

Picture of the month



Movable formwork used to install precast segments in span 1 of the Despeñaperros Viaduct. A-4.

Current events

- ▶ The www.fccco.es web page saw more visitors in 2008
- ▶ The magic box enters the home stretch

ALPINE

- ▶ ALPINE links Germany and Poland
- ▶ ALPINE sponsors an Austrian music event in Beijing
- ▶ Participation in Klagenfurt's Long Night of Research

Projects under way

- ▶ Despeñaperros Viaduct

Contract Awards

- ▶ Twinning the AS-17 from Avilés to Puerto de Tarna. Asturias
- ▶ Goián junction, A Guarda junction, Pontevedra
- ▶ Harbour construction in Cuyutlán, Manzanillo, Colima, Mexico
- ▶ Torre Zero Zero in Barcelona

Other contract awards

- ▶ 184 housing units in Fuenlabrada and 114 in Montecarmelo.
- ▶ 106 publicly sponsored housing units for Empresa Municipal de Gestión Inmobiliaria de Alcorcón (EMGIASA).
- ▶ Modernisation of the Beira Baixa railway line between Castelo Branco and Vale de Prazeres, Portugal, awarded to a Ramalho Rosa Cobetar joint venture for 26.3 million euro.
- ▶ Construction of the structure of an El Corte Inglés shopping centre in Tarragona, ISO.
- ▶ Miscellaneous jobs at Galp's refinery in Sines, Portugal, which will be done by Ramalho Rosa Cobetar and ISO.
- ▶ Construction of the Las Lajas and Rogelio Sinán mains, in Panama, under a 10.7-million-euro contract won by M&S.
- ▶ Auxiliar de Pipe Lines (APL) has signed the contract to twin a gas pipeline in El Campo de Gibraltar for ENAGAS.

Finished projects

- ▶ The newly enlarged Alanís/Guadacanal road is opened.
- ▶ Two new sections of the A-50: Peñalba de Ávila to San Pedro del Arroyo; Narros del Castillo to Peñaranda de Bracamonte.



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CSR

- ▶ Contribution to AENOR's master's degree in sustainability
- ▶ LABoral Foundation shows *There is no road*

Events

- ▶ Breakthrough on the Luceros Station Tunnel in Alicante
- ▶ Official visit to Barcelona Airport

Contributions

- ▶ Fifth course on health and safety in tunnel construction
- ▶ FCC Construcción participates in Orbit 2008

FCC Construcción wins the contract to twin the AS-17 from Avilés to Puerto de Tarna, Asturias

The Principality of Asturias' Department of Infrastructure, Land Policy and Housing has awarded an FCC joint venture the contract to twin road AS-17 from Avilés to Puerto de Tarna, Asturias. The contract is worth 34.6 million euro, and the completion period is 27 months.

The plan is to take advantage of the existing road to twin the 4.7 kilometre-long section for its eventual conversion into a dual carriageway. The job includes the construction of nine structures.

FCC to handle harbour construction in Cuyutlán, Mexico



Map of the harbour in Cuyutlán.

contract for harbour construction in Cuyutlán, Manzanillo, in the state of Colima, Mexico, for 22 million euro. The job has a 26-month completion period.

The work consists in building two 350-metre-long jetties. The core of each jetty is made of quarry run and covered by a layer of riprap and concrete blocks.

The Office of the Secretary of Communications and Transport of the Central Mexican Government has awarded FCC a

Manzanillo Harbour is a natural entry and departure point for goods shipments. Its area of influence spans 16 states, which together account for 64% of the GDP.

The Goián and A Guarda junctions in Pontevedra will be built by FCC

Sociedad Pública de Invetimentos (SPI), a company owned by the Xunta (regional government) of Galicia, has chosen FCC to build section III of the high-capacity road between Tuy and A Guarda. The 10-kilometre-long section, which includes the Goián and A Guarda junctions in Pontevedra, is worth 34 million euro and has a 23-month completion period.

The contract covers the construction of the roadway for one direction of traffic only, although preparations for the second roadway (to be built in a later phase) are included. FCC will build a 900-metre-long viaduct over the Tamuxe River, two cut-and-cover tunnels, five flyovers and three underpasses.

Torre Zero Zero on the Diagonal, Barcelona

FCC will be building the Torre Zero Zero skyscraper on Calle Diagonal for the Zona Franca of Barcelona, for 21 million euro in a 15-month completion period.

