

## SERVICES



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## SERVICES

## DEPARTMENT OF SERVICES

Citizen services, and especially environmental services, have been part of the company's core activities practically ever since FCC was founded over a hundred years ago. They account for 38.3% of the turnover and 64.9 % of the gross operating results.

FCC splits its service business into two areas:

- ▶ With urban sanitation, namely, solid urban waste collection, treatment and elimination, street cleaning, sewer system maintenance, the full water cycle, industrial waste management and park and garden upkeep.
- ▶ Versia, which coordinates all the business related with urban furniture maintenance, logistics operations, conservation and systems, airport services and industrial vehicle sales.



THE ENVIRONMENTAL SERVICES DIVISION PROVIDES SERVICES FOR 3,456 SPANISH CITIES AND TOWNS, HOME TO A POPULATION OF OVER

27.8 MILLION INHABITANTS.

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### Sector Analysis of environment in Spain

Last fiscal year a total of 339 tenders were awarded in the urban sanitation field, which covers the activities of solid waste collection and treatment, public street cleaning and sewer system maintenance. This figure was 24% lower than in 2010. The joint annual sum earmarked for urban sanitation tenders came to 593 million euros, as opposed to 2,243 million euros the year before. The big difference was because 2011 was an election year for local and regional governments, as we announced at the close of last fiscal year. Therefore the forecasts for this fiscal year were accurate.

The activity registered in the building and retail space cleaning and maintenance subsectors and the park and garden maintenance and upkeep subsector, where contracts worth 1,161 million euros in annual allocations were awarded, was up 38% from the figure registered in the fiscal year before (841 million euros). There were 783 tenders, fewer than in the previous fiscal year. The annual allocation rose due to the increase in the number of tenders announced for building and retail space cleaning. The forecasts for 2012 are higher than those for fiscal year 2011.

### FCC's Activity

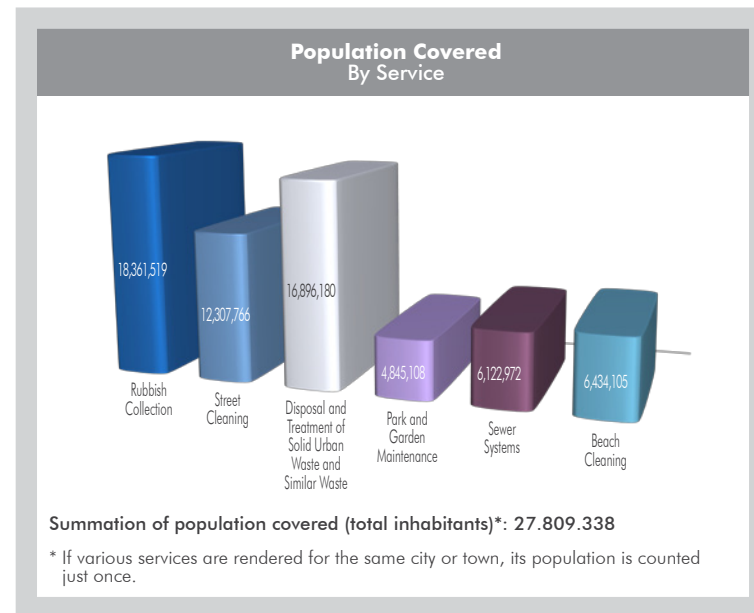
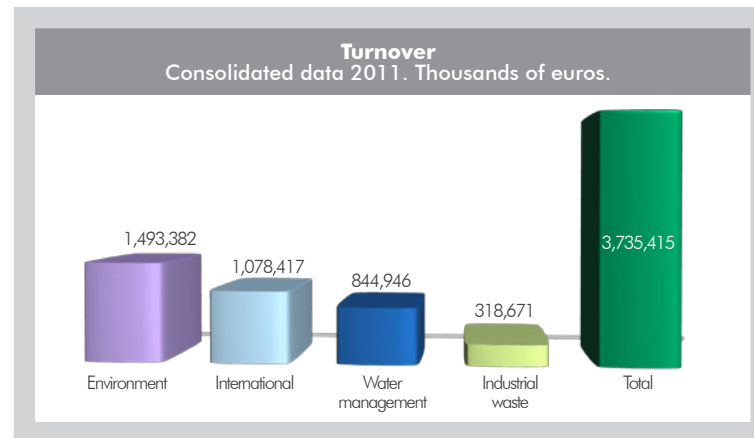
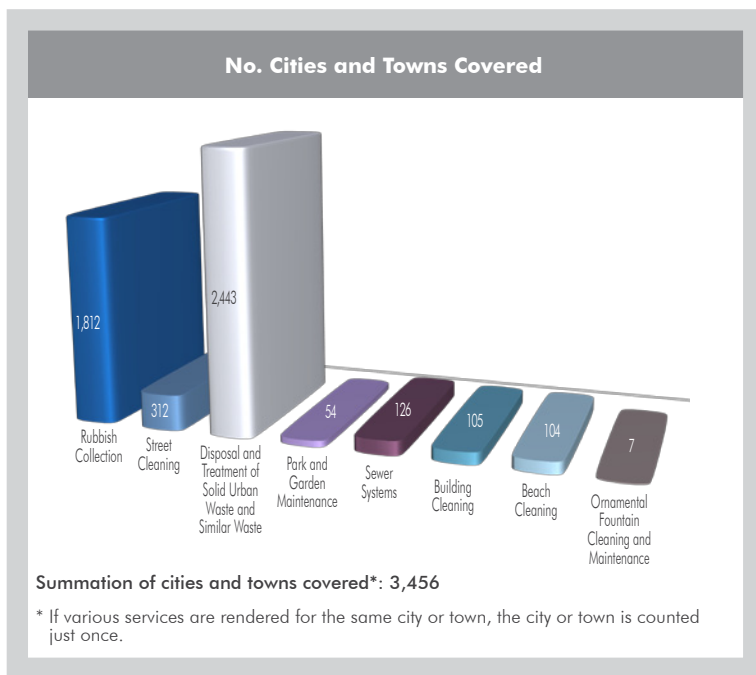
FCC renders urban sanitation services in 3,456 cities and towns throughout Spain, covering a joint population of over 27.8 million inhabitants. During 2011 FCC collected 7 million tonnes and 8 million tonnes where treated.

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## CONTRACTS AWARDED TO FCC MEDIO AMBIENTE IN 2011

▶▶▶▶ Street-cleaning service and solid urban waste collection Maracena City Council, Granada	20 years
▶▶▶▶ Solid urban waste collection and shipment to treatment plant Moguer City Council, Huelva	25 years
▶▶▶▶ Door-to-door rubbish collection and shipment to landfill Santanyi City Council, Mallorca	10 years
▶▶▶▶ Solid urban waste collection service and street-cleaning service Ciutadella City Council, Menorca	10 years
▶▶▶▶ Solid urban waste collection service and city cleaning service Manresa City Council, Barcelona	10 years
▶▶▶▶ Waste collection service and public street-cleaning service Gerona City Council	8 years
▶▶▶▶ City park and tree maintenance and upkeep service Las Palmas de Gran Canaria City Council	4 years
▶▶▶▶ Solid urban waste collection service, cleaning service for city squares and furniture collection service Aruca City Council, Las Palmas de Gran Canaria	10 years
▶▶▶▶ Operation of the sorting plant for light packaging Salamanca City Council	4 years
▶▶▶▶ Upkeep and maintenance service for gardens, trees lining streets, floral structures and planters Bilbao City Council	4 years
▶▶▶▶ Cleaning service for the Burgos sewer system Authority: Sociedad Municipal Aguas de Burgos	4 years
▶▶▶▶ Cleaning service for the Renault factories in Palencia, Valladolid and Sevilla Contract awarded by: Renault España	3 years
▶▶▶▶ Construction and operation of the Guipúzcoa waste management centre Contract awarded by: Consorcio de residuos de Guipúzcoa-Guipuzkoako – Hondakinen Kudeaketa, S.A	8 years and 9 months

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## INTERNATIONAL ENVIRONMENT

The International Environment Division is one of the leading end-to-end solid urban waste management and energy recovery operators in the United Kingdom, Central and Eastern Europe and Northern Africa. It does business in 11 countries: the United Kingdom, Austria, the Czech Republic, Slovakia, Hungary, Poland, Romania, Bulgaria, Serbia, Portugal and Egypt.

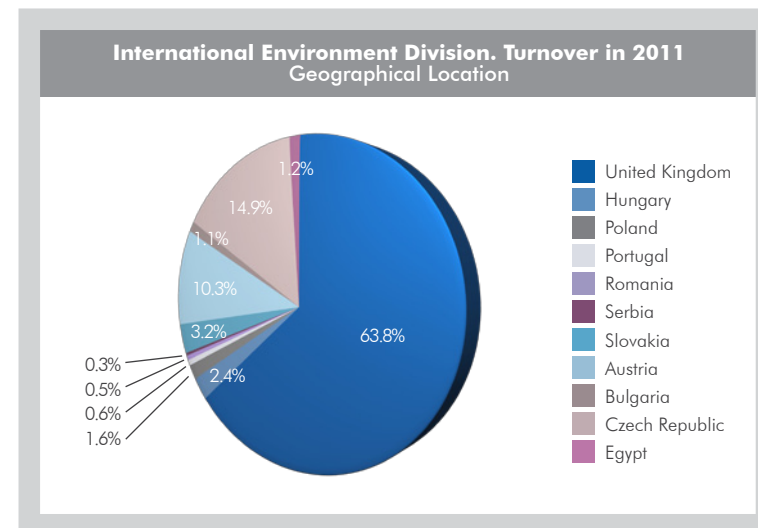
During 2011 the International Environment area won a total of 45 tenders for rubbish collection, rubbish transport, rubbish treatment, rubbish disposal and street cleaning in the geographical areas listed below:

CONTRACTS WON ABROAD	
FCC United Kingdom (WRG)	FCC Central and Eastern Europe (ASA)
Contracts awarded: 19	Contracts awarded: 26
Population covered: 8,061,147 inhabitants	Population covered: 177,820 inhabitants
Tons treated: 514,000 per year	Tons treated: 230,875 per year
Annual invoicing: £12,421,602	Annual invoicing: €12,085,000

Some of the more significant contracts won in 2011:

### FCC UNITED KINGDOM (WRG)

- ▶ PFI contract for the county of North Lincolnshire, United Kingdom.
  - ▶ Services rendered: Treatment and recycling of the municipal and commercial waste of the county of North Lincolnshire. The proposed solution includes the design, construction and operation of a plant that subjects 69,000 tons of waste per year to a combined mechanical/biological treatment to produce a fuel to be burned in the cement industry.



- ▶ Population covered: 157,000 inhabitants.
- ▶ Contract term: 27 years.
- ▶ PFI project operation and maintenance contract with Bradford and Calderdale, United Kingdom.
  - ▶ Services rendered: Shipping, treatment and disposal of the municipal and commercial waste of Bradford and Calderdale, so that recycling and landfill objectives can be met.
  - ▶ Contract term: 25 years.
- ▶ Civic amenity site management contract with the county of Buckinghamshire, United Kingdom.

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TURNOVER:

1,078.4

MILLION  
EUROS.

- ▶ Services rendered: Management of civic amenity sites and recovery and sales of recyclable products.
- ▶ Population covered: 497,000 inhabitants.
- ▶ Contract term: 15 years.
  
- ▶ Civic amenity site management contract with the county of Neath Port Talbot, United Kingdom.
  - ▶ Services rendered: Management of civic amenity sites.
  - ▶ Population covered: 140,000 inhabitants.
  - ▶ Contract term: 6 years.
  
- ▶ Civic amenity site management contract with the county of Warwickshire, United Kingdom.
  - ▶ Services rendered: Management of civic amenity site.
  - ▶ Population covered: 483,000 inhabitants.
  - ▶ Contract term: 10 years.
  
- ▶ Civic amenity site management contract with the county of Hertfordshire, United Kingdom.
  - ▶ Services rendered: Management of civic amenity sites.
  - ▶ Population covered: 1,010,231 inhabitants.
  - ▶ Contract term: 3 years.
  
- ▶ Contract with the county of Nottinghamshire, United Kingdom.
  - ▶ Services rendered: Landfill management.
  - ▶ Population covered: 776,000 inhabitants.
  - ▶ Contract term: 3 years.

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### FCC CENTRAL AND EASTERN EUROPE (ASA)

- ▶ Contract to recover contaminated soil, signed with the Ministry of Finance in the Czech Republic.
  - ▶ Services rendered: Recovery of soil contaminated with hydrocarbons and other products and cleaning of underground water resources.
  - ▶ Contract term: 5 years.
- ▶ Construction and operation of a transfer station for the city of Prague.
  - ▶ Services rendered: Transfer and shipping of municipal, commercial and industrial waste from the Dáblice transfer station in Prague to regional ASA landfills.
  - ▶ Population covered: 650,000 inhabitants (50% of the city).
- ▶ Expansion of street-cleaning services in the city of Bratislava.
  - ▶ Services rendered: ASA renders 50% of the street-cleaning and winter services of the city of Bratislava through its subsidiary TSA. These services have been expanded by 25%.
  - ▶ Contract term: 8 years.
  - ▶ Population covered: 330,000 inhabitants.

### TECHNOLOGICAL INNOVATIONS

Technologies for reduced emissions, environmental improvements and energy efficiency. Innovations in electric vehicles.

The research and innovation work the company does is aimed at finding innovative solutions for our services. The essential points our technological developments are based on are, first, to reduce the emissions of machines and facilities and, second, to seek solutions that are well ahead of the requirements of the legislation in force, such as introducing engines that run on compressed gas and spreading the use of compressed gas as a fuel to all our services.



FCC's fleet now numbers more than 1,200 vehicles of this type, making it the number-one company in Europe by number of vehicles assigned to urban environmental services. Furthermore, improvements have been sought in vehicle and machinery safety, manoeuvrability and performance. All these strides mean sustainable solutions are being incorporated under the "Smart Cities" framework.

Electric vehicles and hybrid electric vehicles have been making some remarkable leaps in evolution lately. No less remarkable is the way our services have been gradually incorporating such vehicles in our fleets and consolidating their use. Right now the company has 32 type-KB I electric or hybrid compacting rubbish collectors in service in



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THE OBJECTIVE IS TO REACH THE POINT WHERE ALL OUR SERVICES CAN BE POWERED ELECTRICALLY, THAT IS, WITH ZERO EMISSIONS.

Madrid, Barcelona and Zaragoza, and it recently incorporated vehicles designed especially for street scrubbing and sluicing in hard-to-reach historic areas.

These are ZEV (Zero Emission Vehicles), which run on electricity while cleaning and recharge their batteries as they head back to base to reload on water, after which they are ready to return to the electric mode for their next work phase. With 55-kWh batteries and an electrical power system weighing a total of 1,400 kilograms, a vehicle can be powered throughout its entire working day; and since the vehicle can recharge its own batteries, it can even work for two or three consecutive days.



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This is the most advanced technology there is for rubbish collection and street cleaning services, and it is available thanks to research and technological development carried out by FCC with the most important international firms in the field of electric engines and batteries.

During 2011 the use of vehicles of this kind was consolidated and expanded. Today the fleet's total strength is as shown in the chart.

### Technological Innovations in Non-mobile Facilities

Service yards sprawl over large areas of land filled with parking areas for extra-large vehicles, service buildings and offices. These facilities consume a considerable amount of water and quite a lot of energy, too. Because FCC is concerned about cutting down on consumption and emissions, it has recently installed systems to reduce water consumption and use renewable energy.

Water reuse systems have been introduced at the Madrid and Barcelona service yards so far. These systems treat grey water from the staff dressing rooms so it can be used to wash vehicles and machinery. There is also technology for reusing vehicle-washing water on the spot. It was rolled out for the first time in 2011, at the washing stations used by the subcontractor that collects solid urban waste and cleans the streets in Pozuelo de Alarcón.

The technology uses compact, dual-effect evaporating equipment that makes it possible to reuse up to 95% of the water utilized at the washing station. This plus the practice of reusing water from the dressing rooms considerably reduces emissions and the amount of drinking water consumed. In all physical, chemical and microbiological parameters, the quality of the water produced by this treatment for reuse is even better than the strictest quality requirements set in Spanish Royal Decree 1620/2007 for the reuse of wastewater.

Another highly interesting feature of the technological evolution of non-mobile facilities is how renewable energy has been brought in. For example, solar thermal energy is used to heat water for sanitary use. There are 315 panels installed at present, with a radiant area of more than 724 m<sup>2</sup>. They save upward of 408,742 kWh per year and make the sanitary water-heating system energy-autonomous for more than five months per year.



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### Technological Work in EfW Plants

Waste collection and sorting systems are growing increasingly complex in response to the need to make better use of waste as a resource and in response to society's greater awareness and exigency on behalf of the environment and better resource use.

That is why the new plants FCC is helping to develop to produce energy from urban waste incorporate different systems, so they can more effectively meet the requirements placed on them.

The EfW (energy from waste) plant built into the Guipúzcoa Waste Management Centre is designed to be flexible enough to handle a range of waste types classified by collection system, degree of treatment and any material recovery processes already run.

To coax the best possible performance out of the plant, advanced energy recovery technologies have been incorporated in the project, the foremost of which are described below:

The grill system for waste combustion is set up in five different zones, arranged so that the first three are water cooled and the last two are air cooled. Combustion is thus optimized, and adjustments can be made to suit the different characteristics of different types of waste and the variations in their heat-producing potential.

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There is a system that uses the heat drawn off from the grille during cooling. The warmed-up water is used to pre-heat the air in the air circuits before it is allowed into the combustion chamber.

The combustion control system optimizes the waste combustion conditions for different loads and waste types by adjusting the grille-shaking frequency, air flows, air circulation, and so on, in order to produce the amount of steam desired at the time.

The boiler has been designed to generate high-pressure steam under nominal conditions of 420°C at 55 bar. These characteristics are specific to steam generation in the most advanced kinds of plants, which combine high-efficiency heat recovery with great safety of operation.

Heat use and heat recovery have been calculated into all stages in order to optimize the performance of the plant's water/steam cycle. The facilities are equipped with heat exchangers, to heat the condensates that are reused in various ancillary processes and the hot water for the centralized water system.

The most advanced technologies for recovering energy during waste incineration have been borne in mind in this plant's conception and design. These technologies and the experience gained during their conception and design will be taken into account in FCC's future plans for plants of this type, so as to ensure optimum process performance together with high reliability in operation and service availability under different load conditions for different waste types, while reducing environmental impact to below the limits set by current legislation.

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### Analysis of the Sector

Nobody is unaffected by the current economic plight, which has led after several uncertain years to an especially complicated situation. In this context, the different levels of government have all adopted a policy of reining in investments in all publicly owned areas, including water. The upshot has been a decrease in public investment in infrastructure construction and renovation, and that, obviously, has had an impact on the income statements of firms in the construction sector.

On the other hand, domestic and European authorities are still tending to demand ever-higher levels of excellence in terms of technology and health. As a consequence of all this, the sector's main companies are repositioning themselves, strengthening their commitment to act as effective partners for government, offering clients solutions for compliance with the most demanding standards, with innovation and the most advanced technology, which guarantee maximum efficiency and quality in citizen service.

Within these complex dynamics, **aqualia** has dug in as the sector leader, pressing hard on two key concepts: diversification and internationalization. The real capability to cope with any demands the sector might make, be it locally or internationally, is not something many public or private organisations on the market have. This real capability becomes especially palpable in the end-to-end water cycle. It's a complex process, one in which citizens participate, and one that demands excellence in each of its phases –catchment, treatment, analysis and quality testing, distribution through the water supply system, metering, return to the environment through the sewer system after purification and even reuse for other purposes. Every bit of the cycle requires complete transparency and linkage to the rest of the process.



