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ANNUAL REPORT 2013

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idom

Excellence, innovation, commitment

A very exciting future

When over a decade ago Idom stepped on the accelerator on the road to internationalisation, we did so thinking of our professionals and the challenges that could motivate them.

Today, we are operating in 120 countries and are on track to continue in many more.

In 2012, our activity outside Spain has reached almost 75% of our turnover. Naturally, this momentum of internationalisation has had an important positive effect on the performance of the company. We now have to cater to the needs of clients that are geographically distant from us, but with the same closeness and immediacy as always. We are undertaking projects of the highest technical interest, wherever they occur, enriching our bank of knowledge not just with aspects of legislation, but with the culture of the countries in which we operate, and the profile of our professionals is decidedly more multicultural.

All this, which for Idom represents a major step forward, is based on a recipe which is simple but difficult to replicate. We have a team of great professionals, working together towards a common goal of development and commitment to make Idom a point of reference wherever the company operates.

Fernando Querejeta
President

Luis Rodríguez Llopis
General Director

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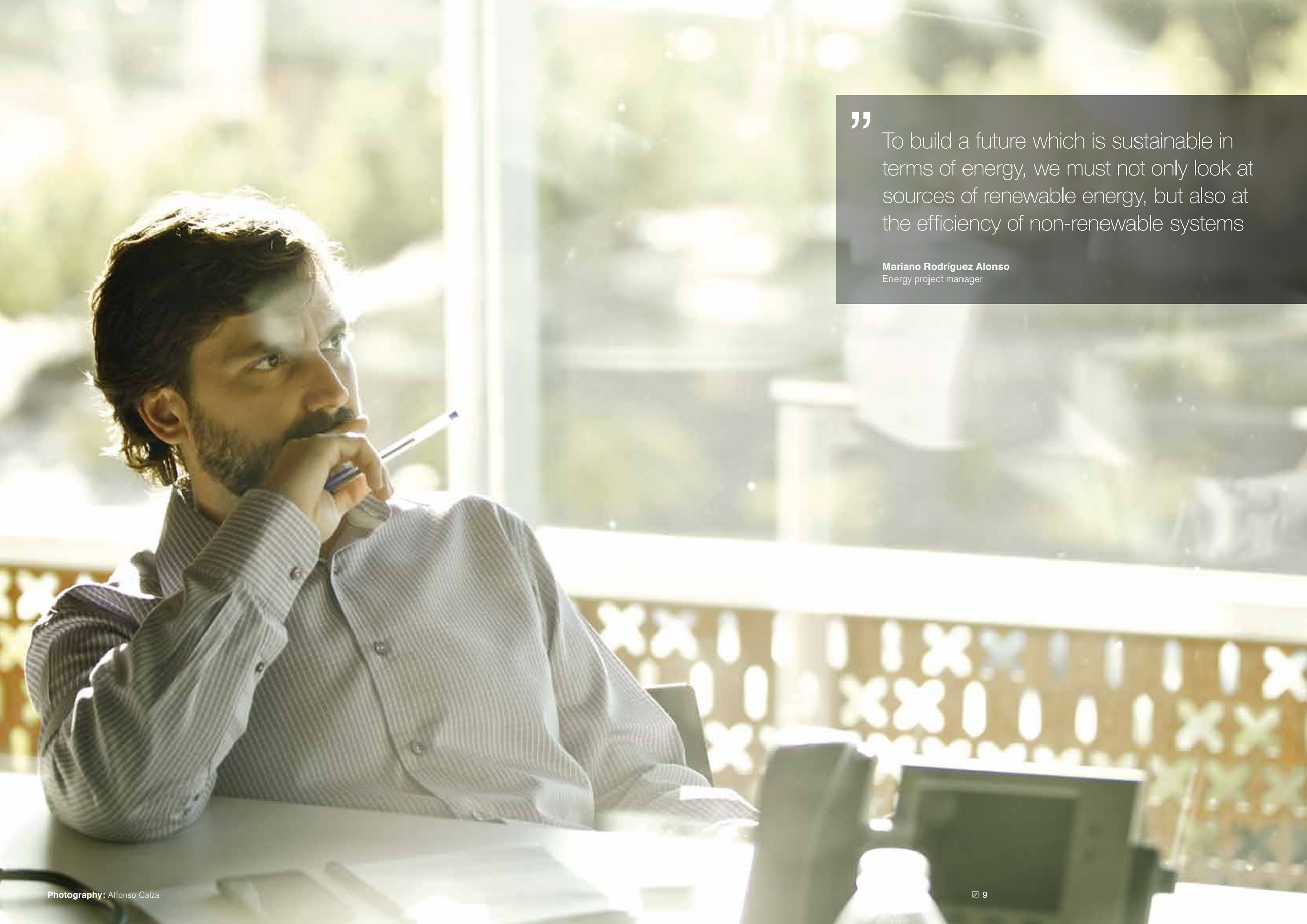
01 Generating energy



> To build a future which is sustainable in terms of energy, we must not only look at sources of renewable energy, but also at the efficiency of non-renewable systems
>
> **Mariano Rodríguez Alonso**
> Energy project manager

Photography: Alfonso Calza

THE NEXT GENERATION COMBINED CYCLE

High technology in Bremen, Germany

Close to the city of Bremen, Mittelsbüren, a 440 MW combined cycle power plant is being constructed. The plant will begin operation in 2013.

Flexibility is a essential for any gas power plant being built in Germany. This country is one of the most important producers of wind energy in the world today and the challenge of the new combined cycle gas-wind power plant will be to stabilize the fluctuations in power production.

Photogrphy: Alfonso Calza

The design of this plant represents a milestone in the construction of Combined Cycle Plants, as it can work in an integrated manner with renewable energy sources

When the wind stops blowing, the gas plant will need to have to meet full load operation in the shortest time possible while meeting the low level requirement of CO_2 emissions.

As on previous occasions, Cobra has once again contracted Idom to provide engineering services.

GERMANY I Mittelsbüren

SERVICES I Engineering

CLIENT I Cobra

ENERGY FOR RIYADH

The capital of Saudi Arabia requires large amounts of energy

Riyadh is one of the fastest growing cities in the world. This rapid expansion along with its desert location is just one of the factors why demand for energy in the city is increasing.

With the objective of increasing the installed power capacity of the city therefore guaranteeing uninterrupted power supply, the Saudi Electricity Company (SEC-COA) made the decision over four years ago to undertake a mega-project: a power plant with 40 gas turbines with a nominal capacity of 3,700 MW, on a site of 5 million m2 on the outskirts of Riyadh.

The construction of the plant was scheduled to be completed in two phases. Arabian Bemco was awarded the EPC contract in 2008, and has now completed the first phase, the installation of 40 simple cycle gas turbines.

In the second phase, Arabian Bemco has contracted Idom to perform part of the engineering for the conversion of the simple cycle gas turbines into a 10 combined cycle plant, a configuration of 4 gas turbines to 1 steam turbine. This requires the installation of 40 heat recovery steam generators (HRSGs), 10 steam turbine generators and 10 air cooled condensers. The other equipment includes a 12 km pipeline for water supply, a water treatment plant and a compressed air installation.

SERVICES I Preliminary design and detailed engineering

CLIENT I Bemco

The goal is to ensure reliable energy supply to one of the fastest growing cities in the world

The work provided by Idom includes engineering and 3D modeling for the following disciplines covering the Power Block, Water Island & HEET Water Plant: civil, process, mechanical, piping, electrical (STG Building, HEET & Water Island) and I&C.

TEAM Left to right: Carlos González Pérez, Rubén González, Javier Cisneros, Javier Goldaracena, Maite Vázquez & Miguel Rodriguez

Team photo: Carlos Olmedillas

FRANCE

A milestone in the construction of combined cycle

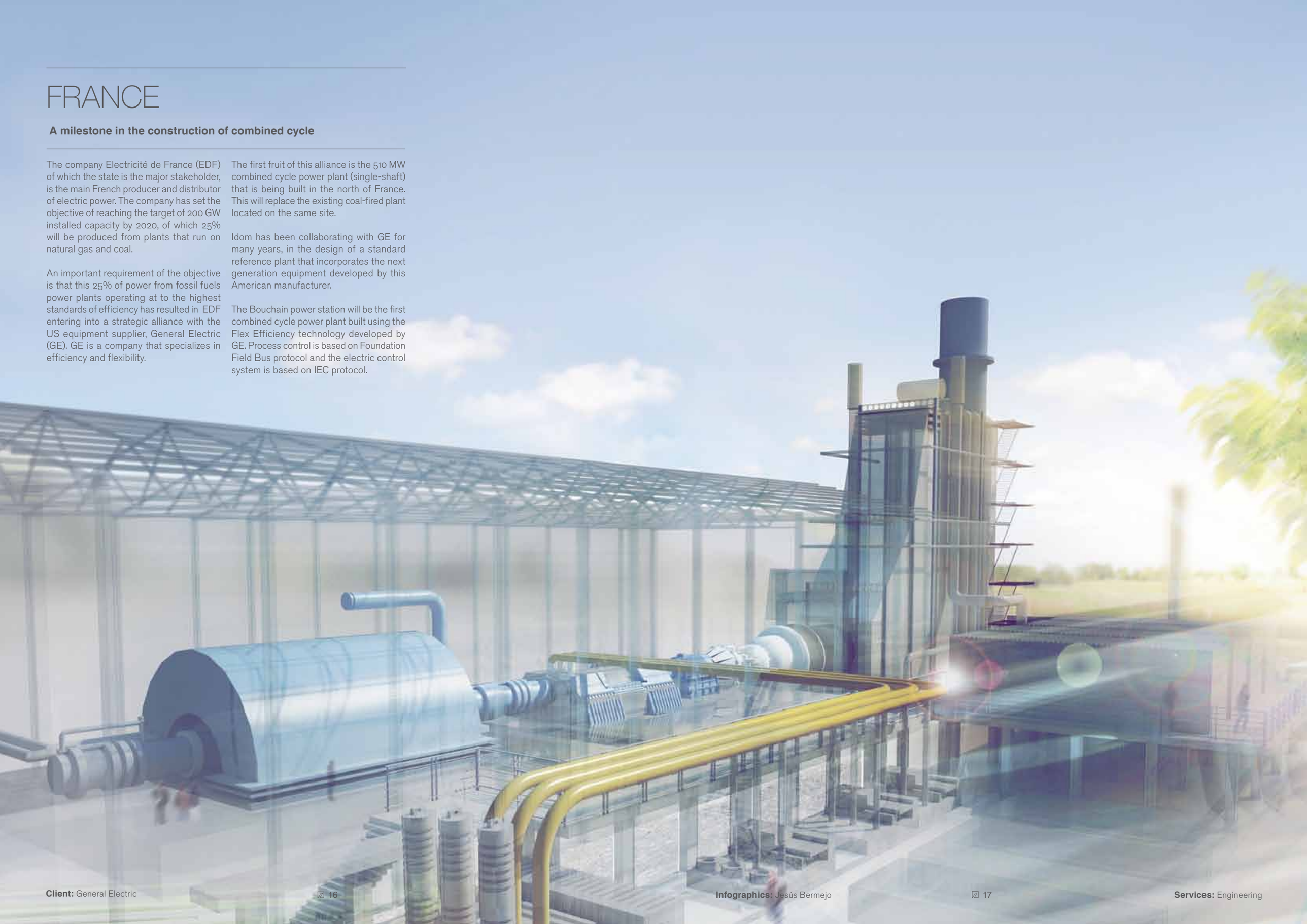
The company Electricité de France (EDF) of which the state is the major stakeholder, is the main French producer and distributor of electric power. The company has set the objective of reaching the target of 200 GW installed capacity by 2020, of which 25% will be produced from plants that run on natural gas and coal.

An important requirement of the objective is that this 25% of power from fossil fuels power plants operating at to the highest standards of efficiency has resulted in EDF entering into a strategic alliance with the US equipment supplier, General Electric (GE). GE is a company that specializes in efficiency and flexibility.

The first fruit of this alliance is the 510 MW combined cycle power plant (single-shaft) that is being built in the north of France. This will replace the existing coal-fired plant located on the same site.

Idom has been collaborating with GE for many years, in the design of a standard reference plant that incorporates the next generation equipment developed by this American manufacturer.

The Bouchain power station will be the first combined cycle power plant built using the Flex Efficiency technology developed by GE. Process control is based on Foundation Field Bus protocol and the electric control system is based on IEC protocol.



Client: General Electric

Infographics: Jesús Bermejo

Services: Engineering

VENEZUELA

Electrical power supply for the city of Caracas

Thanks to the future thinking investment made decades ago, today 70% of Venezuela´s electrical energy comes from waterfalls, mainly on the Caroni River; with the remaining 30% being generated by thermoelectric power plants.

In recent years, consumption has grown faster than the electrical system as a whole, and as such the government has had to take measures to avoid blackouts, as well as undertaking new investment projects.

One such investment project is that being made by the state owned company, Corpoelec, the company that is responsible for supplying the capital and its surroundings.

The project is located in Charavalle, near Caracas, and involves the installation of four generating units with a total capacity of 136 MW using diesel turbines in Simple Cycle operation.

Corpoelec awarded Elecnor the Turnkey project for the construction of the plant, and as on other occasions, Elecnor has contracted Idom to perform the engineering.

In addition to the generating system, Idom is developing the fuel processing and water treatment systems, as well as the required structures for the development and efficient operation of the plant.

SERVICES I Complete Engineering

CLIENT I Elecnor

Infographics: Iñigo Gutierrez

IRAQ

Renovation of the park of power plants

The reconstruction of Iraq requires, among other things, the renewal of its electricity generating plants.

At present, the country produces less than 7,000 MW and therefore needs to import energy to make up the shortfall, to meet the countries energy consumption needs of around 14,000 MW.

In late 2010, the Iraqi Ministry of Electricity (MoE) made the decision to build 20 new Power Plants in different parts of the country to meet this energy demand. These plants will be fed by oil, natural gas pipelines and tanker trucks with three fuels that Iraq produces in abundance, crude oil, diesel and natural gas.

The Turkish company, ÇALIK ENERJI is constructing two of these plants; one located southwest of Bagdad (The Alkhairat Power Plant) and the other in the north of the country near the city of Mosul (The Nainawa Power Plant), and as such has contracted Idom to perform the detailed engineering.

These plants, with an installed capacity of 1,250 MW and 750 MW respectively have initially been designed as a simple cycle utilizing up a total of 16 General Electric 9E model turbines General Electric 9E model turbines. These two plants are designed for the possibility of being upgraded to combined cycle in the future.

Photography: Çalik Enerji

TEAM Left to right:
Aitor Cortazar, Jon Agirre, Javier Alonso, Sergio Alonso, Borja Nieto, Ianire Anaya, Arkaitz Nocedal, Maite Fernández, Carlos Cuadrado, Iñaki Iglesias, Mónica Ruiz, Itziar Clerigo, Jose Antonio Acosta & Guillermo Ibarreche.

IRAQ I Alkhairat & Nainawa

SERVICES I Detail Engineering

CLIENT I Çalik Enerji

Team photo: Carlos Olmedillas

Infographics: Iñigo Gutierrez

NETWORK ENGINEERING

Electric power grid design specialists from Idom are working for some of the most important national and international transmission and distribution operators. In particular we have designed electrical substations of different voltage levels up to 400 kV with conventional and compact solutions.

During 2012, some of the most notable projects developed by Idom in this area, include engineering services for integration and standardization of electrical networks acquired by REE on the Canary Islands.

Photography: Alfonso Calza

SOLAR THERMAL ENERGY

Idom has participated in the engineering of more than 17 concentrated solar power (CSP) plants with a combined installed capacity of over 800 MWe (solar).

These plants are configured with different technologies and applications including parabolic trough solar field with or without thermal storage, central tower design for the direct generation of steam or for the heating of molten salts, solar field, integrated with combined cycle power plants as well as hybridized with biomass. Idom has developed projects not just in Spain, but also in Algeria, Morocco, India and the United States.

Pictured from left to right :
Javier Alvarez Mingorance, Katie Leivian, Thomas Lorentz, Jeremy Uhrich, Lisa Reinken, Brianna Shay & Javier Sánchez Unda.

Photography: Paul Markert

POWER FROM THE DESERT

Solar energy in the Nevada desert

The State of Nevada (US) has set the target of reaching 25% of its power production from renewable power by 2025; part of which will come from the Mojave Desert, one of the best areas with the highest level of solar radiation in the world.

Close to the former mining town of Tonopah, a CSP plant with a net capacity of 110 MWe is being built. This plant is based on central tower technology and a heliostat solar field, with molten salts being directly heated in a central receiver.

The use of molten salts as heat transfer fluid means that extremely high temperatures (over 500° C) can be reached, therefore, increasing the efficiency of the thermodynamic cycle.

199 METERS IN HEIGHT

The central tower rises above the surrounding solar field

Photography: © Solar Reserve

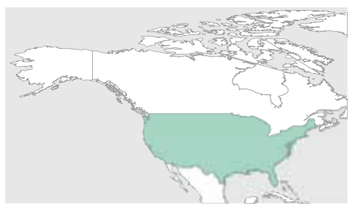
The tower is surrounded by
10,000 heliostats, each measuring 120m²

The plant consists of a thermal storage system of between 6-8 hours, based on two tanks of molten salts. Cooling for the steam circuit is carried out using a hybrid system of air cooled condenser and cooling tower, therefore minimizing water consumption and maximizing performance.

Infographics: Iñigo Gutierrez

The Spanish company Cobra (Grupo ACS) which is responsible for the construction of the plant using an EPC model has contracted Idom to carry out engineering services. The participation of Idom has been approved by the US Department of Energy (DOE) and as such all engineering provided by Idom is reviewed by the US Department of Energy.

USA I Tonopah (Nevada)



SERVICES I Detailed Engineering

CLIENT I Grupo Cobra

CLEAN ENERGY IN INDIA

Green growth and containment of climate change

The government of India wishes to respond to the challenges of energy security while at the same time planning green growth and addressing climate change.

With this in mind, the Jawaharlal Nehru National Solar Mission is one of the initiatives that are being promoted. This is an initiative with aspirations to position India as a world leader in solar energy.

In this context, the MEIL Green Power Company Limited, a subsidiary of Megha Engineering & Infrastructures Limited (MEIL) is developing a 55 MW CSP plant based on parabolic trough collector technology, supplemented, with an 8 hour thermal energy storage system using molten salts. The plant is located in Viranapalle, close to Anantapur, in the state of Andhra Pradesh.

Photography: Jorge Rey

”

Thermosolar energy is contributing to sustainability on the planet

Susana Martínez Escriche
Thermosolar Division Director

Photo: Alberto Robles & Susana Martínez Escriche

Photography: Andreia Faley

Seridom

CSP in Moron de la Frontera, Olivenza and Palma del Rio

During 2012, Idom commissioned and commenced the operation and maintenance of three concentrated solar power plants with a capacity of 50 MW each. The Moron and Olivenza plants were developed for Ibereólica / Inveravante while the Palma del Rio plant was developed by FCC Energia/Mitsui & Co.

All three projects are notable for the level of their successful implementation in terms of completion of deadlines for the commissioning of the plants and meeting the requirements for the mandatory functional tests and performance of the facilities.

Moreover, all these projects have been developed in strict compliance with the requirements of health and safety, again with excellent results. SerIdom is strongly committed to the health and safety on all of it projects and is guided by a comprehensive Occupational Health and Safety Management System.

Photography: Jorge Rey

The strength of the wind

Analysis, feasibility, impact and implementation

Idom has participated in over 450 wind farm projects, providing services ranging from feasibility studies, project supervision, preliminary design, detail engineering and the analysis of complex foundations.

ROMANIA

Continued expansion in the Romanian market, currently involved in wind farm projects totalling 373 MW for the Jorge & Bogaris Group in Dobrogea.

Idom´s scope includes feasibility studies, the preliminary design and detailed engineering of the civil and electric works for the wind farms, electrical set-up substations (30 / 132 / 400 kV) and overhead lines.

BRAZIL

Since 2000, Idom has participated in the design and construction of numerous wind farms in Brazil.

At present, Idom is developing the detailed engineering for wind farms with a total capacity of 288 MW for Iberdrola Ingeniería y Construcción in the states of Bahia and Rio Grande do Norte, and Owner´s Engineering with on-site supervision of 48 MW for Gestamp in the state of Bahia.

MEXICO

Preliminary design of the 102 MW Sureste I, phase II wind farm for Recursos Eólicos de Mexico S.A. de C.V.

Idom´s scope includes civil and electrical design for both the wind farm, 34.5/220kV set-up substation and underground HV line.

USA

Power supply feasibility study using renewable sources for a mining operation in Alaska for The Pebble Partnership.

Pre-sizing of the equipment for the reduction of fuel consumption through the use of renewable energies on the San Clemente Island for Schneider Electrics.

KAZAKHSTAN

A feasibility study for a 60 MW wind farm located in the Shelek Corridor in Kazakhstan.

This study is being developed jointly with the Kazselenergoproekt Institute for Samruk Energy, and includes the characterization of the resource, an estimation of production, comparison between the different wind turbines, preliminary design of the wind farm and the development of the general technical specifications for the civil engineering, electrical and control works.

SPAIN

Construction design for various wind farms totalling 70 MW.

Detail engineering for an experimental 5 MW wind turbine for offshore wind energy validation.

Infrastructure projects for overhead lines including lines of up to 132 KV.

POLAND

Preliminary design, detailed engineering and support in the application process for licenses and permits for the 20 MW Zlotoryja wind farm for ENHOL.

Photography: Alfonso Calza

NUCLEAR ENERGY

The ITER project in Cadarache, France

Idom, along with two internationally renowned engineering firms, continues to work on the ITER project, now in the final stages of design and tender phase of the major procurement items.

Idom is providing technical support to the ITER project for the management of infrastructure civil works, electrical and mechanical installations and the overall coordination of these disciplines. Idom is also responsible for monitoring the performance of the construction supervision activities provided by the consortium that has been contracted to fill the role of Project Engineer.