The contract is for the structure and the above-ground architecture of a 24-story building with 34,000 m² of floor area for office use.

inner core made of concrete, which will absorb horizontal thrust and will contain the communications systems (stairs, lifts, yards for machinery and services). Then there is the façade's structure, comprising a double set of parts: the vertical supports for the inner façade and the tilted components of the outer façade, which act together through the unions expertly arrayed along the floor levels.

Standing 118 metres tall, the building has a structural scheme based on a double vertical system of pipes. There is the

New roadway at Despeñaperros Pass



Advance drilling of Despeñaperros Tunnel with Jumbo.

The designed construction on the A-4's Despeñaperros relief road includes a double roadway on a new layout for the 9.4-kilometre-long section stretching from Santa Elena to Venta de Cárdenas, which will pick up both northbound (Seville-Madrid) traffic and southbound (Madrid-Seville) traffic.

Practically the entire layout runs through mountainous terrain inside Despeñaperros Natural Park. These two circumstances (difficult terrain and the park) mean that the new road consists of a string of viaducts and tunnels. Together the two roadways feature a total of 12 viaducts (10 of which are made with precast segments) and five tunnels.

Viaduct construction using precast segments hung from movable formwork.

The job calls for ten viaducts built using the system of precast segments mounted span by span with external pretensioning, and 156 to 580 metres in length. The "span-by-span" viaduct deck construction system is used for isostatic decks built of segments with 45- or 39-metre spans, with a box-shaped cross-section measuring three metres along the edge and 13.6 metres wide.

The segments are manufactured in an industrialised plant using the match-cast segment method. They are 12.10 metres wide and three metres long.

The deck is assembled from above with movable formwork from which all the segments of the span are hung in their final position. Next, the external post-tensioning is applied and the formwork is removed.

Afterwards, auxiliary formwork is applied to build the deck out to its full definitive width and create the barriers.

Estimate: €191,447,877.55

Completion period: Start: October 2004. End: January 2012

Team

Department head: Juan Diego Romero Martínez

Construction manager: Pedro Carlos Vega Jorge

Technical office chief: Ignacio Ferraro Santiago

Head surveyor: Jose Francisco Montoro Aguilar

Structure chief: María Cruz Molina Paris

Administrative head: Manuel Cobo Olvera

The newly enlarged Alanís/Guadalcanal road is opened



Aerial view of the new road.

Luis García Garrido, head of Public Works and Transport, presided over the ribbon cutting on road A-432 (formerly A-433) between the Seville towns of Alanís and Guadalcanal. FCC built the road for the Andalucía Department of Public Works and Transport for 7.6 million euro.

This particular road covers the ten kilometres between the towns of Alanís and Guadalcanal, and it is situated inside the Sierra Norte de Sevilla Natural Park. The work consisted in building a new road between the two localities based on the old layout, which has been improved in both plan and elevation.

This project has made it possible to widen the road to six metres with one lane in each direction and one-metre verges, and to straighten out curves and reduce steep grades, thus considerably improving safety on this road in the Sierra Norte de Sevilla. During the improvement work, a traditional livestock trail, the Vereda de Guadalcanal, which runs parallel to the road, was also restored, and an 82-metre-long bridge

was thrown across the Ribera de Benalija and the Cañada Real de las Merinas. Between kilometre points 4+500 and 5+500 a slow vehicle lane was added.

Close to the bridge an intersection with road SE-9102 to Malcocinado, Badajoz, was built, with turning lanes and the appropriate acceleration and deceleration lanes. In addition, a one-kilometre-long slow vehicle lane was installed in one section with a 4.17% grade, to complement the lanes recently built between Cantillana and El Pedroso and between El Pedroso and Cazalla.

Controlled blasting had to be done at the main points of rock removal, because the limestone there was extremely hard. The protected species *Prunus insistitia* was transplanted.

Now that the road has been opened to traffic, work to restore the local landscape will begin. Plans are for the parts of the road that have fallen into disuse between the old layout and the new to be removed, some areas to be replanted and a rest area to be built.