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**FCC's Activity**

For **aqualia** 2011 was a positive year, with 1,185 million euros' worth of contracts between renewals and new additions. The company submitted 261 bids with a success rate of better than 60%, which enabled it to fatten its backlog by 2.5%. **aqualia** has a remarkably stable, anti-cyclical backlog, which was worth 13,136 million euros at the close of the fiscal year.

Over the last few years **aqualia** has considerably increased its activity beyond Spain's borders. Its tactics for expansion are to take a solid local position, with a backlog of contracts regulated by economic and financial equilibrium and, in most cases, direct consumer billing and low bad debt rates. The area that has really gone international is **aqualia** infraestructuras; 90% of its transactions come from beyond our borders. In 2011 it consolidated its presence in the Romanian market as well



as in Portugal, where 130,000 citizens can now receive services under the new Fundao and Cartaxo contracts. New territories were brought on board last year, too, such as the Middle East, where the company blazed a new trail by winning two major contracts, in Riyadh and Abu Dhabi. The other important tenders the company won included Gijón's East Wastewater Treatment Plant; a treatment plant in Niksic (Montenegro); and the construction of the El Caracol pumping station and a wastewater treatment plant in the city of Salamanca, both in Mexico. The company is pursuing an ambitious yet prudent drive to expand into emerging markets that are adequately regulated and can provide legal certainty. The plan is for **aqualia**'s work there to also mean improved quality of life for the countries' citizens.

Altogether, **aqualia** is already doing business in 17 countries on four continents, and it chalks up 33% of its backlog of work to international activity. International business grew by 7% last year, to 4,356 million euros. In its latest list, Global Water Intelligence, one of the sector's most prestigious publications, ranked FCC's water specialist as the number-three company in the world in terms of inhabitants served, with 28.2 million consumers in 1,100 cities and towns all over the world.

**aqualia** reasserted its leadership in the domestic market with the renewal of services such as those the company provides in Ávila and Fraga, Huesca, the concession of water service for Llagostera, Gerona, and the award of a contract in Baena, Córdoba.

**aqualia industrial** has participated alongside other FCC companies in the construction of the water treatment plant for the decontamination facilities at Flix Reservoir (Tarragona). The sheer complexity of the decontamination work makes the Flix project one of the most significant industrial effluent projects awarded in 2011 in Spain. When the work is finished, the area can be recovered for society-friendly uses. **aqualia industrial** also had a hand in the facilities for

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treating inflow water and effluents for the solar thermal plant in Guzmán, Córdoba (developed by FCC Energía), the new treatment plant in Navantía and a new facility for treating inflow water and condensates for Cepsa's refinery in Tenerife.

An important point to stress is that the company is currently using two fundamental criteria to guide how it renders services: diversification of services and evolution toward what are called "smart services". On the diversification front, **aqualia** is one of the few companies in the entire world capable of undertaking projects related with every kind of use there is for water, be it for human consumption, farming or industry.

The "smart services" label covers all those services that consume only what is necessary, generate clean energy and care for the environment. Services of this kind use new technologies for citizens and extend new channels of communication toward citizens. Under this concept, **aqualia** has an



integrated management system that encompasses cities, citizens and the environment, based on innovation and the use of information technologies. These technologies make it possible, first, to have more information with which to take efficient decisions and, second, to open new channels of communication with consumers, who now have better, easier ways of contacting their service manager.

One of the areas to which the most resources are routed is RDI. Research, development and innovation at **aqualia** focus on three major areas: quality, sustainability and end-to-end management. During 2011 the company was a partner in a score of RDI projects. All in all, **aqualia** is participating in 65 million euros' worth of projects in progress. The company works hand in hand with the government

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in this area, too, so some of its projects (such as VIDA and All-gas) are being run beneath the umbrella of big-name research programmes, such as CENIT (which is a programme of the Spanish Ministry of the Economy and Competitiveness) and FP7 (which is a European Union programme).

In its zeal to reach new heights in quality, **aqualia** added to its AENOR certifications in the course of the year. The company was the first in the FCC Group to have the security of its customer information management system certified pursuant to UNE-ISO 27001:2007. Furthermore, the Denia (Alicante) service had its energy management system certified under UNE-EN 16001:2010. In Portugal, the firms in Campo Maior and Elvas joined the **aqualia** quality and environment system. In May the company received the “Equality in Enterprise” insignia from the Ministry of Health, Social Policy and Equality, in recognition of the way **aqualia** promotes career development and achievement for its employees under a guarantee of equal opportunities.

During the 2011 fiscal year, a great many contracts for the management of public services in different Spanish cities and towns were signed, renewed and expanded. The foremost were:

- ▶ End-to-end management of water supply and sanitation services for Villa de Arico (Santa Cruz de Tenerife).
- ▶ End-to-end management of the municipal water supply and sewer service for the city of Yepes (Toledo).
- ▶ Management of the public water supply and sewer service for Caspe (Zaragoza).
- ▶ Concession for the management of the public drinking-water and sewer service of Llagostera (Gerona).
- ▶ Management of the municipal drinking-water supply, sewer and wastewater treatment service for Íscar (Valladolid).
- ▶ Management of the municipal public water supply, sanitation and treatment service for the city of Baena (Córdoba).
- ▶ Management of the water supply and sanitation service for Yuncler (Toledo).



- ▶ Management of the public drinking-water supply and sanitation service for Fraga (Huesca).
- ▶ Management of the service covering the public sanitation system in the Baix Ebre district (Tarragona).
- ▶ Management of the water supply and sanitation service in Ávila.
- ▶ Maintenance, upkeep and operation service for the wastewater treatment plant and sewer system in El Puerto de Santa María (Cádiz).



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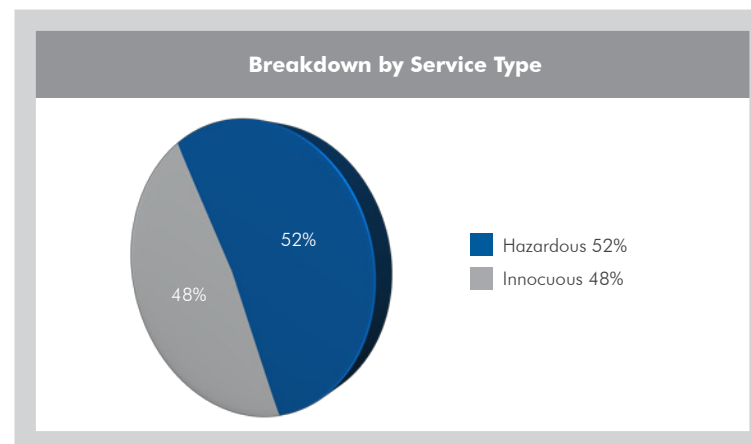
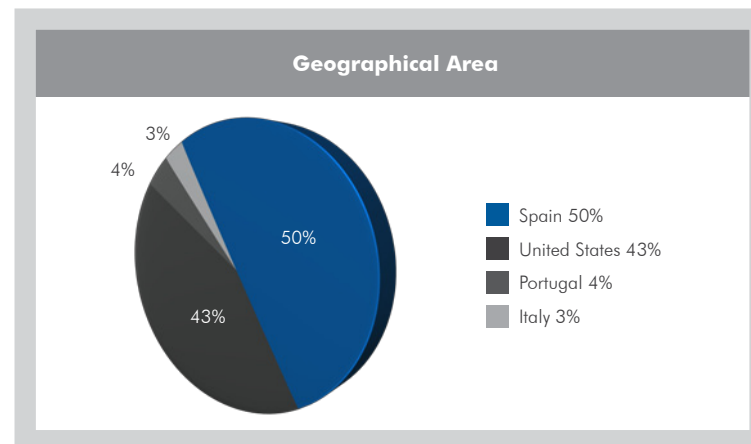
FCC Ambito is the specialist in the FCC Group’s Industrial Waste Division. During the 2011 fiscal year it consolidated its international business: Turnover invoiced outside Spain over the last few months of last year outstripped domestic turnover, although it still accounted for a level 50% of the accumulated annual total for the full year.

FCC Ambito’s sales volume amounted to over 317 million euros. That means its sales rose 13.5% since 2010 and its international turnover increased by 37.4%.

While domestic business was slightly less than last fiscal year (-3.4%), the rest of FCC Ambito’s international markets (USA, Portugal and Italy) registered a considerable increase in sales, profits and returns.

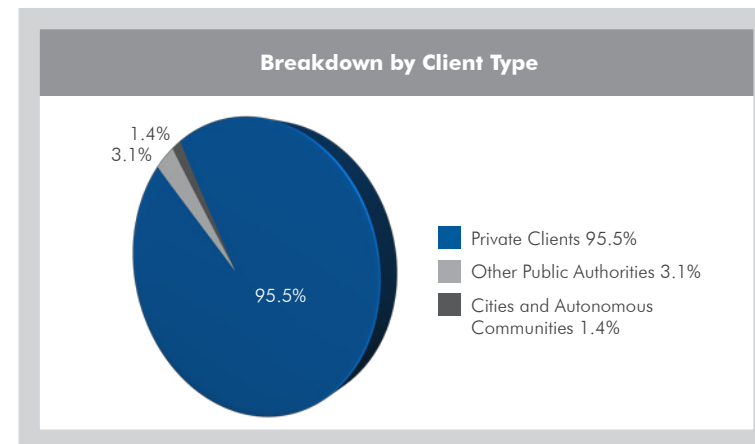
Progress on the most significant as-yet unfinished projects continued during the fiscal year:

- ▶ Work to decontaminate Flix Reservoir in Tarragona is in the initial phase. A barrier has been constructed to isolate the affected flow of water, and supplementary facilities have been built.
- ▶ Sludge management for the project in Syracuse, Italy, has hit cruising speed, now that the route for sludge removal by sea is open. An entire ship has been outfitted specifically for the operation and is devoted entirely to sludge removal. It is currently ferrying an average of 12,000 tons of extracted waste to decontamination each month.
- ▶ In Portugal the three major decontamination jobs awarded to FCC Ambito have been completed. This made for a considerable increase in the number of tons managed at the facilities in the Ribatejo district: The facility handled 167,000 tons, nearly twice the expected quantity.



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- ▶ In the United States of America, turnover leaped up to over 30% more than in the preceding fiscal year. APEX-FCC Oilfield Services, a new joint venture organized to recycle the waste created in oilfield drilling and operation, is growing at a fine pace. It already has three facilities in operation and expects to start up another two during the current year.
- ▶ Another strategic project has been launched to secure the future of business in the North American sphere: the creation of FCC Lubricants, a joint venture to employ used oils to make and refine bases for lubricating oils. With this project, FCC will not only get much more added value in USA hydrocarbon collection, but also embark on a new kind of business, selling and marketing recycled oil.



This FCC subsidiary keeps scouting for new international markets into which it can expand, and it expects to gather the fruits of its search very soon. Analogously, in the areas abroad where FCC Ambito is already working, the company continues to apply a policy of maximum development of the entire portfolio of services and activities that make up the full-service specialty in Spain, in everything having to do with the waste produced by industry.

INTERNATIONAL TURNOVER UP **37.4%**

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VERSIA'S CONSOLIDATED TURNOVER  
CAME TO

**767.3** MILLION EUROS.

FCC diversifies its business into different non-environmental services through **FCC Versia, S.A.**, which heads up the following activities:

- ▶ Logistics
- ▶ Airport handling
- ▶ Urban furniture
- ▶ Conservation and systems
- ▶ Sales of cleaning vehicles and specialty vehicles (SVAT)

In 2011 Versia sold off its parking services, in accordance with the policy of concentrating on certain of the Group's strategic business areas.

Versia has persevered in its drive to optimize its production structures and cost control structures and also to improve its indebtedness ratio.



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FCC Logística, S.A. renders services in Spain and Portugal. Its clients are some of the leading firms in a range of sectors, including the automotive, pharmaceutical, food, cleaning-product, perfume, cosmetic, appliance and household electronic sectors. Management and operation of mass distribution platforms and B2B and B2C goods-shipping platforms complete the picture of the realm this division of the Citizen Service Group works in.

In some of the foremost events of the fiscal year:

- ▶ An automated order preparation facility went into operation in Valdemoro (Madrid), which works with the mass distribution sector.
- ▶ A modern storage system was installed and put into operation to boost the capacity of the hub in Cabanillas del Campo (Guadalajara).
- ▶ A 15,000-m<sup>2</sup> platform was inaugurated in Antequera (Málaga), dedicated to the Mahou-San Miguel Group, to serve customers in Andalucía and Badajoz.
- ▶ Over 40 million euros' worth of contracts with clients in various sectors were extended.

TURNOVER: **270.8** MILLION EUROS.

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Flightcare, S.L., is the FCC service company that provides ramp-, passenger- and cargo-handling services at 14 European airports. In Spain the company provides ramp- and passenger-handling services at the airports in Barcelona, Málaga, Alicante, Valencia, Fuerteventura, Jerez and Almería, and cargo-handling services in Madrid, Barcelona, Valencia, Alicante, Málaga and Almería.

Flightcare is the principal ramp- and passenger-handling operator in Belgium and one of the leading cargo-handling operators at Brussels Airport. It can also be found at the airports in Ostend-Bruges, Liège and Charleroi.

In Rome it is the principal independent handling agent at Fiumicino Airport and the only independent operator at Ciampino Airport.

In 2011 it served more than 35 million passengers flying with 250 companies, totalling 313,587 movements and handling 309,675 tons of cargo.

Over the last year some important contracts were signed with new clients, including Thai in Brussels, SAS in Spain and Eritrean, Gulf Air and BMI in Fiumicino.

Other major contracts were renewed, with clients such as Tunis Air in Brussels; the Thomas Cook Group in Brussels; Delta, Wizzair and Air Berlin (Flightcare's number-one client in Spain) in Spanish airports; and Egyptair, Royal Jordanian, Windjet, Ethiopian, Fedex and TNT, just to mention a few, at Fiumicino Airport.

TURNOVER: **239.1** MILLION EUROS.





CEMUSA specializes in designing, manufacturing, installing and maintaining many kinds of urban furniture and marketing advertising space on urban furniture. With 25 years' professional experience and some 160,000 items of urban furniture installed all over the world, CEMUSA is the leading Spanish firm in its sector and one of the primary outdoor advertising groups, internationally speaking. This FCC subsidiary provides services for more than 160 cities and towns in Europe. Big cities such as New York, Madrid, Rio de Janeiro, Barcelona, Boston, Lisbon, Milan and Brasilia also showcase CEMUSA's urban furniture designs, which are produced in cooperation with architects and designers of recognized worldwide prestige.



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While 2010 brought a return to growth after the worldwide recession, 2011 saw the consolidation of the recovery (revenue up 5% over the year before), despite the volatility of the markets of southern Europe.

Last fiscal year CEMUSA backed up its commitment to technological innovation and the digital medium and successfully launched its Cemusa Tec brand, to impart fresh energy to points of sale and bundle together other existing digital products. Furthermore, CEMUSA can now cite the Rambla Digital circuit in Barcelona in the same breath with the digital urban advertising it already runs in Madrid and New York. Rambla Digital is a project to revitalize the Las Ramblas area of Barcelona, a sightseer's and shopper's paradise.

CEMUSA was the firm chosen in Italy last year to provide a makeover for Bologna, a city where CEMUSA has been providing urban furniture since 2005. The new contract calls for the installation and management of more than 425 outdoor communication panels that contribute to the city council's plan to harmonize Bologna's different advertising formats and reorganize the entire city's outdoor communications. This includes communications in the historic centre of Bologna, one of the best-preserved historic areas in all Europe.

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Conservación y Sistemas, S.A. is a firm specializing in the design, installation, operation and maintenance of traffic management and shadow toll projects in interurban road systems, safety facilities in road and railway tunnels and urban infrastructure maintenance and upkeep. Its areas of action are:

- ▶ City upkeep and other services: Pavements, sewer tunnels and systems, irrigation and water distribution.
- ▶ Traffic management systems, tunnel control and safety systems and remote control and safety systems for railways and tram systems.

Main services and projects:

### Urban Service Upkeep

- ▶ Sewer system upkeep in various cities and towns in the Community of Madrid.
- ▶ Upkeep of the service tunnel system in the city of Madrid.
- ▶ Cleaning of bus lane separators in Madrid.
- ▶ Upkeep of the irrigation system in Móstoles.
- ▶ Maintenance of the Abroñigales and Los Migueles storm water catchment facilities in Madrid.
- ▶ Upkeep of ornamental fountains and the irrigation system in Valdemoro (Madrid).

### Street and Road Work

- ▶ Surface repairs in the central area of Madrid.
- ▶ Compressed-gas filling stations for EMT, the municipal transport company of Madrid.
- ▶ Work and improvements in different cities and towns of Madrid (Getafe, Fuenlabrada, Alcobendas and San Fernando de Henares).
- ▶ Maintenance of public schools in the Chamberí district of Madrid.
- ▶ Pipes for electricity networks belonging to GasNatural-Fenosa.

TURNOVER: **38.3** MILLON EUROS.

### Projects and Services for Canal de Isabel II

- ▶ Work to renovate and repair the water distribution and supply system belonging to Canal de Isabel II (Casa de Campo Division).
- ▶ Plans for facilities and setbacks in the Canal's water distribution systems.

### Traffic Management and Control Systems

- ▶ Auto-Estrada Transmontana in Portugal.
- ▶ Radar maintenance service in Cataluña.
- ▶ Control systems for the Monrepós Tunnels and tunnels on road C-17 in Cataluña.
- ▶ Systems for the Zaragoza tram and line 1 of the Murcia tram.



## SERVICES



Sistemas y Vehículos de Alta Tecnología (SVAT) sells high-tech equipment and vehicles for city sanitation, coastal water and beach cleaning and industrial cleaning.

In 2011 SVAT remained the leader in sales of compact city street sweepers featuring technological improvements that have reduced pollutant gas emissions, sound levels and fuel and water consumption.

The technological innovations SVAT launched in street-sweeping machinery in Barcelona in 2009 were reflected this year in many other Spanish cities. The dual sweeping system with tile-scrubbing and water-recycling capability was so warmly received that the system was built into 47% of the RAVO street sweepers delivered in 2011.

The first street sweepers with a 72 km/hour travelling speed and ABS brakes were delivered in Murcia. They are the only approved street sweepers on the market just now, and they are especially suited for covering a number of closely grouped cities and towns. In addition, the first CNG-powered street sweeper went into service in Igualada, Barcelona.

The main cities where street-cleaning machines were delivered were: Barcelona; Tarragona; Valladolid; Murcia; Las Palmas; Palma de Mallorca; Calviá (Mallorca); L'Hospitalet de Llobregat, Barcelona; Gerona; Rivas Vaciamadrid (Madrid); and Fuengirola (Málaga).

The sewer-cleaning market recovered slightly. Combined units that suck water in and jet it back out were delivered in L'Hospitalet de Llobregat, Córdoba, Pamplona, Madrid and Sevilla.

TURNOVER: **18.2** MILLON EUROS.





## CONSTRUCTION



## CONSTRUCTION

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## CONSTRUCTION

### ANALYSIS OF THE CONSTRUCTION SECTOR

#### Current Setting

Forecasts for the **world economy** in the year 2012 point to a slowing pace of growth. These expectations stand shrouded by vast uncertainties, and Europe and its sovereign debt trouble are the main element of instability.

The OECD has estimated that the eurozone's growth will barely manage to hit 0.2% for the year as a whole and growth will be negative in some countries. There is an increasing probability that growth will contract, possibly well into 2012. The sovereign debt crisis in Europe, its effects on financial systems and credit and the measures states are taking to address their high public deficits, against a backdrop of non-stop conflict in the Middle East and geopolitical tension in Iran, are factors that will hamper business and therefore world growth in 2012.