Photomontage: Moat Seismic (Seismic Pit). Specific foundation designed to dampen any vibrations of seismic origin in the building containing the nuclear reactor

Photography: © ITER Organization

SPECIAL ITER PROJECTS

Idom is participating in numerous tasks of advanced engineering

Idom is working on the analysis of the overall performance of the Tokamak reactor and its coupling with the main structure of the building, against accidental dynamic loads of seismic and electromagnetic nature.

Idom is also participating in the development of the two European Test Blanket Module concepts, originally designed by CEA and KIT. The feasibility of different alternatives is also being studied encompasing a global approach using advanced simulation tools.

In regards to the control of the leakage of tritium, Idom has optimized the position of the detectors in the event of a leak in various process rooms.

Also in the field of nuclear fusion, Idom has been collaborating with CIEMAT in the evaluation of the thermo-mechanical response of the IFMIF-EVEDA beam dump.

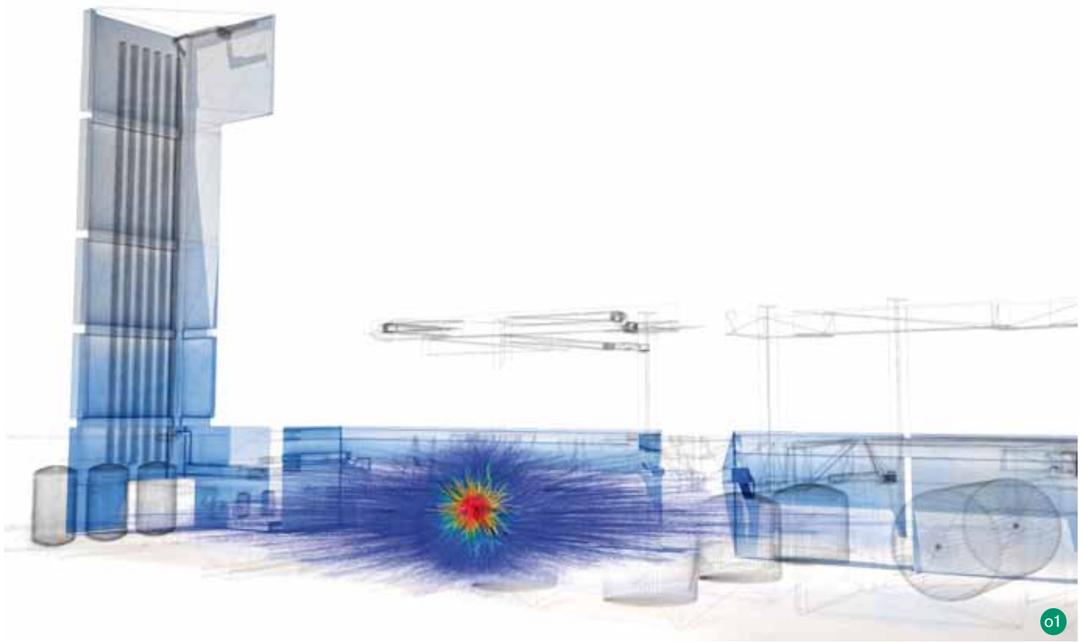
The seismic pit will bear the load of **360,000 tons of the Tokamak Complex,** the main building of the complex that will house the nuclear fusion reactor

The Cadarache site

For the last two years, a number of professionals from Idom have been working on the Cadarache site, alongside the engineers from Halcrow and Altran, in the role of "Support to the Owner" services to Fusion For Energy, the organization that represents Europe in the ITER project and that is responsible for the project management of civil works, installations and "housing" for the nuclear project.

PHOTO 01 The PF coils building has been completed, intended for the manufacture of the coils of the poloidal magnetic field.

Photography: © ITER Organization



o1

NEUTRONS & FLUID DYNAMICS

Coupling of MCNP nuclear codes with ANSYS Fluent

For the first time, Idom has demonstrated the technical feasibility and developed our own software that allows the nuclear thermal power calculations to be automatically produced using MCNPX software, and then input into simulation software of fluids, ANSYS Fluent ®.

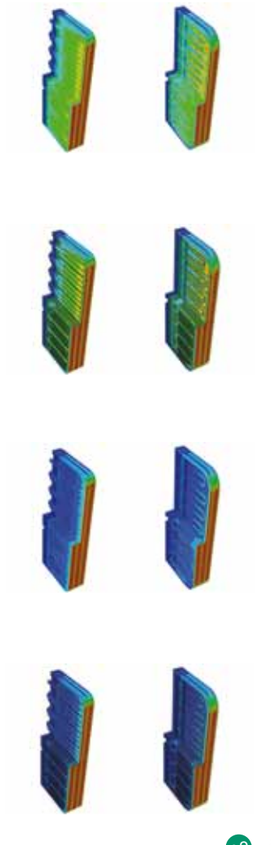
This software will have a broad spectrum of applications, particularly where thermal power is produced from nuclear reaction (e.g. fusion reactors and nuclear fission) and will make it possible to offer a faster response, integrated and reliable in meeting the requirements of our clients.

Leak simulation

The control of tritium leakage is an important milestone for future fusion reactors. Idom has optimized the position of the detectors in the event of a leak in the various process rooms in the ITER fusion reactor.

Different simulations have been conducted to analyze the temporal evolution of the concentration of the radioactive gas and optimize the detection system for each room, minimizing the detection time. The optimal strategy for air diffusion in these chambers has also been studied, as well as the strategy of air and gas extraction from each of the chambers.

o1 / Simulated leakage of tritium in ITER, in a generic enclosure
o2 / Simulation response of the TBM (Test Blanket Modules) to different thermal loads.
o3 / Section of TBM



o2

o3

TEST BLANKET MODULES

Technical feasibility of the TBMs

Idom is working in collaboration with Fusion for Energy in the study of the technical feasibility of new TBM (test blanket module) concepts in order to reduce their ferritic martensitic steel content, since recent studies have shown that a significant presence of ferromagnetic material within the vacuum vessel could hinder the fulfillment of certain plasma control objectives in ITER.

Infographics: Iñigo Gutierrez

BUNKER BUILDING & HELIPORT

Alternative Emergency Control Centre (ECC)

One of the requirements identified in the analysis was the need to incorporate a stand-alone building, with capacity to receive auxiliary equipment, to mitigate the effects of an emergency.

Additionally, the building has to provide a base of operations for the team of persons that is managing the emergency in a safe manner, with minimal impact from the possible radiation that may occur during the accident.

Heliport

The actions to be taken in the event of an accident include the need to establish heliports to facilitate the arrival of foreign aid to the various nuclear plants in the territory.

STRESS TESTS

Spanish Nuclear Power Plants

Following the accident at the Fukushima Daiichi plant in Japan, the Council of European Union expressed the need to expeditiously perform a comprehensive and transparent assessment of the safety of all nuclear power plants in the European Union. These assessments have been given the name “Stress Tests”.

In these stress tests, Idom has addressed the likely and possible effects of earthquakes, rainfall, extreme temperatures and floods in the plants of Asco and Vandellos II. Idom has made different technical assessments of the same external events in the other Spanish nuclear plants.

These works have been developed within the framework of the requirements established by the CSN (Nuclear Safety Council).

o1 / Modelling of the Heliport
o2 / Modelling the CAGE

LIFE MANAGEMENT, IGALL

Nuclear plants

Between 2003 and 2009, Idom has developed the studies and evaluations required for the license renewal application for the long term operation of the nuclear power plants of Santa Maria de Garoña.

Since 2006, Idom has also been providing support to the Spanish nuclear power plants of Asco, Almaraz, Vandellos II and Trillo in the different areas of planning, development, implementation, and monitoring of the life management plans for the different plants.

This work has been performed following the Nuclear Safety Council Instruction number IS-22, which is based on the rules 10CFR54, NUREG-1800 (SRP) and NUREG-1801 (GALL) of the NRC.

Since 2011, Idom has been participating in the Nuclear Power IAEA Working Groups in the development of IGALL, the technical guides to serve as a reference for the Life Management and Long Term Operation of nuclear power plants, worldwide.

Upper infographics: Iñigo Gutierrez

Infographics: Poliedro

PAD FOR SPENT NUCLEAR FUEL STORAGE. ASCÓ

The Nuclear Power Plant pools for spent nuclear fuel generated in the operation of its two nuclear power units are nearing saturation point, so a local pad is required at the Ascó Nuclear Power Plant (NPP) to maintain electric energy production.

The Ascó NPP Pad is an outdoor storage facility that basically consists of two seismic concrete slabs with capacity to support up to 16 dry storage canisters on each, a transfer pit, an auxiliary building to house the transport vehicle, and security and radiation protection fences.

ATI, Spent nuclear fuel storage (Ascó NPP)

Photography : Jordi Estrampes Blanch
Reactor Engineering and Nuclear Safeguards
Supervisor Nuclear Technology Ascó NPP

o1

ATI

Nuclear power plant pads for spent nuclear fuel dry storage

o1 / Modelling of the PAD, Ascó nuclear power plant (NPP)
o2 / HOLTEC dry storage Device for spent nuclear fuel
o3 / Lifecycle of nuclear fuel

The storage of spent nuclear fuel in dry casks is a technology which is widely accepted and tested in the US. In Spain, cask storage technology has been used previously, including the PAD of the José Cabrera and Trillo nuclear power plants..

The PAD at the Asco NPP has been built to store the spent nuclear fuel, which in the future will be destined to the Centralised Storage Facility of Villar de Cañas, which will allow continuation of operations at the Asco NPP, a plant whose spent nuclear fuel storage pools are nearing saturation point.

The accomplishment of the security civil works elements, such as the seismic slabs for storage, the transfer pit and concrete radioactive shielding storage canisters, requires strict compliance with the regulations concerning quality of materials and executing control systems.

All this is magnified by the geotechnical characteristics and severe climatology of the local environment. Idom has provided the project management of this facility, and the experience acquired will contribute to the design of the pads for spent nuclear fuel at the NPP of Garona, which Idom is currently in charge of developing.

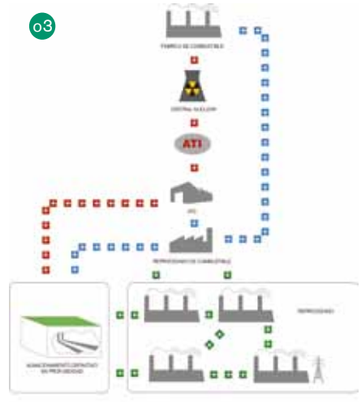
o2

HI-STORM 100 & HI-SAFE

Dry storage canisters for spent nuclear fuel

To date, the Individualized Temporary Storage facilities which exist in Spain have been based on American technology.

The company that owns this technology, Holtec International Inc. is responsible for supplying the HI-STORM 100 spent fuel storage casks and the HI-safe non-fuel waste storage system.



Holtec International Inc.

Holtec International Inc. is a technology development company for the energy market, manufacturing and supplying equipment to the nuclear industry.

The company offers components such as dry storage modules for spent nuclear fuel (HI-STORM 100 Dry storage casks), as well as a storage system for non-fuel nuclear waste (HI-SAFE casks). Both canisters must be subjected to an “on-site” post-process before being deemed suitable for use.

Idom has provided the Project Management and is being supervised by Holtec International Inc. in Spain. The scope of work has included the local support for the transport and installation of the radioactive shielding concrete, and the commissioning of the storage devices at the Jose Cabrera and Ascó nuclear power plants.

o2 Transforming
material

BRAZIL

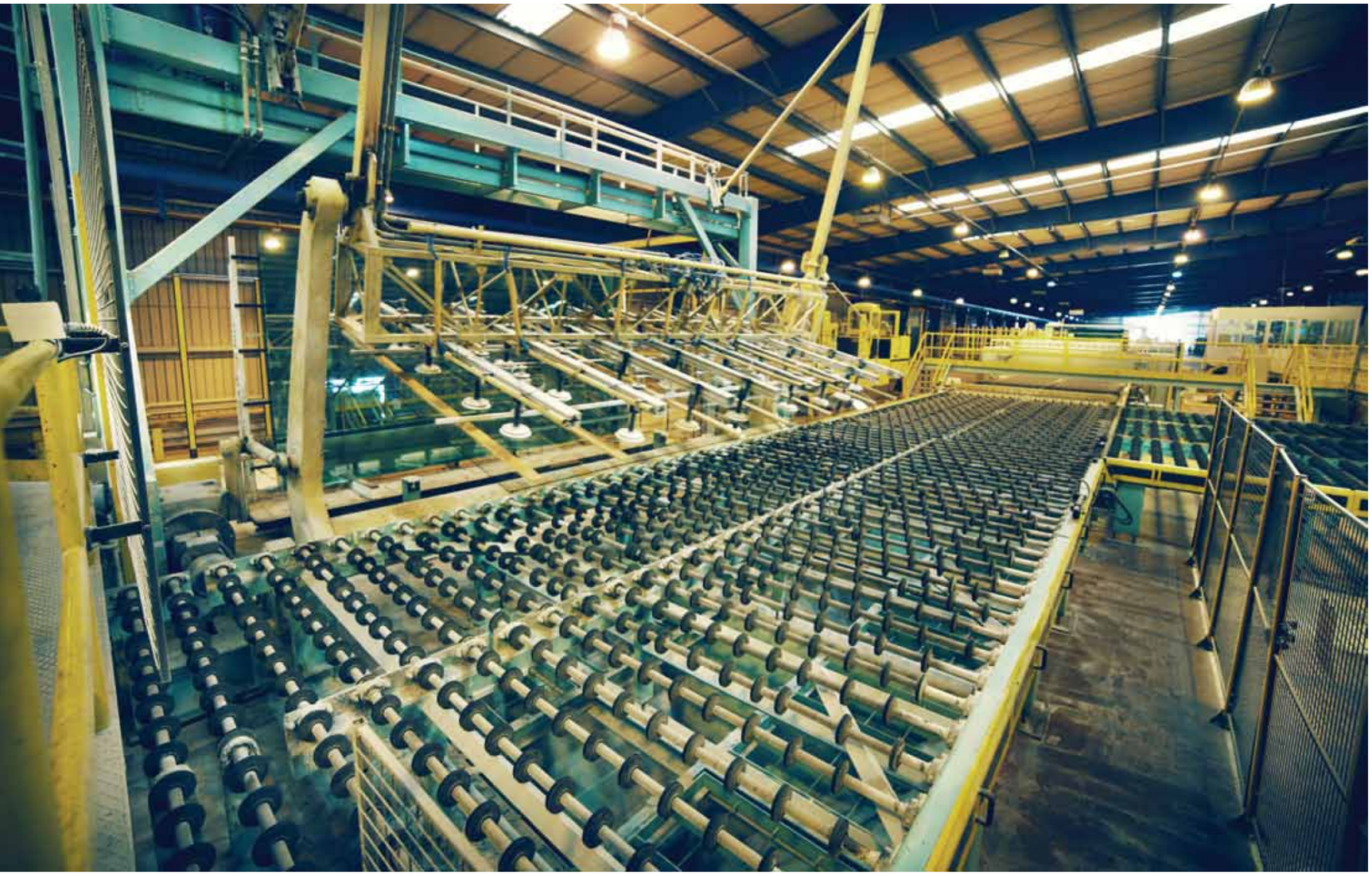
Idom is constructing, what will be one of the largest integrated glass production plants in the world

The Brazilian economy is growing at a rapid pace and the construction and automobile sectors currently require significant quantities of glass.

To meet this need, AGC, the Japanese multinational, a world leader in the manufacture of glass has decided to build an integrated plant for the manufacture of flat and processed glass in Guaratingueta, in the state of Sao Paulo.

This plant will be the first that ACG has embarked on in South America.

Photos of AGC: Alfonso Calza



In the first phase, the plant will produce **220,000 t/a** of flat glass

AGC is constructing the plant using an EPCM contracting arrangement. Idom is undertaking the services of the complete engineering, procurement, construction management and commissioning.

In the second phase, AGC has planned to increase production capacity, making the plant **the largest of this kind in the world**

The production line for float glass on melted tin is being built on a site of 750,000 m². This site will also accommodate other production lines that feed from the glass production plant: automotive glass, mirror glass and coater glass for building facades.

PHOTOGRAPHY I AGC glass production plant in Sagunto

> For more than ten years, Idom has been competently helping us in the design of industrial plants
>
> **Jesús Diez-Madroñero**
> Director of the AGC plant in Sagunto

Photo: Maica Saiz & Jesús Diez-Madroñero

The first phase, which is scheduled for late 2013, will have a furnace capacity to produce 600 tons of flat glass per day; to meet the supply demands for the production of 500,000 cars per year, 1.3 million m² of mirror glass and 15,000 tons per year of coated glass.

This plant complex will employ the best technology available, in terms of atmospheric pollution control systems.

BRAZIL I Guaratinguetá

SERVICES I Complete engineering
CLIENT I AGC

THE PAPER INDUSTRY IN MANCHESTER

Idom has undertaken the project of one of the most advanced paper production plants

Saica is a manufacturer of paper and paperboard products with production plants in Spain, Portugal, Italy and the UK. The company uses waste paper as raw material, and is ranked third among the European producers of corrugated cardboard, a material that is used to make packaging which is 100% recyclable and biodegradable.

In recent years, Saica has converted its factories to minimize resource consumption, resulting in the company now having one of the lowest ratios in the industry of energy and water used per unit of paper produced.

Saica has recently identified a shortfall in the production capacity of recyclable paper products in the UK. This is why the company has decided to invest over €300 million in the construction of a new factory for lightweight corrugated cardboard in Partington (close to Manchester), the most up to date and modern in Europe and one of the most advanced in the world.

Photography: Alfonso Calza

Idom has been collaborating with Saica for many years now, and was once again called upon to participate in this new project. Idom has performed the engineering of the power plant, effluent and water treatment plant, as well as the urbanization and infrastructure design of the entire complex, including the recovered paper yard and reel storage.

The project was executed using fast track construction. This project scheduling involved the plans and instructions being passed directly from engineering to site, and required considerable effort on the part of Idom to maintain the pace of the issue of construction documents without affecting the on-site works. All design had to be coordinated with the construction phases of the project.

To perform these tasks, the back-office work of design was performed in the offices of Idom in Bilbao and Zaragoza and coordinated with the on-site supervision team. This team was composed of technical professionals from both Spain and the UK.

The project took a total of twenty months or 70,000 hours of engineering by Idom. The culminating moment of the project was in January 2012, with the production of the first metres of paper. Since then all the auxiliary systems have been commissioned and the plant is now fully operational.

UNITED KINGDOM I Manchester

SERVICES I Detailed engineering and supervision of energy, treatment and auxiliary works

CLIENT I SAICA

FOOD INDUSTRY

New factory for the production of cooked and sliced meats

The demand for processed meats both packaged and for industrial catering is increasing. Nowadays to meet the requirements of an ever more globalised market a company must be adequately sized to compete. These are some of the reasons that ElPozo Alimentación has embarked on the construction of this new plant.

The facility is divided into two main areas: one dedicated entirely to the elaboration of cooked meats, both pork and turkey and the other for the portioning of the elaborated products; including white rooms with capacity for 26 slicing lines.

The building is equipped with an automatic transport system with conveyor belts extending over 5 km, 4 automatic warehouses with a capacity for 70,000 units.

The plant offers, among other facilities, a group with an installed power of 14 MVA, a cold production capacity of 11 MW and a steam installation with a capacity of 12 tons/hour.

TEAM PHOTO Left to right: Carlos Hernández Iglesias, Mariángeles Torres Vicente, Diego Pérez Monteagudo & Luis Pozo Fernández.

Photography: Alfonso Calza

Photo: The plant of ElPozo in Murcia

> Serldom is a response to the client who apart from design, requires our company to take responsibility for the implementation of a project

Ander Gorostiaga
Industrial Engineer

Pictured here: Gonzalo Puente & Ander Gorostiaga

Photography Alfonso Calza

A PRECIOUS MINERAL

Economic and environmental sustainability is the basis for the project

Iberpotash, part of the International Chemicals Group, ICL is the most important mining company in Catalonia and has a strong presence in the region of Bages (Barcelona).

In the mines of Súria and Sallent, sylvite is extracted from a depth of 800 meters. It is then processed to produce potassium chloride (KCl) for industrial and chemical applications, and the fertilizer market. These products are exported to countries in over five continents.

At present, the company is undergoing an expansion plan and as such is improving the industrial and mining facilities in Súria. This plan is being developed in three phases and represents an important boost to the economy of the region.

In the first phase, the plan is to maintain the production capacity of potash of the company, concentrating on a single mine and a single plant in place of the current two. This means doubling the potash production capacity of the Suria plant, from the current 0.5 M million t/a to 1 million t/a.

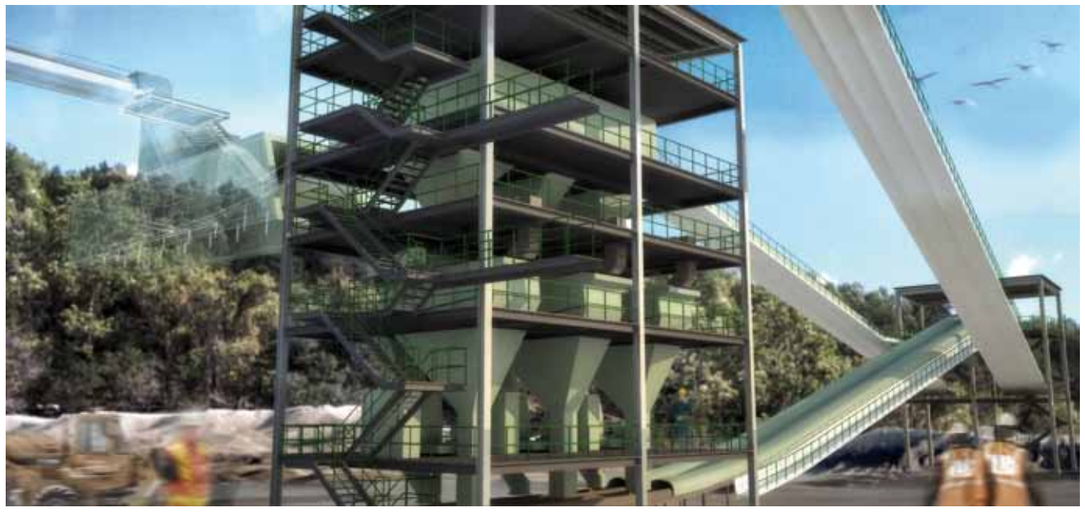
Photography: Courtesy of Iberpotash

Seridom has been awarded the contract for the expansion of the sylvinite treatment plant in Súria, a process which separates salt from potash.

