
Railway
projects
Convensa



Railway projects

bringing people closer

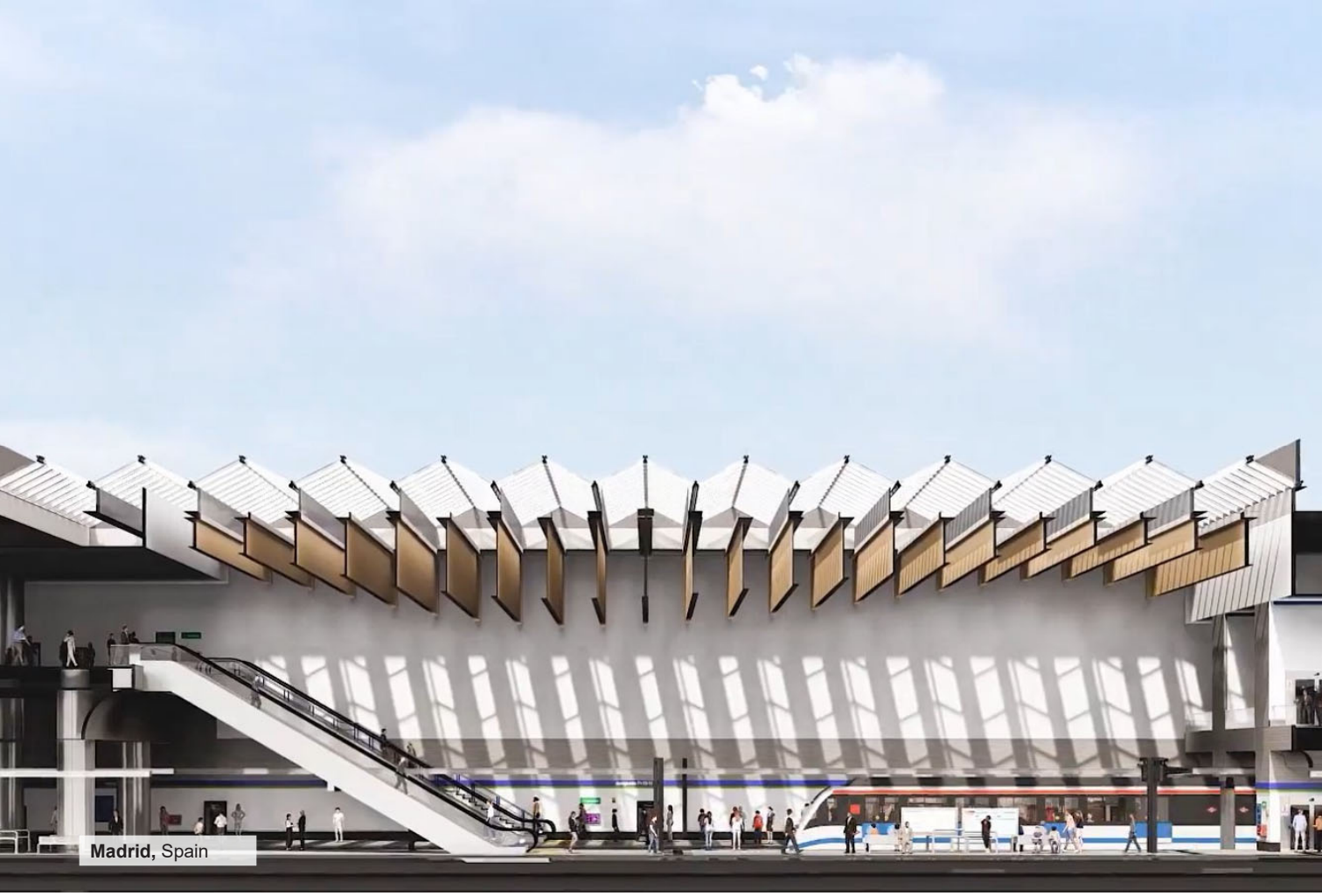
Convensa, Contratas y Ventas is an FCC subsidary company which specialises in the execution of railway works.

Convensa has extensive experience of more **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.