**Spain** failed to meet its deficit target last fiscal year. Instead, the Spanish deficit was minus 8.5% of the GDP, 2.5 points higher than anticipated. This fact has affected our credibility as a country and requires ruthless adjustment in 2012 and 2013.

The IMF estimates that the GDP will fall 1.7% this year, and the Bank of Spain says 1.5%. The Spanish economy is entering a second recession, and forecasts for 2012 are looking at a 1- to 2% decline in business activity.

For the first time since Spain became a democracy, the Spanish economy has registered a double-dip recession. The starting point for recovery is therefore weaker, and the leeway open to fiscal and monetary policy is narrower.

The government has taken some extremely responsible action, despite the cost it will have to pay for its tough measures in terms of political capital. It has set a public deficit target of -5.8% of the GDP for 2012 and a public spending ceiling of 118.565 million euros, 4.7% lower than in 2011. These measures and the heralded structural reforms are the right tack to take to get back to economic growth, job creation and renewed confidence.

Spain's economy is expected to recover later and more slowly than that of other European countries, because the problem of the private sector's high indebtedness, its dependence on foreign financing and the high unemployment rate remains unsolved.

The recent labour reform is good news, objectively speaking, and the recent institution of measures to pay suppliers will enable many companies to weather the solvency and liquidity crisis and inject liquidity into the system.



Bridge over the Pisuergra River, Valladolid

## CONSTRUCTION

It is to be expected –as supported by “Strengths and Perspectives of the Spanish Economy”, a report by the Business Council for Competitiveness, which echoes a recent IMF study– that the Spanish economy will be able to get back onto the path of growth in business and productivity:

- ▶ Spain is one of the main European markets in terms of per-capital GDP and size
- ▶ It has leading businesses in key sectors that are widely diversified in high-growth markets
- ▶ It has a powerful infrastructure system

In the meanwhile, construction is accumulating setback after setback in the course of a lengthy crisis that has already dragged on for more than five years, and the Spanish building sector will have to wait until well into 2013 for a full recovery.



Despeñaperros Bypass

This situation affects and is in turn partly due to the residential segment (where demand is at a standstill due to the lack of financing) and civil engineering works (where the budgetary adjustment has been ruthless).

The construction sector, thronging with too many companies, has been forced by economic circumstances to restructure. Workforces have been adjusted, and costs have been brought under tight control. With few exceptions, small and medium-sized builders have been unable, due to their low capitalization, to seek business abroad (the path that has enabled the big listed builders to offset the decline in domestic activity and maintain their project backlog). As a result, 134,000 of these minor builders have gone under in the last three years.

### The Construction Sector

The construction sector is facing its fifth consecutive year of production declines, hitting all four traditional subsectors (residential, non-residential, refurbishment and civil engineering works), with 135,940 million euros in total production and a negative variation of 8.2% in real terms since 2010 (-3.0% in building and -18.0% in civil engineering works).

In 2011 the negative impact of investment in construction on the growth of the Spanish economy was fortunately moderate, 1.3 points as opposed to 3.1 in 2009 and 1.7 in 2010. The highest negative contribution made by investment in construction, estimated at 3.3 points, happened in the second quarter of 2009.

Apparent cement consumption, a classic indicator of the construction business's health, registered an expressive drop of 17.2% in 2011, two points more than in 2010, dropping back to the kinds of figures recorded in 1987; in the last four years it has accumulated a decline of close to 64%.

## CONSTRUCTION

The investment in construction (GAV), which accounted for 15.5% of the GDP in 2010, shrunk to 14.0%, still 3.9 points more than the average for the eurozone, on which Spain's investment level is inexorably converging.

By subsectors, **residential building** held steady at 26% of the total in 2011 (still eight points more than in Spain's neighbours). The balance is down 5% from 2010, as opposed to 17% in fiscal 2009, when the crisis dragged figures to rock bottom.

There were 78,286 permits to build new homes in 2011, 14.5% fewer than in the fiscal year before. The accumulated decline since the high in 2006 was 92%. Construction was begun on 51,956 non-price-controlled homes, 17.6% fewer than in 2010. In the fourth quarter of last year, the figure was 10,286 non-price-controlled homes, which makes for a 16.3% decline from the third quarter and a 25.7% reduction in year-on-year terms.

A total of 179,351 homes were finished in 2011, down 35.2% from 2010 (an accumulated reduction of 73% from the figure's high in 2008). Of the total, 121,043 were not under price control (44.6% less than in 2010), and 58,308 were definitively confirmed as publicly sponsored (no variation from the number of confirmed homes in 2010).

According to data from the Spanish National Institute of Statistics, housing purchases dropped 17.7% in 2011 after a positive turn in 2010 (6.8%, buoyed by the effect of tax incentives). Of the 361,831 transactions performed, 49% were for new homes and 51% were for second-hand properties. The worst fiscal years for these transactions were 2009 and 2008, when housing purchases plummeted 24.9% and 28.6%, respectively.

**Non-residential building** accounted for 18% of business, down 2% from the previous fiscal year (three points higher than the variation between 2010 and 2009, when the reduction was 5%). Building permits in this subsector experienced a 17% drop (one point more than in the previous fiscal year).

**Building refurbishment and maintenance**, which made up 27% of the total, fell off by 1% (three points less than in 2010). The execution budget for expansions and improvements went down by 19% in nominal terms (as opposed to the 2% decline registered in the fiscal year before).

The refurbishment subsector presents investment figures 16 points below its European Monetary Union counterparts and therefore continues to have room to grow. In fact, this subsector's contribution to production in construction is going up every year in Spain.

**Civil engineering works**, currently the construction industry's heavy hitter, accounted for 29% of the sector's total production, down 18% from the fiscal year before. This is the second year of decline. The accumulated two-year reduction is now in excess of 30% as a consequence of the different fiscal consolidation measures, which have seriously penalized real investment.



Refurbishment of Real Coliseo Carlos II, Aranjuez, Madrid

## CONSTRUCTION

During 2011 Spain wrenched fourth place in the European Union construction market back from the United Kingdom, with 11.3% of the total. Spain now ranks after Germany (which is in first place with 19.1%), France (18.2%) and Italy (12%).

**Government calls for tenders** have been falling for five years straight. The value of all public works tenders called by all levels of government closed 2011 at 13,818 million euros, nearly half what it was the year before, less than one-third of the historic high reached in 2006 and the lowest sum of the last 15 years.

The development of public demand with respect to the GDP is down 3.4 points from the high reached in 2006 to 1.3 percent of the GDP in 2011. That is the lowest level in the available series.

Tendering has been affected by slashing cuts to the investment effort made by local governments (-67.9%) and regional governments (-61.4%). These declines have not been offset by the growth in



calls for tenders by the national government (+18.5%); the national figure is up thanks to a boost provided by the Ministry of Development, the biggest and also the most active investor (+38.8%).

The volume of projects in the form of concessions put out to tender by all levels of government together totalled 5,560 million euros in 2011, 47.1% less than the preceding fiscal year, and equal to 0.5% of the GDP. In a break from the pattern of years before, last fiscal year the biggest volume came from the national government and local government. Road infrastructure remained the primary type of concession.

### THE JOB MARKET

The working population employed in construction has accumulated a 52% reduction over the last four years. The current employment figure, 1,393,000 jobs, is comparable to the figure for 1998. Development suffered throughout 2011, with a decline of 15.6% in comparison to the figures for 2010.

Between 1986 and 2009, 21% of all new jobs were created in the construction sector. In the last four years, 1,300,000 jobs have been wiped out in the sector. In 2009 construction accounted for 41% of all jobs destroyed; in 2010, 55%; and in 2011, 73%.

The number of people from the sector registered in the General Social Security Procedure amounted to 845,509 contributing employees in December last, having lost 55% (1,025,619 contributing employees) since December 2007. The loss in 2011 was 160,616 contributing employees. Labour costs picked up in the third quarter and grew by 1.5%, the greatest increase since late 2009.

The number of people registered in the Self-Employed Procedure came to 396,111 contributors in late December, 162,807 fewer than in December 2007.

## CONSTRUCTION

The consensus on how the Spanish economy will be affected by the labour reform together with other measures already taken is unanimously positive. The reform aims in the right direction, which is moreover the direction mapped out by the EU, and its effects on employment will be felt during the fiscal year. The reform affects all three major issues, contracts, flexibility and the objectification of grounds for dismissal.

### FORECASTS FOR 2012

The forecasts for 2012 point toward a tendency consistent with the recessive cycle, with a decline of 7 to 10% in the sector's overall production in constant terms.

In 2011 investment in construction siphoned off 1.3 points from the economy's growth, compared to 3.1 points in 2009 and 1.7 points in 2010. An early estimate for the year in progress casts a more moderate prediction of 1.1 points.

Investment by the two main investing ministries (the Ministry of Development and the Ministry of the Natural, Rural and Marine Environment), their agencies, public entities, business enterprises and publicly owned companies as outlined in the draft legislation on the 2012 National Budget will come to 12,114 million euros, 23% less than in 2011 in current terms. That works out to a 20.9% reduction for the Ministry of Development (10,268 million euros) and a 33.2% reduction for the Environment Ministry (1,846 million euros).

Investment in infrastructure is a capital variable in the economic recovery process, and it plays a dual role: It is a stabilizer because of its effect on short-term business and employment and medium-term productivity and growth.

It is to be remembered that investment in infrastructure brings in a short-term fiscal yield of 57% and a long-term yield, factoring in all the effects of investing in infrastructure, of close to 80%. For every million euros invested in infrastructure, the fiscal yield for the government is 570,000; and for every million cut back in investments, 18 jobs are destroyed.

By subsectors, and more specifically in the case of residential building, business will either become stable or follow a gentle decline, depending on how well the housing stock is absorbed. The gradual reawakening of residential building is vital for job creation. Three out of every four jobs lost over the last four years can be traced to the standstill in real estate, which drags another twenty significant sectors of the Spanish economy with it in a chain reaction.



## CONSTRUCTION

Non-residential building production will go down by as much as 6% and will rise when the markets' recovery has been consolidated. This will happen, as in the past, in stages: first offices and leisure, then retail and logistics.

Civil engineering works, represented basically by public investment in infrastructure, will experience a decline of between 20 and 24% in 2012 from the investment made in 2011, provided that there are no more additional budget cuts to real investment, which would entail even more intense adjustments.

Concessions set up as public/private partnerships for infrastructure projects cofinanced by the government look like an encouraging source of activity for the construction sector during this legislature. Major rail and road projects are the most likely candidates.



Tarragona Police Station

The sector is hoping that the major lines of action will be aimed at promoting goods shipping by rail, solving the Mediterranean Arc's water deficit, reviving projects shut down by the previous legislature in the form of concessions and boosting private financing with public/private contracting schemes.

### Internationalization

If Spanish building firms have become widely diversified geographically, it is because of Spain's internal economic situation. Harsh measures have been taken to adjust our country's economy, which is in the process of deleveraging; and companies with big potential generated during the boom of the recent past have thus been forced to seek out new markets and adapt, in order to offset the decline in business with projects abroad. The need for infrastructure in developing countries has opened up new opportunities and new challenges.

Today the major Spanish building firms are leaders in markets unheard of less than a decade ago, and their backlog exhibits an increasingly significant share of works abroad, where Spanish builders compete with firms from other countries on a level playing field.

Construction is the only economic sector of Spain that has several true multinationals that compete successfully in international calls for tenders. The internationalization of major builders is a reality, and that reality has enabled the big Spanish construction firms to withstand the sharp reduction in domestic business, thanks to projects abroad.

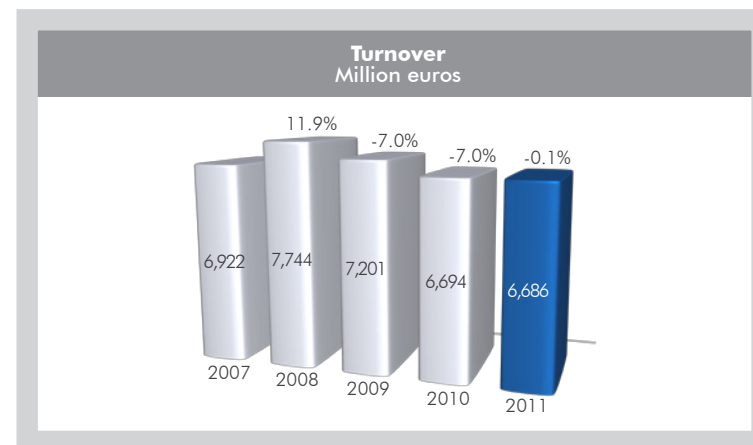
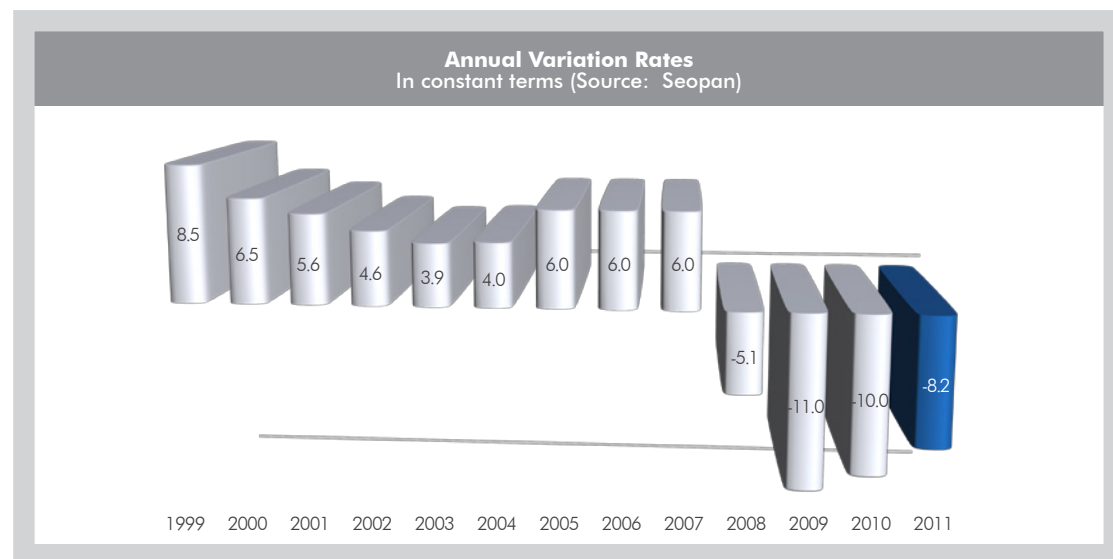
# CONSTRUCTION

## DEPARTMENT OF INFRASTRUCTURE

### FCC CONSTRUCCIÓN'S ACTIVITY

FCC Construcción, S.A., reported 6,686 million euros in turnover in 2011, 0.1% less than in the previous fiscal year. It earned 65.3% of its total invoiced turnover outside Spain. Business abroad continues to bulk large in the Group's overall turnover, where it accounts for 56.9%.

The gross operating result came to 304 million euros, which means the result is down 14.6% since 2010. The construction business contributed 25.3% to the Group's total EBITDA.





## CONSTRUCTION



### MOTORWAYS, DUAL CARRIAGEWAYS AND ROADS

This is the busiest subsector of civil engineering works and the subsector that generated the greatest amount of production and project backlog.

The list below gives the most important contracts won in the last fiscal year:



El Nalón Corridor, Asturias

- ▶ **Dual carriageway AG-47 between Curro and Baiom. Section I: between the Curro site and the coastal junction. Meis, Pontevedra.** The work consists in building a 2,470-metre-long section of dual carriageway having a standard cross-section 26 metres in width with two 12-metre-wide carriageways.
- ▶ **Design and construction of the Vía Brasil corridor, Section I,** as part of Panama City's Master Plan for Road Reorganization. Two flyovers will be planned and built for the intersections where Vía Brasil crosses Avenida Simón Bolívar and Avenida Ricardo J. Alfaro. All the roads involved will have four lanes apiece, and the project will be executed in phases to ensure that traffic flows smoothly in the meantime.
- ▶ **Design and construction of the Vía Brasil corridor, Section II,** as part of Panama City's Master Plan for Road Reorganization. Several undercrossings will be designed for the intersections where Vía Brasil crosses calle Nicanor Obarrio and Vía Israel. The latter two thoroughfares will be lowered to pass beneath Avenida Brasil. Each undercrossing will be 320 metres long.
- ▶ **Repair of the Eastern bridge access and construction of the new Centennial Bridge,** in Panama. The job consists in stabilizing the Southern carriageway by reshaping the embankment and then reinforcing it with shotcrete.
- ▶ **Construction of junctions on the Cabo San Lucas/San José del Cabo Bypass, in the State of Baja California Sur, Mexico.** The contract includes the slip roads leading from the inland dual carriageway to the cities of San José del Cabo and Cabo San Lucas. The junctions are designed for vehicles travelling at 110 km/hour.

### AIRPORTS

- ▶ **Shopping areas in Gran Canaria Airport.** The job includes replacing dropped ceilings and building systems, reflooring and resurfacing in order to convert certain areas of the airport to a different use.

## CONSTRUCTION

- ▶ **New glycol tank and other activities involved in enlarging the de-icing platform on runway 36 R at Barajas Airport.** With the new de-icing zone, the platform will be about 1,000 m<sup>2</sup> larger than before. The existing systems will be moved, and new storage tanks will be built capable of holding up to 250,000 litres of de-icing products.

The work to enlarge the **terminal building at Gran Canaria Airport** is proceeding at a fine pace and is scheduled to finish up this year. The enlargement is intended to boost the airport's passenger capacity, improve the quality of passenger service, expand the shopping on offer and create a more-modern, more-arresting image for the terminal building.

### HYDRAULIC WORKS

The foremost contract awards last fiscal year were:

- ▶ **Emergency work on road LR-115 between Arnedillo and Enciso.** The road is affected by the dam at Enciso, La Rioja.
- ▶ **Sewer work on the middle course of the Piseña River, Cantabria.** This consists in the construction of 8,500 metres of interceptor sewer with pipes of different diameters and different materials. The construction of a wastewater treatment plant is also included, capable of handling an average flow of 201 m<sup>3</sup>/hour and serving a population of 19,000 inhabitants.
- ▶ **Channelling work in the Barranco de Fraga, a water course in Castellón de la Plana.** The work consists in diverting the Barranco de Fraga through Camino de Vinamargo and diverting the gas, power and telephone service lines affected by the change.
- ▶ **Bajo Frío hydroelectric project in Panama.** Construction of a 58-MW hydro project on the Chiriquí River in northern Panama, next to the border with Costa Rica. The project calls for a 56-metre-tall gravity dam with a crown length of 405 metres, made of a combination of roller-compacted concrete and loose materials.
- ▶ **Decontamination of Flix Reservoir, Tarragona.** The work involves the removal of nearly a million cubic metres of contaminated waste, decontamination treatment for the waste, transport of the treated waste to a landfill six kilometres away and controlled disposal. The material removed will be replaced, and the river will be restored to its previous course.

### MARINE CONSTRUCTION

The foremost contract awards:

- ▶ **Dredging in front of the Asesa jetty in Tarragona harbour.** Dredging of 650,000 m<sup>3</sup> using a cutter suction dredge. The spoils are to be used as fill in the construction of the platform onto which the Andalucía quay will be expanded, in Tarragona harbour.
- ▶ **Construction of two operations platforms in Castellón harbour.** These platforms will be built on top of four reinforced-concrete caissons, and all pipes and auxiliary devices will be included in the superstructure.