Equipped with the best technological advances available, the plant will achieve potash recovery rates that are the highest in the industry standard. In addition, the project has been proposed from the perspective of economic and environmental sustainability.

SERVICES I Process engineering, preliminary and detailed engineering, assembly and commissioning.

CLIENT I IBERPOTASH



Infographics: Iñigo Gutierrez

TEAM PHOTO Left to right: Rafael Pou, Javier Iturriaga, Juan González, Rodrigo García, Esteve Vila, Francisco Castelló, Pablo Carazo, Jose Luis Periñán, Juan Riaño, Manuel Simón & Gerard Montlló.

PHOTOGRAPHY Andreia Faley

> From the extraction of minerals through to manufacture, including processing, the raw materials cycle is increasing conditioned by technology

Andoni Borjabaz
Director of the Steel & Metals Division

Photography Alfonso Calza

Steel & metals

Analysis, feasibility, impact and implementation

OMAN

Idom is carrying out work in the Middle East for a world leader in the steel sector

Jindal Steel & Power Ltd, the industrial multinational group of Indian origin is in the process of strategic expansion, diversifying their investments. One of their seminal projects is the integrated steel complex in the Port of Sohar, Sultanate of Oman.

At the end of 2010, Jindal inaugurated a production plant, producing Hot Briquetted Iron (HBI) (pictured here) to feed the neighbouring Meltshop, a project in which Idom is currently working.

On the same site, Jindal is proposing to develop complete cycle downstream steel production, producing semi-finished product such as billets, slabs and rounds, finished products, hot-rolled flat and corrugated bar, wire rod, hot roll and coil; with a target of up to 3 million tons per year of hot rolled product and 1.5 million tons per year of semi-finished product.

In recent years, Oman has gained a leading position in the ranking of the top five economies in the Middle East and North Africa, and has a privileged geographical location, as well as maintaining excellent diplomatic and economic relations with its Arab neighbours, Europe, China and the United States.

A new meltshop at the port of Sohar

The new Steel Meltshop will be producing two million tons of steel in 2013. It will be fed directly by a Hot Direct Reduced Iron Plant (HDRI), with an annual capacity of 1.5 million tons.

To achieve this desired level of production, the furnace with a taping capacity of 265 tons/hour and a 200 MVA transformer, will also be fed with scrap metal.

Photography: Irfan Naqi

GERDAU IN BRAZIL

Rolling of special steels – Pindamonhangaba Plant

Gerdau is the leading company in the production of long steel in the Americas and one of the major suppliers of specialty long steel in the world. Idom recently completed the detailed engineering for the construction of the new facility for the rolling of special steel bars. The new mill which will have the capacity to produce 500,000 tons per year, mainly supplying the automotive sector; will primarily supply steel to the growing Brazilian Market.

New Billet Continuous Casting and Reheating Furnace

At the same Pindamonhangaba plant, in the state of Sao Paulo, Gerdau has entrusted Idom with the upgrade and expansion of its existing steel mill. During the first phase, a new special steel billet continuous casting line and a reheating furnace will be installed.

GERDAU RIOGRANDENSE

Basic engineering for a new long steel melt shop for the production of billets –Riograndense Plant

In early 2012, Gerdau contracted Idom to develop the complete basic engineering of the new long steel melt shop with an annual production capacity of 650,000 tons of billets. The new melt shop will be integrated in the existing facilities of Gerdau in Sapucaia do Sul, in the state of Rio Grande do Sul. The commissioning of the new melt shop, scheduled for 2015, will make it possible to enhance productivity, operational safety, product quality, and environmental protection.

Infographics: Floren Loizaga

MALAYSIA

Stainless Steel cold rolling

Bahru Stainless (the Acerinox Group) continues to put its trust in Idom for the development of engineering for the construction of Phase II of its stainless steel cold rolling mill in Malaysia.

Idom has been working for Bahru Stainless in Malaysia since 2009, when phase I, now in operation commenced.

The construction of the second phase of the plant is now at an advanced stage, and in the later subsequent phases, further expansion of cold rolling , hot rolling and meltshop will go into production.

The final project will be a plant with a capacity of 1.5 million tons of stainless steel and 600,000 tons of cold rolling, incorporating the latest technologies.

SERVICES I Full engineering and construction management

CLIENT I BAHRU STAINLESS (Part of the ACERINOX Group)

Photography: Dick Wong

SAUDI ARABIA

Aluminium rolling

The Saudi Arabian Mining Company, Ma'aden and Alcao are developing a mega-project involving a bauxite mine, an alumina refinery, an aluminium smelter and a rolling mill, to be located in Ras Az Zawr, northeast of the country.

Once finished, this will be the largest aluminium complex in the world.

The construction of the rolling mill has been awarded to Samsung Engineering, who in turn, has contracted Idom to perform the detailed engineering for the construction activities, steel structure, foundations of the main buildings and foundations for the process equipment to achieve a rolling capacity of 380,000 metric tons per year, and with a surface area of 100,000 m2.

Idom has also performed the detailed design of the new silos for the storage of alumina and coke, and the corresponding transport and material systems.

SMS SIEMAG. Ma´aden Automotive

Without having initiated the commissioning of the new hot and cold rolling facility at the Ras Az Zawar complex, Maáden-Alcoa has expanded the plant for the production of sheet metal for the Automotive industry, Maáden Automotive, implementing a cold rolling mill (CRM) along with a heat treatment line (HTL).

Both lines have been awarded to the German company, SMS SIEMAG, who in turn have contracted Idom to perform the detailed engineering. These plants will be in operation by late 2013.

Photo: Cold rolling stainless steel plant in Malaysia.

Photography: Dick Wong

REFINING & PETROCHEMICAL

Idom is developing engineering and studies on operation and energy optimization in refineries and storage and hydrocarbon processing facilities.

Co-processing system of vegetable oil with kerosene

Petronor has contracted Idom to perform the Preliminary Design and FEED (estimated budget) for the co-processing system of vegetable oil (Plam Oil) with kerosene to feed one of the Distillate Hydrotreating Units (diesel and kerosene).

This project will allow the production of distillate fuels to be adjusted within the refinery to the demands of the so-called Eco-fuels. The project is being developed within the framework of the General Plan of the Repsol Group, to increase the use of biofuels in order to reduce the environmental impact of the production thereof.

Idom is performing the balances, analysis and sizing of the equipment in the co-processing system, as well as the analysis of the area necessary for construction, including the estimated budget for the facilities and the full realization of the project.

Photo: Refinery of Petronor

Photography: Joserra Irusta

RUSSIA

High conversion and maximum efficiency refinery beside the Black Sea

Idom has completed the configuration studies, the linear programming simulation model, and an analysis of the technical feasibility of the expansion and modernization of the Slavyansk ECO refinery in Krasnodar, Russia; to increase capacity from 20,000 BPD to 78,000 BPD making it a high conversion refinery, and preparing the refinery to produce diesel fuel, kerosene and gasoline, according to the most stringent European Regulations, EU-4 and EU-5.

The capacity of the refinery will increase by almost 400 %

The objective of the project is to take the refinery to a higher degree of conversion and efficiency, by incorporating new units: Vacuum, hydroteating naphtha, kerosene and distillate hydrotreating, Coker unit, hydrocracker, gasoline reforming unit and isomerization, as well as the ancillary services and facilities required by the new design.

The design developed by Idom includes the latest refinery technologies available, and considers the optimization and energy integration at global level, in order to achieve the highest standards of efficiency in production, energy, environment and security and automation of the plant.

Infographics: Luis Cuenca

Once the configuration and feasibility of the proposed configuration was approved, Idom commenced with the development of the conceptual engineering package, which is currently being completed.

With the Conceptual Engineering, Idom is defining the technology, process diagrams, unit descriptions and specifications of the technology, which will allow the award of basic engineering in the next stages of the project.

RUSIA I Krasnodar

SERVICES I Configuration and conceptual engineering

CLIENT I SLAVYANSK ECO Ltd

HAWAII

The Advanced Technology Solar Telescope (ATST)

After having successfully completed preliminary and final design phases, Idom is currently responsible for the fabrication of the enclosure of the Advanced Technology Solar Telescope (ATST). The telescope will be located in the Haleakala Observatory on the island of Maui (Hawaii).

The telescope, with a 4-metre primary mirror, will be the largest solar telescope in the world and will have unprecedented capabilities for research in astronomy, plasma physics and interaction between the Sun and the Earth.

THE LARGEST SOLAR TELESCOPE IN THE WORLD

The enclosure will be 26 metres wide

Infographics: Carlos García & Jesús Bermejo

o1

ADVANCED SOLAR TELESCOPE TECHNOLOGY

Crawler Mechanism for drive system for large movable structures

Idom has developed an innovative drive mechanism for large movable structures. The mechanism is named Crawler and is composed of six toothed combs, driven by an eccentric mechanism with an offset of 60 degrees, which meshes in a track composed of chain rollers.

The Crawler Mechanism has initially been used in the shutter of the Advance Technology Solar Telescope (ATST) enclosure and an earlier unit has satisfactorily undergone a campaign of functional and durability tests. The Crawler Mechanism is patent pending.

1 / View of the earlier Crawler unit, the teeth of the comb can be seen on the bottom.
2 / Coupling of the drive gear motors.

Photography: Carlos Olmedillas

o2

TEAM PHOTO In fornt of the testing bench for the earlier unit.
Standing from left to right:
Igor Zarandona (Hilfa), Alain Jauregi (Hilfa), Armando Bilbao (Idom), Pedro Ampuero (Idom), Borja Etxeita (Idom), Heather Marshall (Aura), Lander de Bilbao (Idom), Gaizka Murga (Idom).
Seated from left to right:
Esther Fernández (Idom), Javier Ariño (Idom), Jaime Perez (MSI).

THE UNIVERSE IN HIGH RESOLUTION

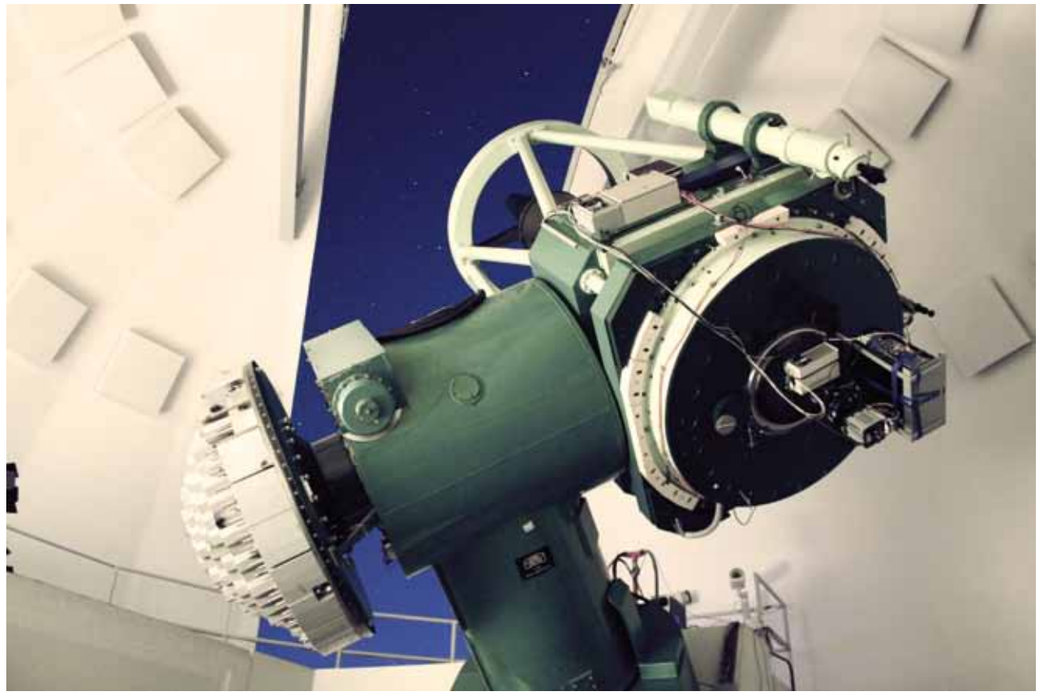
Idom has designed and manufactured a high-technology camera capable of acquiring high-resolution images of the Universe

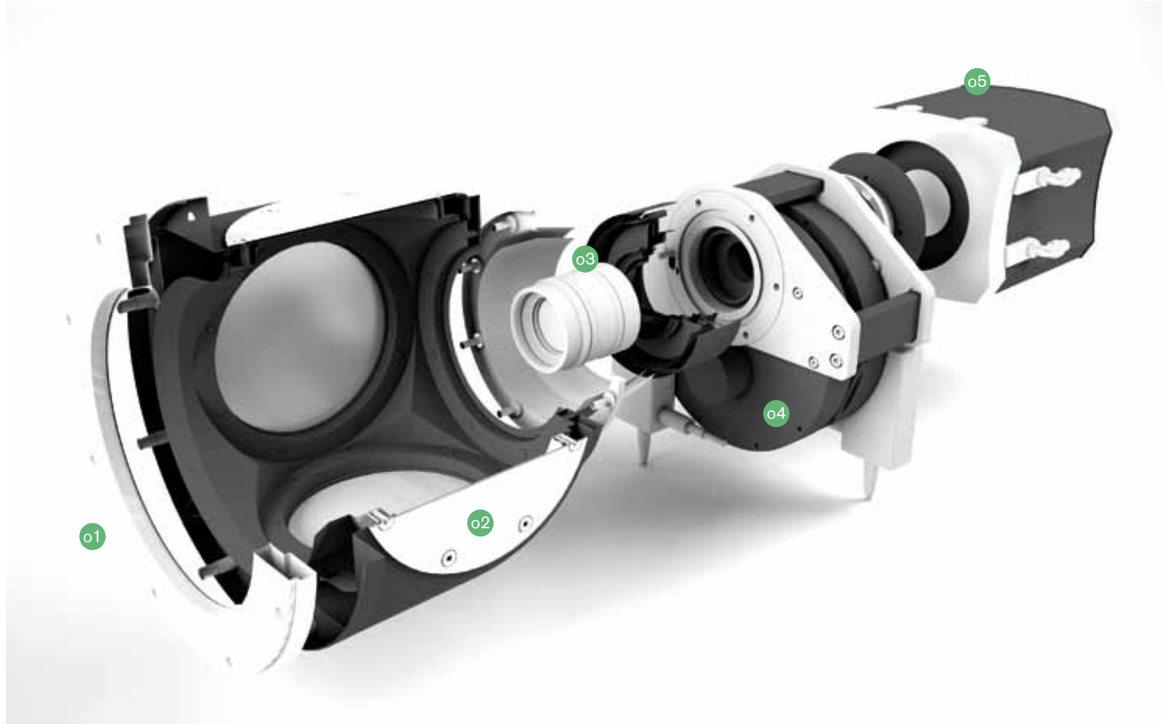
The Earth's atmosphere makes it difficult to obtain sharp images of celestial objects and while observation from space would be the best solution to eliminate atmospheric effect; the cost is elevated, therefore, ground–based observatories need to find alternative techniques.

The camera which has been designed and manufactured by Idom, in collaboration with the Group of Planetary Science of the University of the Basque Country, has introduced a series of technologies to produce high-resolution images and short films of phenomena in the short term, for example, the impact of meteorites and meteorological phenomena (storms) on Saturn or Jupiter.

Photography: Alain Sallez - picdumidi.org

Client: The University of the Basque Country / EHU





The impact of meteorites and storms on Saturn or Jupiter can be filmed

The secret to obtaining these results has been the use of extremely fast, highly sensitive detectors, along with a processor that combines thousands of frames to produce the desired image.

In late July, 2012, the new camera was mounted on the 1.23 m telescope of the German-Spanish Astronomical Centre (CAHA, Calar Alto Observatory), to be tested and capture the first images for scientific purposes. Observations included planets such as Saturn, Neptune, Uranus, Jupiter and Venus, among other celestial objects.

The design of the camera also provides for its adaptation to telescopes of The School of Engineering of Bilbao (ETSIB) and the Pic du Midi centre in France.

01 / 1.23 m I/F telescope on Calar Alto
02 / Dichroic module
03 / 4x Barlow Lens
04 / Filter wheels
05 / ANDOR NeosCMOS Detector

MAIN FEATURES OF THE CAMERA

Low noise and high spatial and time resolution

Ability to observe in two channels, visible (0.4-1mm) and near-infrared (1-2.5mm)

Dichroic beamsplitter to direct the two beams to their corresponding detectors

Filter wheels with each detector matching the characteristic absorption band of each planetary atmosphere

Lucky-imaging processing allows the reconstruction of a diffraction-limited image

03 Caring for the planet and those who walk on it

Water cycle

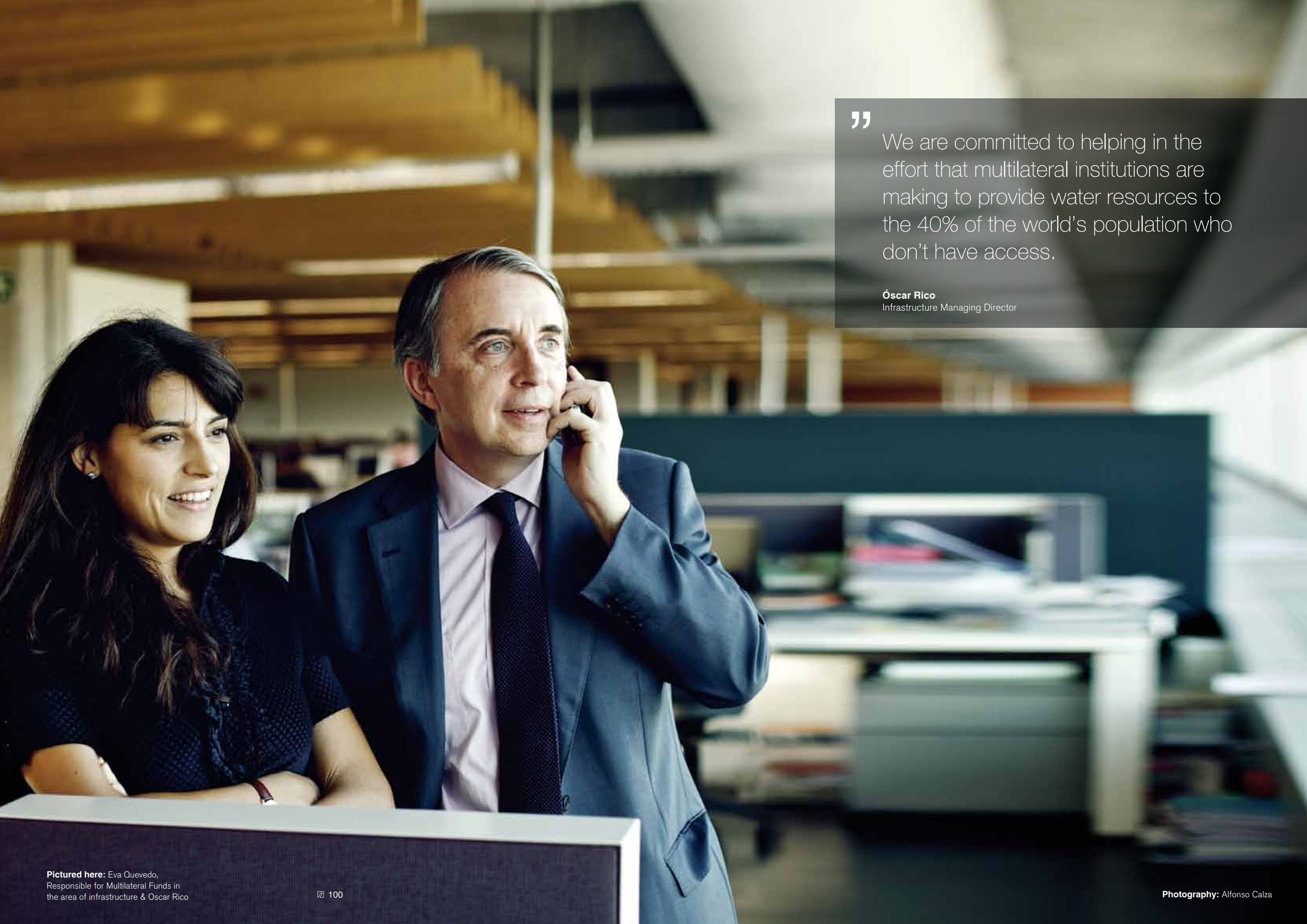
We are helping our clients in the best use of the water resources of the planet, with studies ranging from Master Plans and preliminary design, to the commissioning of drinking water supply and irrigation systems.

We work in the area of dams, reservoirs, canals, pipelines and main distribution lines, treatment and sanitation plants (networks of collectors and interceptors, retention deposits and ancillary works, wastewater treatment plants, outfalls, etc.), among others.

We have been working on projects in developing countries in close collaboration with international banks, to achieve the fundamental right that is clean drinking water and good sanitation.

Photo: The Canal of Navarra

Client: Canal de Navarra



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We are committed to helping in the effort that multilateral institutions are making to provide water resources to the 40% of the world’s population who don’t have access.