Basic information

Job name: Improvement of Road A-432 (currently A-433)
Section: Alanís to Guadalcanal
Budget: 7,627,335 (including VAT)
Developer: Council of Andalucía Public Works and Transport Department
Builder: FCC Construcción
Consultancy: Proser
Quality control: Euroconsult

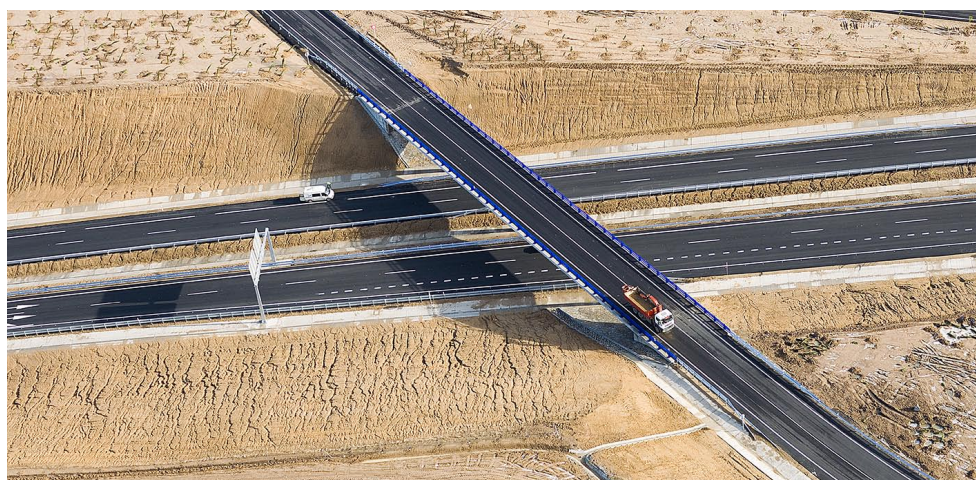
Team

Designer: Diego Palomares Moreno
Project manager: César Blanco de Córdoba del Rosal
Architectural supervisor: Manuel González Moles (UTE Geotécnica del Sur-UG21)
Construction manager: Christian R. Campanero y Castilla

FCC finishes two sections of dual carriageway A-50 from Ávila to Salamanca

Since late December the A-50 dual carriageway between Ávila and Salamanca has acquired two more sections after the opening of an additional 20 kilometres to traffic. These 20 kilometres belong to the 9.2-kilometre section between Peñalba de Ávila and San Pedro del Arroyo and the 11.6-kilometre section between Salamanca's Peñaranda de Bracamonte and Ávila's Narros de Castillo.

Section: Peñalba de Ávila to San Pedro del Arroyo



Peñalba/Berlanas junction.

This work consisted in a section of dual carriageway A-50 between the towns of Peñalba de Ávila and San Pedro del Arroyo.

The road runs at quite a distance from road N-501, a full five kilometres, coming 350 metres closer to regional road AV-804, so as to give a wide enough berth to the Special Bird Protection Zone of Los Encinares del Adaja y del Voltoya.

The layout is 9.16 kilometres long and the design speed of the road is 120 km/h. The road has got two lanes of traffic in each direction (3.5-metre-wide lanes), 2.5-metre-wide outer verges and one-metre-wide inner verges, with a ten-metre-wide central reserve between roadway edges. Five central reserve gaps are included.

The layout includes a trumpet junction with four slip roads at the localities of Peñalba and Las Berlanas, connecting the dual carriageway to road AV-804.

To ensure cross-road drainage and to integrate the road into its surroundings, different wide-span structures were built over the streams criss-crossing the route. Two such structures are the 180-metre-long Las Berlanas Viaduct and the 160-metre-long Cárcava-Cardiel Viaduct. Both are made of concrete cast on site with post-tensioned hollow-core slabs. Their pile heights range between 5.4 and 15.30 metres, and their foundations are built on the caps of piles sunk to a depth of over 30 metres. Also three bridges of precast double-T beams have been built over streams; five flyovers made of post-tensioned concrete have been built using the integral bridge system; and four underpasses made of reinforced concrete frames cast on site have been built, to accommodate the different roads that cross the A-50.