Decontamination of Flix Reservoir, Tarragona

## CONSTRUCTION

- ▶ **New Cádiz container terminal.** The first phase of this project calls for the construction of a new 22-hectare terminal with a 590-metre-long quay and a 320-metre-long seawall. The water depth next to the terminal will be 16 metres. The new terminal will be located between the Levante jetty and Navantia quay number 5.

### RAIL INFRASTRUCTURE

Rail infrastructure remains one of the most dynamic sectors there is, thanks to plans to expand the high-speed railway network and projects to build new underground lines.

During the last fiscal year, the following were the foremost contract awards:



Road Infrastructure's General Direction headquarters rehabilitation, Madrid

- ▶ **Highway 407 Station and northern tunnels on the Toronto-York Spadina subway extension in Canada.** Underground section 4,500 metres long, with three stations along the way, York University Station (temporary construction), Steeles West Station (not included in this contract) and Highway 407 Station. Highway 407 Station is a new underground station featuring a Y-shaped building, a bus terminal and an outdoor car park.
- ▶ **Improvement of lengthwise and crosswise drainage between kilometre point 44+550 and kilometre point 46+610. Tracks I and II of the high-speed railway line between Madrid and Seville.** The main features of this project are the enlargement of crosswise drains to improve drainage capacity, the improvement of lateral drainage and the construction of ballast walls to protect the railbed and embankments.
- ▶ **Contract to design and build 66 kilometres of double railway tracks in Algeria, between the town of Tlemcen and Akkid Abbas Station,** the border post on the Moroccan border, for trains travelling at a maximum speed of 220 kilometres/hour. The new railway line crosses some rough ground; 34 viaducts and nine tunnels are required.
- ▶ Design and construction of **section 1 of Line 5 of the Metro in Bucharest, Romania,** between Raul Doamnei Station and Hasdeu Station. The jobs include civil engineering works for a 6.1-kilometre-long section of track and nine stations. The tunnels will be bored with EPB tunnel-boring machines.
- ▶ **Tram line in the city of Olsztyn, Poland.** Construction of an 11.5-kilometre-long, double-track tram line, including 19 stops, tram sheds and bus sheds. Moreover, a viaduct will be built over the Lyna River on a branch line to the university, and a below-grade crossing will be built for the approach to the city centre.
- ▶ **Construction of the provisional tunnel for the future through station in the new railway complex at Atocha Station.** The project includes the digging and lining of the railway tunnel.

## CONSTRUCTION

- ▶ **Section of the new País Vasco railway system's railbed.** The section is 2.8 kilometres long and lies entirely within the municipal limits of Ezkio/Itseso. The section is quite complex, technically speaking; it includes three viaducts and the construction of a 1,860-metre siding.
- ▶ **Preventive treatment plan for infrastructure, track and corrective action on Iberian-gauge lines of the conventional railway system (PTIV).**

### URBAN DEVELOPMENT AND PARKING FACILITIES

Foremost contract awards:

- ▶ **Paving of several neighbourhoods in Panama City under the Paving Your City project.** Repair of surfaces and subsequent extension to several roadways, plus signage.
- ▶ **Underground vehicle car park on calle Badajoz in Barcelona.** The three-storey car park will hold 420 vehicles.
- ▶ **Development of the Plaza de la Almudena and adjacent areas in Madrid.** The site covers 9,500 m<sup>2</sup>, and the project calls for roofs to be built in the Plaza de la Almudena, the Plaza del Museo and the Plaza de la Armería.
- ▶ **Development of the Puerto Venecia shopping centre in Zaragoza.** The area covers five hectares and will include two above-ground parking areas separated by a broad section of park for pedestrian use. The park contains three water features, a canal, a fountain and an artificial lake.
- ▶ **Robotic car park and demolition of the interior of the building at calle Eduardo Dato, nº 18, Madrid.** The job consists in the construction of a robotic car park and the demolition of the inside of the building for refurbishment in a later phase of the same project.

### RESIDENTIAL CONSTRUCTION

The foremost contract awards during the fiscal year were:

- ▶ **185 units of publicly sponsored housing in Seville.** There are 24,183 m<sup>2</sup> of construction and 20,297 m<sup>2</sup> of floor area in the units.
- ▶ **600 homes in Tres Cantos, Madrid.** There are three 228-home parcels and two 186-home parcels.
- ▶ **120 homes with garages and appurtenances on parcel 171 in Valdebebas, Madrid.** The area constructed measures 29,063 m<sup>2</sup>.

- ▶ **86 homes in Tres Cantos, Madrid,** with 7,543 m<sup>2</sup> constructed below ground level and 14,251 m<sup>2</sup> constructed above ground level.
- ▶ **163 homes in the Ensanche Sur area of Madrid.** Four residential towers with 9,858 m<sup>2</sup> above ground level and 5,814 m<sup>2</sup> below ground level.
- ▶ **165 homes at El Camino de la Guija, in Ciudad Real.**
- ▶ **99 homes in Tres Cantos, Madrid.** The estate has 16,334 m<sup>2</sup> of floor area.
- ▶ **98 homes in Bilbao, Phase 2.** Phase 1: Construction of the building's structure and land development; Phase 2: Completion of the building.



Homes in Tres Cantos, Madrid

## CONSTRUCTION

- ▶ **85 homes in Getafe, Madrid.** Total home floor area built: 15,900 m<sup>2</sup>.
- ▶ **152 units of controlled-price housing in Getafe, Madrid.** The project has 25,366 m<sup>2</sup> of floor area.
- ▶ **Completion of 113 publicly sponsored homes in Alcorcón, Madrid.** This includes completed indoor and outdoor construction, finished services and development of the land inside the estate.

### NON-RESIDENTIAL CONSTRUCTION

Included under this heading is the construction of administrative buildings, schools, health service buildings, cultural, athletic and commercial facilities, hotels and industrial buildings.

#### Administrative and Office Buildings

- ▶ Construction of **Phase 1 and Phase 2 of MRW's corporate headquarters in Hospitalet de Llobregat.**
- ▶ **Refurbishment of the National Appellate Court's building in Madrid.** Preparation of the basic design and construction plans, top-to-bottom refurbishment of the building and construction of new outer walls for the National Appellate Court's headquarters. The total area to be refurbished was 11,618 m<sup>2</sup>.



Torrejón de Ardoz Hospital

#### Schools

- ▶ **Two primary schools in Abrantes and Río Maior, Portugal.**
- ▶ **Construction of Phase 2 of the Cartuja 93 Technological Spaces building.** Phase 2 consists in the completion of the concrete structure and the construction of the metal structure and the precast concrete structure.
- ▶ **Combined primary school and nursery school in Alicante.** The school will house six nursery school units and 12 primary school units.
- ▶ **Juan de la Cosa Student Residence at the University of Cantabria.** The residence will have 89 single rooms with baths and a floor area of 11,185 m<sup>2</sup>.

#### Health Service Centres

- ▶ **Ciudad Hospitalaria in Panama.** Health complex having a floor area of 209,000 m<sup>2</sup>, 49 operating theatres and 1,709 beds. There is a whole set of buildings, each housing different specializations and departments. Ciudad Hospitalaria will be Central America's most modern health facility and will provide health care for a million and a half people.
- ▶ **Ophthalmologic clinic and car park in Palma de Mallorca.** Building having 3,531 m<sup>2</sup> of floor area.
- ▶ **Construction of research and teaching areas in the new Hospital Son Espases, in Palma de Mallorca.**
- ▶ **Preliminary phase of the project to build the new Hospital Nuestra Señora de La Paloma building, on calle de la Loma nº 1, Madrid.** The project consists in redesigning the area's layout and putting in a basement and an attic.
- ▶ **Remodelling and enlargement of Hospital de Manacor, (Mallorca).**

Work is just about to finish on a new **hospital in Enniskillen, Northern Ireland.** The 65,000-m<sup>2</sup> hospital complex is the first to be contracted for as a public/private partnership in Northern Ireland, and it will be run under a 30-year concession.

## CONSTRUCTION



Enniskillen Hospital, Northern Ireland

**Hospital de Torrejón de Ardoz, in Madrid**, recently opened its doors. The hospital has 250 beds for patients, ten operating theatres, 12 dialysis stations, six delivery rooms and other related facilities. It will be run under a concession good for 30 years.

### Cultural, Athletic and Entertainment Complexes

- ▶ **Phase 2 of the construction of the Cultural and Multi-purpose Centre in Vall D'Uxo (Castellón).**
- ▶ **The future National Museum of Energy in Ponferrada, León.** Between the old, remodelled power plant and its new annexe, the museum has a total of 34,500 m<sup>2</sup> of floor area.
- ▶ **Structural consolidation of the lower stands and remodelling of a staircase at Santiago Bernabéu Stadium, in Madrid.**

- ▶ **Social club, part of the second phase of a project in Orihuela (Alicante).** The work includes the construction of a swimming pool and some secondary building.
- ▶ **Construction, stage equipment and conference equipment for the Burgos City Auditorium.**

### Industrial Facilities

- ▶ FCC's Austrian subsidiary ALPINE was awarded the contract to **enlarge the Borouge plant in Ruwais, Abu Dhabi.** Construction of 26 facilities, including office buildings, production plants and storehouses. The project will boost the petrochemical plant's polyethylene production capacity by 2.5 million tons per year.
- ▶ **Refurbishment of the Pasaia Building, part of the transitional phase of the new temporary fish market at the harbour in Pasaia (Guipúzcoa).** Construction of two temporary buildings to house the fish market until the permanent fish market has been built.
- ▶ **Guipúzcoa Waste Management Centre.** The lot where the facility will be built covers an area of 54,268 m<sup>2</sup>. The centre will have a treatment capacity of 320,000 tons/year. The facility will be prepared to produce 203,320,000 kilowatts/hour/year, which is the amount of power consumed by about 68,000 homes in one year.
- ▶ **Pre-operation and maintenance of the Las Dehesas Biomethane Production Plant in Madrid.**

### Refurbishment and Maintenance

- ▶ Improvement of the Hotel Torneo in Seville. The hotel will have eleven storeys.

## CONSTRUCTION



During fiscal 2011 FCC Industrial continued to grow and fine-tune its position in the sector. It was founded in 2010 through the mergers of several investees belonging to area IV of FCC Construcción. At the outcome of these mergers, a new brand name, FCC Industrial, was launched as part of the Citizen Services Group's fleet.

Two thousand and eleven saw the consolidation of the new brand name both internally and externally. FCC Industrial boosted its capabilities last fiscal year, thanks not only to synergies among the firms handling the services it provides, but also new acquisitions, such as the acquisition of Hermeriel, S.A., by FCC Servicios Industriales y Energéticos, S.A.

FCC Industrial had certain challenges set up for 2011, and it met its short-term goals: The company's production increased considerably, thus ensuring continued growth in this new business sector (industrial services and systems, focusing on integrated turnkey projects). At the same time, FCC Industrial has cultivated its international backlog under a strategy aligned with the Group's different areas, the practical upshot being that offices have been opened abroad.

### FCC ACTIVIDADES DE CONSTRUCCIÓN INDUSTRIAL, S.A.

During 2011 this specialized FCC firm won 172.6 million euros' worth of contracts, a 24.84% increase over the preceding fiscal year.

The company's contracting activity focussed fundamentally on industrial projects and projects involving gas and oil pipelines.

Foremost contract awards:

- ▶ EPC (engineering, procurement and construction) contract for a 50-MW solar thermal power plant in Villena (Alicante).
- ▶ Gas pipeline between Yela (Guadalajara), and El Villar de Arnedo (La Rioja).
- ▶ Coslada Cultural Centre and Library, in Coslada (Madrid).
- ▶ Athletic centre on calle de Capitán Haya (Madrid).



Alhama/Murcia oil pipeline

## CONSTRUCTION

### FCC SERVICIOS INDUSTRIALES Y ENERGÉTICOS, S.A.

This subsidiary is the product of the merger of several FCC Construcción firms from the industrial and energy sectors, including Internacional Tecair, S.A. In 2011 it consolidated its structure and organization.

In August of last fiscal year, the acquisition of Hermeriel, S.A., was consolidated. The new acquisition does business in Spain in the sector of power distribution networks, network maintenance and other work on power lines, substations and transformer stations. It has offices in Castilla-León, Madrid, the Levante area and Andalusia.

FCC Industrial's diversification and internationalization strategy received a big boost in 2011. The first works and services contract in Mexico was secured, covering the electrical and mechanical systems in the tunnels on the Nueva Necaxa/Ávila Camacho road in the state of Puebla; and a photovoltaic farm was brought on line in Sardinia (Italy).

The foremost activities and contract awards of the last fiscal year were:

#### ELECTRICAL INSTALLATIONS DIVISION

- ▶ Electromechanical systems in the tunnels on the new Nueva Necaxa/Ávila Camacho road in the state of Puebla (Mexico).
- ▶ Electromechanical systems in the Reyno de Navarra Arena Pavilion in Pamplona.
- ▶ Changing of floodlights at Santiago Bernabéu Stadium in Madrid.
- ▶ Wiring and special systems for the tunnels on dual carriageway A-8 in Muros del Nalón (Asturias).
- ▶ Wiring and communications systems for Nuevo Hospital de Ronda, in Ronda (Málaga).
- ▶ Wiring in the Despeñaperros Tunnels.

#### MECHANICAL SYSTEMS DIVISION

- ▶ HVAC (Heating, ventilation and air conditioning) systems for Repsol's new corporate offices on calle de Méndez Álvaro (Madrid).
- ▶ Electromechanical systems for the Gimnasio Virgin Active, on calle Capitán Haya (Madrid).
- ▶ HVAC and control systems in an office building designed as corporate headquarters, parcel B-20, in Las Tablas (Madrid).
- ▶ HVAC system in the refurbishment of the old Boetticher industrial buildings in Villaverde (Madrid), for the construction of the Cathedral of New Technologies.
- ▶ Electromechanical systems at the Centre of Expression for New Technologies in Madrid.



Absorption plant in an athletic complex, Madrid

#### MAINTENANCE AND ENERGY EFFICIENCY DIVISION

- ▶ Offices and business centres: the Eisenhower Business Centre, the Méndez Álvaro Business Centre, the Puerta de Europa Building, the Mapfre Building in Murcia, the Cervantes Institute in Madrid.
- ▶ Shopping centres: Plaza Nueva in Leganés, Ferial Plaza in Guadalajara, Carrefour Los Alfares in Toledo, Nervión in Seville.
- ▶ Industry and laboratories: Valde las fuentes athletic complex in Alcobendas (Madrid), Sogecable production and broadcasting centre in Madrid, Abbott Laboratories in Madrid.



## CONSTRUCTION

### DISTRIBUTION NETWORK DIVISION

- ▶ Substation (66/11 KV) and power supply line (66 KV) for a solar thermal plant in Palma del Río (Córdoba).
- ▶ Power production plant in the Matadero complex in Madrid. Medium-voltage wiring, distribution centres, transformer stations and power supply lines.
- ▶ Second high-speed railway tunnel between Chamartín Station and Atocha Station. Medium-voltage facilities. Distribution and transformer stations, network and medium-voltage electrical control system.
- ▶ Power supply work for railway tunnel-boring machine services in Catalonia.

### ENERGY DIVISION

- ▶ Solar thermal plants in Palma del Río (Córdoba), and Villena (Alicante), each rated to produce 50 MW apiece.
- ▶ Start-up of two photovoltaic farms, one producing 0.69 MW and the other, 3.6 MW, in Sardinia, Italy.

### RAILROAD DIVISION

- ▶ High-speed catenary on the Atlantic Artery.
- ▶ Various stations on Line 9 of the Barcelona Metro system.
- ▶ Installation of the overhead contact system at the Bamesa loading dock in the Barcelona Free Zone.
- ▶ Málaga Metro, Lines 1 and 2. Electromechanical systems, control systems, other systems.
- ▶ Electrification systems and affected utilities in various railroad projects in the Community of Catalonia.
- ▶ Montmeló Railroad Station (Barcelona). Electrification work.

### SYSTEMS DIVISION

- ▶ Spanish Ministry of Defence. Directorate-General of Weapons and Materiel. SAPO-SUBPLA for Peace: Operational planning system for the Spanish Army when on peace missions.
- ▶ Spanish Air Force. Addition of new functions to the air mission-planning system for the P3-Orión marine patrol plane.
- ▶ Fénix Programme. Acquisition of terminals and services operating the command and satellite control system for assisting forest fire-fighting brigades for the Community of Madrid.
- ▶ Spanish Directorate-General of Traffic: Simulator migration and recurring certification of the Directorate-General of Traffic's helicopter simulator.

- ▶ Málaga Metro control system: Development and installation of the central control station, which includes management systems, remote control systems and communications networks.

### RDI PROJECTS

- ▶ During the course of 2011, FCC Industrial made its first contact with the new Railroad Technology Centre in Málaga, a venture set up by Adif to engage in RDI in the railroad sector. Cooperating with the Centre will mean a great opportunity to forge alliances and agreements with other specialist firms in the same sector, universities and other academic institutions.
- ▶ FCC signed a cooperation agreement with Adif to develop and implement these new technologies. Agreements will be reached with other companies and official agencies during the present fiscal year, to back up and supplement all these activities.



Catenary on the high-speed Atlantic Artery

## CONSTRUCTION



### OTHER SUBSIDIARIES AND INVESTEES

#### INFRASTRUCTURE UPKEEP

The FCC Group operates in this sector through Mantenimiento de Infraestructuras, S.A. (Matinsa), covering the following areas:

##### Dual Carriageways and Roads:

Maintenance of more than 1,550 kilometres of dual carriageways and 2,330 kilometres of conventional public roads of various sorts.

Matinsa maintains the approach to Madrid on dual carriageway A-6 from Villalba, which includes the section containing the BUS-VAO lane. The reversible, high-occupancy BUS-VAO lane is one of Europe's pioneering models of infrastructure.

It also provides upkeep for the ring roads around Barcelona, Ronda de Dalt and Ronda Litoral and maintenance for the Asturian "Y". All these roads bear a traffic load of more than 100,000 vehicles per day.

During 2011 new upkeep contracts were secured in the provinces of Orense, Asturias, Ávila, Soria, Tarragona, Cáceres, Badajoz, Ciudad Real and Málaga.

##### Hydraulic Infrastructure Maintenance

Matinsa operates and maintains SAIH, the Júcar River Hydrographic Confederation's automatic hydrographic information system. The system has 217 checkpoints equipped with instruments to monitor the behaviour of the river's basin.

This FCC subsidiary also maintains and operates several canals in the Júcar River basin, a total of 160.2 kilometres of canals that provide water for the cities of Valencia and Sagunto and their metropolitan area and cover the needs of 28,000 hectares of irrigable farmland.

#### Tram Maintenance

Maintenance of infrastructure, systems, civil engineering works and rolling stock for:

- ▶ The Zaragoza tram system, which has seven kilometres of tramline in operation.
- ▶ The Murcia tram system, whose line is 17 kilometres long.



Tram maintenance facility

## CONSTRUCTION

### Forestry and Environmental Restoration Jobs

- ▶ Forestry work, forest replanting and forest improvement in the autonomous communities of Madrid, Andalusia, Extremadura, the Valencian Community and Castilla y León.
- ▶ Environmental restoration, recovery and maintenance of deteriorated natural areas, such as restoration of dune systems, environmental conservation and restoration in coastal areas and naturalization of watercourses and their shores.

### Forest Fire Prevention and Extinction

Matinsa carries out the following services:

- ▶ Matinsa has been providing reserve crew service non-stop since 1998 for the Eastern zone of the Community of Madrid, with a total of 234 operators, eight heavy forest fire pumps, 15 lightweight pumps, two high-mobility vehicles (VAMTACs), one twin-turbine helicopter and 14 forestry engineers.
- ▶ It has been managing the fire-fighting devices at Madrid's Casa de Campo ever since 2003.
- ▶ It provides forest fire prevention service for railway lines in Northeast Spain (Aragon and Catalonia) for Adif.
- ▶ It prevents and fights forest fires with heavy machinery for the Community of Madrid, under the INFOMA Plan.