Óscar Rico
Infrastructure Managing Director

Pictured here: Eva Quevedo, Responsible for Multilateral Funds in the area of infrastructure & Oscar Rico

Photography: Alfonso Calza

HYDRO-WIND PLANT ON EL HIERRO ISLAND

The Gorona del Viento El Hierro, S.A. project will supply clean energy to the island of El Hierro

The project consists of two plants, wind and hydraulic, united to provide reliability and stability to the system. Energy is obtained first from the wind farm that supplies power to the entire island. The differences between supply and demand are managed by a system that provides reversible hydroelectric energy storage capacity when generation exceeds demand.

In turn, the system allows for the use of this stored energy when the island energy demand exceeds that produced by wind.

The objective of the project is to create a system to generate clean energy capable of auto-supply to meet the needs of the population of the island and its tourism industry with more than 2,000 hotel beds.

Photography: Miguel Ángel Navas Sánchez

An island which is self-sufficient in energy and a model that can be exported to any island in the world, are the objectives of the Gorona del Viento project

LAOS

Integrated management of the rivers of this Southeast Asian country

Idom is providing technical assistance to the Ministry of Environment of the Lao People's Democratic Republic within the programme for the Integrated Management of Water Resources. We have been dealing specifically with the development of a Basin Plan for the Nam Ngum River, a major tributary of the middle section of the Mekong River.

Other additional tasks include the preparation of annual reports on the state of the basin, the development of a study with recommendations to mitigate the expected impact of climate change, and the technical support to the National Commission of the Nam Ngum River.

The Asian Development Bank is responsible for the funding.

TUNISIA

Providing drinking water for the tourist region of Sousse

Carrying out the Potable Water Master Plan and preliminary design of the tourist region of Sousse in Tunisia.

The distribution network has a total length of over 8,800 km and supplies more than 400,000 inhabitants. Among the works being undertaken by Idom, are the analysis, diagnosis, and digitization of the network and the development of the hydraulic model of the same.

In addition, a training course on the software being used is being given to the technicians of the client, SONEDE (Societe Nationale D´Exploitation et de Distribution des Eaux).

The Ministry of Economy of the Spanish Government is financing the work being undertaken.

WATER SERVICES IN PERU

Programme for the improvement and expansion of water and sanitation services in rural areas and small towns in the districts of Kelluyo and Huacullani, in the province of Chucuito, in the region of Puno

The Government of The Republic of Peru has entered into an agreement with the Inter-American Development Bank, the Convention of non-reimbursable financing of investment from the Spanish Cooperation Fund for Water and Sanitation in Latin America and the Caribbean.

The purpose of this project is the improvement and expansion of the water and sanitation services in Peru (PROCOES), with the objective of increasing the coverage of water and sanitation services in rural areas.

In addition to implementing technical projects, Idom has also taken charge of the following: the promotion and dissemination of the programme, environmental assessment, socio-economic and cultural activities.

SERVICES I Pre-investment studies in the framework of the SNIP (National System of Public Investment). Investment Studies, technical level

CLIENT I PROCOES (Program of Improvement and expansion of water and sanitation services in Peru)

Photography: McKay Savage

USE OF PUMPED-STORAGE HYDROELECTRICITY

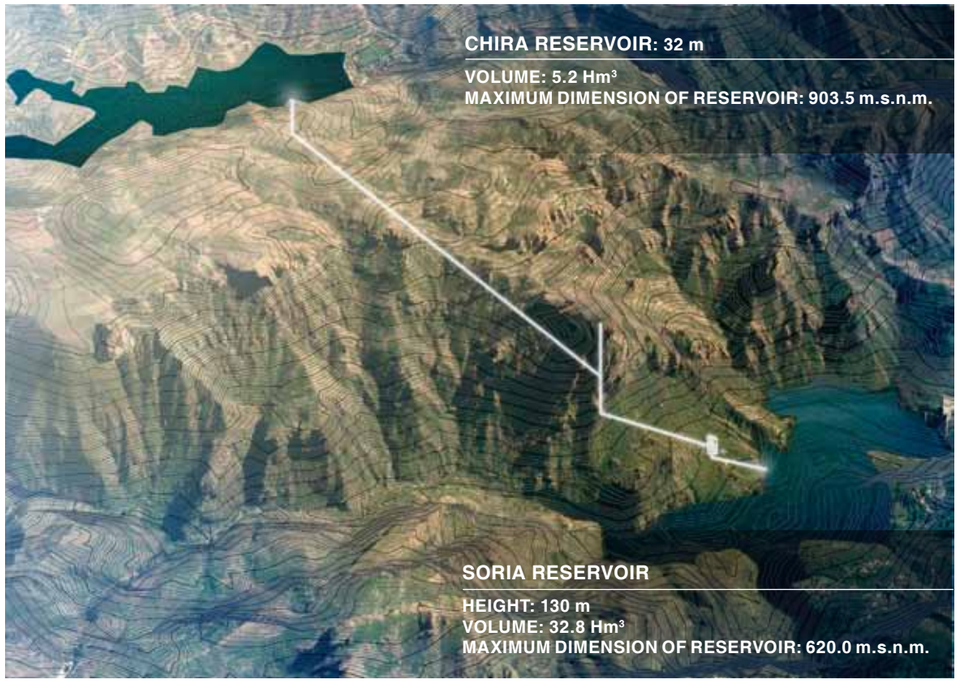
The island of Gran Canaria will host the project

For the client Endesa, Idom is performing the Detailed Design for the construction and concession of the pumped-storage hydroelectricity project at Chira Soria in Gran Canaria.

The exploitation is done by forced conduction over 2,220 m through a gallery with a diameter of 4 m, with a design flow of 66 m3/s. The maximum net leap between the two reservoirs is 343 m.

The pumped storage hydroelectric power station (turbine-pump) is located in a cavern alongside the lower reservoir, Soria, and has a total installed power of 198 MW.

The project includes the construction of a desalination plant at the foot of the mountain that supplies the water being transferred between both reservoirs.



Infographics: Poliedro

COLOMBIA

Design for the improvement of the waste water system of the Municipality of Medellin

The purpose of the study is the hydraulic analysis of the sewage network in the basins of “La Seca" and "Sector Doce de Octubre", as well as a diagnosis of the major deficiencies detected. Based on the problems identified in the network, a proposal of alternatives has been made.

The work has been structured in two distinct phases:

Phase 1 consists of the collection of existing information, the hydraulic analysis of the existing sewage network, a diagnosis based on the information collected on-site, and the mathematical models of the sewerage network, as well as the proposal of alternative solutions.

Phase 2 consists of the detailed design of the sections that have been deemed functionally unsuitable, either due to lack of capacity or because they are in poor condition, as well as the preparation of the relevant technical specifications. The amount of work to be carried out has also been determined.

The project involves the analysis of 102.5 km of sewerage network and affects more than 450 ha of urban land in the municipality of Medellin, providing service to approximately 200,000 persons.

Another singular aspect of this project is the social management that is being carried out, specifically in the communities and neighbourhoods where the project is being developed.

200,000 people
will benefit from the improved service

Pictured here: Virtual recreation sectors: 12 de Octubre & La Seca

Infographics: Poliedro

”To achieve sustainable activity, it is simply not enough to know and comply with environmental regulations, it is necessary to achieve a high level of environmental performance

Rafael Sagarduy
Environmental Director

Photography: Alfonso Calza

CARBON FOOTPRINT

Eco-efficiency Week

In May of this year, the auditorium in the headquarters of Idom Bilbao was the event for the conference on "How to be Eco-efficient in the management of your carbon footprint". The event was held during the Eco-efficiency week promoted by IHOBE (Basque Public Society for environmental protection and management).

The purpose of the event was to focus on the work carried out in the Basque Country with regard to matters related to the calculation of the carbon footprint, especially in the transport and waste management sectors.

Photography: Alfonso Calza

ECO-EFFICIENCY WEEK

Adding value to the work carried out in the Basque Country

The representative of IHOBE (Basque Public Society for environmental protection and management) and our colleague, Rafael Sagarduy, in representation of Idom and as a member of ACLIMA presented the conference.

In the first presentation, Aina Torrens and Iñigo Aizpuru (pictured above) established the general framework for the calculation of the carbon footprint and expounded the success stories of Idom in the management of greenhouse gas emissions (GHGs), highlighting the "Pilot Project for calculating the carbon footprint according to ISO 14064-1:2006", developed in 2011 for IHOBE, and "The Project for the reduction of GHGs in logistics in Egypt and Pakistan", developed in 2010 for the International Finance Corporation.

The rest of the day was completed with presentations from Avansitec, Transportes Vicuña, LRQA, Factor CO_2 and IHOBE who focused their presentation on the work developed in collaboration with Idom.

> How to be Eco-efficient in the management of your carbon footprint

Photography: Carlos Olmedillas

CARBON FOOTPRINT IN TRANSPORT AND LOGISTICS

Acting on climate change

Idom initiated a project in 2012 with the Mobility and Logistics Cluster, MLC ITS Euskad. The objective of the project was the calculation of the carbon footprint of three passenger transport services, a freight service and a stevedoring service.

The carbon footprint is defined as the impact of an organisation, product or service on climate change, measured in kilograms of CO_2 equivalent. This indicator, calculated in this case according to the standard PAS PAS 2050:2011 and considering the ISO 14067 standard, still in draft form, is a key tool for the reduction of greenhouse gas emissions

This project is decidedly innovative, given that while it is usual to calculate the carbon footprint for organisations and products, its application to services is an emerging field.

Photography: Alfonso Calza

CONSERVATION OF NATURE

LIFE program in Spain and Portugal

2012 marked the 20th anniversary of the launch of the LIFE programme and the implementation of the Habitats Directive on the Protection and Conservation of Nature.

The LIFE program was conceived by the European Commission to support activities and projects for protected natural areas included in the Natura 2000 Network.

CONFIDENCE AND RESPONSIBILITY

Idom has been providing technical assistance to LIFE since 2005

ENVIRONMENTAL IMPLEMENTATION

Monitoring of nature projects

The original concept of the LIFE program was focused on the Conservation of Nature. Later it was expanded to the global scope of the Environment to encourage the implementation of other policies and environmental legislation on waste, water, noise, urban environment, coastal zone management, eco-innovation, etc.

Since 2005, Idom has been working continuously for the European Commission in the monitoring of the LIFE program, forming part of the consortium of European companies, Astrale.

The responsibilities of Idom include the technical and financial control of projects funded by the program in Spain and Portugal.

At present, 17 professionals from Idom are involved in the monitoring and control of over 180 projects. The multidisciplinary nature and experience of the team, along with geographical presence, are key factors for the success of this technical assistance.

Photography: Bernard Landgraf

" LIFE: Protected natural Areas and the Environment

LIFE PROGRAMME

Annual Meeting of the consortium of companies

For three consecutive days, from May 30 to June 1, the annual meeting of the consortium of companies that support to the European Union in the LIFE Program was held at the offices of Idom in Bilbao.

This meeting was attended by more than 80 experts from 27 countries of the Union, as well as the persons responsible for the LIFE Unit (DG Environment) of the European Commission. The meeting served as a platform to exchange experiences on the development of the Program.

Photography: Carlos Olmedillas

VIETNAM

Study and management of diffuse pollution in the Saigon River

The Saigon River supplies water to more than a million people living in Ho Chi Minh City and its surroundings. Water from the river is also used in agriculture, industry and aquaculture. Moreover, the Delta located downstream, is a Biosphere Reserve and regarded as the green lung of the city.

The rapid industrialisation and urbanisation in the region has heavily polluted the river, endangering all the economic uses and ecosystem functions.

Steps have already been taken to reduce the pollution generated by the main industrial discharge points. However, the diffuse pollution sources constitute a threat that has yet to be addressed. The work of Idom has focused on diffuse pollution from agriculture, industrial and urban sources.

Idom has carried out an analysis of the legislative framework and of the information available and has proposed the use of prevention instruments based on the principle of "The polluter pays". Idom has also carried out the study of the impact and the pressure produced in the Saigon River by sources of diffuse pollution. This work has been completed using geo-referencing tools.

SERVICES I Technical assistance

CLIENT I Department of Natural Resources and Environment (DoNRE) – Government of Vietnam

Furthermore, Idom has produced manuals of best practices and proposals for technical solutions for the prevention of water pollution, to be applied to the activities that generate diffuse pollution. Recommendations have also been made, to be incorporated in future planning processes of urban and economic development, in order to protect water resources.

AUGAS DE GALICIA

Sustainable management of the integrated water cycle in Galicia

Aguas de Galicia is the autonomous body of the government of Galicia that is responsible for the entire management of the water cycle of the Galicia-Costa river basin district. This is an area which incorporates 75% of the entire population of Galicia, including all the coastline (Rías Baixas & Rías Altas).

Among other responsibilities, the activities of this government body include the management of the public water supply services and waste water treatment.

Since its inception, Aguas Galicia has found Idom to be a reliable supplier of technical services, because of proximity and the high level of qualified expertise offered; and as such, has contracted the company for technical assistance for the planning, design and operation of the water infrastructure. The scope of Idom has also included the improving of environmental aspects and productivity of key aquatic ecosystems, such as the Galician rivers.

Among the works carried out, the following are worth noting.

Consultancy services and the operation of the facilities for urban waste treatment of Galicia (Technical assistance that enables Aguas de Galicia to have permanent updated information on the status and performance of 119 sewage treatment plants distributed throughout Galicia); technical assistance for the Environmental Monitoring Programme of the Plan for the supply of Galicia; Local Sanitation Plan on the left side of the Arousa River; Management Plan of sewage sludge of Galicia; Programme for the reduction of Pollution of shellfish waters in estuary of Vigo.

340,000 m³

Contaminated land safely confined in the vicinity of metropolitan Bilbao.

A waste disposal infrastructure properly designed and managed, can coexist and be integrated without conflict, in a densely populated landscape, and contribute to social and economic development of their environment.

01 / Structure of the cell
02 / Final situation

ENVIRONMENTAL REGENERATION

The safety cell of contaminated land, Argalario

In 2012, ten years since the completion of the safety cell for contaminated land of Argalario (Barakaldo), the most important environmental infrastructure in the Basque Country in terms of size and cost.

The cell securely contains around 340,000 m3 of soil from contaminated sites, resulting from the illegal dumping of the waste products from the manufacturing of the pesticide, lindane, and other industrial pollutants.

The sites have since been cleaned up, recovered and returned to the city. These sites have been developed with all environmental safeguards for human health, guaranteeing their use for transport infrastructure, housing, public amenities, and important commercial and service areas.

From the beginning, Idom has been working with IHOBE, in all phases of the project: drafting of the Environmental Impact Assessment, the development of the projects of sanitation of contaminated soils at the sites affected, preparation of the construction project of the cell of security, the development of the project to recover the old landfill of urban waste from the Left Margin of Greater Bilbao (adjacent to the cell), and specific studies (degassing, leachate treatment, etc.).

This collaboration has been extended and is continuing at present with the tasks of the Environmental Management of the monitoring and control of the infrastructure.

Photography : Carlos Olmedillas

PHILIPPINES

Urban and environmental development

Cagayan de Oro is a young and dynamic city situated on the southern coast of the Philippine archipelago. With nearly 600,000 residents, and a promising economy based on trade, industry and tourism, the city has one of the highest growth rates in the south.

This situation brings with it, new challenges, such as improving the environmental quality of the environment and adapting to the threats of climate change, mainly in regard to flood prevention.

600,000 inhabitants The work of Idom directly contributes to improving the quality of life.

The organisation CDIA (Cities Development Initiative for Asia), co-financed by the ADB (Asian Development Bank) has entrusted Idom with the elaboration of a comprehensive feasibility study for Cagayan de Oro. The study has been approached from a holistic perspective and includes the diagnosis and design of solutions for waste management, drainage systems, collection system and wastewater treatment, the management of the river basins of the Cagayan de Oro and Iponan Rivers, the resettlement of populations located in risk areas, and the training of local public entities.

An economic and financial assessment including the prioritization of proposed solutions has been carried out.

The environmental infrastructures and other solutions proposed by Idom during this work have helped to ensure the sustainability of the processes and urban development plans of Cagayan de Oro, contributing directly to improving sanitation, safety and quality of life of the population.

Photography: Bobby Lagsa

SANITATION & RECYCLING OF CONTAMINATED LAND

Tailor-made solutions at a reasonable cost

Idom has been managing the full lifecycle of a remediation process of a highly contaminated industrial site in Duston, UK.

The site was offered for sale to a real estate company that requested the services of Idom to carry out a detailed investigation of the contamination and therefore enable them to determine the value of the property, and asses the feasibility of the sale/purchase operation.

Subsequently, Idom designed the remediation project and supervised its implementation and development.

The remediation was conducted through the application of system of catchment, separation and treatment of the contaminants present in the free phase, as well as the implementation of an extractive hydraulic barrier for the treatment of contaminated groundwater.

Experience has shown us that the combined application of various technologies of soil remediation, in close collaboration and coordination with the competent authorities, means that highly contaminated industrial areas can be sanitized and reinstated in the real-estate market at reasonable cost.

PICTURED ABOVE
Treatment unit installed "in situ"

UNITED KINGDOM I Duston

SERVICES I Soil remediation

04 Major infrastructure

Roads

Idom has extensive experience in the field of road infrastructure: Highways, roads, tunnels, viaducts and bridges.

The services offered by Idom range from the drafting of preliminary studies, the development of detailed designs for the construction, project management during construction and environmental monitoring of the same.

Photography: Carlos Olmedillas

MACEDONIA

Improving mobility in Skopje

On completion of the Transport Master Plan for the city of Skopje, and the conceptual design of the avenues of the city between 2010 and 2011, for the Ministry of Transport; Idom subsequently carried out a Traffic Study and Detailed Design for the construction of one of the axis identified in the previous work carried out, that of an urban tunnel to connect the areas of the east of the city with those of the west, thereby completing the first ring road.

This tunnel infrastructure which runs parallel to the river Vardar is 1,200 m in length, and has two lanes in each direction.

All installations have been designed to comply with the Directive 2004/54 of the European Parliament on minimum safety requirements for tunnels in the trans-European road network.

Image: Poliedro

THE CHALLENGES OF GROWING RIYADH

The transport system in the capital of Saudi Arabia

Currently, with over 5 million inhabitants, the capital of the Kingdom of Saudi Arabia, the city of Riyadh, needs to transform its transportation system to meet the needs of one of the fastest growing populations (8% annually over the past 40 years).

Idom has been commissioned by ArRiyadh Development Authority to carry out the "Detailed Design and Tender Documents Preparation for Abi Bakr as Siddiqe Road from King Abdullah Road Intersection to Prince Salman Road Intersection Project".

The work consists of the integral transformation of 12 kilometres of the urban arterial road (80 km/h), into a freeway (100 km/h); including the design of new structures for 5 main intersections, and landscaping improvements for the project area. Initial studies were carried out (traffic analysis and surveys), as well as analysis of affections and diversions of utilities, preliminary design, detailed design, and the documents for the construction tender.

The soul of the project is the concept of the "dune", to support a singular vision of the streetscaping project, reflected in the morphology of a unique bridge, creating an image which is representative of the works being carried out. Therefore, this concept is not only reflected in the main structures, but also in pedestrian walkways, side-medians and pedestrian friendly areas. The project design considers the integration of telecommunications and traffic control, as well as the location of bus stops, sidewalks and handicapped parking spots.

SERVICES I Construction Project

CLIENT I Arriyadh Development Authority

The image and morphology of the dunes are present in the entire project

Infographics: Andreia Faley & Ismael Vega

Photo: Marco Suarez & Alfredo Baeumler

Photography: Andreia Faley

SAFETY IN ROAD TUNNELS

At the forefront of development in the sector

It has been over 10 years since the serious accidents in the Mont Blanc (1999) and St. Gotthard (2001) tunnels. These accidents marked a turning point in European Tunnel projects. Following these events, the European and National authorities introduced regulation that while raising safety levels did not consider the enormous economic impact of their application.

The participation of Idom in major tunnel safety projects has given the professionals involved, the opportunity to position the company at the forefront of this sector. This privileged position has allowed Idom to lead the reflexion process on issues such as the high cost of implementing new legislation or regulation. Idom has proposed measures to achieve savings in the investment, by adopting design alternatives or making improvements in the operation of the infrastructure.

At present, Idom is applying the accumulated body of knowledge gained in the projects and works related to the eight tunnels of the A-23 motorway in the pre-Pyrenean (Huesca to Sabinanigo). This integral project by Idom included the longest tunnel of the eight, the Caldearenas Tunnel, stretching over 3,020 m.

Photo: One of the tunnels managed from the Control Center of Monrepos

Photography: Alfonso Calza

Railways

Connecting people and promoting development

Providing quality of life for people and connecting them requires the transformation by man of the natural environment.

The mission of Idom is to intervene effectively in nature with the deepest respect for its balance while seeking sustainable solutions. Only the participation of teams of professionals with extensive and varied training will ensure the necessary perspective to achieve this goal.

Photo: High-Speed Madrid - Alicante

Client: ADIF

Photography: Alfonso Calza

RAILWAYS OF CHILE

Increasing capacity of the line between Santiago and Rancagua

At the foot of the Andes, Idom is developing the engineering of the main rail project in the country for the State Railways Corporation (Empresa de Ferrocarriles del Estado, EFE); improving the railway line from Santiago de Chile, 80 km south to Rancagua. This line serves commuter, regional and long-distance services as well as freight trains.

The improvements proposed, included increasing the frequency of passenger trains, and the volume of goods transported. To meet this objective, the project foresees the construction of two additional tracks on the first 22 km section of the line, until the town of Nos.

The scope of the services awarded to Idom includes the development of the preliminary design and detailed engineering of the new railway yard, civil works, stations, and other rail systems and facilities in the stretch from Santiago to Rancagua. The documentation to be compiled includes the technical and administrative background information, plans, and all other aspects required by EFE, to put the following phases out to tender.

Due to the high degree of customer satisfaction, Idom is now developing the engineering for the main rail project which will improve the infrastructure of the country

The project is included in the investment programme which is part of the Triennial Plan 2011-2013 for State-owned Railway Companies. The main objective of the programme is to develop infrastructure investment that will result in better coverage, increased capacity and reliability of the railways. It is envisaged that the investment will be to the tune of $260 million.