- Budget:** 26.8 million euro
- Period:** 31 months
- Length:** 9.16 km
- Environmental protection activities:** 927,060 euro

Significant volumes

- Excavation:** 1.981.108 m³
- Embankments:** 1.431.528 m³
- Stabilised soil:** 364.920 m³
- Soil-cement:** 50.736 m³
- Artificial graded aggregate:** 68.739 m³
- Hot bituminous mixtures:** 97.416 m³
- Reinforced concrete:** 7.682 m³
- Steel rebar:** 3.951.362 Kg
- Pre-tensioned steel:** 169.788 Kg
- Precast beams:** 1.335 m

Site team

- Department head:** José María Quintanilla García
- Construction manager:** Millán Martín de la Torre-Velver
- Production chief:** Miguel Angel Blanco García y Fernando Sotos Alfaro
- Technical Office chief:** Ismael Segovia Pérez
- Foremen:** Joaquín Ferreras Ferreras, Manuel Corredera González and Fidel Cobo Alvarez

Section: Narros del Castillo to Peñaranda de Bracamonte

This section of the dual carriageway is a total of 11.673 kilometres long, and it stretches between the spots currently marked as kilometre points 40.000 and 51.400 on road N-501. Almost the entire section lies in the province of Ávila, although its end point does reach into the province of Salamanca, crossing the municipal areas of Narros del Castillo, Salvadiós, Gimialcón and Cantaracillo.

This project uses Salamanca as a hub to connect the Autovía del Noroeste dual carriageway (section from Madrid to Villacastín) and the motorway between Villacastín and Ávila with the Autovía de Castilla and Autovía de la Ruta de la Plata dual carriageways, thus helping to improve connections in the vast area between the central region of the peninsula and Portugal, through Salamanca.

The road has got two lanes of traffic in each direction (3.5-metre-wide lanes), 2.5-metre-wide outer verges and one-metre-wide inner verges, with a ten-metre-wide central reserve between roadway edges.

The road's design speed is 120 km/h. The layout is entirely new, and it includes the construction of the Narros del Castillo junction, which connects the A-50 dual carriageway with roads N-501, AV-P-627 and AV-800. At that junction, 0.9 kilometres of the N-501 and 0.4 kilometres of AV-800 have been resurfaced.

The following structures have been built:

- 10 flyovers (one structure for the Narros junction and nine over roads).
- Three viaducts crossing the Trabancos, Minine and Regamón Rivers.
- Five underpasses (two for lorries, two for streams and one for livestock).

The flyovers are built using a hollow-core slab of pre-tensioned concrete cast on site, with two 28.0-metre-long spans, with one pier in the central reserve. The viaducts consist in double-deck structures made of precast beams. The viaduct over the Trabancos River has a total length of 55.2 metres and three 18.4-metre spans.

The dual carriageway has got a rest area that can be reached



Dual carriageway, Narros del Castillo.

from the lanes travelling in either direction, and it is equipped with a car park and a recreation and rest area.

The work includes restoring traditional livestock trails Vereda del Camino Viejo de Ávila, Colada de Salvadiós and Cañada Real Monstrenca (also called Cañada Real de Extremadura).

Budget: 29.9 million euro
Completion period: 31 months
Length: 11.673 km
Total environmental investment: 1 million euro

Significant volumes

Excavation: 1.450.000 m³
Embankments: 830.000 m³
Graded area: 336.000 m³
Soil-cement: 45.000 m³
Hot bituminous mixtures: 133.000 Tn
Structural concrete: 12.800 m³
Passive steel: 1.300.000 Kg
Pre-tensioned steel: 89.000 Kg

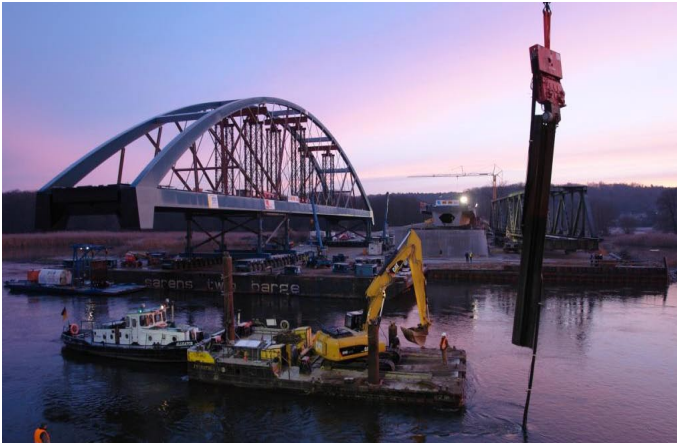
Site team

Department head: José María Quintanilla García
Construction manager: Carlos Rozas Labrador
Production chiefs: Aurelio Rodríguez García and Alfredo Escobar Potenciano
Technical Office chief: Juan Carlos Arroyo Arroyo
Head surveyor: Manuel Payo Santos
Security chief: Rafael Fernández Villa
Foremen: Alejandro Fernández Álvarez, Félix Arribas Casado and Olegario Martínez Rodríguez

In compliance with the project's Environmental Impact Statement, all slopes and the junction areas and areas adjacent to the dual carriageway have been provided with plant coverage via hydroseeding and plantings of native trees and shrubs.