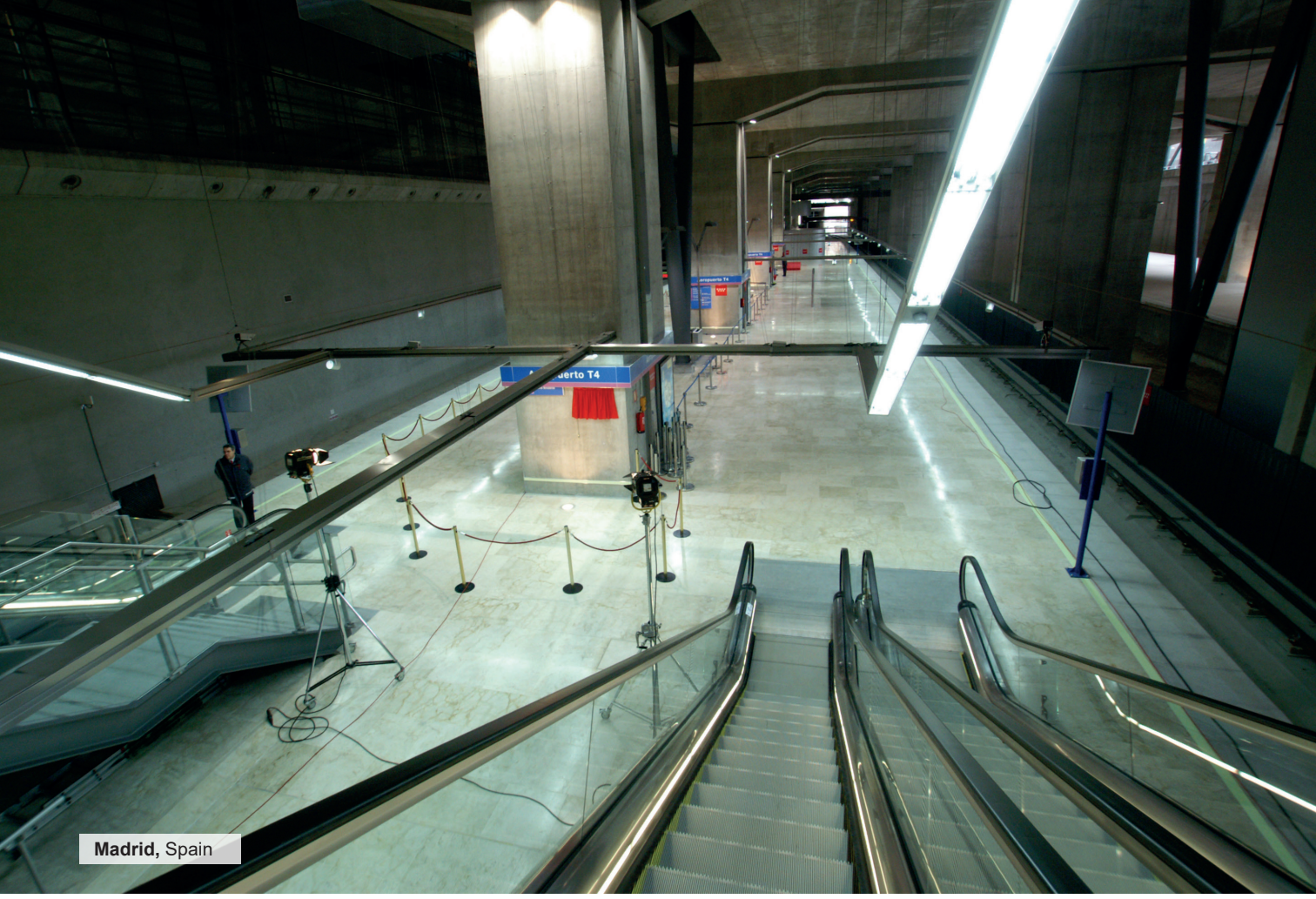
Madrid Metro

Line 5 **extension**

(Works on-going)

Extension of Metro Madrid Line 5 comprising double track tunnel, slab track installation, overhead catenary system and signaling over 1,7km of alignment, including also permanent shafts for emergency evacuation, ventilation and temporary access. Construction of interchange station with Line 8 at Terminals 1-2-3 Adolfo Suarez Madrid Airport including all civil works and MEP systems.