This multi-million dollar investment also aims to improve the safety of the railway network. Each year, around 60 people are killed at the railway crossings on the Santiago-Rancagua line.

This is a spearhead project for the sector of infrastructure in Chile, and will open the doors to many opportunities for us in the area.

01 / Station Project
02 / Aerial view of Santiago de Chile

SERVICES I Preliminary and detailed design
CLIENT I Ferrocarriles del Estado

Infographics: Jesús Bermejo

03-05 / Restoration of the line and stations

RAILWAY REHABILITATION

Improving one of the major railway axis in Chile

The Port of Ventanas is the main port of the central region of Chile. The facilities include a rail terminal which provides service to the trains that transport copper concentrate, a principal source of income for the country.

It is due to the high level of client satisfaction generated on the previous project that the State Railway Company has once again put its trust in Idom to perform the technical supervision of the rehabilitation of the rail section between San Pedro Station and the Station of the Port of Ventanas. This non-electrified single track section has a length of 45.2 km.

45.2 km renewed to connect the main port to central Chile

TURKEY

Europe and Asia, ever closer

Idom is participating in one of the most important infrastructure projects in the world today, "The Marmaray Project", which involves the establishment of a passenger and freight rail transportation system across Istanbul, connecting the European and Asian parts of the city through an underground tunnel.

The Marmaray project involves the upgrading of approximately 76 km of commuter railway from Halkali to Gebze.

Photo: Strait of the Bosphorus in Turkey

Infographics: Poliedro

RAILWAY IN THE CANARY ISLANDS

Workshops, depots, maintenance facilties and a section of the line

The railway project proposed by Idom will connect Las Palmas de Gran Canaria with the town of Maspalomas.

In addition to the workshop building, another building will accommodate the Management Service of the Railway of Gran Canaria, the CTC of the line, a crisis room, engineering area and shopping area.

The proposed section has a length of 15.45 km, four viaducts, and a pergola that allow the railway line to cross over the GC-1 highway.

SUSTAINABILITY SCHEME

A / REUSE OF RAIN WATER

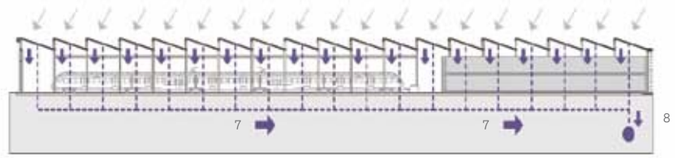
1 / Collection of rainwater for recycled water network
2 / Toilets and urinals
3 / Irrigation
4 / Cleaning of trains and workshops

A /

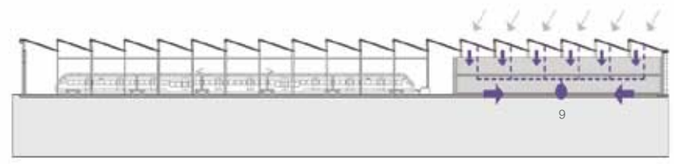
B / WIND TURBINES

5 / Energy
6 / Main grid

B /



C /



D /

The project contemplates that the CO_2 emissions associated with the operation of the workshops and depots will be the same as, or less than those acceptable, thanks to the use of electrical energy generated from renewable sources on the site, thus ensuring the maximum rating for energy efficiency "A" of the current regulation.

C / PHOTOVOLTAIC PANELS
generating 10% of the expected total demand

7 / Energy
8 / Main grid

D / SOLAR THERMAL ENERGY
will exceed 75% of total expected demand

9 / Hot water for toilets and sanitation

Photo: Tramway depot of Murcia

Photography: Alfonso Calza

High-Speed

The development of systems for high-speed railway is one of the priority fields of action of Idom, through the design and integrated management of the railway infrastructure project, coordinating and integrating the various systems that need to be configured.

Activity

Highly specialised teams

Our activity is developed by highly specialised teams that are expert in the different components of a high-speed system; rail structures, trackbed, track, stations and major terminals, electrification and signalling and communication systems.

Services

Lifecycle

The services we offer cover the entire lifecycle of the high-speed project, from initial conception and feasibility studies to the commissioning and maintenance of the system, including all the intermediate stages of preliminary and detailed design, management and construction supervision.

High-speed Lalín - Santiago

Client: ADIF

Photography: Alfonso Calza

HIGH-SPEED IN POLAND

A giant step in the development of the European country

In Poland, about 10 million inhabitants will have access to the high-speed line covering the 450 kms that link Warsaw, Lodz, Poznan and Wroclaw, with trains that can reach speeds of up to 350 km/h.

The new line will drastically reduce the current travel times and CO_2 emissions caused by passenger transportation, while at the same time increasing the level of both comfort and safety.

450 km line that will give around
10 million people access to high-speed rail

Infographics: Magdalena Ostornol

POLAND I Warsaw-Lodz-Poznan-Warsaw

Idom has carried out the work in two stages. The first comprised of the analysis necessary to choose the best alternative for the line alignment, as well as, the financing, organisation and implementation of the project.

The second was to perform the detailed design for the chosen route to be developed, updating the financial analysis and preparing the environmental assessment report. The construction works are expected to be put to tender in 2018.

SERVICES I Feasibility Studies, Technical Analysis and subsequent detailed design

CLIENT I PKP POLSKIE LINIE KOLEJOWE, S.A.

SPAIN-PORTUGAL

An exceptional viaduct to connect the Iberian Peninsula

The high-speed rail line, Madrid-Extremadura crosses the Almonte River where it gets to the Alcantrara reservoir, over a large concrete arch bridge spanning 384 metres in total.

This span means that it will become the longest High-Speed rail arch bridge in the world.

This arch constitutes the main section of the viaduct stretching 996 metres and rising 80 metres over the Almonte River.

384 METRE SPAN

longest high-speed rail arch bridge in the world

Photo: Infographic recreation of the Arch Bridge over the Alcántara reservoir

Infographics: Poliedro

MADRID - GALICIA

Final stretches of high speed

Idom is performing the construction supervision of one of the final sections of the North-West Corridor of the Madrid-Galicia high-speed line.

The project includes three viaducts and the Bolaños twin tube rail tunnel, 6,800 m in length, executed with TBM.

SERVICES I Technical Assistance, control and supervision of works

CLIENT I ADIF
(Railway Infrastructure Administrator)

FIRST HIGH-SPEED LINE IN BRAZIL

Campinas - Sao Paulo - Rio de Janeiro

The Brazilian Government is promoting the first High-Speed Rail Line in Brazil, thus commencing an extensive transformation of land transport, which until now had been limited almost exclusively to road.

Idom has developed the urban and operational planning for the eight principal stations. This work has been developed in collaboration with the Architect and Urbanist, Jorge Wilheim, based on an earlier study carried out by Halcrow.

Based on passenger demand, the functional rail design has been analysed. Improvements have been proposed for the sections close to the stations, the design of the depots and rail maintenance yards of the line, and alternatives have been suggested for the operation and exploitation of the new High-Speed Line. For the latter, a workshop specifically dealing with this topic was held in Brasilia, and was attended by experts from Idom.

This Brazilian Spanish consortium is a combination of the experience of Idom in high-speed rail and the local knowledge of the Brazilian team from the Wilheim studio.

The study includes large urban rail stations that will operate as important intermodal hubs (Rio de Janeiro and Sao Paulo), and stations in smaller cities such as Barra Mansa and Volta Redonda.

This TAV project, one of the most ambitious engineering projects in America, is in its first phase of bidding for the operation and use of the line. The line is expected to enter into service in 2020.

IMAGE: Infographic recreation of the intermodal hub

Infographics: Jesús Bermejo

05 Connecting people & places

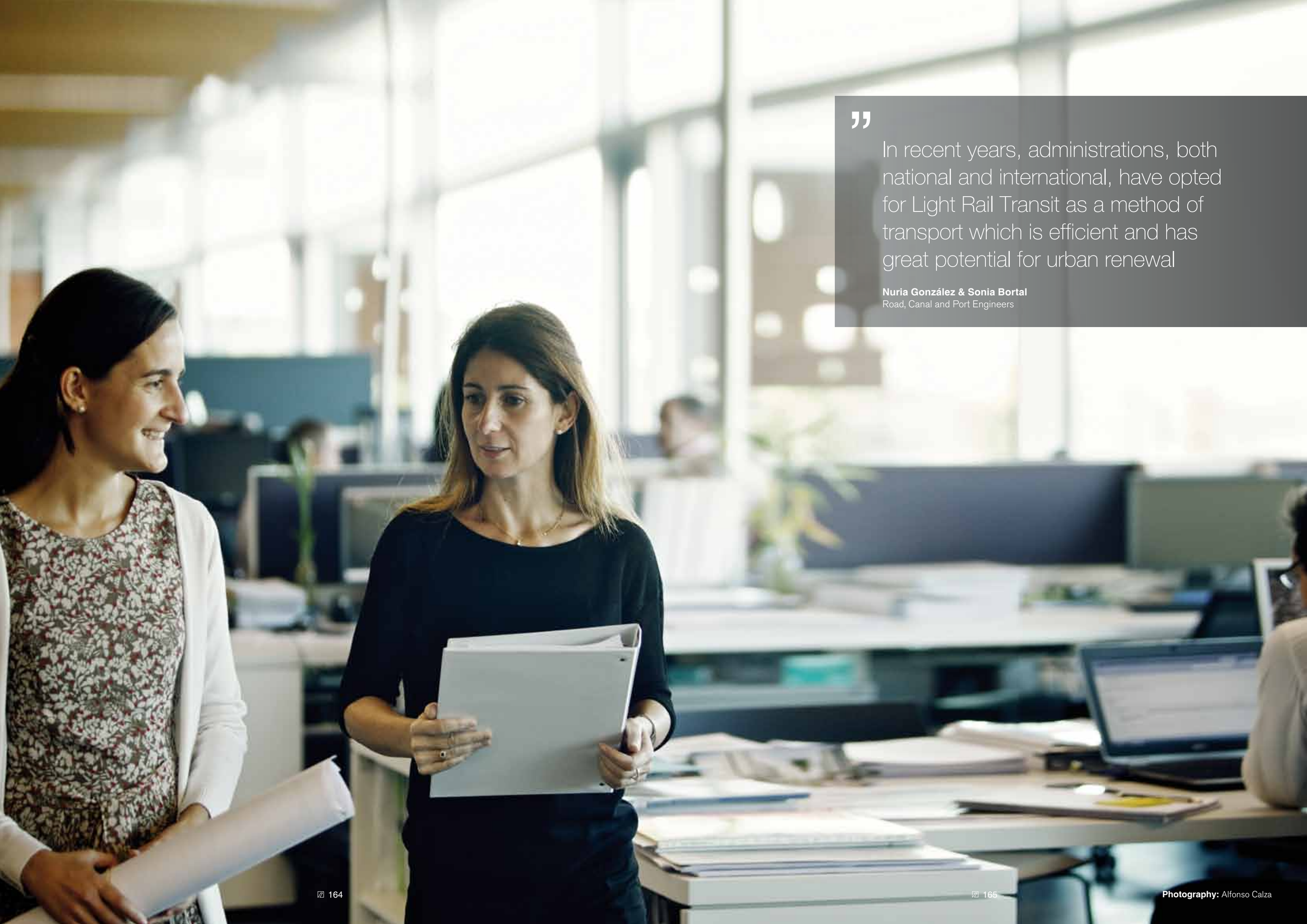
Urban transport

Metro, light rail and tramway systems

From the initial conception of the project to commissioning, operation and maintenance of urban mass transit systems, including the design of the facility, workshops and depots, Idom offers integral technical expertise in all necessary disciplines (systems, energy, architecture and civil engineering), while considering all viewpoints, financial, management and design.

Photo: Tramway of Zaragoza

Photography: Alfonso Calza



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In recent years, administrations, both national and international, have opted for Light Rail Transit as a method of transport which is efficient and has great potential for urban renewal

Nuria González & Sonia Bortal
Road, Canal and Port Engineers

Photography: Alfonso Calza

THE “CUATRO RÍOS” TRAMWAY SYSTEM

Tramway in the city of Cuenca, Ecuador

The historical centre of the city of Cuenca, also called “los Cuatro Ríos” was declared a World Heritage Site by UNESCO in 1999. Since then, the municipality has been looking for ways to modernise transportation in the city, while being respectful to the historical heritage.

ETS (Euskal Trenbide Sarea) and Idom are carrying out the project which consists of a double-track tram line, 10.2 km in length, running through the city, making 20 stops along the way.

In the design of the tramway, the most modern systems have been used; road and light rail signalling, communications, safety, etc. Foremost among these is the power supply using OCL 750 Vdc, 5 traction substations, with the exception of the 5.3 km section running through the historical centre, where the power supply in not overhead.

For the operation and maintenance of the line, a workshop and depot building has been designed which also accommodates the integrated control centre. There are 5 maintenance tracks and storage capacity for 20 units.

The project involved a series of studies, which included the analysis of the current transport situation in the city and supply and demand forecast models of the same as well as substantial work in area of Project Socialisation.

SERVICES I Preliminary design

CLIENT I Municipality of Cuenca

Infographics: Animax

THE TRAMWAY OF RIO DE JANEIRO

The project will revitalize the future central and business area of the Brazilian city

The tram is a fundamental part of the strategy to improve urban mobility in Rio, and forms part of the “Porto Maravilha” project. The objective is to gradually rehabilitate the port district, with the aim of turning it into a new city centre area and business centre in Rio de Janeiro.

Idom has been providing consulting services to the World Bank to validate the technical, economic and financial estimates to be included in the bid specifications for the concession of the Rio de Janeiro Tramway.

The contents of the specifications were analysed with special emphasis on the aspects that needed to be enhanced to structure a more solid concession package.

Working in close contact with the client and technicians of the Municipality of Rio, has given Idom the opportunity to apply the company’s first-hand knowledge of urban rail transport and therefore, greatly benefit the project.

THE TRANSFORMATION OF A CITY

The tramway in Constantine, the third largest city in Algeria

Constantine is situated in a privileged natural enclave, protected by deep ravines. It has a rich historical and cultural heritage of which its numerous bridges are a testimony.

The tramway represents a commitment to public transport, with the capacity to renew both the urban configuration and the forms of mobility, while seeking to connect the million persons, who inhabit the neighbourhoods of Constantine, Zouaghi, Ali-Mendjeli and El Khroub. This project will contribute to the transformation of the historic city of Constantine in terms of international culture.

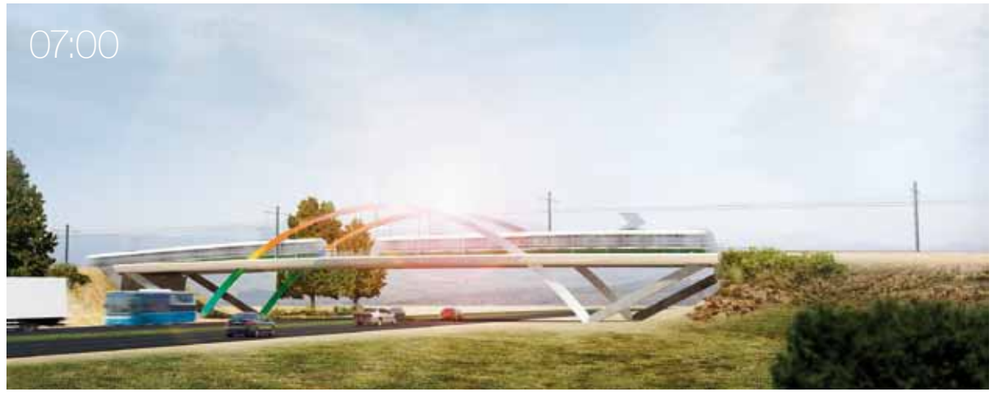
Idom is developing the detailed design of the extension of line 1 and will be responsible for the supervision of construction works.

The project contemplates respect for the historic tradition of Constantine with the desire to modernise the new urban developments. The project is a perfect example of the investment effort being made by Algeria to update the country as a whole.

ALGERIA I Constantine

SERVICES I Project and assistance in construction

CLIENT I Entreprise Métro d'Alger (EMA)



The chromatic variation of the viaduct, depending on the angle hit by light, produces the effect of a rainbow

Infographics: Carlos Mendoza Rivero & Poliedro

Ticketing on trams

Automatic fare collection (AFC), contactless technology

Idom has been collaborating in the design, specification, review and supervision of AFC system installation in the tramways of Bilbao, Vitoria, Murcia, Zaragoza, Cuenca (Ecuador), Ayacucho and Carrera 80 (Medellin, Colombia), and Constantine (Algeria).

PAY BY MOBILE PHONE

R&D and Near Field Communication technology (NFC)

Idom is participating in R&D initiatives developing cutting edge charging systems, initiatives such as the Mugitu project for interoperability in the Basque Country based on NFC, promoted by the SPRI (enterprise development agency) and with the participation of various companies and administrations of the Basque Government.

NFC technology is positioned to be the alternative for the future, and already has interoperable capacity for the 3 existing systems currently available in the Basque County, the BAT card in Alava, BARIK card in Biscay and the Lurraldebus card in Gipuzkoa.

Taking advantage of the secure on-line technology, the user can recharge, check their balance, directly from their mobile phone, thereby eliminating the need for a travel card and visits to a recharging point. To validate the trip, simply pass the card over the card reading terminal.

SMARTCARD

The Cairo Metro System inaugurates the TAG (Touch and Go)

With the entry into service of the TAG card, a new tariff scheme reference technology has been established in Cairo. It is planned to be extended to the future metro lines, the national Egyptian railway (ENR), and the public bus service, and will be coordinated by a clearing centre.

The technology employed facilitates user access to public transport

BARIK CARD

Used by 400,000 users on a daily basis

The Bizkaia Transport Consortium has culminated the implementation process of the launching of the Barik card for public transport in Biscay, achieving Interoperable Fare Management (IFM) between the different modes of transport.

The system has a website that can be consulted by users, a security system, and a clearing centre. The point of sale and recharge network covers the entire territory and includes customer service offices and a call-centre.

The technology allows for the inclusion of possible future services, such as recharging via the internet and purchase/validation by mobile phone.

Airports

Analysis, feasibility, impact and implementation

Idom has participated in the development of dozens of airports and heliports. This year marks a milestone in the positioning of Idom as a benchmark company in the provision of consultancy services in relation to the processes of airport concession and retail reorganisation.

Idom has the capacity to manage the deployment of any aspect related to airports, from initial conception (preliminary design, technical and economic feasibility) until its entry into service. The capabilities of the company can be applied to develop any single element of an airport or the facility in its entirety.

The professionals of Idom include experts who have worked directly for airport operators in the planning and management of airports, and as such the company has many reference projects in major airports such as Heathrow (UK), Madrid (Spain) and Guarulhos (Brazil); and has been working for companies with a global projection such as Aena Airports, Ferrovial and Abertis.

CONCESSIONS

Natal, Guarulhos, Viracopos, Brasilia and Barcelona

Idom has participated in the largest tenders for airport concessions; Barcelona, and the two Brazilians, including the airports of Natal, Guarulhos, Viracopos and Brasilia.

The value of the investments analysed totals more than 5,000 million euros.

RETAIL

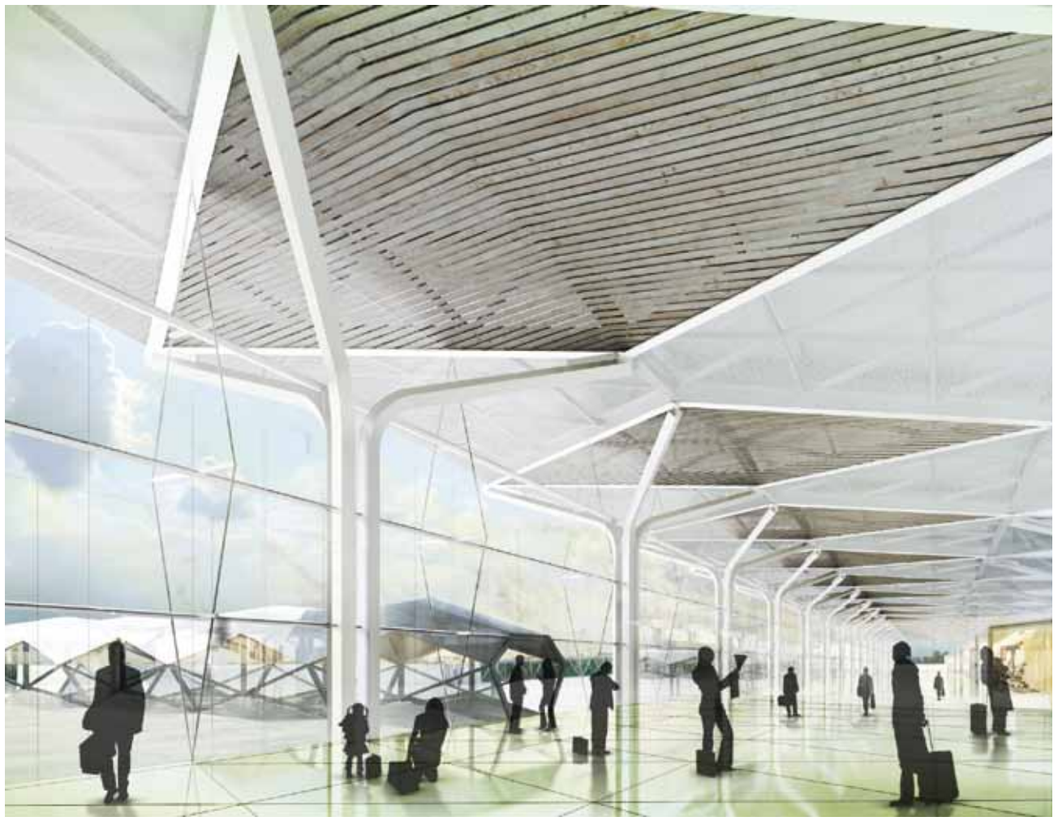
Malaga

In order to optimise the commercial offer of the airport, Idom carried out modifications to the layout of the shopping area of the airport, covering an area of 12,000 m2.