### Maintenance and Upkeep of Natural Spaces, Gardening and Landscaping

- ▶ Upkeep of parks and gardens requiring special protection in Madrid, including the Templo de Debod, the Sabatini Gardens, El Capricho Park, Dehesa de la Villa Park and Oeste Park, Quinta de los Molinos and the Tres Cantos forest area.
- ▶ Upkeep of Bosquesur Park in Madrid.
- ▶ Upkeep and maintenance for areas of bare earth, pavements and items of civil engineering work in Madrid's Casa de Campo.

### RDI Projects

Matinsa is participating in the following RDI projects:

- ▶ The Fénix-Tic Project, consisting in the development and establishment of a management system for forest fire prevention and fighting.
- ▶ The Bridges Project, for the design of a system for the real-time auscultation of structures while in use, using wireless sensors.



Installing a flexible bollard



Installing a metal barrier

## CONSTRUCTION



### ENGINEERING

Proyectos y Servicios, S.A. (Proser), studies and designs engineering projects. The foremost contract awards of the last fiscal year were:

- ▶ **Dual Carriageways and Roads**
  - ▶ **Feasibility study for ore shipment via heavy vehicle between Sotiel and Aguas Teñidas, Huelva.**
  - ▶ **Preliminary design for an intersection with road A-396 in Sotiel Coronada (Huelva).**
  - ▶ **Design for the El Olivar dual carriageway tender. Section: From Estepa to Lucena.** This consists in the design of a dual carriageway between Estepa (Sevilla) and Lucena (Córdoba), a total of 40 kilometres in length, to replace road A-318 (part of the Andalusian road system).
- ▶ **Conventional and Urban Railways**
  - ▶ **Basic design of the railbed for the remodelling of the Main Railway Network in the city of Murcia.** The idea is to define the basic design taking the railroad line underground for 7.8 kilometres when it arrives at the city of Murcia. The construction of an intermodal transfer station is included as well.
  - ▶ **Building plans for the section of the High-Speed Atlantic Artery between Porriño and the Portuguese Border.** This covers the definition of a bed for two sets of international-gauge tracks, for passenger trains only. It is the last section of the international Vigo/Porto line on Spanish soil before the new international viaduct over the Miño River. It is 6.6 kilometres long.
- ▶ **Hydraulic Works**
  - ▶ **Preparation of the 2010-2011 and 2011-2012 annual reports on Talarn Dam in Lérida.** This job was awarded as a continuation of the annual reports for 2007 to 2010 and the report on the first safety review, all of which were prepared by Proser.
  - ▶ **Preparation of the plans for the auscultation of Baserca Dam, in the province of Huesca, and Llauset Dam, in the province of Lérida.** The plans define the control systems and the procedures for data collection and the interpretation of behaviour-defining parameters concerning the dams' safeness.

- ▶ **Analysis of the strategy for operating the reservoirs at the overlap between the Gállego River basin and the Cinca River basin, for pumping to Almodévar Reservoir, Huesca.** At issue is the first phase of the feasibility study on wind-powered electricity-generating facilities at the reservoir's pumping station, for the station's own use. Both the pumping and turbine station and the reservoir itself were designed by Proser.
- ▶ **Construction plans for the irrigation distribution network of the Segarra-Garrigues system (Lérida). Sector 4.1.** Secondary transformer networks for floors C1 and C2 in the sector. The object of these plans is to provide the layout and dimensions for the secondary and tertiary networks for the canal's right bank in sector 4.1 and the hydraulic infrastructure.



Wastewater treatment plant in Tomelloso, Ciudad Real

## CONSTRUCTION

### ▶ RDI

- ▶ In 2011 Proser had its last year's worth of work on the project **Urban Tunnels: Research into New Methodologies for Analyzing, Designing and Building Tunnels in Urban Areas** certified as R&D, through the mediation of a consultancy, EQA (European Quality Assurance).
- ▶ Proser had its project **Comprehensive Platform for Project Plan and Tool Management (INNOPROSER)** certified as a technological innovation. The project has taken five years to complete and was certified by ACIE (Agencia de Certificación en Innovaciones Española).
- ▶ In 2011 the **Platform 2.0** project was run. This project addresses how to streamline the company's internal processes for a gradual increase in productivity and energy efficiency. Arrangements will be made this fiscal year to have the project certified as a technological innovation.
- ▶ Lastly, a consortium was put together to run the project **Comprehensive Safety System in High-Speed Tunnels**. The consortium's participants include FCC Construcción, Alstom, the Biomechanics Institute of Valencia (IBV), AITEMIN and Madrid Polytechnic University (UPM), among others.



### CORPORATE IMAGE

Corporate image specialist Megaplas, S.A., upped its activity by 30% in 2011. With two production centres (one in Madrid and another in Turin (Italy), it manufactures and installs items used to create the image of major companies in areas like the automotive sector and the oil business.

The most significant projects it engaged in last fiscal year were:

- ▶ Changing the image at 125 Disa service stations. Disa is the largest petrol station operator in the Canary Islands. The image makeovers were administered at the steady rate of two petrol stations per week throughout the archipelago.

- ▶ Remodelling of the Fiat, Lancia, Alfa Romeo and Jeep dealers in Spain, Italy, Portugal, France, Belgium, Greece and Switzerland.
- ▶ Introduction of a fresh image for New Holland, farm and construction machinery manufacturer, in Spain, Portugal, Italy, France, Belgium, Germany, Poland and the UK.
- ▶ Contracting to give Kia a new image for Spain. To kick activities off, Megaplas worked its magic for 36 of the Korean automaker's dealers. The contract covers new indoor furnishings in addition to the outdoor image of dealerships.



Outside a KIA dealership

## CONSTRUCTION



### PREFABRICADOS DELTA, S.A.

Prefabricados Delta succeeded in maintaining an acceptable pace for business during the last fiscal year. Its factories' production figures were:

- ▶ 1,259 metres of reinforced-concrete pipe with metal sleeves and joints for welding.
- ▶ 19 kilometres of fibreglass-reinforced polyester (FRP) pipe.
- ▶ 100,000 pre-tensioned monoblock sleepers of different types.

By business sectors, the foremost supplies in terms of size or special requirements were:

### ▶ WATER PIPE SUPPLIES

The foremost projects were:

- ▶ Irrigation of the Segarra-Garrigues system in Lérida: supply of over 9.2 kilometres of FRP pipe in diameters between 600 and 1,200 mm.
- ▶ Arroyo Culebro Wastewater Treatment Plant in Madrid: supply of two kilometres of FRP pipe with a nominal diameter of 500 mm.
- ▶ Modernization of the irrigation system for Vegas del Guadalquivir, Vegas Bajas Sector III (Jaén), for which 1,660 metres of FRP pipe with a nominal diameter of 700 mm have been manufactured and supplied so far.
- ▶ Completion of work on Payuelos II Canal in León, with the manufacturing and supply of the last 1,260 metres of twin parallel reinforced-concrete pipes.
- ▶ FRP pipe was also supplied in nominal diameters of 600 and 1,000 mm for the same canal during 2011.

### ▶ RAILWAY SLEEPER SUPPLIES

In 2011 99,660 pre-tensioned monoblock sleepers were supplied. There were all type PR-01 sleepers, which can be used for domestic- and international-gauge tracks alike, and they were largely for Adif.

Foremost projects and supplies:

- ▶ Contract awarded by Adif for supply and shipping of sleepers for the Palencia/León section of the High-Speed North-Northwest Corridor, Phase I. A total of 137,100 AI-04 sleepers and 5,700 PR-01 sleepers.
- ▶ Supply of sleepers for the Jerez North track project, a total of 16,620 PR-01 sleepers.
- ▶ Supply of 15,000 PR-01 sleepers for the Main Palencia System project.



# CONSTRUCTION

## INFRASTRUCTURE CONCESSIONS

### Infrastructure Concessions

During the last fiscal year, the concession sector laboured under the influence of the complex domestic and international economic situation and the instability of capital markets. Although public project tenders under public/private partnership and concession schemes did not suffer as much as budget-based tenders did, the crisis miring the Spanish financial system did make it tough to get financing for concession projects.

The scenario as just described was taken into account in project selection. The selection process was based on a strict risk analysis and a study of each project's economic and financial feasibility. Accordingly, activities in 2011 focussed on:

1. Continuing to increase the number of international projects in hand, preferably in solvent, safe markets that have medium-term outlooks for growth. This goal is in line with the strategy mapped out by the FCC Group.
2. Bidding on contracts with solvent partners (membership in the investment fund consortium), submitting bids that are consistent and financeable.
3. In connection with the contracts already held: in 2011 there have been negotiations with the administration concerning the conditions for adjusting certain contracts whose economic and financial balance has become skewed.

### CONCESSION BUSINESS

The FCC Group works infrastructure concessions through four companies:

- ▶ FCC Construcción (Concession Division)
- ▶ The Alpine Group (79.27%)
- ▶ Globalvía (50% FCC)
- ▶ Cedinsa (27.2%)

Below is a list of the concession-holding companies in which FCC holds interests, plus the foremost events of 2011:

FCC Construcción, S.A. (Concession Management Office)

### Spain

#### ▶ Tranvía de Murcia (50%)

Murcia Tram Construction, maintenance and operation of Line 1 of the Murcia Tram (17.76 kilometres and 28 stops) for 40 years. The concession was signed on 7 May 2009, and the total investment is 185 million euros.

In May 2011 operation of the line began, and the work was done to integrate the rolling stock with the operation, electrification, ticketing and communication systems.

The Murcia Tram was chosen from among candidates from many countries to receive the International Award for the Best Environmental Initiative of the Year (Global Light Rail).



Zaragoza tram

## CONSTRUCTION

### ▶ **Tranvía de Zaragoza (16.62%)**

The Zaragoza City Council held a call for tenders in order to select the partner of a partially government-owned company that would be in charge of building, commissioning, maintaining and operating Line 1 of the Zaragoza Tram (12.8 kilometres) for a 35-year period.

The new service, whose technology has already won it regard as the most modern tram in Spain, will be operational in 2013. Last fiscal year it successfully began providing Phase-I commercial service and carried upward of 25% more passengers than first anticipated.

### ▶ **Urbicsa (29%)**

Construction, maintenance and operation of the buildings and facilities in the City of Justice complex in Barcelona and L'Hospitalet de Llobregat. There are buildings with areas reserved for the Cataluña regional government, areas for ancillary uses, offices and retail space, plus a 1,750-car parking facility. Two thousand and eleven was a year for consolidating the complex's maintenance and operation. The main activities concerned energy savings and space management. The Professional Support Centre began doing business in February.

### ▶ **Autovía Conquense (100%)**

In 2007 a 19-year concession was signed for the upkeep and operation of the portion of roads A-3 and A-31 that lies in Cuenca. In 2009 all the plans were delivered, and by late 2011 half the construction work was done. Construction is scheduled for completion in 2013.

In December 2011 approval came through to shift the contract's economic balance due to the increase in the investment required by the administration. Under the shift, the charge per vehicle has been changed, and the contract's yearly payments have been regularized. The right to receive a participating loan from the national government equivalent to the acknowledged extra work has also been recognized.

### ▶ **Hospital de Torrejón de Ardoz (5%).**

The Community of Madrid awarded the contract for 30 years' full management of Hospital de Torrejón de Ardoz in August 2009. This is the second hospital concession in the community that includes health services as well as the management of non-health services. The hospital has an area of 62,000 m<sup>2</sup> and 240 beds, and it provides health care for 133,144 people. FCC represents 66.67% of the construction company and has a 5% stake in the capital. In June of



City of Justice complex in Barcelona

last year the construction work was completed. Operation of the hospital began in October.

### ▶ **Centros de Salud de Mallorca (33%)**

In late 2009 the Health Service of the Autonomous Community of the Islas Baleares chose a consortium featuring FCC to receive the contract to build, keep up and operate five health centres and five basic health units. In the first quarter of 2011, all the building under the contract was completed. In May infrastructure maintenance and operation began.



## CONSTRUCTION

### ▶ Cedinsa Eix Llobregat (27.2%)

Construction and shadow toll operation of the road between Berga and Puig-Reig (Barcelona), as well as the upkeep and maintenance of the San Fruitós de Bages/Puig-Reig section, both of which are on road C-16 (the Llobregat Artery). Two thousand and eleven was the fourth year of operation, and the average daily traffic registered on these sections was 20,000 vehicles.

### ▶ Cedinsa d'Aro (27.2%)

In December 2005 Cedinsa won the contract for a shadow toll concession lasting 33 years and covering 27.7 kilometres of the dual carriageway from Maçanet to Platja d'Aro. The contract comprises the design, construction and operation of the section of road C-35 between Vidreres and Alou and the operation of the Maçanet/Vidreres section of road C-35, the Alou/Santa Cristina d'Aro section of road C-65 and the Santa Cristina d'Aro/Platja d'Aro section of road C-31. Two thousand and eleven was the third year of full operation, with an average daily traffic of 24,688 vehicles.



### ▶ Cedinsa Ter (27.2%)

In 2006 FCC was awarded the concession for the 48.6-kilometre-long Vic/Ripoll shadow toll dual carriageway. Included are 25.2 kilometres of road rerouted between Centelles and Ripio. The term of the concession is 33 years, including three years for construction and 30 years for operation. In July 2010 section 3A was inaugurated and thrown open to traffic. The dual carriageway was opened in its entirety before the summer of 2011, registering an average daily traffic of 25,450 vehicles.

### ▶ Cedinsa Eix Transversal (27.2%)

In June 2007 another 33-year shadow toll concession was won, for the 150 kilometres of the Eje Transversal (Cross Artery) dual carriageway. The contract calls for the design, construction and operation of the Cervera/Caldes de Malavella section of road C-25. Most of the work involves twinning road C-25. In 2011 construction continued and was half finished. Plans are for the Cervera/Manresa and Gurb/Caldes de Malavella sections to be opened by the last quarter of 2012 and the sections between Manresa and Gurb to be opened in early 2013.

### ▶ Línea 9 del Metropolitano de Barcelona (49%)

In late 2008 IFERCAT (Infraestructures Ferroviaries de Catalunya) awarded the 32-year contract for the construction, maintenance and upkeep of 13 stations and their ventilation shafts on section I of Line 9 of the Barcelona Metro. Last fiscal year 11 stations were delivered, and the last two stations will be delivered before 31 March 2012.

### ▶ World Trade Center Barcelona, S.A. (16.52%)

Holder of the 50-year concession to manage the World Trade Center buildings on Barcelona harbour. The buildings contain 36,000 m<sup>2</sup> of offices and retail space, 6,000 m<sup>2</sup> of auditoriums and conference rooms and a 280-bed hotel.

## CONSTRUCTION

### ► **Parc Tecnologic World Trade Center Cornellà, S.A. (12.5%)**

This company is building a complex featuring seven office buildings, a retail area and a 27-storey apartment hotel. Construction work is finished on the first phase of work, which consists of three buildings having a floor area of 37,500 m<sup>2</sup>, a 500-vehicle underground car park and a 10,000-m<sup>2</sup> landscaped plaza.

### International

### ► **New Acute Hospital for the Southwest Enniskillen (Northern Ireland)**

In May 2009 the financing and concession contracts were signed between the Sperrin Lakeland Health and Social Care Trust (Health Administration) and the winning consortium (in which FCC holds a 39% interest) for the construction, maintenance and operation (non-health services) of the New Acute Hospital for the Southwest in Enniskillen (Northern Ireland), for a 33-year period. The new hospital will have 315 beds. In 2011 the power systems were fully established and the HVAC system was completed in its entirety. It is estimated that work will finish in May of this fiscal year.



## CONSTRUCTION



### Globalvía

During the last fiscal year, this FCC subsidiary continued consolidating its position as the platform for major infrastructure projects. For the third year running, it was the second-largest infrastructure manager in the world by number of concessions.

Under its portfolio reorganization and management strategy, Globalvía divested from the Portsur Castellón concession in 2011. In February Globalvía closed the sale of its 30% interest in the concession, which handles the operation of the bulk solid terminal in the southern expansion of Castellón harbour, with 300 metres of wharf and 60,000 m<sup>2</sup> of attached yard.

Also during 2011 Globalvía increased its interest in Túnel de Sóller. In September Globalvía bought out Banesto's 32.7% interest, so the FCC subsidiary now controls 89.23% of the company instead of the 56.53% it held before the purchase. Túnel de Sóller is the company that holds the shadow toll concession to operate the tunnel crossing the Sierra de Alfabía along the corridor between Palma de Mallorca and Sóller. The tunnel is 3.1 kilometres long. The concession is for 33 years, and it has been running since 1989. In 2011 an average of 7,920 vehicles were registered as using the tunnel each day.

### Fund-raising Process

Globalvía successfully wound up the process aimed at raising funds to facilitate the implementation of its current concessions and take on future investments. Arrangements have been made with the PGGM pension funds (Holland) and OPTrust (Canada) through a debt instrument that can be converted into shares in five years. The sum involved is 400 million euros at present, with the possibility of rising to a total of 750 million euros.

### Concessions Pending Incorporation (under the agreement between FCC and Globalvía):

At 31 December 2011 the following concession-holding companies were pending incorporation in Globalvía: Túnel de Coatzacoalcos (Mexico), Autopista del Valle entre San José y San Ramón (Costa Rica), Marina de Laredo, Metro de Málaga, Autovía Ibiza-San Antonio, Trambaix and Trambesos.

- ▶ **Tramvia Metropolità del Baix Llobregat (19.03%).** Baix Llobregat Metropolitan Tram. Construction of the tram infrastructure between Southern Barcelona and the towns in the Baix Llobregat district and operation of the system for 25 years. The system has been in service since 2005. Over the last fiscal year it was used by 16.1 million passengers, 1.94% more passengers than in 2010. In April four units were rolled out.
- ▶ **Tramvia Metropolità del Besòs (19.03%).** El Besòs Metropolitan Tram. Construction of the tram that links the Estación del Norte and the Villa Olímpica in Barcelona with Sant Adrià del Besòs and Badalona, and 27 years' operation and maintenance. The tram line is 15 kilometres long. During 2011 it was used by eight million passengers, 8% more passengers than in 2010.
- ▶ **Autovía Ibiza-San Antonio (50%).** Dual carriageway between Ibiza and San Antonio. Construction and operation of the twinned shadow toll section of the road between Ibiza and San Antonio. The project is special because 1.3 kilometres of the dual carriageway run underground in the San Rafael area. The road is a total of 14 kilometres long, and the concession is for 25 years. The average daily traffic was 30,894 vehicles.
- ▶ **Marina de Laredo (42.5%).** Laredo Marina. Construction of protective structures at Laredo's new fishing port and recreational marina, which can accommodate 540 recreational craft up to 20 metres long (up to 859 with the expansion), and operation of the facility for 40 years. Also the construction and operation of a

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400-car car park at the marina and a dry storage yard accommodating 200 boats up to eight metres long.

In June 2011 the construction work was completed, and the government was notified that the project was ready.

- ▶ **Autopista San José-San Ramón (48%)**. Motorway from San José to San Ramón. Construction and operation of the shadow toll motorway between San José and San Ramón (Costa Rica), for 25 years. The motorway is 60 kilometres long.
- ▶ **Túnel sumergido de Coatzacoalcos (70%)**. Coatzacoalcos Tunnel. Construction of an underwater tunnel in Coatzacoalcos, in the state of Veracruz (Mexico), and its operation as a toll tunnel. The tunnel is 2,200 metres long, including a 1,200-metre underwater section. The concession is for 37 years.
- ▶ **Metro de Málaga (24.50%)**. Málaga Metro. Design, construction and operation of Line 1 and Line 2 of the Málaga Metro. The tracks are a total of 16.5 kilometres long, 71% underground, with 19 stations in all. The concession is in the construction phase at present.

