all the routes that enter and leave the station were constructed, as well as the railway superstructure for the conventional width tracks.



Pontevedra, Spain

Vigo - Urzaiz

High speed station

The new station is in the same location as the old station. This project included the execution of civil works at the railway yard level of roads, building, urbanization and the railway superstructure.



Madrid, Spain

Connection between stations Atocha - **Chamartín**

Connection between Atocha and Chamartín stations, to service High Speed trains. This stretch of new dual track iberian and international width track, has a mined tunnel 6,900 meters long executed with an EPB TBM and cut and cover 120 meters long tunnel executed with diaphragm walls. The project also includes the execution of the road and the remodeling of teh new tracks layout of the Southern head of Chamartin station.



Madrid, Spain

Renewing Stations **Metro Madrid**

The renewing of the Madrid Metro stations in Suanzes (Line 5), Pavones (Line 9) has been carried out and the remodeling of the Prosperidad, Esperanza and Arturo Soria stations on line 4 is currently underway.

These works consist of the modernization of the architecture and facilities of the stations.



Madrid, Spain

Line 8 Metro Barajas - **Terminal 4**

The works consisted of the extension of metro line 8 from the Barajas station to the new T-4 airport terminal. For this purpose, 2 tunnel sections with a total length of 2.5 kilometers were constructed next to the terminal building.



Madrid, Spain

Line 2 Las Rosas **Madrid Metro**

Design and construction of the extension of the new section of line 2 of the Madrid Metro, with a total length of 4,107 meters and in which 4 stations were built.

This infrastructure resulted in an improvement of the connections serving a population of over 65,000 inhabitants.



Madrid, Spain

Extension Line 10 Metro Madrid to Metrosur

Modernization of line 10 in Madrid Metro. The project involves the modernization of the existing line to adapt it for the circulation of longer, wider trains, in order to achieve an increase in transport capacity.

Extension of line 10 of the Madrid Metro to Metrosur. Section 1A: Colonia Jardín y Cuatro Vientos. The extension of Line 10 is planned to connect the first and second metropolitan crowns of the Southwest of Madrid with the centre and north of the capital. The layout has a total length of 3,130 meters.



Madrid, Spain

Extension to the Campo
de las Naciones

Line 8 Metro Madrid

Extension of line 8, Mar de Cristal - Campo de las Naciones to Barajas airport and Barajas neighbourhood. A double track tunnel has been built, with a total length of 5,347 meters. This tunnel has been constructed with two earth pressure balance machines (EPB). The machines, in their excavation, passed under an artificial lake and some building, without settlements being produced.

The project also included the construction of two new stations, Barajas and Aeropuerto.



Madrid, Spain

Extension to the line 3 of Metro between Legazpi and Villaverde

This is the first metro project in Madrid in which two TBMs begin working at the same point. The works are framed within the extension of Line 3 of the Madrid Metro with a total length of 8,704 meters.

The project also included the construction of 7 new stations, an interchange station and the reconstruction of the Legazpi station.



Renewal of the line Mérida - **Puerto Llano**

Section Cabeza del Buey -
Castuera

35 kilometers in length. The following actions have been carried out: renovation of the track superstructure, the construction of main walls, fender and reinforcement walls, improvements to the track gauges, as well as removal and replacement of affected elements in the security and communication facilities.



Spain

Railway

maintenance

Convensa is currently participating in the maintenance of more than 7,000 kilometers of different types of railway lines, being able to face all the emergency actions and complementary works required by our clients. Convensa is responsible as well for the maintenance of 50% of the Madrid Metro network infrastructure.



Portugal

Track renewal between
**Covilhã and
Guarda**
de la linha da Beira Alta

Integral renovation of a 35 kilometers long track.
The project included the upgrading of bridges and tunnels and the
renewal of the tracks, overhead line and the implementation of a
new signalling system.

WE ARE FCC



More than 1,000 kilometers of tunnels



More than 10,000 kilometers of highways



More than 3,500 kilometers of railways (1,500 kilometers of high speed and 450 kilometers of metro)



More than 5,500,000 square meters of airport runways



More than 2,500,000 square meters of airport terminals



60 kilometers of dykes and 50 kilometers of docks



130,000 homes built
More than 40 million square meters of non-residential building



More than 3,000 kilometers of gas and oil pipelines



More than 20,000 kilometers of water pipe



More than 110 water treatment plants



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