For this, benchmarking of comparable airports and surveys were carried out, and finally various revenue scenarios based on different commercial mix proposals were studied.

Photo: Heathrow Airport. London 82-83

Photography: Alfonso Calza



NATAL AIRPORT

Technical proposal for the new Brazilian airport

The government of Brazil has put the concession of the new airport of Natal to tender, with an international competition. Idom prepared the technical proposal for the consortium led by Grupo Aeroportuario del Pacifico.

This technical proposal consisted of the development of the preliminary design, operational plan and investment plan for the entire concession period of 30 years.

It is estimated that by 2040, the airport will be handling 10.1 million passengers. The capital expenditure is estimated at €240 million.

BRAZIL I Natal

SERIVCES I Forecasting of aircraft traffic, Capacity-demand Analysis, preliminary design, Operational and Investment Plan for the entire concession period (30 years)

CLIENT I Grupo Aeroportuario del Pacífico (GAP)

Infographics: Ismael Vega & Andreia Faley

THE AIRPORT ENVIRONMENT

Boarding bridges at the airport of La Palma

The new boarding bridges of the airport of La Palma airport will provide the passenger with quick and easy access to boarding and disembarking of the aircraft, in a safe and comfortable manner.

These bridges have systems that supply energy and climate control to the parked aircraft, therefore eliminating the use of fuel, with the consequent energy-savings.

The work of Idom began in mid-2009 by identifying the needs and developing the executive project, and have continued until the end of this year (2012), with the supervision of the civil engineering works and installation, as well as the factory testing of all the equipment.

Photo: Fuerteventura Airport

Photography: Alfonso Calza

AUTOMATIC BAGGAGE HANDLING SYSTEM

A system that is safe, efficient and fast

Baggage handling is one of the most crucial services at any airport, to the point where the design of the airport is conditioned by the planning of a handling system which is safe, efficient and fast.

Idom has been working for 5 years on the design and site supervision for the automated baggage handling system (BHS) for the airport of Fuerteventura. Cutting-edge technology (CrisBag) has been used, to manage the movement and tracking of individual pieces of luggage in tubs using radio frequency identification technology (RFID).

7 METERS/SECOND
Expected speed of Tray/Tub 1.8 m/s

7,500 BAGS/HOUR
Peak capacity

Photography: Alfonso Calza

Photos: Fuerteventura Airport

Ports

Analysis, feasibility, impact and implementation

Specialised technical assistance for the planning, project, installation, commissioning, operation and maintenance of the works, services and transportation operations and maritime terminals.

MEXICO

Development of two important ports

Lázaro Cárdenas

Feasibility Study and Technical Assistance for the tender of the second specialised container terminal at the port of Lazaro Cardenas, Mexico.

The project involves the construction, operation and utilization of a total (land and water) of 910,000 m2.

Idom has participated as the coordinating agent of the public tender process for the partial transfer of rights, eventually awarding the APM terminal, with a committed investment exceeding $800 M.

Port of Guaymas

Investment analysis and proposal for the expansion of the Port of Guaymas in the Empalme Bay. The good rail connectivity of the Port of Guaymas, and its strategic position close to the US, make this port an efficient option within the chain of transport of goods between this country and Asia.

The current trends in maritime transport (draft, specialisation of terminals and storage spaces) mean that ports must adapt to these changes. With this objective, the project analyses the adequacy of the facilities of the port to become an enclave of reference.

ALGECIRAS

Strategic plan for one of the most important ports in Spain

Strategic plan of the ports managed by the Port Authority of the Bay of Algeciras. The port of Algeciras is currently the busiest port in the Spanish port system in terms of goods, regular passengers and passenger vehicles. It is in this context, that Idom is developing the new Strategic Plan, considering the changes taking place on the national and international scene. This plan will permit the Port Authority to further develop in a manner which is efficient and profitable, adopting an advanced landlord model by means of a flexible enterprise structure, effective and service-orientated.

Photography: Irfan Naqi

PANAMA

Connecting two oceans

The Panama Canal, which was opened in 1914, connects the Atlantic and Pacific oceans. It has an approximate length of 80 kilometres, and is a navigable channel using a system of locks.

The inauguration of the new locks in 2014 will mean an increase in the traffic capacity of the canal, with the consequent increase in port operations; therefore a comprehensive review of the processes of maritime traffic including the supporting systems and tools is needed.

Idom has designed a strategic plan outlining the actions necessary to convert the Maritime Traffic Control Centre into a world leader in the management of vessel traffic services, defining a Roadmap whose implementation will require an investment of around $16.5 m in the next 4 years.

14,000 VESSELS / YEAR

pass through the waters of the Panama Canal

5 % of the GLOBAL TRAFFIC

of goods passes through the canal

9,000 WORKERS

in the facilities

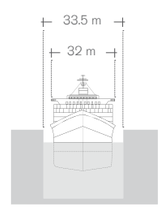
Photography: Arnulfo Franco, AP / AP

THE CANAL IS REQUIRED TO BE OPERATIONAL

24 HOURS / DAY
365 DAYS / YEAR

01

02



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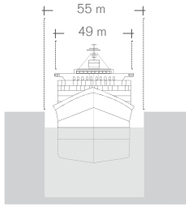


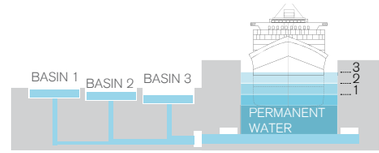
04

03 / LOAD CAPACITY per vessel (Panamax type) of the current lock:

4,500 Containers

04 / LOAD CAPACITY per vessel (Panamax type) of the proposed lock:

12,000 Containers



GRAVITY-FED SYSTEM 60% of the water is gravity fed from the basins to the chambers. The remaining 40% comes from the lake.

01 / A structure supported on bogies with a rotating mechanism, whose purpose is to turn the locomotive that hauls the ship, 180 degrees, when it reaches the end of the journey

02 / Structure of the turntable during pre-assembly, and validation testing

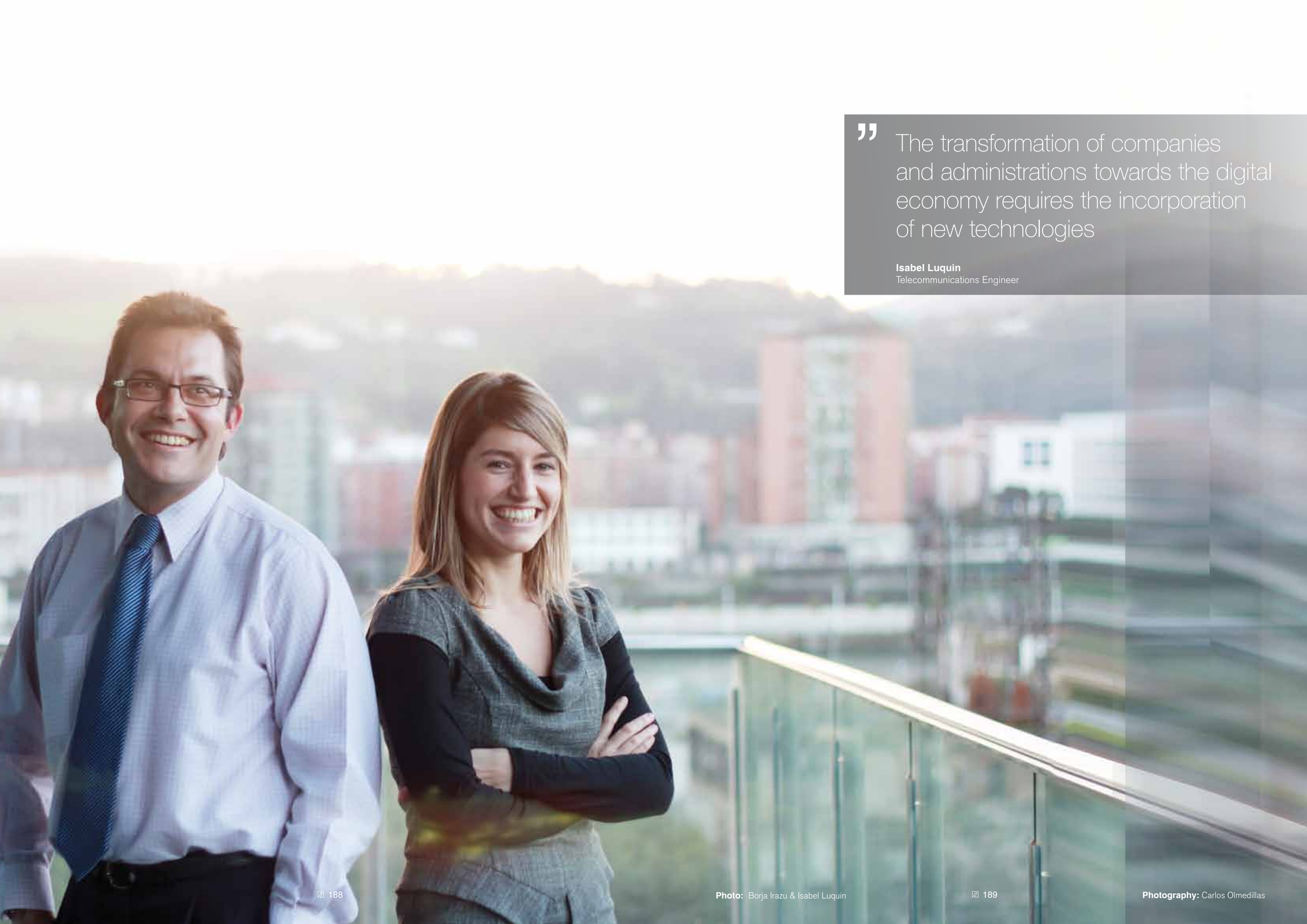
In addition to the strategic plan for the Maritime Traffic Control Centre, Idom is also providing advanced engineering services, taking part in the committee of experts to review the design of the new dam and spillway system that the Panama Canal Authority plans to undertake in the future as part of the expansion of the infrastructure.

The role of Idom covers the revision of the design of the mechanical elements of the system, such as the mechanisms of the system of spillway gates, among others.

Moreover, in 2007, Idom performed the full design of the "Turntable" of the Gatun Lock (Atlantic side), a mechanism that is used for turning the locomotives that haul the ships on the canal. Idom is currently working on the design review of the moving parts of the same sluice spillway.

SERVICES I Strategic Consulting, processes, systems and technology. Mechanism Design Review

CLIENT I Panama Canal Authority



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The transformation of companies and administrations towards the digital economy requires the incorporation of new technologies

Isabel Luquin
Telecommunications Engineer

Photo: Borja Irazu & Isabel Luquin

Photography: Carlos Olmedillas

Broadband

IN THE CARIBBEAN

Feasibility of broadband infrastructure

The programme CARCIP (Caribbean Regional Communications Infrastructure Program) of the world bank has as its objective, the connectivity of the Caribbean Region, by supporting these countries in the development and promotion of broadband networks, both national and regional, as well as the productive use of such networks.

In this context, Idom is collaborating with the Dominican Institute of Telecommunications (INDOTEL) in the study of the feasibility of the broadband infrastructure in the Dominican Republic. The objectives of the project is to extend national connectivity to rural areas, and develop interregional links between the Dominican Republic and Haiti.

IN THE AUTONOMUS COMMUNITY OF GALICIA

Broadband Plan 2010-2013

Consisting of four strategic objectives that are based on the reduction of spatial imbalance, the modernisation of the public administration, the generation of competitiveness and innovation, and enhancing cooperation between the actors involved, the Galician Regional Government is implementing the Broadband Plan 2010-2013.

The plan sets out the guidelines and action lines for operators and authorities to carry out the development of the necessary infrastructure to provide broadband in Galicia.

The actions lines and activities which Idom has been monitoring represent a level of public and private investment to the tune of €90 M and are being developed with success, meeting the objectives.

IN THE BASQUE COUNTRY

New ultra-fast networks

The Strategic Plan for the new ultra-fast networks (BANDA ZABALA+) has the objective of positioning the Basque Autonomous Community at the forefront in the availability of this type of network for all users.

The plan is part of the “Digital Agenda for Euskadi” of the Basque Government, and outlines the measures necessary to promote the development and use of Next Generation Networks, and as such meet the objectives set out by the Digital Agenda for Europe.

Photo: Nuria Gómez & Carol Pousada

Photography: Carlos Olmedillas

RAILWAY TELECOMMUNICATIONS

ADIF Communications hub node

The actions being undertaken by ADIF (Administrador de Infraestructuras Ferroviarias) in the environment of the Atocha train station in Madrid, to increase its capacity and improve its operation, have made it necessary to relocate the building that houses the Atocha Telecommunications Centre (ATC), the communications hub node, located in the vicinity of the Atocha Station.

The ATC is the cornerstone of the operational management of the railway telecommunications infrastructure, and its mission is to meet the current and future needs of the railway, as well as those specifically demanded by telecommunications and commercial operators.

The building houses numerous critical telecommunication services for the ADIF, making it an indispensable facility to carry out the work of both the ADIF and rail operators.

o1 / Atocha Telecommunications Center, Simulated image.

Infographics: Lakchmi Salcedo

SMART CITIES

Pamplona, a Smart City

Smart City Projects seek to increase the competitiveness and quality of life in the city, by improving environmental conditions and the delivery of public and private services through the intensive and coordinated implementation of information technology.

Pamplona, a prominent city in the rankings of quality of life and quality of services delivered to the citizens, owes its position to the management of the municipality. This is a city that has been committed to projects of impact, such as the introduction of e-government, management system of mobility in the city, pneumatic waste collection, efficient lighting management of municipal buildings, or the citizen card, among others.

Understanding that improving the coordination between the different municipal services, will be a step further in improving the city, the Town Hall of Pamplona has entrusted Idom with the definition of the Smart City strategy of the city, integrating all the stakeholders (Persons, administrations, companies) in the process.

o2 / Pamplona, a Smart City. Simulated image

o1

o2

EGYPT

Improving the safety of archaeological sites

Following the revolution of January 2011 and with the formation of the new government in the country, the Ministry of Culture of Egypt has resumed the development of the programme for the improvement of archaeological sites with a view to recovering tourism, while ensuring the safety of visitors.

Defex, a Spanish Public Company, is leading the project related to the improvement of security, in order to prevent terrorist attacks, vandalism and theft. The project involves the illumination of the monuments and roads, with a view to future nocturnal visits.

The project also includes the integrated management of the sites, temperature control, including humidity and CO_2 levels in the interior of the tombs, and the design of a virtual recreation of the history of the Giza plateau.

Helping to preserve the historical and cultural heritage of humanity

The archaeological sites contemplated in the project include Gizah, West Bank (Valley of the Kings, Hatshepsut, Ramesseum, Medinet Habou and Carter House) and the Temple of Luxor.

In the framework of this project, Idom is actively collaborating with Defex in the work of project development and technical assistance for supplies and installation.

o1 / Tomb KV09, Valley of the Kings
o2 / Temple of Hatshepsut

Photography: Ana Paula Hirama

06 Building society

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The projects of Idom are the result of creative processes which involve professionals with different training and different perspectives

Javier Pérez Uríbarri
Architect

Photo: Left to right. Eduardo Martínez Calarza (expert in Operations & Logistics), Antonio Domínguez (Distribution Manager from Liverpool), Javier Pérez Uribarri, Manel Marín (Industrial Engineers) &Charles Kirby (Physics Graduate. PPD IESE)

Photography: Alfonso Calza

AMARANTE HOSPITAL

Located in the vicinity of Porto, this hospital project is intended to improve the quality of the medical service of the Portuguese region

Inaugurated just a few months ago, the hospital of Amarante, designed by ACXT, has clearly contributed to improving the supply of medical services of the Portuguese city.

This four storey building includes a day-care unit with the aim of reducing the need for hospitalization while improving the quality of life of the user and their family, a mental-health unit, a physical medicine and rehabilitation service, and three operating theatres for outpatient surgery, in addition to an emergency department.

With an area of 21,000 m²
spread over four floors, the new hospital is designed for user comfort

Photography: Fernando Guerra

INAUGURATION AT THE UNIVERSITY OF THE BASQUE COUNTRY

A new building to house the schools of Industrial Engineering, Mines and Public Works

The University of the Basque Country (UPV/EHU), is reorganising its presence in the city of Bilbao following a criteria of thematic concentration, the grouping of centres, formally dispersed, around three major poles: Technological, Medical & Health-Care, and Economic & Legal.

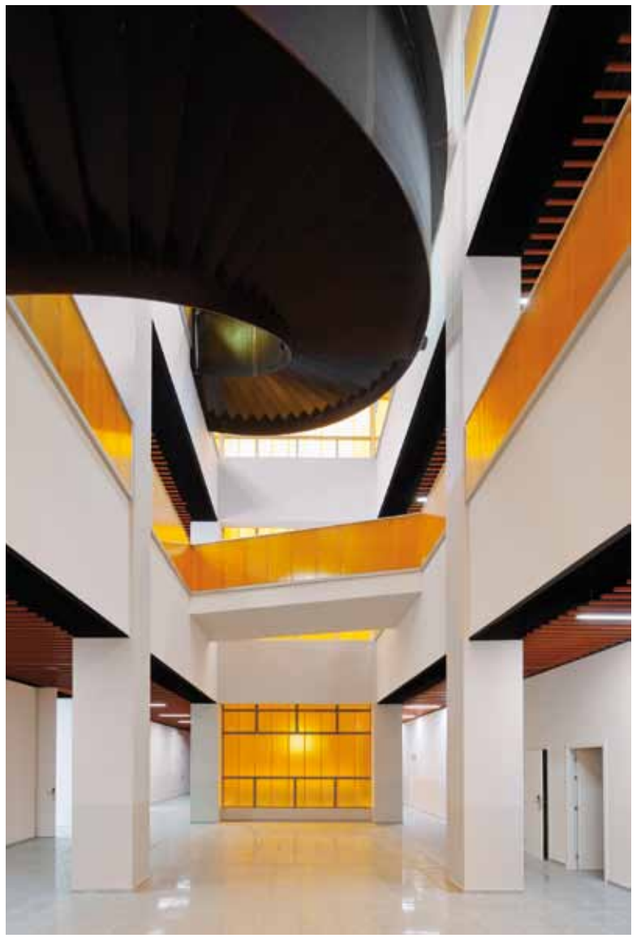
At the end of September, an important step was taken in this direction, with the inauguration of the new building to house the colleges of Industrial Technical Engineering and Technical Engineering of Mines and Public Works. This new building is located on the site of the former Trade Fair Exhibition Centre of Bilbao, close to the San Mames Football Stadium and next to the School of Engineering (Technological Pole).

The building has been designed by ACXT, in such a way that the façade or exterior skin of the building, perforated plate of golden colour, integrates the university logo while unifying the building as a whole. This unit also creates the impression of a building while although of great proportions, is on a human scale.

56 NEW CLASSROOMS

that will expand the capacity of the University

Photography: Aitor Ortiz



The design has also taken into account numerous sustainability criteria, such as the use of a rainwater harvesting system, energy efficient lighting and the installation of low temperature boilers; all of which will reduce the CO_2 emissions by almost 900,000 kg annually, with annual savings of approximately €200,000 per year in energy consumption.

TEAM PHOTO Standing: Helena Sa Marques, Sergio Llamosas, Ricardo Moutinho, César Azcárate, Roberto Fernández de Gamboa, Ion Zubiaurre, Miguel García, Alberto Ribacoba, Cristina Hernando. Seated: Virginia Martín, Alvaro Gutierrez, Miguel Angel Corcuera, Ana Isabel Robles.

THE PARIS PHILHARMONIC

An important cultural landmark in Paris

Located in the Parc de la Villette, the Paris Philharmonic Auditorium is one the most important projects underway in the French capital. With capacity for 2,400 people, this building project, designed by the French architect Jean Nouvel, has counted on Idom for the development of the detailed project of the most unique elements of the metal structure, in collaboration with Emesa, the manufacturer responsible for the metalwork.

Noteworthy is the exterior screen; a powerful piece with great lights which generates a visual display on the exterior of the building, and the seating terraces of enormous geometric complexity in the concert hall.

The assembly of the metal structure is planned for July 2013, with the inauguration of the Philharmonic scheduled for 2014.

2,400 persons will be accommodated in the interior of this new Parisian temple of music

Photomontage: © Jean Nouvel – Arte Factory

A STAR RESTAURANT

A culinary landmark in the Guggenheim in Bilbao

In just over a year in business, the Nerua restaurant is already a reference in Bilbao, both for its location in the Guggenheim Museum and for its design, and of course for its food. The restaurant has been awarded a Michelin Star.

The project consisted of the re-conversion of the museum coffee shop, formally for the exclusive use of museum visitors, and its environs (lobby, toilets and preparation area) to an up-scale restaurant, now open to the public, with a capacity for 40 guests.

The work was undertaken with a clear objective; to ensure that the space represented the culinary style of the chef, Josean Alija, and was a true reflection of his creative processes.

Ascending the imposing stone staircase (approved by Frank O. Gehry) that leads to a titanium vestibule, the restaurant is accessed. This is a cutting edge single space which is shared with the kitchen. The kitchen in turn is on view to the visiting eye. The atmosphere generated transmits simplicity, elegance and excellence.

Photography: Aitor Ortiz

HEALTH AND WELLBEING

Each square meter of the hospital is designed with the comfort of the user in mind

The new General Services Building of the Cruces Hospital by ACXT, is located in Barakaldo, Biscay. The location of the building situated above the nearby motorway which borders the hospital confers the volume a dominant position with an imposing presence in the environment.

What emerges is a powerful seven-storey building with 10,000 m2, used to accommodate laboratories in genetics, research, microbiology, pathology areas, and underground parking.

The predominance of glass, translucent white, gives it the appearance of a technologically advanced and aseptic container. The deep vertical louvres of the façade allow for optimal control of solar radiation to the east and west.

The floor layout is designed to be open plan, thus offering great flexibility for possible changes in the future.