Contract commencement in May 2025 with 30 months for completion and 180m€ budget.



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

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 settements being produced.

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



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 Jardin 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 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.



Porto
Metro
Rubí Line

(Works on-going)

Rubí Line of the Porto Metro. New metro line of 6.3 kilometers. It includes the construction of eight stations, a car park for 500 vehicles, connection with the Devesas railway station, the construction of several viaducts and subways, including the construction of the new "Ferreirinha" bridge over the Douro River.



High
Speed Line
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 - Rialiño and Padrón - Santiago.



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-Campobecerros and Amoeiro-Carballiño.
- **Track assembly:** Campobecerros-Taboadela and O Irixo- Santiago.



New
High Speed Line
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...



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.



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 and Atocha-Chamartín tunnels.
- The Guadarrama tunnel Project is remarkable. It is the eighth longest tunnel in the world and the fourth in Europe.



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 Alquerías-Cartagena section. The Cabrera tunnel, in the Siete Aguas-Buñol strech, was bored with TBM, beating several times the excavation world record.



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 Alcantara - 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 spam.



Madrid - **Sevilla**
High Speed Line

- It constitutes the first high-speed line built in Spain.
- FCC executed 80.8 km in four sections: Alcolea -Adamuz, Guadajoz - Majarabique, Ciudad Real - Puertollano and Almodóvar – Lora del Río.

The signalling screens have been replaced on the Brazatortas-Seville Santa-Justa Station section, and work is currently underway on the complete improvement of the Guadalmez-Cordoba section, the renewal of 112 track devices and more than 123,000 sleepers at different points along the route.



Sevilla - **Cádiz**
High Speed 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 Andalucia (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**

High speed railway

- **Length of civil infrastructure and superstructure:** 56,9 km, with 15,7 km of tunnels length and 8,3 km of viaducts length.
- **Individual projects:** Alhama – Totana section, Sorbas - Barranco de los Gafarillos section, Totana – Totana section, Totana-Lorca section and Níjar – Río Andarax section (these last three in execution). The Sorbas tunnel became the longest tunnel in Andalusia after its construction.



Valladolid
arterial rail **network**

- Remodelling of the existing arterial railway network through the construction of a 17.4 km bypass which serves to the projected railway complex, including electrification.
- A freight terminal at this complex will be built too.



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).



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.



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.



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, Spain

Metro de Marid renovation

Line 1

Sol - Atocha

Sustitución de la superestructura de vía actual de balasto y traviesas, y de plataforma de hormigón con taco elástico y rígido, por vía en placa, optimizando el trazado y la geometría y mejorando el sistema de drenaje y los sistemas de atenuación de ruido y vibraciones.



Madrid, Spain

Renewing
Stations
Metro Madrid

The renewing of the Madrid Metro stations in Suanzes (Line 5), Pavones (Line 9) and Prosperidad, Esperanza and Arturo Soria (Line 4).

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



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.



Puerta del Sol - **Gran Vía**
Station

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

Lines 1, 2 and 3 of the Madrid Metro and C-3 and C-4 of the commuter Madrid network converge at this station.