Concessions Already Brought Within Globalvía's Consolidation Perimeter as of 31 December 2011:

- ▶ **Autopista del Itata, Chile (100%)**. El Itata Motorway. Construction of the toll motorway between Concepción and Chillán, a total of 98 kilometres, and operation of the motorway for 13 years. In operation, with an average daily traffic of 4,512 vehicles in 2011.
- ▶ **Autopista del Aconcagua, Chile (100%)**. Aconcagua Motorway. Construction of the section of the Route 5 toll motorway between Santiago and Los Vilos, a total of 218 kilometres, and operation of the motorway for 30 years. The average daily traffic in 2011 was 13,545 vehicles.
- ▶ **Autopista Trasmontana (50%)**. Trasmontana Motorway. Construction of the mixed toll motorway between Vilareal and Bragança, Portugal, a total of 194 kilometres, and operation of the motorway for 30 years. The project is in the design and construction phase.
- ▶ **Autopista central Gallega (61.39%)**. Galician Central Motorway. Construction of the toll motorway between Santiago de Compostela and Alto de Santo Domingo and operation of the motorway for a 75-year period. The road is 56.8 kilometres long. In 2005 it went into operation. The average daily traffic in 2011 was 5,785 vehicles.



Harbour at Laredo, Cantabria



Scada, Chile

## CONSTRUCTION

- ▶ **Túnel de Sóller (89.23%).** Sóller Tunnel. Construction and operation of Sóller Tunnel, a toll tunnel through the Sierra de Alfabía (part of the corridor between Palma de Mallorca and Sóller). The tunnel is 3.1 kilometres long, and the concession is for 33 years. The tunnel has been in operation since 1989 and in 2011 saw an average daily traffic of 7,920 vehicles.
- ▶ **Terminal Polivalente de Castellón (75%).** Castellón Multipurpose Terminal. Construction and operation of a 9.5-hectare container- and general goods-handling terminal in Castellón harbour. In operation since 2006. The terminal saw 90,300 container movements in 2011.
- ▶ **Autopista de la Costa Cálida (35.75%).** Costa Cálida Motorway. Construction of the toll motorway between Cartagena and Vera and operation of the motorway for a 36-year period. The toll section is 98 kilometres long, and there are 16 kilometres of toll-free motorway for internal traffic bypassing Cartagena. In 2011 the average daily traffic was 1,899 vehicles.
- ▶ **Metro Barajas (100%).** Design, construction and operation of the section of metropolitan railway between Barajas and the New T-4 Terminal Building on Line 8 of the Madrid Metro. The track is a total of 2.5 kilometres long, and the concession is for 20 years. The line has been in service since 2007. It registered 2,632,073 passengers in 2011.
- ▶ **M-404 (100%).** Design, construction, upkeep and operation of the 27 kilometres of dual carriageway M-404 between road M-407 and road M-506 (Madrid) as a shadow toll operation.
- ▶ **Puerto de Gijón, Explanada de Aboño (20%).** Gijón Harbour, Aboño Yard. Construction of a 168,000-m<sup>2</sup> bulk goods terminal in the port of Gijón and operation of the terminal for 30 years. During 2011 the terminal moved 950,100 tons of goods.
- ▶ **Hospital del Sureste, in Madrid (66.66%).** Construction and full-service maintenance management. The hospital had 110 beds in 2007, which may be increased to 148 in 2017. It has an estimated area of 37,000 m<sup>2</sup>. In operation since 2007.
- ▶ **Scutvias, Autoestradas da Beira Interior (22.2%).** Construction and operation of the shadow toll motorway between Abrantes and Guarda, Portugal. The motorway is 198 kilometres long; of that length, 95 kilometres belong to an already-existing road, and 103 kilometres are new-built. The concession is for 30 years. In operation since 2005, with an average daily traffic of 9,582 vehicles in 2011.
- ▶ **M-407 (50%).** Design, construction, upkeep and operation of 11.6 kilometres of dual carriageway M-407 between road M-404 and road M-506, (Madrid), as a shadow toll operation. The concession was awarded in August 2005 and has been in operation since 2007. In 2011 it registered an average daily traffic of 29,420 vehicles.
- ▶ **Concesiones de Madrid (100%).** Concessions of Madrid. Section of the M-45 dual carriageway ringing Madrid between the O'Donnell artery and road N-II, a total of 14.1 kilometres, for a period

of 25 years under a shadow toll arrangement. In operation since 2002, with an average daily traffic of 80,404 vehicles in 2011.

- ▶ **Túnel d'Envalira (80%).** Envalira Tunnel. Design, construction and operation of the shadow toll Envalira Tunnel, which links the Grau Roig winter resort to Pas de la Casa and carries traffic between Andorra and France on the Barcelona-Toulouse artery. The tunnel is 3.2 kilometres long, and the concession is for 50 years. The tunnel has been in operation since 1998, and in 2011 it saw an average daily traffic of 1,552 vehicles.
- ▶ **Tranvía de Parla (75%).** Parla Tram. Winner of the 40-year contract for the construction, supply of rolling stock, operation and maintenance of the 8.5 kilometres of double tram track in Parla, Madrid. This concession was awarded in 2005 and became operational in June 2007. The tram was used by an average of 5,000,260 passengers in 2011.



M-45 Madrid

## CONSTRUCTION

- ▶ **Transportes Ferroviarios de Madrid (49.37%).** Madrid Rail Transport. Thirty-two year concession for the extension of Line 9 of the Madrid Metro underground railway between Vicálvaro and Arganda. The stretch is a total of 20 kilometres long and has three through stations. During 2011 it was used by 6.6 million passengers.
- ▶ **Ruta de los Pantanos (66.66%).** Construction, management and upkeep for 25 years of the twinned 21.8-kilometre section of roadway on roads M-511 and M-501 between roads M-40 and M-522, in the Community of Madrid. The concession has been in operation since 2002, and in 2011 it registered an average daily traffic of 36,712 vehicles.
- ▶ **M-50 Dublin (45%).** Construction of Dublin's M-50 ring road, the city's primary bypass, and operation of the road for 35 years. The project consists in building 24 kilometres of motorway and operating and maintaining that stretch along with an additional 19.3 kilometres. It is a pay-as-you-go toll road, and it went into operation in September 2010.
- ▶ **Nuevo Necaxa-Tehuacán (50%) AUNETI, S.A. de C.V.** Autovía Necaxa-Tehuacán is the company in charge of designing, building and operating the 85-kilometre motorway between Nuevo Necaxa and Tehuacán, which runs between the state of Veracruz and the state of Puebla and forms part of the main overland artery joining Mexico City and Veracruz. This dual carriageway, which is currently under construction, is divided into two sections:
  - ▶ TC1 from Nuevo Necaxa to Ávila Camacho, 36.6 kilometres long, four lanes, construction and pay-as-you-go operation.
  - ▶ TC2 from Ávila Camacho to Tehuacán, 48.1 kilometres long, two lanes, operation as a toll road.
- ▶ **Autovía del Camino (9.1%)** El Camino Dual Carriageway. Construction and operation of the dual carriageway from Pamplona to Logroño under the shadow toll system. The road is a total of 70.25 kilometres long and has been in operation since late 2004. The average daily traffic registered in 2011 was 11,936 vehicles.
- ▶ **Port Torredembarra (24.08%)** Construction, operation and maintenance of a marina situated in Torredembarra, Tarragona. It has mooring capacity for 714 boats plus retail space and stores. In operation.
- ▶ **Aeropuerto de Santiago de Chile (14.78%).** Santiago de Chile Airport. Construction and operation of Arturo Merino Benítez International Airport in Santiago de Chile. In September 2005 the airport opened its second runway, built by the Ministry of Public Works, and operations have run more smoothly since. During 2011 there were 12.2 million passengers.
- ▶ **Autopista San José-Caldera (48%).** Motorway from San José to Caldera. Construction and operation of the shadow toll motorway from San José to Caldera, Costa Rica, which links the



Nuevo Necaxa-Tehuacán, Mexico

country's capital with one of Costa Rica's main Pacific ports. The road is 76.8 kilometres long, and the concession is for 25 years. In operation since January 2010. In 2011 the average traffic was 34,268 vehicles.

- ▶ **Hospital de Son Dureta (33%).** Construction and operation of the Islas Baleares new reference hospital, with an area of 193,088 m<sup>2</sup> and 987 beds, to provide health services for more than a million people. The concession is for 30 years. The hospital was opened to the public in 2010.
- ▶ **N6 Galway-Ballinasloe (45%).** Construction and operation of the N6 Galway-Ballinasloe motorway, along the strategic east-west corridor from Galway to Dublin, according to the requirements of the National Development Plan. It is a 56-kilometre-long toll motorway between Galway and Ballinasloe, with a seven-

## CONSTRUCTION

kilometre junction to the Loughrea bypass (single lane) and 32 kilometres of slip roads. The concession is for 30 years. In operation since December 2009. In 2011 it saw an average daily traffic of 9,180 vehicles.

- ▶ **R-2 Autopista del Henares (10%)**, Henarsa, S.A. is the company in charge of Construction and operation of the R-2 toll motorway, a 62-kilometre-long road between road M-40 and Guadalajara. It has two sections, to avoid the area's heavy traffic. The term of the concession is 24 years. The average daily traffic during the last fiscal year was 7,809 vehicles.



Sanchinarro light metro, Madrid

- ▶ **Circunvalación de Alicante (25%)**. Alicante Ring Road. Ciralsa, S.A., is the holder of the concession to build and operate the 28.5-kilometre Alicante ring road. The concession is for 36 years. The ring road has been in operation since December 2007, with an average daily traffic of 6,522 vehicles.
- ▶ **Metro Ligero de Sanchinarro (42.5%)**. In 2006 Metro Ligero de Madrid, S.A., was awarded the contract to operate and maintain the 5.4-kilometre-long Pinar de Chamartín/Sanchinarro/Las Tablas light metro line that connects Line 1 and Line 4 of the Madrid Metro system. In operation since May 2007. The concession is for 30 years. In 2011 4,922,784 passengers rode the light metro.
- ▶ **Accesos de Madrid (20%)**. Approaches to Madrid. Operation of the R3 and R5 toll motorways. Motorway R3 is 33.9 kilometres long and runs between road M-40 and Arganda del Rey, parallel to the toll-free alternative A-3 road. Motorway R5 is 28.3 kilometres long and runs between road M-45 and Navacarnero; it lies parallel with road A-5. Both have been in operation since 2004, and the concession is for 50 years. The average daily traffic registered in 2011 was 12,120 vehicles.

## CONSTRUCTION



Austrian subsidiary Alpine holds an interest in:

- ▶ **The design, financing and construction of the first section of the A5 motorway in Austria, plus operation of the motorway for 30 years.** This is the country's first motorway concession, a 51-kilometre section of road that includes the construction of the first part of motorway A5 from Vienna to the Czech Republic, between the towns of Eibesbrunn and Schrick, plus the prolongation of the north-eastern ring around Vienna, which will connect to the S1 and S2 fast lanes. The first phase went into operation in November 2009, and the second phase, in February 2010.

### TECHNOLOGICAL DEVELOPMENT

FCC Construcción backs an active policy of technological development and innovation, applying innovation constantly in its projects. The company is firmly committed to sustainability in technological development and views its own contribution to quality of life as a competitive factor.

### RDI

FCC participates in the technological facets of the most unique projects, preparing its own RDI designs and coming up with ways to improve building procedures. These advantages, in combination with strong support for the company's machinery and ancillary resources, enable FCC to offer its clients a range of in-house technical solutions. That is what makes FCC stand out from the rest of the sector.

For example, FCC Construcción is an active participant in a great many European and domestic RDI organizations, such as the European Construction Technology Platform, the E2BA (Energy Efficient Buildings Association), the Ad-hoc Industrial Advisory Group, the ReFINE (Research for Future Infrastructure Networks in Europe) initiative, ENCORD (the European Network of Construction Companies for Research and Development), the RDI Committee of AENOR's CACEC (Advisory Group for Builder Certification) and the Spanish Construction Technology Platform. It also participates in the

RDI committees at SEOPAN and the CEOE (the Spanish Confederation of Business Organizations).

These organizations share the objective of giving voice to the key role industry plays as a force behind research, development and technological innovation in the construction area. This they do by boosting the research capabilities of technological institutions and universities and helping research centres align their sights with economic and social demands, in the light of domestic and EU objectives.





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In December 2011 an agreement was signed enabling FCC Construcción to set up shop in Adif's Railway Technology Centre, located in Málaga's Technological Park.

A good number of RDI projects were active during the course of 2011. Work continued on several projects started in previous fiscal years, such as the BALI Project (for the top-to-bottom design of acoustically efficient buildings and systems in a healthy environment), the OLIN Project (a study of the qualities of materials and the treatment of materials in improved graded surfaces and embankments, for the construction of sustainable linear projects), Tanks (on designing a system for storing bitumen modified with powdered disused tires for plants that make hot bituminous mixtures), Bridge Damage (low-cost dynamic testing for maintenance of bridges subjected to uncontrolled environmental loads, using wireless sensors), Explosives (research into the conditions for designing and building car park buildings at transport terminals subject to the risk of terrorist attack), Cemesferas (research into manufacturing spherical vitreous microparticles with cementing properties, in conjunction with Cementos Portland Valderrivas), RS (sustainable building refurbishment), Vitraso (diagnosis and prediction of the way noise is transmitted in building) and Ecorasa (use of all building and demolition waste as fill for sewer ditches).

New domestic projects were started in 2011 as well, such as Nanomicro (nanomicrocements and their application in concrete towers for wind farms), Newcrete (concrete for structural use, containing a high percentage of recycled aggregates), IISIS (integrated research into sustainable islands, in cooperation with several firms from the FCC Group), PRECOIL (new systems for smart collective prevention in dynamic linear infrastructure environments) and SPIA (new highly visual signage systems: an autonomous personal light system). Work is also being done on two European projects, CETIEB (cost-effective tools for better indoor environments in retrofitted energy-efficient buildings), whose starting meeting was organized in Madrid by FCC Construcción, and BUILDSMART (energy-efficient solutions ready for the market).

The process of certifying the RDI processes used in projects continued as well.

### Material Laboratory

Our Material Laboratory has been engaged in work in cooperation with Cementos Portland Valderrivas as part of a study of the potential applications for Cementos Portland Valderrivas' new products, especially Ultraval and Microval, and activities utilizing these new products. For example, the laboratory has been examining shotcrete batching and lining work using Ultraval cement at the sites of the AVE high-speed

rail tunnels in Ordizia and on the Vacariza/Rialiño line, and it has been lending a hand in batching and the start of injection work in the Pajares Tunnels using the newly developed microcements.

The laboratory has also acted in an advisory capacity concerning the formulation of cements for tests with the ultimate aim of making more-competitive rigid concrete pavements.

The laboratory participated in quite a few RDI projects, the foremost of which were OLIBN, IISIS, Nanomicro and Cemesferas.



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### Special Designs and Construction

The following were some of the most specialized, innovative and technically tricky examples of design and technical assistance work done.

#### Hydraulic Works

##### ► Ribeiradio Dam and Ermida Dam (Portugal)

During 2011 the inner approaches to Ribeiradio Dam were built, and the dam's main systems were installed. At Ermida Dam the roads that are going to be affected by the formation of the future reservoir were diverted, and the bed where the dam's systems will go was built. Progress was made on the plan for diverting the Vouga River (for both dams), with the creation of hatches in the structure of the dam's body and the diversion channels.

##### ► Lower Payuelos Canal, Phase 2

The second phase of this project focussed on the special jobs the canal requires, especially the cut-and-cover tunnel, the duckbill spillways and the siphons used to cross roads and deep gullies. These siphons were made of twin 2.50- and 2.60-metre-diameter reinforced-concrete pipe with metal sleeves.

##### ► Alcollarín Dam

Last fiscal year the casting of several concrete blocks was completed, up to the height of the run-off channel. Different aspects of the dam were designed, including the heightening of an existing millwheel for water storage during the dam's construction and the study of alternatives for the upstream weirs.

##### ► Zapotillo Dam (Mexico)

Technical assistance was provided in the preparation of the plans for building the dam's different parts, in cooperation with the engineering firm that is drawing up the building plans. Support was given in the drainage structure study conducted by Imta, Mexico, the definition of RCC mixtures and the procedure for building the bank or test slab.

##### ► Bajo Frío Dam and Pac-4 Dam (Panama Canal extension)

A preliminary study was conducted, looking at different construction-related aspects of works execution for the Bajo Frío hydraulic complex. At the Panama Canal Authority's Pac-4 Dam, the materials comprising the dam's downstream filter (basalt sand) were the subject of special study.



Dam Alcollarín

##### ► Second Ring of the Isabel II Canal

During 2011 the third and sixth sections of the second compensating ring for the Madrid water supply were built. Given the importance and uniqueness of the project, special attention was given to development and technical assistance in the design of both sections.

## CONSTRUCTION

### Marine Construction

#### ► **Enlargement of the Química quay in Tarragona harbour**

The enlargement calls for three new quay fingers made of floating reinforced-concrete caissons and constructed on the floating dock Mar del Teide. The fingers require varying dredging depths and foundation thicknesses, from 2.5 metres to 6.5 metres. The cope beam and other components needed for the quay's operation were set in place on the fingers.

#### ► **New container terminal in Cádiz harbour. Phase 1**

Work began after the summer of 2011. The objective is to set up a new line of berths for container transport vessels and a new yard (built out of fill material) for the storage zone. Before these things can be done, a seawall has to be built to close off the Northern end of the yard, and a provisional barrier has to be built at the Southern end, where the new terminal expansion is supposed to go. The quay is built out of floating caissons 45.3 metres long, 20.3 metres wide across the base and 20.5 metres deep.

#### ► **Remodelling of the Levante jetty and new outer basin at Málaga harbour.**

The remodelling operation widens the approaches to the cruise terminal through its crown. Layers of concrete blocks weighing up to 21.5 tons apiece were applied to the jetty's slope to fatten it, helping to provide better protection by the way. A new crest was built as well. In the area between the outer side of this jetty and the new Levante jetty, the necessary protective structures were built to provide shelter for a new marina basin.

### BBR PTE

Over the course of 2011, the Group company specializing in post-tensioning and special building techniques, BBR PTE, continued its work developing and introducing the following building processes and items:

- The BBR HiAm CONA stay cable system. Consolidation and development work continue on this technology, which has been used in the cable-stayed bridges built by FCC. Two types of saddles have been developed for use where stay cables pass through pylons; one is an adhesive "in situ" saddle, and the other is a non-adhesive prefabricated saddle. They are both being used in the construction of two major cable-stayed structures, the bridge over the Danube River in

Bulgaria and the viaduct over the Corgo River in Portugal. The main feature of these saddles is that they prevent stay cables from shifting in relation with the pylon and yet occupy much the same space as conventional saddles.

- The Heavy Lifting Method. This work is the continuation of certain new procedures and adaptations developed for different lifting operations, such as last year's work to lift large pieces of precast concrete so they could be set in place to defend the Vidin Bridge from the impact of ships on the Danube River. The central section of the deck of the new bridge over the Ebro River in Deltebre has now been lifted. The deck was built upstream, on the river's left bank. Then it was floated downstream and towed into hoisting position by tug boats, and it was lifted into its final position by heavy-lifting jacks. Lastly, the extradosed bridge was fitted with stay cables.