10,000 m²
FOR SCIENTIFIC INNOVATION

Intended for genetics, research, microbiology and pathology laboratories, among others

Photography Aitor Ort

THE ROMAN WALLS OF ZARAGOZA: BEFORE AND AFTER

Intervention in the areas adjacent to the wall

The arrival of the tram to the vicinity of the Roman walls, the Cesar Augusto Avenue, has presented an opportunity to intervene in the spaces between the tram stop and the current Plaza of Pilar.

ACXT has taken full advantage of this opportunity, and based on the "Tramway of Zaragoza" project has presented a proposal tailored to the needs identified by the Town Hall. This proposal received the approval of the Provincial Commission of the Cultural Heritage of Zaragoza.

The design contemplates work on two large plazas; on one side of the wall, where the tram stop will be located, and the other side, in the vicinity of San Juan de los Panetes.

In the latter case, the entrance from the plaza will disappear, and the porticoes and arch will be knocked down. The design, which will enhance the illumination of the monument, also includes the planting of new trees. The works will commence in January, 2013 and will conclude in April.

Infographics of the proposal:

01 / View of the Plaza of San Juan de los Panetes towards the Plaza of Pilar

02 / The Street of the Murallas Romanas and el Torreón de la Zuda y San Juan de los Panetes in the background

03 / The Cesar Augusto Avenue with the Central Market in the background

Infographics: Idom

CULTURE & EDUCATION

A major project that will be a symbol of the new Zaragoza

The social foundation of "La Caixa" includes several centres in which a wide range of social, cultural and educational work is carried out. The most important of these buildings are located in Barcelona, Madrid and Palma de Mallorca. This network of centres will be extended with the inclusion of CaixaForum in the latter half of 2013. This building is located within the Zaragoza Digital Mile project, promoted by the City Council.

This is a singular work that will be representative of the city in coming years. It is located in the city centre and is one of the 16 top-class cultural amenities that Zaragoza will boast by 2016.

The building, whose architectural design is the work of the studio of Carme Pinos, consists of four floors above street level and two basement levels which house an auditorium for 250 persons. The upper floors have a unique structure with two large exhibition halls of 760 m2 and 438 m2 respectively, suspended at different levels. The building as a whole is designed with the objective of generating a new public space.

Representing the interests of "la Caixa", Idom has been performing the role of Project Manager, with the mission to achieve the function excellence of the building, its adequacy to the budget available and the deadlines for implementation, introducing rigor in the methodology and tools used.

The work carried out by Idom has included, the planning for the contracting strategy, supply management, licence and permit management, dealings with utility companies, and especially budgetary control, among others.

Photo: The CaixaForum building in Zaragoza
Services of Idom: Project Management

Photography: Alfonso Calza

THE HISTORICAL ARCHIVE MUNICIPALITY OF HUESCA

In addition to the restoration, two floors have been added

The Town Hall of Huesca has undertaken the restoration of the tower of the Municipal Historical Archives, a building that is one of the groups of buildings owned by the Consistory. This building which hails from the XVII century was originally built as the Imperial College of Santiago (Colegio Imperial de Santiago).

Before the works, the archive building had the appearance of an unfinished building situated between two adobe walls. Following the works, the building has been transformed into a finished piece with its own identity.

The closings, which have been added, are based on a relationship of similarity to that of other towers, "torres-fuerte", in the province of Huesca.

The façade, folds of copper louvres, are a suggestion of the bookshelves of the library.

In the interior of the building, deep voids have been designed, into which natural light floods the library. These voids or gaps are intended to evoke images of the gaps left by the books missing from the shelves.

One of the major technical difficulties of the project developed by ACXT has been the reinforcement of the walls, ensuring that the structure would withstand the significant loads caused by the restoration.

Services: Project and supervision of works

Photography: Iñaki Bergera

Client: Town Hall of Huesca

THE BAROQUE MUSEUM IN MEXICO CITY

Preliminary design and feasibility study for the first museum of its kind in the world

The International Baroque Museum of Puebla will be dedicated to the study, preservation, dissemination and exposition of the Baroque Collections. This museum will be the first of its kind in the world.

The objective of the City Government is to make this an emblematic project, emulating the Guggenheim Museum in Bilbao, improving the touristic offer in the city while putting the city on the international touristic map.

The building has cantilevered volumes, like slightly opened drawers. Access is gained by climbing the expansive stairway, on which a small stage is contemplated for the performance of baroque open air music festivals.

The interior spaces are arranged around a large vertical atrium. Finally, on the overhanging deck sits a restaurant which overlooks the city.

TECHNOLOGICAL PARK OF MORELOS

Boosting R&D in Mexico

For many years now, the state of Morelos (Mexico) has been refocusing its economy, which has been traditionally based on agricultural. The state is shifting industry towards higher-value segments by creating the necessary technological infrastructure.

One of these infrastructure projects is a Technology Park destined for R&D. The park covers 36 acres which will be used to set up technology-based companies and applied research centres.

To date, the construction of the Headquarter Building has been completed. The building project consisting of two towers of four storeys each and will house companies in the field of information technology, as well as a high-tech incubator and a business accelerator unit, among others.

Since 2009, Idom has been providing architectural services, project management, construction and urbanization for both the Technology Park and headquarter building. Our Mexico office has been commissioned to develop the conceptual proposal, the preliminary and final design of both the buildings and urbanization project.

Photography: Amayork

BILBAO ARENA:
RIBA AND ARCHDAILY AWARDS

This emblematic project has received major awards in 2012

In the month of March, this building was named the best sports building of the year, through the online voting system of ArchDaily. ArchDaily architecture is one of the most prestigious architectural publications in the world and has a daily readership of more than 200,000 people. As such, the election of the ArchDaily 'Building of Year 2011' in the various categories was decided by the followers of from around the world.

In the month of June, ACXT-Idom received the "RIBA EU Prize 2012". This was the result of a competition that had been subscribed to by a total of 770 contestants.

The Royal Institute of British Architects (RIBA) which was founded in 1834 is a professional association of architects with over 44,000 members. While the majority of members are British, membership of the association is not limited to the UK.

Other important awards which have also been received include the “Diáspora Colombiana” awarded by the Colombian Society of Architects of New York, and the Arte and cement Prize.

PHOTOS: The Bilbao Arena Pavilion, a multi-purpose space located in the neighborhood of Miribilla in Bilbao.

Photography: Aitor Ortiz & Jorge Allende

07 Spaces
for a better future

> The challenges posed by the current build environment, means that we must tackle works of increasing complexity

Nigel Huish
Managing Director, Merebrook

Pictured here: some members of the team of Idom at Heathrow (summer 2012). From left to right: Nick Clifford, David Woods, Stephen Kavanagh, Joaquin Dabezies, Stuart Burrows, Shan Thiyagarajah, Kingsly Tenbo, Tony Marsh & Edgardo Salinas.

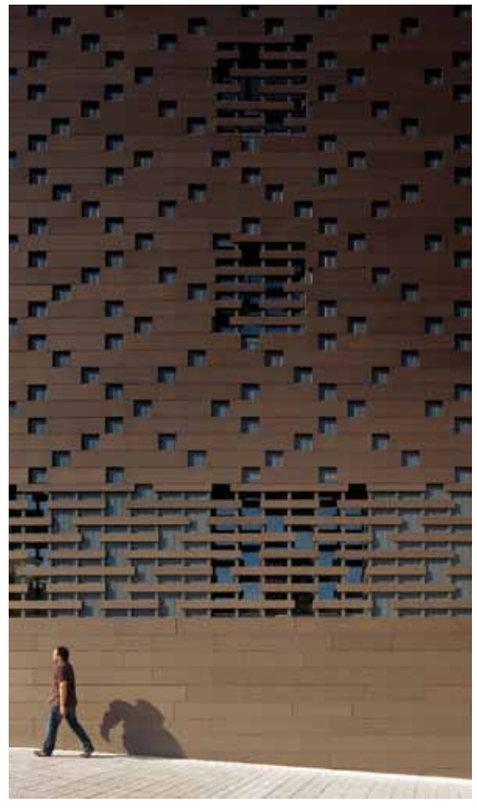
Photography: Alfonso Calza

A HOME FOR THE YOUNG AND ELDERLY

This centre will accommodate a residence for the elderly and low-income apartments for the young

Located in the city of Bilbao, the BBK Sarriko Centre, by ACXT is a type of building which was unusual some years ago, but is becoming increasingly more common in the Spanish geography.

The use of the BBK Sarriko Centre is twofold; a building to accommodate a care-home for the elderly and apartments for young people on low-income. For the moment, the care-home has taken priority over the apartments: however, the objective is that this situation reverses until the care-home disappears completely.



Adaptation to both types of use is possible without causing prejudice to the user

The main challenge has been to design a building capable of evolving progressively to transform from the initial use to the second, requiring as little work as possible in the process.

The BBK Sarriko Centre has views over the new plaza of Sarriko and represents the culmination of the modernisation of this part of Bilbao, which began with the construction of the new Conservatory of Music and the Bilbao Metro Station.

The building has been designed to keep energy demand to a minimum, while at the same time, creating welcoming spaces.

In relation to sustainability, the building has been certified with the LEED certification, and is awaiting the evaluation of GBCI.

Photography: Aitor Ortiz

HOSPITAL SERVICES IN LATIN AMERICA

Idom is designing two hospitals in Nicaragua and one in Chile

Idom-ACXT has been contracted to design three hospitals in Latin America. Two of these are the Carlos Roberto Huembes Hospital and the Departmental Hospital of Chinandega in Nicaragua, and the third is the Hospital del Salvador in Chile.

CHILE

Assistance in the capital of the Andean country

The Hospital del Salvador, in Santiago in Chile forms part of a project which includes the incorporation of another building, the National Institute of Geriatrics. Both share the same site, logistics support and technical centres.

The hospital will have a floor area of around 70,000 m² and 26,000 m² of underground parking, a total of 530 beds, 124 cubicles, 83 cubicles for procedures, 18 dental cubicles, and 26 surgery wards.

The National Institute of Geriatrics, with a capacity for 12 beds, will cater exclusively to patients over 60 who require specialised gerontology care, and will be distributed over a floor space of 12,600 m2 and approximately 6,500 m² of underground garage space.

The Chilean Ministry of Public Works has contracted Idom to develop the Preliminary design of the Hospital del Salvador and the National Institute of Geriatrics. This is a project within the Concessions Program for Hospital Infrastructure in Chile. The program has the objective of implementing, within a few year, a total of 10 fist-level hospital facilities, for the Chilean Ministry of Health. The hospitals will be developed using Public-Private Partnerships.

Photo: Proposal for the Hospital del Salvador in Santiago de Chile

Infographics: Poliedro

RECOVERING
A LANDMARK OF THE CITY

Restoration of the most emblematic hotel in San Sebastian

The Maria Cristina Hotel in San Sabastian was inaugrated in 1912, and quickly became the hub the activity of city during the years of the “belle époque”. Many personalities have passed through its doors, personalities such as Leon Trotsky, Mata Hari, Maurice Ravel, Coco Chanel, Audrey Hepburn, Alfred Hitchcock, Stephen Spielberg, and Mick Jagger.

Currently, the organisers of the annual International film festival of San Sebastian accommodate the most important stars at the hotel during the event.

The hotel is the property of the Town hall and has been leased under concession to the Starwood Hotel chain. The chain has not hesitated in including the hotel in its offer of five star hotels, “The Luxury Collection”.

Idom has brought the Hotel up to date, in compliance with the technical standards required for a modern Hotel. In addition to preparing the project, Idom has also carried out the Project Management, and has brought the project in within the budget of €20 million. This was achieved by strict adherence to the initial budget and works schedule, meeting the requisites of the client which included reopening the hotel to coincide with its centenary in 2012.

100 Years of history

A century-old institution that faces the future with its capacity, facilities and hope renewed

SERVICES I Project, Project Management and Supervision of Works

CLIENT I Starwoods Hotels and Resorts

Photography: Carlos Olmedillas

SEVEN YEARS LATER, THE NEW PASARON

During the refurbishment, no sporting activity has been suspended

The Municipal Stadium of Pontevedra, known as Pasaron was officially opened on Friday, September 7th with a friendly match between the Spanish and Saudi Arabian national football teams.

The stadium which was originally built in 1965 has been completely refurbished by ACXT in a project that has taken more than seven years to complete. This is because the works were carried out in progressive stages, so as not to interfere with on-the-pitch activity. Following the refurbishment, the stadium now has seating capacity for 11,000 spectators.

The poor condition of the building and the need to upgrade the infrastructure involved the demolition of the stands and subsequent rebuilding in three successive phases.

The stadium offers two tiers of stands running around the entire perimeter of the pitch. The proximity to the pitch means that the fan can experience a level of entertainment similar to that offered by the classic football English stadiums.

The new Pasaron has capacity
for 11,000 seated spectators

Infographics: Héctor Santos-Díez & Rubén Marín

The stadium was inaugurated with a friendly match between Spain and Saudi Arabia

Client: Xunta de Galicia, Deputación de Pontevedra & Concello de Pontevedra

A REFERENCE HOSPITAL

The new hospital is expected to become a benchmark in the Basque Country

The new clinic belongs to IMQ (Igualatorio Médico Quirúrgico), a leading health insurer in the Basque Autonomous Community.

The building, which has been in operation since early May, has been designed by Carlos Ferrater and Alfonso Casares, and is expected to be a medical centre and hospital of reference in the Basque Country.

Photography: Joan Guillamat

The hospital consists of two distinct volumes. The outpatient area, the emergency department, and surgical and diagnostic areas are located in the lower body of two storeys above ground level and one basement level. The hospitalization area is located in the higher body of seven storeys. Both volumes are separated on the ground floor by a street which gives access to emergency services.

SERVICES I Integrated management of the project and construction

CLIENT I Sociedad Inmobiliaria del IMQ, S.A.

Under the entire footprint of the building, there are two floors with parking for 456 vehicles.

The polygonal facade, planned for the hospitalization body, converts this block into the most unique part of the project, and probably the image of the same.

This polygon is modified on each floor resulting in a very powerful architectural image that fits perfectly in the environment of the future redevelopment area of Zorrozaurre.

IN THE HEART OF EUROPE

Reform of the headquarters of the European Parliament in Strasbourg

Given its location in the heart of Central Europe, the choice of Strasbourg (France) as the Capital of Europe following World War II was a sign of the desire for reconciliation between the peoples of Europe. Strasbourg is the location for the official headquarters of the European Parliament, where the delegates elected by the respective countries carry out their activity.

More than half a century has passed since the founding of the Parliament, and as such the five buildings that make up the parliament are in need of refurbishment.

Idom has been contracted for the adequacy of the refurbishment, by providing the architectural and technical assistance necessary for the execution of the Project Management of the multiple projects and works of adaptation and refurbishment.

At present, our offices in Strasbourg, Barcelona and Palma de Mallorca are developing 25 projects and works supervision. Noteworthy is the refurbishment of the Vaclav Havel building of 5,460 m2, which will be inaugurated in 2015.

PHOTOMONTAGE I View from the L'Orangerie Park

FRANCE I Strasbourg

SERVICES I Integrated management of the project and construction

CLIENT I Unité Projets Inmobiliers Strasbourg

Infographics: Andreia Faley

BRAZIL. BOAVISTA PARK

An intervention in harmony with nature

Located on the outskirts of the city of Sao José dos Campos, north-east of Sao Paulo, the park of Boa Vista gets its name from the views it offers of the city, arguably some of the best.

This is a garden area dotted with pine trees (a very rare species in Brazil), and a somewhat deteriorated area that the city council has decided to renew.

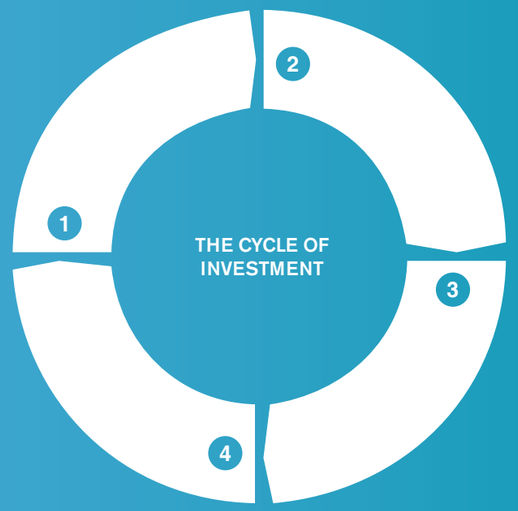
With this in mind, a contest calling for project proposals was announced, and the winner was Idom.

A unifying element of the space incorporates all the programs. This element, an oval shape that resembles the Roman Circuses, adapts to the terrain with bridges, pavements and vegetation and includes recreational facilities, playgrounds and benches.

In regard to the existing elements, a recovery process is being carried out. All the proposed species are native, and as such intended to integrate the sustainability of the intervention with low maintenance costs.

08 Boosting results

FOCUSED ON THE RETURN ON INVESTMENT



Idom Consulting offers services, integrating five disciplines of Knowledge, to support improvement in the competitiveness of regions and corporations:

Strategy & Management
Operations & Logistics
Competitiveness
Region & City
Information Systems

COMPETITIVE EXCELLENCE

We design and manage the competitive transformation of regions and corporations, linking strategy and reality

1 STRATEGY

Only the design of realistic strategies allows you to make profitable investment decisions.

The technological background and global experience of Idom, enables us to develop the most advanced methodology for strategic consulting.

2 DECISION-MAKING

Strategies are the basic input for functional design, physical design, and the definition of management and financial models.

The multidisciplinary teams of consultants, architects and engineers that Idom Is able to assemble, allow us to design strategic actions with guarantee of success.

3 DESIGN & CONSTRUCTION

Idom boasts more than half a century of successfully implementing projects around the world.

Ensuring that the investment meets its objectives on time and within budget is our main strength, which is also supported by our technological expertise and advanced methodologies of Project Management.

4 OPERATION

To achieve competitive success requires the combination of strategic vision, efficient and efficient dimensioning of the operation, with models and advanced systems of management and financing.

It is not enough to master technology, engineering and architecture; in Idom, we understand the value of integrating this knowledge in the name of competitiveness and the return on investment for our clients.

”

GLOBALISATION

We have become a global company to help our clients compete in international markets

Miguel Renobales
Financial Director of Idom

Photography: Carlos Olmedillas

FRANCE

Offshore logistics supply chain and study of operations at a port terminal

Idom has been collaborating with Alstom in the design of an industrial business plan that will lead to this renewable energies firm creating four new assembly plants in the French regions of Loire Atlantique and Manche.

This offshore logistics chain contemplates the transport of large, heavy components, such as blades, nacelles, towers, generators and all associated components, using special and maritime transport.

Different alternatives for the location of the plants and logistics hubs in strategic ports have been evaluated; resulting in a reduction in operating costs and the carbon footprint.

BRAZIL

Assistance in the deployment of business in Brazil

Brazil has become a preferred export market. Idom Consulting has assisted a manufacturer of cargo handling equipment in its entry into the country, analysing opportunities for the fresh-food, pharmaceutical and cosmetic sectors.

The analysis has included the market dimensioning of specific markets within these sectors and the characterisation of their dynamic.

Furthermore, assistance and support has been provided in the selection of machining and boiler suppliers in Sao Paulo, identifying the agents involved, evaluating their technical capacities, and cost comparative under scenarios of local production and imports.

UNITED STATES

International deployment of a new warehouse model

This network of warehouses of an important industrial group has needed to respond to the increased demand resulting from its international expansion and development of new business lines.

Idom has defined a process model for all the warehouses in the group. The tool selected to implement these processes has been SAP, given that it covers the main requirements of the business: international support, scalability of the new warehouses, and standardisation of processes and implementation of best practices.

Idom is currently carrying out the roll-out in the U.S. warehouse facility that serves the American market.

Photography: Alfonso Calza

IMPLEMENTATION IN CHINA

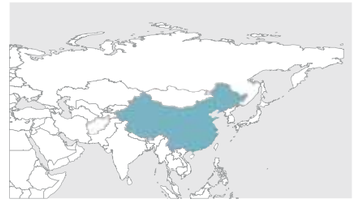
Business Management of the Arteche Group in the Asian market

Idom Consulting has developed the project for the implementation of the new management model of the Arteche Group at its plant in China, through the deployment of its business system.

The project involved the adaptation of the global process model of the Arteche Group to the local specifications (legal and functional) of the plant in China, and the establishment of these processes under the SAP system management.

For the completion of this project, a methodology based on SAP best practices adapted to the needs of the project has been followed, in which the management of all changes and communication has been very important.

The tasks have been performed as part of the international deployment project of the new management model of the Arteche Group. Idom has collaborated in this project, which to date, in addition to the parent company in Spain, has been implemented in the plants in Mexico, Argentina, the United States and China. At present, the implementation of the model in the plants of the group in Brazil is being developed.



CLIENT I Arteche

Photography: Domi Alonso

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EXCELLENCE IN OPERATIONS

The complexity of globalisation, cost-efficiency, and operation requires the modelling, optimisation and management of all sectors, for problems both large and small

Manuel Marín
Industrial Engineer

Photography: Alfonso Calza

MEXICO

Improving the supply chain of a large retailer

Coppel is one of the leading Mexican department store chains, with over 1,000 points of sale throughout the Republic, Argentina and Brazil. Coppel has entrusted Idom Consulting with the task of achieving two objectives: reducing inventories and out-of-stock, while maintaining sales.

Idom Consulting has taken an innovative approach to the project, not just the processes within Coppel, but also integrating suppliers in the pursuit of the objectives of the entire supply chain.

The suppliers chosen for the project include Artaban, a manufacturer of lounge furniture using traditional handmade processes, located in Guadalajara, and Samsung, one of the leading manufacturers of electronics and appliances in the world, of Korean origin, using some of the most advanced manufacturing methods.

Throughout the entire project, Idom Consulting, Artaban and Samsung have collaborated in mixed working groups, in the identification and development of lines of improvement and achievement of the objectives.