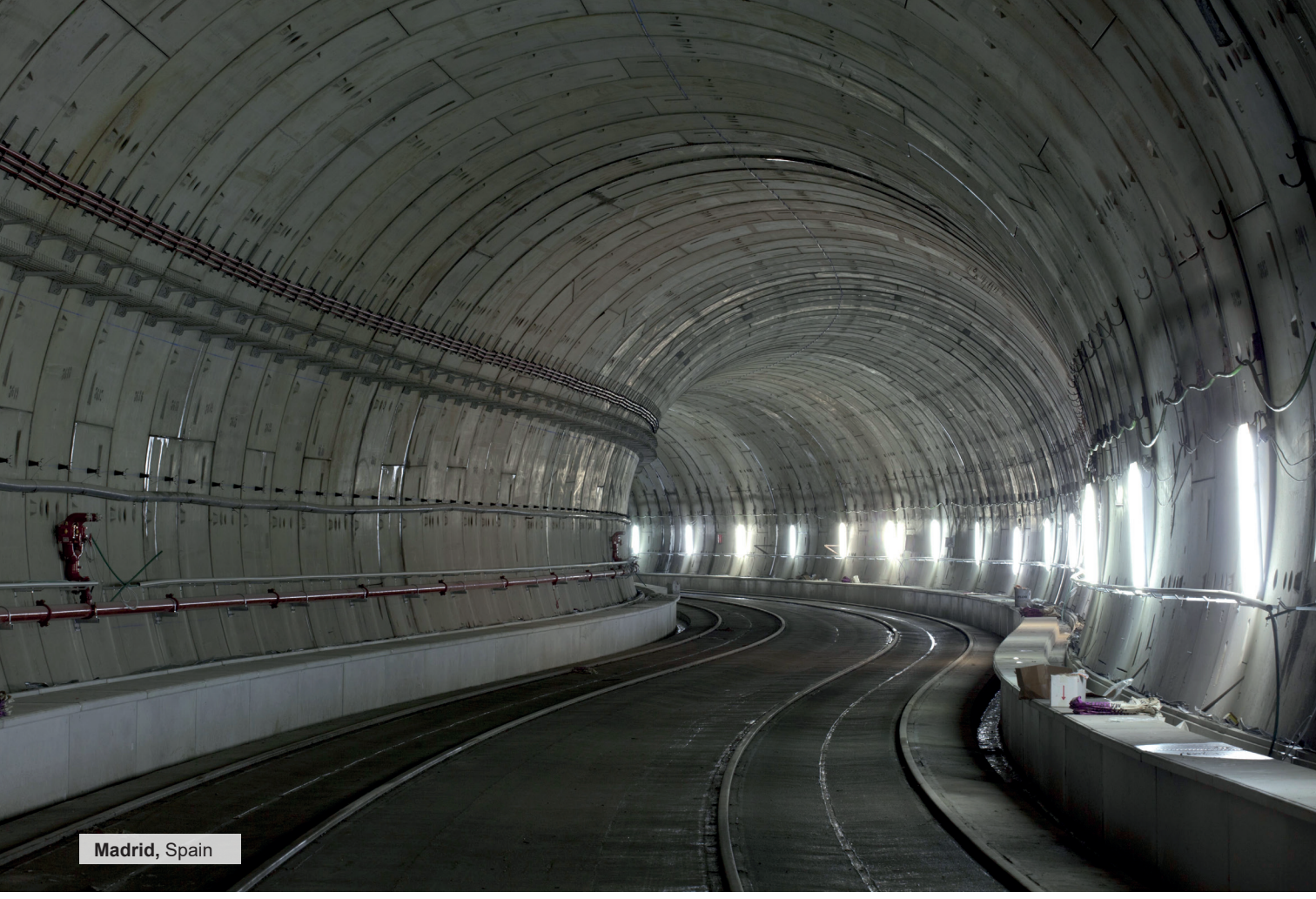
A Project is currently underway to improve evacuation and ventilation conditions in the event of fire at the Sol underground commuter train station.



Madrid, Spain

Atocha
Station

The work consisted of the demolition of the old building and the subsequent construction of the Atocha Station, wich included the new High Speed lines. This has made it Spain's leading station in terms of passenger traffic. The Project also included rail assembly works for the 15 existing tracks.



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.



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**



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.

The main works contract has been complemented by three new contracts, one for the assembly and commissioning of the high-speed tracks, and two contracts for the architecture and installations of the technical train treatment area.



Pontevedra, Spain

New Vigo - **Urzaiz**

Station

The project involves the first phase of the New Vigo-Urzaiz Station.

Main works:

- Demolition and dismantling of the existing station.
- Civil works at the level of the track bed (platform level) of the new station.
- Foundations of the passenger building on top of the track bed.
- Undergrounding by means of an artificial tunnel for road access to the station of 250 m .



Track duplication of the R-3

Barcelona **Vallés-La Garriga**

Duplication of a 17.44 km section to improve the local train service in the eastern Vallés area, including track assembly and electrification.