ALPINE links Germany and Poland

The new Oder Bridge has been completed in a record ten months with a budget of 18 million euro



Assembling the bridge.

The original bridge raised in 1870 was rebuilt in 1953 after being bombed during World War II. In recent years the amount of traffic crossing it was limited due to the bridge's poor condition. Fixing this connection between Germany and Poland could no longer be put off.

The bridge was finished in a record time of only ten months and was closed to traffic for only two months. The ribbon cutting took place in December last in the presence of leading personalities from the political sphere.

ALPINE sponsors an Austrian music event in Beijing

ALPINE was one of the big sponsors of the gala music night hosted in Beijing by the charity organisation SOS Children's Villages of Austria to benefit Children's Villages of China. Together with the Austrian embassy and other companies, the organisers put together a great event, with a programme that included well-known Austrian performers such as Lydia Rathkolb (soprano), Sebastian Holecek (tenor) and Manfred Schiebel (pianist) of the Vienna Opera.

The evening turned out to be a great success and helped highlight ALPINE's social commitment.



Performers from left to right: Schiebel, Rathkolb, Holecek.

ALPINE participates in Klagenfurt's Long Night of Research

ALPINE joined the Long Night of Research, an event during which 54 projects belonging to the field of science and research were presented.



Container.

A container was made available to Klagenfurt's Alpen-Adria University as the stage for an experiment. A group of teenagers was selected from among those attending answered questions about various topics inside the Container.

The experiment showed the difference in the group's behaviour when they thought they were being filmed and when they believed nobody was watching them.

Breakthrough on the Luceros Station Tunnel in Alicante



View from Mercado Central Station at the moment when breakthrough was achieved. From left to right: Sonia Castedo, mayor of Alicante. Francisco Camps, president of the Generalitat Valenciana. José Joaquín Ripoll, president of the Alicante Council. Mario Flores, head of the Department of Infrastructure and Transport, Generalitat Valenciana.

On 12 December last the President of the Generalitat (regional government) of Valencia, Francisco Camps, visited the site where FCC Construcción, in a joint venture, is working on the Luceros/Mercado Central section of Phase One of the Alicante Tram System, which envisages the construction of the underground Luceros Station and the section of tunnel connecting this station with Mercado Central Station.

The president was accompanied by different prominent figures, including Mayor Sonia Castedo of Alicante and President José Joaquín Ripoll of the Alicante Council. They were all eyewitnesses to the breakthrough on the Luceros Tunnel and took note of the quality of the work being done and the progress made thus far.

The tunnel

This top-down cut-and-cover tunnel section has got the most ticklish layout of the entire Alicante light rail system, as it runs underneath Avenida Alfonso X el Sabio.

The work on the tunnel under Avenida Alfonso X el Sabio in Alicante, which began in November 2007, concluded with the demolition of the wall separating Mercado Central Station from the tunnel leading to Plaza de los Luceros.

This tunnel work began in late November last. The section to which it is now connected is a 30-metre-long segment of tunnel

that was completely finished as part of the Mercado Central Station work package. The Bernold system was used, which consists in applying concrete to a formwork made of metal trusses and plates that remain inside the concrete.

The entire tunnel between the two stations runs underneath the underground garage on Avenida de Alfonso X el Sabio. It is the biggest and most complex work of engineering tackled in Alicante's history, asserted Generalitat President Francisco Camps, who congratulated FCC Construcción on the job it had done.

The future trams will travel at a depth of 18 to 22 metres below the surface.

Luceros Station

Luceros Station occupies a symbolic location in the city of Alicante.

It is a 115-metre-long, 20-metre-wide station that has got a central platform. A two-level cross-section is created, where the top level holds the concourse and the bottom level holds the platform.

In order to get the work on the station's structure done, it was necessary to take down and then put back up the symbolic monument Los Luceros Fountain. Work on the station is scheduled to finalise by the end of the summer of 2009.