Chemistry Quay (Tarragona)

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### MANAGEMENT SYSTEM

FCC Construcción's Management and Sustainability System is the first such system to be adopted by any Spanish builder. It is even being used as a model by some levels of government for their own construction work. The system has continued evolving, and it has proved itself a very useful tool for the integration of all of FCC's organizations in the Group's new stage of international expansion. A vehicle for standardization and guaranteed quality, the Management and Sustainability System is used in everything FCC does, updating processes, procedures and overall criteria in order to respond to needs as they arise in international projects. The system enables us take the excellence that our building work is known for and expand it to every field where we do business. The result is that we can give clients satisfaction beyond their expectations.

Today we are the only firm in the sector that can guarantee its clients that the integrity, availability and confidentiality of their data are protected by an information security system certified under ISO 27001. This security system checks any threats to our information assets and systematically protects our clients' information.

### Risk Management

With strong support from FCC's executive level, risk and opportunity management is now fully integrated in the FCC Construcción Management System. The risk management and supervision processes introduced prior to 2011 were improved and optimized last fiscal year, and new, more-effective mechanisms were developed in risk detection, control, tracking and mitigation.

The Strategic Risk Tracking Committee encouraged measures aimed at anticipating the risks most likely to have real effects, so as to identify new opportunities and transform threats into advantages, with a view to reducing possible losses and seizing the more-interesting opportunities, thus strengthening our business strategy.

### Environment

During the course of the fiscal year, we designed and introduced a greenhouse gas-measuring protocol, and we became the first Spanish builder to have its GHG emissions report verified and published. In so doing we fulfilled one of FCC Construcción's climate change commitments. Furthermore, FCC's seventh Environmental Report was published, and the environmental data gathering and analysis system was improved: Information on all FCC sites is now available in real time. Today we can evaluate the carbon footprint of any of our organizations separately or the entire group as a whole, with a wealth of data that is truly unparalleled in the sector.



Laboratory

At FCC Construcción we continue to believe firmly that sustainability is the answer. That is especially so now, when the economy has slowed down, forcing us to look more sharply at our own business and its three facets, the social, the environmental and the economic. Our commitment to provide solutions, share experiences and help define standards guaranteeing the most sustainable results is patent in our participation in and leadership of a large number of Spanish and international technical committees, such as the Commission of Large Dams (FCC chairs the "Engineering Activities in Planning" Technical Committee at SPANCOLD and represents Spain on the International Commission of Large Dams, ICOLD), the ISO/TC 59/SC 17 "Building Construction/Sustainability in Building Construction" Technical Committee (where FCC directs the Committee on Sustainability in

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Civil Engineering Works) and the ISO/TC 207 “Environmental Management” Technical Committee. The European committee CEN/TC 350 “Sustainability of Construction Works” recently resolved to begin work on sustainability in civil works under the leadership of FCC Construcción; this is a clear acknowledgement of the hard work and commitment of the company and its professionals to sustainability.

### MACHINERY. SPECIAL PROJECTS AND DESIGNS

#### Hydraulic Works

##### Machinery and Systems for Hydraulic Works

Plans are to use Ribeiradio Dam and Ermida Dam (Portugal) to generate hydroelectric power. Accordingly, the following facilities have been installed at Ribeiradio Dam for the manufacturing and delivery of 310,000 m<sup>3</sup> of concrete: a latest-generation concrete-mixing plant making 250 m<sup>3</sup>/hour; four 700-m<sup>3</sup> aggregate silos; three 1,000-m<sup>3</sup> cement and ash silos; an auxiliary concrete-mixing plant making 120 m<sup>3</sup>/hour; three 4-m<sup>3</sup> lorry-mounted silo trailers and two 13.5-ton radial cable cranes. All moving of aggregates between silos, screens, hoppers and plants is done on conveyor belts fitted with cowling.

For Ermida Dam, there is a 150-m<sup>3</sup>/hour concrete-mixing plant, two 6-m<sup>3</sup> towed silo trailers, two 630-ton cranes for delivering the concrete to the dam and a 280-ton crane for delivering the concrete to the plant.

#### Marine Construction

##### Machinery for Marine Construction

In the project to enlarge the Química quay in Tarragona harbour, 25 33.7x16.7x17.5-metre caissons and eight 33.7x16.7x14.5-metre caissons were cast on the Mar del Teide. To mix the 62,800 m<sup>3</sup> of pumped concrete needed, a 50-m<sup>3</sup>/hour mixing system was used, with a single hopper for feeding in aggregates and a reversible delivery belt for chute delivery. The 350,000 tons of foundation beneath the caissons were poured using the split barge Acanto, which has a hopper capacity of 1,200 tons.



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While this work was going on, other developments took place in 2011. All the necessary modifications and certifications were completed to allow the Acanto to make international crossings, limited only by its fuel autonomy. The Acanto had to be fitted with: an additional GPS system; a 20" radar with an ARPA system with an AIS connection; an on-duty alarm system on the bridge; INMARSAT equipment for satellite communications; LRIT equipment for long-range travel with worldwide coverage; a ship security alarm system (SSAS, for use in cases such as piracy or terrorist attacks); a new weather station and a voyage data recorder. It also had to earn international certificates, and a ship protection plan had to be designed.

### Viaducts and Special Structures

#### Viaduct-building Machinery

Work began on the viaduct over the Danube River in Vidin (Bulgaria). The first machinery to start up was the equipment for loading segments and hoisting them into their cantilevered position. The equipment has a maximum load capacity of 250 tons both in the harbour and at the pier. Equipment of this sort is necessary because there is no access to the site by land, so the system for carrying and positioning segments is necessarily complex. The set-up is this: The first machine (the harbour machine) has been installed next to the yard where the segments are cast and stored. It loads the 250-ton segments onto pontoons that can be towed along the river. The pontoon is pulled to the bridge, where a second machine (the pier machine) hoists the segments up to their final position. The hoisting machine on the pier has a reach equal to five segments (maximum 22 metres) and a maximum loading capacity of 250 tons.

Once the first five segments have been placed on each side of the pier and the connection has been made with struts, carriages that are also capable of lifting 250 tons apiece will continue advancing on top of the segments already installed and will set the next segments in place.

### Underground Construction

#### Machinery for Underground Construction

One of FCC's projects is to build the motorway between Mexico City and Tuxpan. During 2011 a large portion of the 37-kilometre-long section between Nuevo Necaxa and Tihuatlán was constructed, in the Northern sierra country of the state of Puebla. In addition to various viaducts (including 225-metre-tall San Marcos Viaduct), the section called for seven twin tunnels a total of 8,138 metres long. For



San Marcos Viaduct (México)

the longest of them all, the 2,733-metre-long Zoquita Tunnel, FCC employed semi-roboticized roto-percussion tunnelling equipment (of a kind rarely used in Mexico until now), the two-arm Atlas Copco L2C, shotcrete robots and other auxiliary equipment. The top heading and bench method was used, tunnelling in from both ends, with a standard cross-section of 95 m<sup>2</sup>.

The projects completed or under construction in 2011 utilizing the different tunnelling methods were the following:

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### TBM PRODUCTION FIGURES FOR 2011

PROJECT	Type	Diameter (m)	Production 2011 (m)	Total Length (m)	
UTE Triangle L9 (Metro Barcelona)	DUAL	11.95	1,292.4	5,488	
UTE túneles de Sorbas	Tube 1	DOUBLE-SHIELD	10.08	1,750.4	6,607
	Tube 2	DOUBLE-SHIELD	10.08	6,003.2	6,607
UTE Ave Gerona (Tunnel 2)	EPB	11.70	1,581.0	1,581	
UTE Ave túnel de Serrano	EPB	12	909.1	6,839	
Vigo-Das Maceiras	Tube 1	DOUBLE-SHIELD	9.46	2,523.0	8,143
	Tube 2	DOUBLE-SHIELD	9.46	2,111.0	8,132
Toronto	Tube 1	EPB	6.11	143.8	1,642

### CONVENTIONAL TUNNEL PRODUCTION FIGURES FOR 2011

PROJECT	Production in 2011 (m)	Total Length (m)
A-8 Muros de Nalón/Las Dueñas	626.6	1,366
UTE Vacariza-Rialño	200	866
UTE Túneles de Sorbas	40	1,822
Almuñécar (Tamaray)/Salobreña	4,032	4,032
La Aldea del Risco	3,828	5,600
Railroad bypass around Alicante	1,073.9	1,330
UTE Variante de Vallirana N-340	20	2,538
UTE Santa M <sup>a</sup> de Olo-Gurb	750	750
Vic/Caldes Cross Artery	1,850	5,000
Eastern bypass around Valladolid	680	680
Nuevo Necaxa/Tehuacán (Mexico)	2,732	8,047
Bergara/Antzuloa Tunnels	3,603	3,678
UTE Ave Ordizia	100	100

### PROJECT SUPPORT

#### Vidin Bridge over the Danube, Between Bulgaria and Romania

Now that the approach viaduct has been completed, construction has begun on the cable-stayed viaduct over the navigable channel of the Danube. The bridge is made up of cable-stayed spans 180 metres long. It is the first time FCC Construcción has used the precast segment building method for this sort of bridge.

Work is progressing at a fine pace, and the viaduct is anticipated to be finished in 2012. When it is opened, it will allow road and rail traffic to continue flowing between Bulgaria and Romania through Pan-European Corridor IV between Istanbul and central Europe.

#### Viaduct over the Almonte River on the Madrid/Cáceres/Lisbon High-speed Railway Line

Construction has begun on the Almonte River Viaduct over Alcántara Reservoir. This 996-metre-long viaduct crosses Alcántara Reservoir on the back of a 384-metre concrete arch. When the arch is finished, it will have the longest span of any concrete arch for rail use.

Cable-stayed advancing cantilever construction is being used, with just provisional stay cables for now. The cantilever will have a span more than twice that of any other arch built in Spain using this procedure. Its design is quite special: At each base, there are two legs set sixteen metres apart from each other, which increases the project's complexity of construction.

#### El Romeral Viaduct on Dual Carriageway A-7 in Salobreña

Construction has begun on El Romeral Viaduct on the section of dual carriageway A-7 between Almuñécar and Salobreña. The viaduct is 568 metres long, and its deck is 30 metres wide. It is being built out of precast segments using the advancing cantilever method, and each span is 92 metres across. This is yet another record for the advancing cantilever system with FCC's resources.

## CONSTRUCTION

The viaduct is located in an area of high seismic activity. A system has been designed using neoprene to dampen seismic stress.

### Enlargement of Gran Canaria Airport's Terminal Building

The objective of this project is to boost the airport's passenger capacity, improve the quality of passenger service, expand the shopping on offer and create a more-modern, more-arresting image for the terminal building.

The expansion thrusts out to the North, South and West of the original building. The design will make it possible to increase the number of baggage carrousel and check-in desks, enlarge the area devoted to offices, create a new international arrival and departure area and increase the number of remote boarding gates to 40 for inter-island flights.

The building expansion will make it possible to increase the number of baggage carrousel on the ground floor, check-in desks on the first floor and office area on the second and third floors, in addition to the area for aircraft mooring and passenger boarding and deplaning. A new international arrival and departure area will be created as well.

The special features of the project include 20-metre pre-tensioned beams for the roofs of the new north and south docks and the check-in area's roof, whose structure is made of laminated wood. The airport is remaining operational and in use while the structural reinforcement work, designed by the Structure Service's Building Department, is being done. Gran Canaria Airport is one of the busiest airports in Spain in terms of passenger traffic, so this is an important consideration.

### Offices for the Provincial Directorates of the National Social Security Treasury in San Sebastián

The building has three below-ground levels for parking and the plant, plus six above-ground levels for administrative use. Its general measurements are 105x35 metres. Because of the high local water table, the basements are all surrounded by a water-tight, unbroken foundation wall a metre thick, with a 1.1-metre-thick foundation slab to withstand the effect of the water pressure.

The structure is made of reinforced concrete. On top of the concrete structure stands a metal structure that outlines the space but is purely ornamental. The project was designed by the Building Structure Department at FCC Construcción's Technical Services.



Vidin-Calafat Bridge between Romania and Bulgaria

### International Convention Centre in the City of Madrid (CICCM)

This special project was designed by architects Emilio Tuñón, Luis Moreno Mansilla and Matilde Peralta del Amo. It stands on the land formerly housing the Real Madrid's sport complex Ciudad Deportiva, on a lot adjacent to the four towers. The building is a vast slice of a cylinder, set vertically on a plinth, reaching to a maximum of 120 metres above the ground.

The contract awarded to FCC includes the construction of the below-ground structure (a total of seven levels) with two floors of parking and three auditoriums having a maximum seating capacity of 5,900. The roof is designed so that it can be used as a big, open-air auditorium.

The white concrete structure is made up of slabs cast in formwork and put together without expansion joints. The structure was designed by the Building Department at FCC Construcción's Technical Services.



## CONSTRUCTION

### Girona Station and Tunnels Under the City

Tunnelling for Tunnel II in Girona was finished in 2011. The tunnel is 1,564 metres long. An HK EPB 12.16 metres in diameter and 0.40-metre-thick segments were used.

There are two areas on the tunnel's layout that required careful work and skill. One is 710 metres long and was tunnelled beneath buildings, with a minimum of six metres of earth above the tunnel; the other is 220 metres long and crosses beneath the Ter River, with a bare two metres of Pliocene rock between the tunnel and the river.

Four shafts were driven by a VSM (vertical shaft-sinking machine) so that compensation injections could be made into the earth beneath the buildings. A total of 14,200 m<sup>2</sup> of earth were treated from the shafts, and 430 m<sup>3</sup> of cement grout were injected.

Two slabs and an inverted arch were built in the station in 2011, requiring a total of 125,000 m<sup>3</sup> of falsework, 43,000 m<sup>3</sup> of concrete and 15,000 tons of steel.

### Vigo/Das Maceiras Tunnel. High-speed Atlantic Railway Artery

Last fiscal year boring on one of the two tunnels was finished, and there are about 300 metres left to go on the second twin tunnel. Each tunnel is 8,266 metres long and has a circular cross-section 9.56 metres in diameter. The two tunnels are connected to one another by cross-tunnels having a 25-m<sup>2</sup> usable cross-section, set every 500 metres. The tunnelling work was done with two double-shielded tunnel-boring machines, the type used to dig through very hard rock.

There were a number of difficulties that had to be met in the course of this project. One of the foremost was the great hardness and abrasiveness of the rock in the central portion of the tunnels, which put a lot of wear on the TBM's cutting parts. Another was the trickiness of tunnelling beneath buildings at the start and finish of the tunnel's path, where unfavourable terrain conditions complicated the building process and made it necessary to administer major treatments to improve soil conditions and offset subsidence, so as to ensure the safety of the project.

### Sorbas Tunnels. High-speed Mediterranean Rail Corridor

In 2011 tunnelling was completed on the two Sorbas Tunnels. The tunnels are approximately 7.5 kilometres long, which makes them the longest railway tunnels in Andalusia. They run parallel for a distance of 25 metres, and they are connected by cross-tunnels every 400 metres.



Sorbas Tunnel, Almería

A double-shielded TBM ten metres in diameter was used to tunnel 6.6 kilometres in each tube. The remainder of the tunnels' length was built using the NATM construction system, tunnelling with explosive and mechanical means.

Using a TBM to tunnel through the Gafarillos Fault posed some geotechnical problems, but they were dealt with. The fault is about 600 metres long, and there the rock is extensively folded and buckled by various thrust faults and other types of faults running through phyllite, slate, dolomite, limestone, gypsum, anhydrite and some highly fractured quartzite levels.

The TBM's average advance rate performance was about 1,100 metres per month. Its top daily advance was 72 metres. Both these figures were far more than initially expected.

## CONSTRUCTION

**Tunnels Built by Traditional Methods**

FCC constructed a great many tunnels by traditional methods over the course of 2011, mainly with what is known as the New Austrian Tunnelling Method.

Some of them were finished during the year, while others are still in progress.

The table below shows the foremost tunnels in terms of length.

Project	Tunnel	Length (m)	Situation
Dual carriageway A-8. Section: from Muros de Nalón to Las Dueñas	Somao	2 x 916	In progress
Dual carriageway A-8. Section: from Muros de Nalón to Las Dueñas	San Juan	2 x 450	"
Tunnels in Mexico. Nuevo Necaxa/Avila Camacho	Six twin tunnels	L <sub>T</sub> = 8047	"
High-speed Atlantic Artery Section: from A Vacariza to Rialíño	Tunnel 2	866	"
Dual carriageway A-7 (Mediterranean Dual Carriageway) Section: from Almuñécar to Salobreña	Tunnel 1 Tunnel 2	2 x 2000 2 x 800	" "
Vallirana Bypass N-340	Tunnel 1	2 x 1,350	"
New railway system to the Basque Country. Section from Bergara to Antzuola	Kortatxo	3,678	"

## CEMENT



## CEMENT

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# CEMENT



## CEMENTOS PORTLAND VALDERRIVAS

Fomento de Construcciones y Contratas' control portfolio held 69.79% of the outstanding shares in Cementos Portland Valderrivas, S.A., at the end of fiscal year 2011.

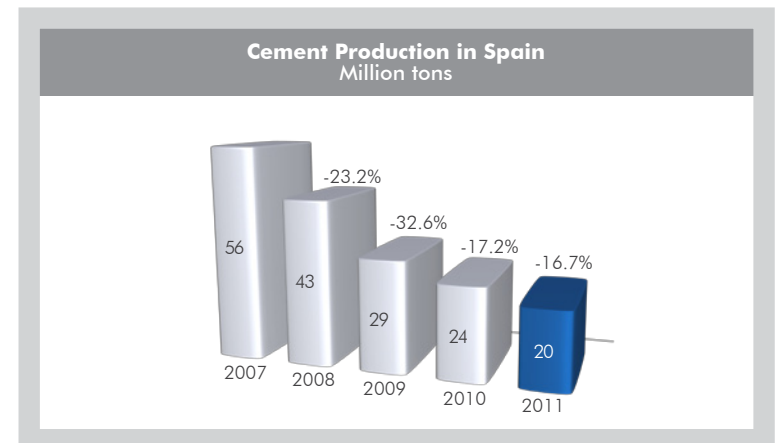
### THE CEMENT SECTOR

#### Spain

According to data facilitated by the National Association of Cement Manufacturers (OFICEMEN), in 2011 Spain consumed 20.2 million tons of cement. This was 4.2 million tons fewer than in 2010, making for a year-on-year variation of -16.7%. In four years apparent consumption in Spain has plummeted 63.8%, which in absolute figures means a decline of 35.8 million tons.

Domestic cement and clinker imports were down to 1.1 million tons in 2011, 39.2% less than the 1.7 million tons imported in 2010. The reduction in import tons since 2007 adds up to 92.4%, the equivalent of 12.8 million tons.

In view of this situation, Spanish manufacturers have been concentrating much harder than before on their international markets in order to palliate the flagging domestic demand. Since 2007 cement and clinker exports have soared 252.9%, from 1.1 million tons in 2007 to 3.9 million in 2011 (closely resembling the figure for 2010).



# CEMENT

## The United States, Tunisia and the United Kingdom

In 2011 72.3 million tons of cement were consumed in the United States, according to provisional information facilitated by the U.S. Department of the Interior’s Geological Survey. The trend of steadily downward consumption since 2006 has therefore changed, since the 2011 consumption figure was 1.1 million tons higher than the 71.2 million tons that demand reached in 2010, a 1.5% increase.

Cement and clinker imports fell 7.9% from 6.62 million tons in 2010 to 6.10 million in 2011, and exports rose 44.1% to 1.7 million tons, from the 1.2 million tons exported the preceding year.