Construction of 9 viaducts, 7 overpasses, 9 subways, 28 walls, 7 sections of acoustic screens and 19 transversal drainage works.



Spain

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.



Renewal of

Ourense-Monforte

Line

Complete renovation of a 46 km section.

The activities carried out include the renewal of ballast, sleepers, rails, track devices and the adaptation of the tracks at the four stations on the section.



Renewal of the Asturias metric gauge network

Gijón-Laviana

Section

Improvement of the existing superstructure on a stretch of 45.6 km by means of works on the platform, trenches and tunnels.

- Replacement of rail on 54 km and sleepers on 44.5 km.
- Renewal of track superstructure at line stations (5.9 km).
- Replacement of 14 track devices.



Spain

Renewal of the line Barcelona to Maçanet via Mataró

Blanes **Station**

Renewal of tracks 3 and 5 and replacement of 8 turnouts at Blanes Station, including electrification.



Spain

Renewal in the metric gauge network

Line 790 y 740

790 Line: La Asunción (León)-Guardo (Palencia) section.
740 Line: Ferrol-Ortigueira (A Coruña) section.

Adequacy of the rail yard at stations as a result of the removal of telephone blocks, including renewal and reconfiguration of tracks, track devices, platforms and drainage.



Spain

Mediterranean Corridor
Roda de Bará Tunnel

Adaptation of the Roda de Bará tunnel section for the implementation of standard gauge. This includes the readjustment of the section for the new gauges and the implementation of slab track, the structural repair of the tunnel due to the significant problems of leaks, damp and existing surges, and the installation of an efficient drainage system.



Implementation of standard gauge

Mediterranean **Corridor**

Castellbisbal-Murcia section. Castellón-Vinaroz subsection.
Installation of standard gauge double track on a 77.5 km section, as well as on the railway sidings of the 8 stations on the section.

- Replacement of 70,000 monovalent sleepers with polyvalent sleepers.
- Replacement of 85 track devices.
- Demolition of approximately 2.5 km of different types of ballastless track.



Spain

Implementation of standard gauge

Mediterranean **Corridor**

Conversion to mixed or standard gauge of some tracks at Valencia Nord Station.

- Adaptation of tracks to mixed gauge and conversion of tracks to international gauge.
- Assembly of 14 track devices.
- Adaptation of drainage, electrification, railway installations, services and auxiliary installations to the new track configuration.



Integral remodelling of

Fuente San Luis

Station

Renewal and/or adaptation to mixed gauge of the existing track superstructure on the general track which does not yet have it and on a large part of the rail yard, and adaptation of drainage, electrification, railway installations, services and auxiliary installations to the new track configuration.



Spain

Railway

maintenance

Convensa is currently participating in the maintenance of more than 11,000 kilometers of different types of railway lines, being able to face all the emergency actions and complementary works required by our clients.

The contracts include 8,800 km of conventional and metric gauge lines, 2,162 km of high speed lines, as well as almost 100 km of track infrastructure maintenance on the Metro de Madrid network, representing 35% of the total network.



Portugal

Adaptation of the Mondego mobility system

Mondego

Coimbra

Adaptation to a BRT solution (metrobus). Coimbra B-Portagem section.

A 1843 m long channel for the Metrobus is being built, mainly using the existing railway platform.
In a parallel project, the material park and offices of the Mondego mobility system are also being built.



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, ovrhead line and the implementation of a new signalling system.



Track renovation between Pinhão-Tua

Pinhão-Tua **of the Douro Line**

Complete renovation of a 12.5 km long section by replacing the rail, wooden sleepers, the respective fastenings and the ballast. In addition, a new track gradient was implemented and new drainage works were carried out at several points.



Portugal

Renewal of the
via the
Linha do Oeste

Two sections: Torres Vedras – Caldas da Rainha y Mira Sintra- Meleças – Torres Vedras.

The sum of both projects means the renovation of 55.9 km. The most important activities include the rehabilitation of the platform, optimising the geometry of the layout, the reorganisation of level crossings, the creation of 16 km of active turnouts, electrification, and the installation of signalling, telecommunications and GSM-R.

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

Convensa

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