Team

Manager: Antonio Lahiguera López

Construction manager: Antonio J. Marco Avendaño

Production chief: Vicente Delgado Espinós

Technical office chief: Mario Martínez Gallardo

Tunnel foremen: Andrés Valcárcel y José Valcárcel

The Minister of Development visits Barcelona Airport's new terminal



The minister's visit to the new terminal at Barcelona Airport.

In late November the minister of Development, Magdalena Álvarez, together with Government Deputy Joan Rangel, the secretary of state for Transport, Fernando Palao, and the president and general manager of AENA, Encarnación Vivanco, visited the new terminal facilities at Barcelona Airport, which are being built by FCC.

The new terminal, which will be opened to traffic this year, has an area of 525,000 m² and will have a 600,000-m² aircraft parking apron. There will be 168 check-in counters, 50 fingers, 14 baggage claims and 12,000 parking spaces, which will enable Barcelona Airport to handle 55 million passengers and 90

operations per hour. The civil works on the new terminal, which are practically completed, come with a price tag of 900 million euro.

Commercial area

Concession holders will be starting work to set up their shops and food service businesses in the commercial area in late January. They are scheduled to finish work in March.

FCC contributes to AENOR's master's degree in sustainability

FCC Construcción has contributed to the master's degree in sustainability organised by AENOR in this, the degree's first year. This course of studies is designed for professionals who need to know the fundamentals of managing sustainable businesses.

Antonio Burgueño, manager of Quality, Environment and Training at FCC Construcción, participated in the module entitled "Sustainability Reports and Responsible Social Management" as part of a session exploring business success stories. There he shared FCC Construcción's environmental management system with students.



LABoral shows *There is no road*

The exhibit includes 26 pieces by fourteen artists who travelled through mountains, remote spots and other far-away locations.

In December LABoral Art and Industrial Creation Centre opened a show entitled *There Is No Road (The Road is Made by Walking)*, which will remain open until 16 March 2009. It is an exhibit of contemporary creation with moving-image pieces and pieces in other media, by fourteen international artists. Over half of the pieces are new work commissioned by the art centre.

Drawing inspiration from the famous verse by Antonio Machado, "Caminante, no hay camino" ("Walker, there is no road"), *There Is No Road* is a set of creative projects that record or evoke a series of real or imaginary journeys through the local Asturias landscape and other equally remote or mountainous lands.

There Is No Road is a show curated by Steven Bode, manager of Film & Video Umbrella, a London agency that is the main source of commissions for UK film and video artists.

As part of the complementary activities planned for the show, on the 6 and 7 of March 2009 a set of workshops entitled "Mountain Walks" will be held with Ibon Aranberri and Simon Pope, two of the artists who are participating in the show.

FCC Construcción is one of the founders of LABoral Art and Industrial Creation Centre, which arose from a project sponsored by the Government of the Principality of Asturias to

encourage the refurbishment and retrofitting of 14,338 m2 of floor space in part of what were originally the workshops of the former Universidad Laboral of Gijón.

LABoral is an exhibit centre specifically dedicated to art, science, technology and advanced visual industries, but it is also a place for artistic and technical research, education and production and a showcase for new forms of art and industrial creation.

For further information, please visit:
www.LABoralcentrodearte.org



Annabel Howland. Netherlands. Separated Flow (Between Mountains and Sea) (2008). Photographs Lutz & Guggisberg. Switzerland Population (2007). Sculpture.

The www.fccco.es web page saw more visitors in 2008



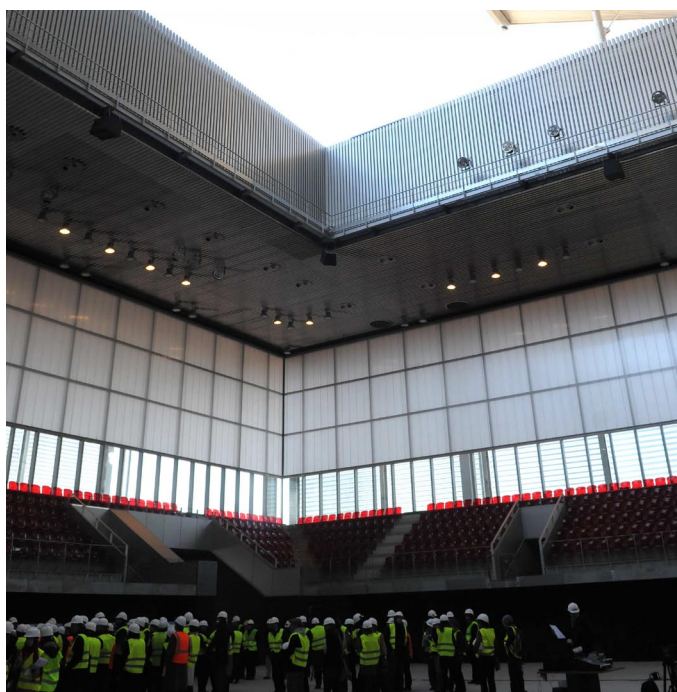
FCC Construcción's website, www.fccco.es, had 61.2% more hits in 2008 than in 2007, totalling over 85,000 hits per year. The number of different visitors grew as well, by 62.5%. Visit length also grew, with two- to five-minute visits increasing by 73.6% and five- to 15-minute visits increasing by 105%.