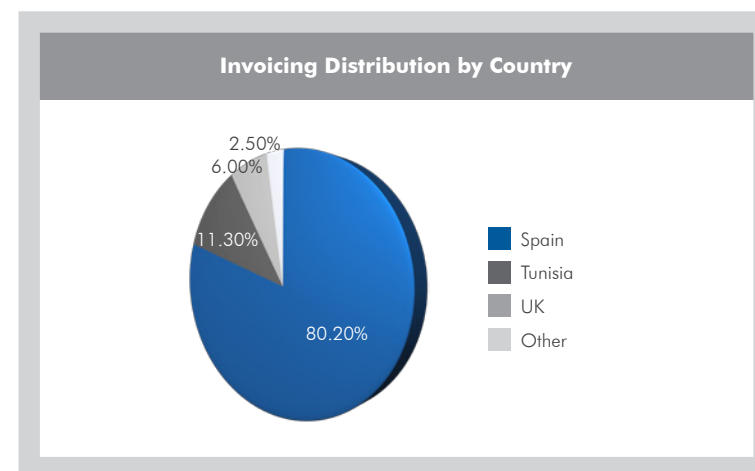
Due to the climate of political instability that began gathering early in 2011, cement consumption in Tunisia has experienced a decline of 7.7% from the year before, which is equivalent to 560,000 tons,



according to information released by Tunisia’s Chambre National de Producteurs de Ciment. So, the trend of uninterrupted growth of demand since 2006 has broken.

Cement and clinker imports came down as well, by 27% since 2010, and exports declined by 58.1%, falling from 623,000 tons in 2010 to 261,000 tons exported in 2011.

In the United Kingdom, cement consumption for 2011 was 3% higher than in the preceding fiscal year due to construction (both finished and ongoing) for the impending Olympic Games. The Group’s sales grew by a similar percentage.



# CEMENT

## GROUP DEVELOPMENT

### Cement

For yet another year cement sales were hampered by the poor development of the international and domestic economies. Total aggregate cement and clinker sales totalled 8,883,675 tons and posted a negative year-on-year growth rate of 17.6%.

Of the Cementos Portland Valderrivas Group's total 2011 sales, 9.01% (that is, 800,048 tons) were for export. In Spain the export percentage was 11.6% (669,023 tons exported, compared to 5,780,583 tons sold inside the country). The United States shipped 91,695 tons abroad, and Tunisia, 39,330 tons, accounting for 6.7% and 2.9%, respectively, of each country's total sales, which were 1,372,757 tons for the US and 1,343,358 tons for Tunisia.

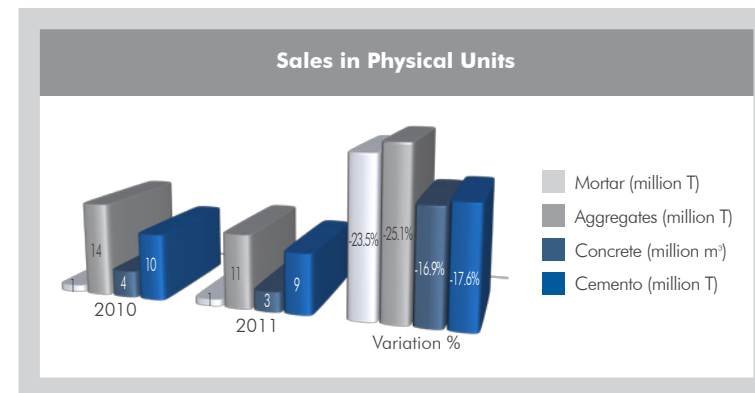
### Ready-mixed concrete

Sales of ready-mixed concrete amounted to 3,383,855 cubic metres in 2011, as opposed to 4,070,964 cubic metres the preceding year. Year-on-year sales were therefore down 16.9%.

The Cementos Portland Valderrivas Group currently owns 135 ready-mixed concrete plants in Spain, ten in the United States and four in Tunisia, for a total of 149 industrial facilities.

Of the Group's 3,383,855 cubic metres of total concrete sales in 2011, 3,167,939 cubic metres were sold in Spain, as opposed to 3,855,729 in 2010, which means the year-on-year variation is -17.8%. Tunisia is down 6.2%, with 152,736 cubic metres, and the United States is up 20.6%, although the 63,180 cubic metres sold there accounted for just 1.9% of the Group's overall volume in 2011.

THE OBJECTIVE FOR THE NEXT FEW YEARS IS TO MAKE ENERGY FROM WASTE STANDARD PROCEDURE AT ALL FACTORIES.



### Aggregates

In fiscal year 2011 10,797,558 tons of aggregates were sold, compared to 14,418,922 tons in 2010. This meant a year-on-year decline of 25.1%.

The Group currently has 59 aggregate-mining and -processing plants, 56 in Spain, two in the United States and one in Tunisia.

Of the 10,797,558 tons sold in 2011, 10,541,673 tons were placed on the Spanish market. That was 25.7% less than the preceding year, when the figure was 14,191,605 tons. However, sales in the United States rose by 12.6% to 255,855 tons.

### Dry Mortar

Dry mortar sales in 2011 amounted to 833,528 tons, 23.5% less than the year before (1,089,874 tons).

The Group has 18 dry mortar plants, all of which are in Spain.

## CEMENT



The year's total for 2011, 833,528 tons, breaks down into 828,962 tons sold in Spain and 4,566 tons sold in the United Kingdom.

### INDUSTRIAL INVESTMENTS

The commitment to recovering energy from waste took the lion's share of tangible investments last fiscal year. Most of that share was aimed at altering manufacturing, storage, handling, shipping and dispensing processes to enable traditional fuels to be swapped out for alternative fuels that offer the bonus of giving off lower CO<sub>2</sub> emissions.

The Group, which in 2009 used waste to produce energy in just four of its eight Spanish factories, has, through judicious tangible investments, managed in two years to extend the practice to six of its factories, thus tripling the Group's total energy replacement percentage in Spain to 13.4% in 2011.

In the facilities at the El Alto factories in Morata de Tajuña, Madrid; Hontoria, Palencia; Mataporquera, Cantabria; and Lemona, Vizcaya, a fully automated system has been set up to unload, store, ship and dispense alternative fuels through the main burner for the two grey clinker kilns.

A major environmental investment was made at Monjos, Barcelona. The kiln's main filter was changed, and a new sleeve filter was installed. Investments also went into new facilities for unloading, storing, shipping and dispensing alternative fuels through the main burner.

### ENVIRONMENT, RDI AND KNOWLEDGE MANAGEMENT

The policy of using waste to produce energy in the Group's Spanish cement factories was consolidated in 2011. Alternative fuels (biomass) began to be used in an additional two factories that year, so six of the eight factories the Group owns in Spain now recover energy from waste.

Progress in the use of alternative fuels in Spain increased by nearly eight percentage points last year, to a replacement share of 13.4%. This increase was due mostly to the great leap in the replacement rate in the Hontoria, Lemona, Mataporquera and Vallcarca factories. This was made possible thanks to the necessary investments in retrofitting, to enable the facilities to burn alternative fuels, and modifications of the integrated environmental authorizations that permit alternative fuels to be used.

This environmental strategy has more achievements yet to come. In 2011 modification of the integrated environmental authorization for the Olazagutía factory was secured, allowing the factory to use plant biomass waste for energy. With this permit, all the cement-making facilities now have administrative authorization to use alternative fuels prepared from waste, mainly biomass.

Energy recovery is not the only way resource sustainability is being promoted, either; material recovery is being encouraged as well.

## CEMENT

Waste is being used to replace a portion of the raw materials previously used. Enough progress was made in this direction in 2011 to enable 5.3% of raw materials to be replaced by waste.

The RDI Department was consolidated in 2011. Throughout the year the department continued working on three links of the same chain: research, development and applications, and innovation.

The Cementos Portland Valderrivas Group has gone on fostering research into new products with more added value and new products for new markets. As a result, in the last two years 11 new special kinds of cement have been developed that offer highly competitive advantages in terms of short setting time, strength under adverse external conditions, lower environmental impact in manufacturing and the ability to render certain pollutants inert.

Finding applications for new products and providing technical assistance on a number of projects that have tested the new products are two other activities on which the Group focussed its efforts last year. Most of the work was devoted to microcements (in the Pajares Tunnels), Ultraval (in the Ordicia Tunnels), tests conducted with AENA (the Spanish air traffic authority) and agglomerating agents for polluted soil (the subjects of several preliminary studies at Flix, Tarragona).

Work was begun on the technological assessment of new products and the issue of positioning vis-à-vis the marketing of the current portfolio of innovative products. Portland has the help of an interim management and strategic consultancy firm specializing in incorporating innovation into business models. Technological packets have been made up for these products, with market studies and the appropriate plans of action. The next step will be to set up joint ventures with other firms for the exploitation, development, management and marketing of the intellectual property.

All the initiatives outlined above have had significant indirect benefits, such as contacts and ties with a large number of other companies from different sectors, universities, research centres and public agencies, which have positioned the Group as the RDI standard setter in material development and application and have facilitated agreements with other organizations, such as the Schlumberger Group.

In short, Cementos Portland Valderrivas is aware that committing to innovation and radical change is the way to go. That is why in 2011 it embarked on an ambitious project aimed at transforming the Group into an innovating machine at every level.

The project is called “Spurring Innovation”. Under its guidelines, with the participation of more than 70 executives, an initial diagnosis was made of the company’s vision of innovation. The necessary plan of action was then established for changing the organization.

Knowledge management is management of the kinds of intangible assets that generate value for the organization, something vital at this time of crisis. This initiative, which is closely related with innovation, began in 2011, with the performance of an initial diagnosis of how this area is perceived in the Group.





## CEMENT

### HUMAN RESOURCES, SAFETY, OCCUPATIONAL HEALTH AND INFORMATION SYSTEMS

Throughout 2011 the Group continued adjusting the structure of its organization and human resources to the situation of the markets where it does business. For this reason the payroll was reduced by 281 employees, bringing the total workforce at 31 December to 3,126 employees. The adjustment process was carried out through a plan drawn up for the cement, concrete, aggregate and mortar businesses with the collaboration of the appropriate workers' committees and labour union sections.

The collective bargaining agreement for the factory in Mataporquera, Cantabria, was signed in 2011 and will remain in force until late 2012. Other agreements were also reached: with the committees representing cement factory workers, for job relocation and reorganization during factory downtime; and with the Cementos Portland Valderrivas Workers' Committee in Madrid, for locating the head procurement office at the El Alto factory offices.

In the United States, an agreement was reached with the union for the new labour contract for the factory in Keystone, Pennsylvania; the agreement will bring savings in labour costs and benefits. Moreover, the company won the arbitration proceedings concerning subcontracting under the union labour contract at the factory in Harleyville, South Carolina, and the Keystone factory.

In Tunisia the social and labour conflicts and tensions running throughout 2011 affected the Enfidha factory, which was shut down for the months of July, August and September and a few days in October. The problem was settled through an agreement protocol with the Department of the Interior of the province of Sousse, thus enabling the factory to resume production.

### SHARE BEHAVIOUR ON THE CONTINUOUS MARKET

Madrid stock market indexes ranged between a high of 1,138.13 on 17 February and a low of 770.26 on 12 September, closing at 857.65 on the last trading day of December.



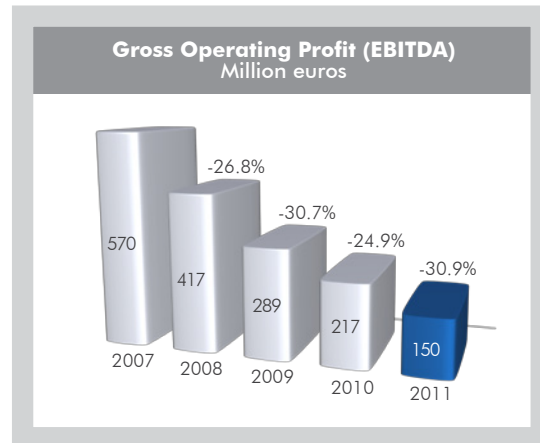
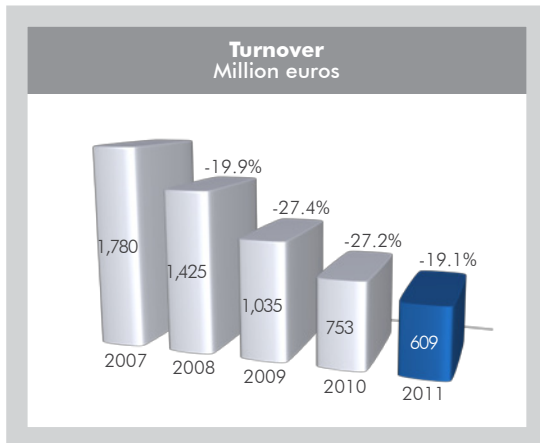
# CEMENT



Shares in Cementos Portland Valderrivas were traded on every one of the continuous market's 256 trading days in 2011. A total of 3,800 807 shares were traded, the equivalent of 10% of the company's capital. The market capitalization at 30 December was 258.3 million euros. The high of 16.90 euros was hit on 9 March, and the low of 6.81 euros fell on 30 December. The average quotation for the fiscal year was 11.9 euros per share.

## RESULTS

The Group's results in 2011 were directly affected by the balance sheet readjustment. Aside from that effect, the result was influenced by the reduction in demand in Spain and the conflictive situation in Tunisia, where production and sales ground to a temporary halt for the third quarter of the year.



Therefore, the Group earmarked 337 million euros for readjustment, distributed as follows: 261 million euros for the impairment of the carrying value of the goodwill, mainly Corporación Uniland's; 42 million euros for asset impairment, especially in the concrete, aggregate and dry mortar businesses; and 33.6 million euros due to the impairment of shareholdings and expense provisions.

The financial figures at 31 December 2011 show the effect of Cementos Portland Valderrivas' decision to reclassify the Giant Cement Holding Inc. Group on its books. Since July 2011 Giant is listed as a non-current asset available for sale, and it is regarded as discontinued business, in that the group's business in the American geographical market is discontinued, given the commitment to a plan of disposal. As a consequence an active search for a buyer is in progress.

The Basic Materials, Industry and Building Index, where the company's shares are classified, posted its high for the year of 1,311.34 on 6 April and its low of 909.86 on 24 November. It closed at 989.76 on 30 December.

Pursuant to the International Financial Reporting Standards, the Group has restated the comparative figures from its consolidated

## CEMENT

income statement and consolidated cash flow statement for fiscal year 2010, registering the net result after taxes for Giant Cement Holding Inc. as a single sum and breaking down separately the net cash flows attributable to operating activities, investing activities and financing of discontinued operations. For this reason the income statement for fiscal year 2010 differs from the income statement approved by the General Meeting of Shareholders held on 11 May 2011.

As a consequence of the drop in Group sales volumes and prices in 2011, the turnover earned was 609.1 million euros, 19.1% lower than in the preceding year. This meant a reduction of 144.3 million euros in absolute figures.

Plan 100+ was the savings plan for fiscal year 2010. Its successor is the 2011 Excellence Plan, which arose as new tool for applying needed measures aimed at improving the gross operating profit from both the cost standpoint and the revenue improvement standpoint. In 2011 the plan reported a success in excess of 50 million euros.

The gross operating profit fell from 216.8 million euros to 150.1 million euros, a 30.8% reduction, although as a margin of turnover the decline was only from 28.8% in 2010 to 24.6% in 2011.

In net terms, the operating result was a loss of 293.1 million euros, as opposed to the 91.1 million euros of profit earned the year before.

The Group reported a loss of 345.5 million euros in 2011, compared with 37.6 million euros in gains the previous year.

For the reasons explained, the Group's net result attributable to the controlling company came to 327.4 million euros in losses, compared with 1.2 million euros in profits reported in 2010.

Given the economic situation the sector is going through, of the 44.1 million euros in total investments made by Cementos Portland Valderrivas in 2011, 33.1 million euros were tangible investments that, as stated previously in this report, were limited to the investments already committed to in fiscal 2010,

the new energy recovery facilities and such investments as were vital to keep the different industrial facilities running smoothly.

The Group's total assets, 3,282.5 million euros, registered a year-on-year decline of 12.4% due to the reduction in depreciation and amortization and the sale of non-strategic assets.



# ENERGY

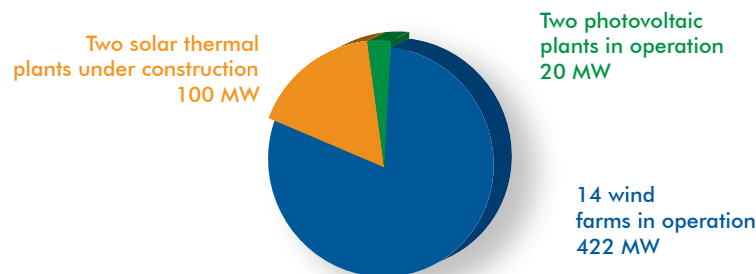
## DEPARTMENT OF ENERGY

### FCC ENERGÍA

FCC Energía has been handling the Group's investments in electricity production from renewable sources since 2008. Renewable power production is becoming consolidated the world over, despite the fact that conditions just at present are not terribly favourable. Many different organizations, including the OECD, the IEA and the United Nations, consider that renewable technologies are helping to reduce greenhouse gas emissions. In our country, using renewable sources to generate electricity is doing a lot to make Spain less dependent on other countries for its energy, so it is helping to improve the balance of payments. Through renewable power generation, FCC avoided 366 tons of CO<sub>2</sub> emissions in 2011 and produced enough electricity to power 175,000 homes.

Wind power and photovoltaic power production add up to 774,669 MWh.

### BREAKDOWN OF ASSETS BY GEOGRAPHICAL AREA



## ENERGY



### Activities in Photovoltaic Power

FCC Energía is the owner of two 10 MW photovoltaic facilities in Córdoba. The facilities have been operating and outputting energy since September 2008. Production for 2011 added up to 33,740 MWh.

### Wind Power Tenders

In 2010 FCC Energía won capacity tenders in the autonomous communities of Galicia and Cataluña.

#### Galicia

The site where this 48 MW assignment is located straddles the municipalities of Laracha and Pico Cedeira. The company holding the assignment is Sigenera, S.L. FCC Energía owns 50% of the company, and the other 50% belongs to the Inveravante Group. The site will hold 16 wind generators rated to produce 3 MW apiece. In 2011 project preparation began, and applications were submitted for the pertinent permits and authorizations. Implementation of the promised industrial plan began as well.

#### Cataluña

Three projects are in progress in priority development zone VIII (Anoia and Segarra) under a 98 MW assignment made to FCC Energía Catalunya, S.L., a company whose investors also include Deenma (holder of a 20% interest). During 2011 the work to prepare the project was done. An appeal has been filed against the announcement of the tender by the Autonomous Community of Cataluña, but the commitment to the work remains unchanged.

### Activities in Solar Thermal Power

In 2010 construction started on a 50 MW solar thermal plant in Guzmán, in Palma del Río (Córdoba). In 2011 FCC brought in Mitsui, a Japanese corporation that purchased a 30% share in the project. This facility will become operational this fiscal year and will begin outputting energy into the grid in December.

## ENERGY



FCC Energía bought 67% of Enerstar Villena in June 2009. Enerstar Villena plans to build and operate a 50 MW solar thermal plant in Villena, Alicante. In 2011 FCC Energía bought the remaining 33%, so it now owns the entire company.

In August last year the necessary permits were secured to start work on the site, and by the end of the year earthworks were completed, making everything ready to start construction. The facility is scheduled to be outputting energy into the grid by December 2013.

### Innovation and Technological Development

FCC Energía is keenly interested in developing innovative solutions in the energy field. It works with other Group divisions on projects in electric mobility, energy efficiency and energy saving, the generation of renewable energy, RDI designs for power generation and storage and sustainable building.