The site's weekly news updates, and the monthly bulletin, have made www.fccco.es a real must-visit place for construction sector professionals.

The company has established a clear, firm commitment to dialogue and information transparency with all groups. That is why it is constantly improving and updating its web page.

The Magic Box enters the home stretch

The mayor visits the construction site, where FCC is hard at work. The facilities will be opened for the first time in May with the men's and women's Tennis Masters Cup.



Stadium 3 with the roof open.

Madrid's mayor, Alberto Ruiz-Gallardón, visited the new facilities at the Magic Box, where world tennis stars will be competing in May next. The construction deadlines are being met on what, in the mayor's words, will be one of the "best-equipped athletic facilities in the world by the time it hosts the men's and women's Master Cup, a combined tournament that will definitely strengthen Madrid's standing as one of the major capitals of world tennis".

The mayor was accompanied on his visit by Manolo Santana, Arancha Sánchez-Vicario and Ion Tiriac. He praised the plans by architect Dominique Perrault, who has successfully blended avant-garde design with versatility and sustainability to produce a set of facilities that will be as valued for its functional nature (perfect for the athletic use the complex will be put to) as for its physical appearance, which will enshrine the Magic Box as one of the city's new icons. He also congratulated FCC Construcción on the work it is doing on this project.

Steel, wood and glass

The new facilities, made of steel, wood and glass, consist of two enclosed spaces, the Magic Box and Indoor Tennis, which together have a floor area of over 103,365 metres. The Magic Box holds three roofed stadiums, the players', referees' and press areas and food services. The innovative feature of these three stadiums are

their roll-back roofs, which can be recessed to free up the entire area of play, and the fact that the stadiums have a variable seating capacity that ranges from 12,000 in the largest stadium to 3,750 and 2,600 in the other two. Because the roofs can be recessed, three games can be played simultaneously even if it rains.

No other tennis tournament in the world offers such possibilities. Only the Australian Open has a court that can be covered up; the rest are still in the design stage and involve a single court only: Wimbledon has got such a court under construction, while Paris and New York are still weighing the options for their facilities.

During his visit, the mayor announced that two of the Magic Box's stadiums will bear the names of tennis players of acknowledged international prestige, Manuel Santana and Arancha Sánchez Vicario. Their athletic careers, their work to support and promote sport and their solidary attitude are the reasons given for doing them this homage.

The Indoor Tennis section will have 11 indoor courts (five with tiered seating for spectators and six for training) plus other equipment and services related with tennis. Outside another sixteen courts are being built, under the name of "the Tennis Garden". Twelve of these courts will be clay, two will be hard courts and the other two will be grass courts. There will also be plentiful parking.

New life for the surrounding area

"Another thing the Magic Box gives the city is its location, the San Fermín neighbourhood, in Usera. We're on the banks of the Manzanares River, at a site that used to be an environmental wreck. Now it's being transformed into a green space that is recovering the ecosystem of this natural area", declared Ruiz-Gallardón.

Because the Magic Box is in such an advanced stage of construction, Madrid 16 can be said to be no longer only a virtual candidacy, but a project that truly has the potential to become reality. This particular complex is part of one of the Olympic project's core areas, the oasis that stretches along the river's length, filling the Manzanares corridor with an array of athletic, cultural and leisure facilities.

Fifth course on health and safety in tunnel construction



FCC Construcción played an active part in the fifth course on health and safety in tunnel construction. This course, organised by STMR with the cooperation of the Professional Association of Civil Engineers and directed by Manuel Romana Ruiz and José Gascón y Marín Laguna, manager of Occupational Risk Prevention at FCC Construcción, took place on the 18 and 19 November.

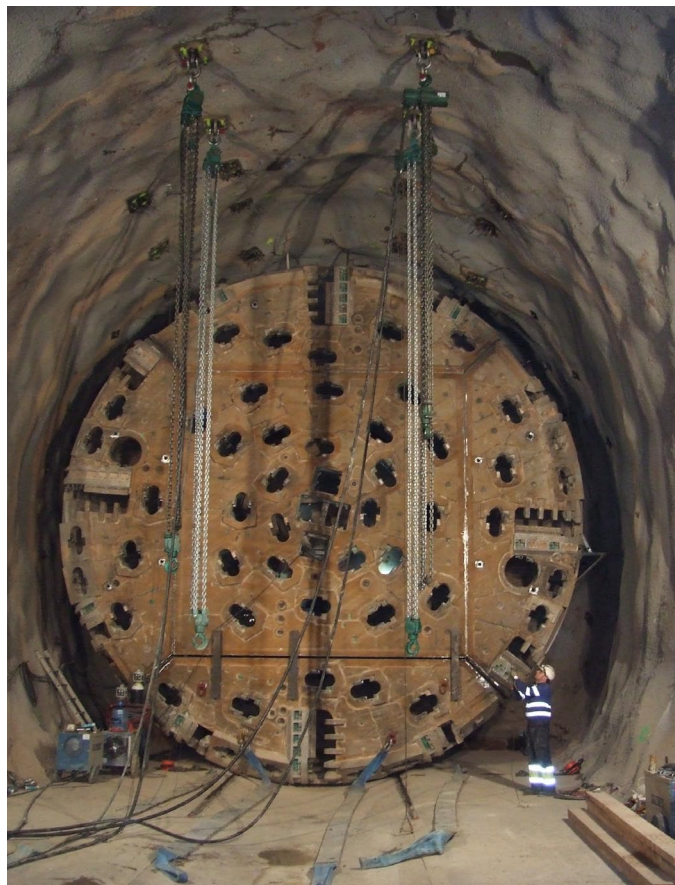
The programme boasted the participation of tunnel-building experts from government, private enterprise and universities, who addressed different aspects of tunnel construction, placing special emphasis on safety conditions for risk avoidance and advanced construction techniques that enable on-site working conditions to be improved. Training was looked at from a practical standpoint, for application at the site, and different

types of solutions currently being applied were reviewed.

FCC Construcción was one of the leading participants, giving a presentation on the primary features of La Cabrera Tunnel, on the Siete Aguas/Buñol section of the Madrid/Valencia high-speed railway line. The paper was prepared by the Machinery Service's Emilio López Sánchez and Andrés González Aguilar, who were responsible for the TBM at the site. The job was selected to showcase their experience because of the job's excellent conditions in terms of safety and general organisation, as seen by the course organisers.

The most significant points of the presentation dealt with anticipating specific safety and auxiliary measures, means for disassembly inside the tunnel and the specific working procedure for this job.

The presentation was greatly appreciated by its listeners, who showed a great deal of interest in the systems involved.



Siete Aguas/Buñol Tunnel.

ORBIT 2008



FCC Construcción participated in ORBIT 2008, "Moving Organic Waste Recycling Towards Resource Management and a Biobased Economy", the biggest European conference on organic waste recycling.

The Sixth Biannual International Conference ORBIT 2008 took place in October at Wageningen University and Research Centre in Holland, with 225 presentations and speakers from over 40 countries around the world.

One presentation at the encounter dealt with the findings of a research project entitled, "Treatment to Obtain Compost from Plant Waste in Areas Affected by Civil Works", carried out by Joan Dosta, Ricardo Torres and Joan Mata Álvarez of the Chemical Engineering Department of Barcelona University and Javier Ainchil, technical manager of Zones III and VI for FCC Construcción.

The aim of the mentioned research is to define a clean technology of organic substrate production necessary for the gardening of banks and zones urbanized in linear works, starting with the scrub cleared of at the beginning of the works execution. Likewise, the project is part of a technological macroproject of research, development and innovation called RETO (Reduction of Effects in the Territory caused by Works) that includes different lines of work in order to make use of marginal materials, waste from the sites and specific residues of other industrial activities.

The event was an occasion for exchanging views and experience and getting an update on trends and progress in the field of organic waste recycling.