Photography: Alfonso Calza

INTEGRAL LOGISTICS PLAN

Design and automation of a meat production plant

ElPozo in its expansion plan of the industrial complex of Alhama of Murcia has taken the decision to invest in a new factory which means that the company will have the most advanced technology available in the market.

Idom Consulting has carried out the layout design and design for the automatic storage and transport systems, with the objective of achieving an efficient, cost effective factory. The Logistics Centre includes a new warehouse for storage bins, an automatic pallet storage facility, and two automatic pallets consolidation centres, one for monoreference and the other for multireference (Picking and packing).

With this investment, ElPozo will update its logistics centre giving it greater capacity and a high degree of automation.

Photo: Automatic tray storage facility, with capacity for 70,000 units

Photography: Alfonso Calza

CHINA

New business processes

One of the main challenges for companies is the deployment of their corporate model in the country where they have decided to implement operations, ensuring global visibility of the processes.

This project involves the design and implementation of business processes in a new factory built by a major industrial group in the area of Shanghai.

The work undertaken by Idom has focused on processes, organisation and systems to support the corporative processes: commercial, planning, production, purchasing, logistics and finance, adapting the model to the legal requirements of the country.

The tool chosen to implement these processes has been SAP, given its flexibility in the incorporation of new business lines, as well as its scalability for future deployment.

SPAIN

Improved management of raw materials

In order to achieve real-time stock control, production losses and reference traceability throughout the supply chain, the implementation of a warehouse management system (SAP) has been undertaken, in the raw materials warehouse of a major power company.

The result is online stock control, from the point of entry of the pallets, internal store operations (location changes, management of quality control and scrappage) to the supply of the production lines according to demand.

With the management of returns to the warehouse line, one of the objectives of the project is achieved; the control of production waste.

Collaboration in improvements with suppliers

Idom Consulting has been working since December 2010 in a collaborative project with Eroski and their generic brand suppliers.

So far Idom has been working with seven suppliers from different sectors: fresh meat, fresh-cut produce, cellulose products, frozen foods, canned vegetables, beverages, meats and prepared foods, in order to make a diagnosis of the value chain from the collection of raw materials to arrival on-shelf in the retail store.

The objective is to identify areas of improvement that can bring together cost reduction and/or management improvements. Savings of more than €3 M have been estimated as a result of applying these lines of improvement, some which can be adopted in the short-term, while others will be implemented in the mid-term given their impact on the organization.

Photo: Pikolín Factory in Zaragoza

Photography: Alfonso Calza

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INVESTMENT AND FINANCING

We support the investment decision process, identifying and structuring projects that are viable from an operational and financial point of view

Xabier Manterola
Industrial Engineer

Photo: Xavier Manterola, Jesús María Susperregui & Óscar Rico

Photography: Alfonso Calza

LOGISTIC MODEL IN OMAN

Master Plan for one of the major Steel producers in the world

The company Jindal, one of the main producers of steel in the world has contracted the services of Idom for the design of a Master Layout of its new production compound at the port of Sohar in Oman.

A logistics model has been developed that allows the correct definition of the flow of people and materials with more than 20 types of products and more than 20 million tons to be handled, both within the complex and for transportation to the port and the local market.

The design has been done in such a way that it is flexible and will adjust to the different phases of growth forecast by the client.

SERVICES I Master Plan review and logistic model assessment

CLIENT I Jindal

Photography: Irfan Naqi

MEXICO

Logistics for one of the largest mining projects in the world

Grupo Mexico, one of the largest business conglomerates of the country, is developing a project of great dimensions in Baja California that will revive the old mining district of "El Arco".

Following research and investigation conducted in 2005, it was discovered that the deposits of this old deposit of copper and gold, far from being exhausted contain reserves in excess of one billion tonnes.

The project contemplates the development of an opencast mine and the introduction of state of the art technology for the production of cathodic copper. Construction of the mine will generate a number of direct and indirect jobs in the region.

Grupo Mexico contracted Idom to design the logistics model for the operation of the new mine. The scope of the project considered the means of transportation, the design for the port terminals, the development of investment budgets, as well as calculations of the operational costs of the recommended solution.

The ore will be transported by road to a new port area close to El Arco and from there to a port on the mainland, crossing the Sea of Cortez.

IN THE PICTURE ABOVE
The Port of Guaymas

1,000 million tons
of copper, gold, silver and molybdenum in the deposit

Idom has prepared the optimization of the flow of supplies to the mine and the return of ore to the mainland. The result of the study is crucial for the analysis of the feasibility of exploitation.

TEAM PHOTO Left to right: Federico Stacpoole & Mauricio Ramírez from Grupo Mexico, Carlos Esquivel de Express Milac, Manel Marín from Idom & Gerardo Rizo from Grupo Mexico

Grupo Mexico has once again put its trust in Idom by recently contracting the company for the engineering project for the study of an energy solution for the mining complex of El Arco.

MEXICO I Baja California

SERVICES I Multimodal Logistics
CLIENT I Grupo Mexico

Photography: Nuria Álvarez & Manel Marín

INDUSTRIALIZED BUILDING

Definition of the development project for an industrialized building solution

Industrialized building systems mean that construction time and deviations in cost and time can be significantly reduced, while also making it possible to introduce industrial quality assurance systems.

The challenge is to reach a level of costing which is comparable to that of traditional building methods, while maintaining a high level of quality and flexibility.

Idom has supported a technologist in analysing the feasibility of an industrialized building system.

This task was approached by making a comparison of the cost of the solution, quantifying productivity differentials versus traditional construction methods.

Idom has defined the industrial configuration alternatives, including the definition of layout and key equipment, evaluation of alternatives of the construction process, and the investment associated with the production plant.

MEXICO

City, opportunities and employment.
Integrated growth of industrial land in Mexico

The company Artha Capital, specialising in investment in real estate and infrastructure projects, has identified several strategic locations (Aguascalientes, Puebla, State of Hidalgo and Mexico), for the development of integrated projects for industrial use, housing, commercial, office space and tourism.

The project integrates the vocation of the territory and the interests of the State and inhabitants to create efficient development to provide continuity to the development model of each territory.

Triggering the development of the city from the vocation of the territory

The Government of the State of Coahuila has identified the need to create an action plan for trigger projects for the economic development of the metropolitan area of Laguna.

The model proposed by Idom is based on increasing the empowerment and qualification of human capital and the strengthening of traditional productive chains and those with potential.

Actions are promoted that contribute to innovation and technological development, the attraction of investment, institutional strengthening, the creation of an integral production system, and the appropriate urban development.

Photography: Alfonso Calza

TECHNOLOGY & INNOVATION

Technology and innovation are two key elements in both the competitiveness of companies and the success of public policies

Marta Albertí
Industrial Engineer

Photography: Alfonso Calza

HEALTH INNOVATION IN GALICIA

Stimulating Innovative Public Procurement

The Galician Health Service (SERGAS) with funding from the ERDF Technology fund is developing two ambitious plans for innovation in health; with a total investment of more than €99 M and the objective of building the healthcare model of the future.

In this context, two projects on Innovative public procurement (IPP) with relevance in Spain are being developed, promoting new innovative markets from the demand side.

Innovative public procurement (IPP) is a public policy instrument with the ultimate goal of promoting innovation and internationalisation through the structuring and strengthening of technological demand through a combination of the promotion of R&D with public procurement actions for goods and/or services.

Idom Consulting is supporting SERGAS in the design and configuration of the PMO to manage both plans and IPP instruments, combining the capacities of Project Management and Technology Policy.

PHOTO Prototype of the robot made by Idom for the health forum: robotics in health services

PHOTOGRAPHY Alfonso Calza

INTEGRAL MANAGEMENT SYSTEM

Ramon & Cajal Institute of Health Research

During 2012, Idom has been working with the Innovation Unit of the Ramon & Cajal Institute for Health Research (Instituto Ramón y Cajal de Investigación Sanitaría, IRYCS), centred around the University Hospital, Ramon & Cajal in Madrid, in the design and implementation of an integrated innovation management system.

The development of the project has included the definition of a strategic framework for innovation, as well as the process of innovation, that will permit the identification of opportunities, generation of ideas. These innovation ideas will then be developed until results are achieved that can be transferred and generate benefits for the institute, be they economical or improvements in clinical, management or healthcare.

The Co-Creation tool, Innoplace® has been implemented and adapted to the specific requirements of the IRYCIS, as a way to boost the interaction between basic research and clinic practice. The results of the project were presented at a public event which was inaugurated by the Deputy Minister of Health Planning and Infrastructure of the Autonomous Community of Madrid, Ms Belén Prado and the Hospital Manager and Chairman of the Governing Council IRYCIS, Dr. Javier Maldonado.

It should be noted that Idom also forms part of the External Advisory Council on Innovation of the IRYCS, along with other companies related to health innovation.

01 I Ramon & Cajal Hospital in Madrid. Photography: Luis García (Zaqarbal)

02 I Marisa Garcia, responsible for management and innovation at IRYCIS

PHOTOGRAPHY: Jon Andueza

SYSTEMATIC DEVELOPMENT

Area of Innovation and Quality

ING Direct has created an Area of Innovation and Quality to promote the systematic development of innovation, the hallmark of the Bank.

Idom has collaborated with the management of the area of innovation in the conceptualization of a new model for innovation. The services provided by Idom to ING Direct have been the initial diagnosis, both managerial and operational and conceptual proposal for a new innovation model for the bank, including the functional definition of a collaborative innovation platform based on Web 2.0.

MEXICO

Technological Unit of land transport of the State of Hidalgo

The State of Hidalgo (Mexico) is characterised by a strong leaning toward engineering and the land transport sector.

To boost the competitiveness of the sector, the Council of Science and Technology of the State of Hidalgo (COCYTEH) wants to develop a technology support unit.

Idom Consulting has developed a feasibility study, conceptualizing the unit as a central link between the different top research institutions and research centres in the region and companies that demand greater technological development in the State and high-level specialised human capital.

The study has included the definition of the management model of the technology unit, the services to be offered by the centre, as well as the business model and the conceptual architectural design of the same.

25 year strategy for Science, Technology and Innovation

The Council of Science and Technology of the State of Mexico (COMECYT), the institution responsible for the development of science, technology and innovation in the State of Mexico, contracted Idom Consulting to characterize the situation of the State in the field of science and technology. The work undertaken by Idom included interviews and workshops with around 90 researchers, technologists and business leaders in the region.

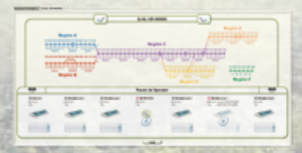
A long-term plan has been proposed for the State of Mexico, with a portfolio of appropriately sized projects that will allow the capacities of the state in science, technology and innovation to be strengthened, working to achieve excellence and the vision established for the long-term.

Internationalization strategy of the scientific and technologic system of Mexico

In the search for and identification of areas of opportunity for Mexico in International Cooperation in Science, Technology and Innovation, the National Council for Science and Technology (CONACYT), the highest federal institution in science and technology, has requested Idom Consulting to develop the internationalization strategy for the scientific and technological sector in Mexico.

Idom Consulting has carried out the characterisation of the major actors and an analysis of the main bilateral and multilateral programmes in which Mexico actively participates in international cooperation in science, technology and innovation, identifying opportunities for the design of public policy in this area.

Infographics: Iñigo Gutierrez



RAILWAY CONTROL

Railway traffic simulation system for the purposes of training

Based on training courses designed for the training of rail traffic managers, Idom has developed a training tool consisting of several software applications that communicate with each other to form a complete simulation system.

This simulation model not only has a virtual representation of 800 km of track with 84 stations, virtual actors and an automatic evaluator of the training exercises; but also emulators of the IT tools that are actually being used by Adif in their operating systems.

The primary objective of the simulator is to enable the design of controlled simulations that will allow students to put their knowledge of the rules and regulations of Adif into practice.

Photo: Madrid-Barcelona High-Speed Line

Photography: Alfonso Calza

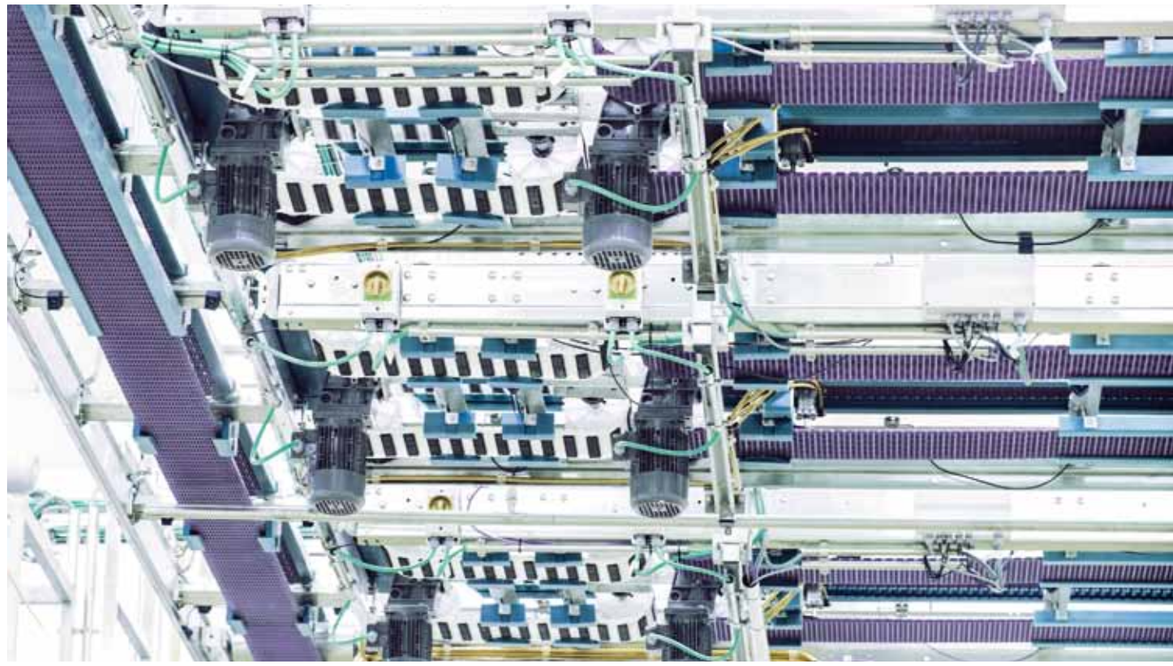
MANAGEMENT MODEL IN MEXICO

Management model for federal prisons of Morelos and Chiapas

The level of management of the Mexican prison system does not currently reach the optimum level of quality.

Therefore, the government is seeking the cooperation of the private sector in order to improve management. Idom is collaborating with an important real estate firm in diversifying its business plan through the development of management models for the construction and operation of two prisons in the states of Morelos and Chiapas.

The project undertaken by Idom defined the mission, vision, policy and strategic objectives, as well as an integrated model that includes the definition of processes, key business indicators, organisational chart, and a selection of ICT. Both prisons will be fully operational from early 2013.



BRAZIL

Contrast of Strategic Plan contrast and analysis of the keys to business

Idom Consulting is working with a client, a producer of electrical equipment for the generation, transmission, and distribution sectors and the industry in general.

The client has a Turnkey Project Business Unit that deals with the orders received by the company. This business unit requires the implementation of a management system.

To facilitate its implementation, Idom Consulting has addressed the following; Contrast the strategic plan and analysis of the keys to business, identification of the generic keys to the business of turnkey projects, definition of processes and associated control panel, analysis of the processes, identification of best practices and definition of objective process map.

As a final result of the project, an action plan was developed as well as the mechanisms of action and control.

SERVICES I Implementation of management systems

Photography: Alfonso Calza

09 Qualifying
the public service

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CITIES OF THE FUTURE

The speed at which the world’s wealth is being concentrated in cities is increasing, raising urgent challenges that require integrated strategic designs of immediate execution

Fátima Velón
Industrial Engineer

Photo: Eva María Mayán & Fátima Velón

Photography: Pablo García

LUANDA, A DEVELOPING CITY

Improving liveability in the Angolan capital

Despite unprecedented economic growth, the capital of Angola is formed for the most part by irregular neighbourhoods, with poor or non-existent access to services and urban networks.

In this context, the Regeneration Programme of Idom spans 11 districts over an area of over 2,800 ha. The planned public investment, about $2,200 M, will be recovered through a management model adapted to local conditions, capturing the capital gains generated by urban improvement, while ensuring long-term economic sustainability.

After defining the Strategic Metropolitan Plan, Neighbourhood Master Plans and the corresponding Urbanization Projects will be developed with the participation and validation of local and national institutions.

SERVICES I Design of urban networks and public spaces, urbanization construction projects, review of the Master Plan for Sanitation of Luanda

CLIENT I Cedrus Limitada, Unidade Técnica de Gestão de Saneamento de Luanda (UTGSL)

Infographics: Idom ACXT: Roberto Fernández de Gamboa Vidal & Alfonso Álvarez Díaz.

MEXICO

Integrated design of new sustainable cities

The Federal Mortgage Society (Sociedad Hipotecaria Federal, SHF) of Mexico is promoting Fully Sustainable Urban Development (DUIS) which, in addition to planning the territory, supports the development of strategic projects.

Idom is collaborating with SHF in both the planning of a new DUIS and as an expert in the evaluation of other projects.

During the year, several DUISs have been designed in the State of Quintana Roo (2012 State Prize for Housing and Urban Development), Coahuila and Baja California.

Moreover, Idom has evaluated projects in the states of Guanajuato and Jalisco. During this process Idom has provided assistance, recommending and evaluating the developers for the DUIS certification.

Infographics: Manuel Leira Carmena

BRAZIL: SMART GROWTH

Regeneration through urban re-densification

The "Urban Operation" faces the challenges of having to operate in the vast area that is the megalopolis of Sao Paulo, with a novel instrument for the development of urban policy in Brazil.

The scope of the project covers 9 districts, over 11,000 ha, with over 1.3 million inhabitants. The main objectives are the reduction of dependence on the centre of Sao Paulo by creating new areas of economic activity and mixed uses, renewal and socio-economic improvement, strengthening of the employment-population and improving the quality of life by rethinking mobility.

Transport studies

One of the first steps towards the sustainable development of cities and emerging countries involves this activity, and Idom is a world leader in such studies.

We improve the movement of people and goods through studies of demand, feasibility of alternatives; sectoral plans and urban renewal projects.

BRAZIL

Mobility Plan for Santa Maria

The City of Santa Maria in the state of Rio Grande do Sul, a medium sized city (262,000 inhabitants) has been proposed as a benchmark for innovation and sustainable growth for cities of a similar size in Brazil.

Understanding mobility as a key component of urban sustainability. The prefecture of Santa Maria has decided to undertake a Mobility Plan to provide innovative solutions to solve the traffic and transportation problems that cities in Brazil are beginning to suffer.

The plan involves the introduction of innovative ideas to boost the economic and social growth in a balanced manner.

With the support of a local partner, Sinergia, Idom is working on developing the Plan which is financed by the City and the International Bank for Reconstruction and Development (IRBD, part of the World Bank).

Sustainable mobility plan for the city of Fortaleza

The Urban Transport Program for Fortaleza, the State capital of Ceará, Brazil, aims to solve or minimize the problems and/or deficiencies that currently exist in the public transport and road traffic in greater Fortaleza.

Idom with the support of a local partner, Tectran, will begin work on projects to deal with freight transportation and building systems within the program funded by the Inter-American Development Bank (IDB).

These projects will improve the mobility of freight, currently disaggregated in the territory of Fortaleza, as well as promoting and integrating cycle and non-motorized modes of transport with other modes of transport; two issues which are closely linked to sustainable mobility.

Photography: Alfonso Calza

PERU, CULTURAL AND TOURISTIC VALUE

Making the citizen the protagonist of the city of Trujillo

The city of Trujillo is known as the "City of Eternal Spring" (La Ciudad de la Eterna Primavera) for its mild and sunny climate throughout the year. Besides having great tourism potential, Trujillo is one of the 5 mid-sized Latin-American cities (over 700,000 inhabitants) participating in the Emerging and Sustainable Cities Programme of the Inter-American Development Bank.

Idom is elaborating the Trujillo Mobility Plan, aimed at converting the historic centre of the city of great historical and cultural value into one of the axis for the development of tourism in the city.

A series of measures have been proposed that will make the inhabitants the real protagonists of the area by creating itineraries of pedestrian routes, encouraging the use of the bicycle and improving public transport accessibility.

IN THE PICTURE BELOW Plaza de Armas of Trujillo in the historical centre with the cathedral in the background

MOBILITY IN THE U.S.

Encouraging the use of public transport in South Carolina

Idom is carrying out a mobility study in the highway corridor that runs from the town of Summerville to Charleston in order to improve the communication between the two municipalities, easing traffic on the interstate highway I-26, which is currently the main route used.

The various transportation alternatives, such as secondary roads, railway lines and buses were analysed. The intention is that all this will serve to promote public transport, which is little used in the United States.

ON THE RIGHT HAND PAGE
Various transit alternatives designed for Charleston

Photography: Alberto González Sánchez

Infographics: Poliedro

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MODERNIZING MANAGEMENT

Intelligent Territories are those who manage to transform their competitiveness with sustained strategies and advanced management

Fernando Martínez Altarriba
Industrial Engineer

Photography: Alfonso Calza

ABU DHABI

Port Community System in the United Arab Emirates

Khalifa Port in Abu Dhabi, has decided to deploy a new Port Community System (PCS) to improve communications between the different operators and government agencies, in order to automate and accelerate port operations.

The PCS will centralise information, allowing for better coordination between the different parties involved in the port cargo flows and improving the capacity of tracking and traceability of the operations.

Idom has collaborated in consortium with PORTIC (the company that operates and develops the PCS of the Port of Barcelona), in the analysis of the existing import/export processes in the port of Khalifa, and has made several proposals for improvement, resulting in new optimized processes.

The work in which Idom has participated, also includes the definition of a Business and Operations Model for the future PCS, the general and functional design of the platform, the definition of the roadmap for its development over the next five years, and the preparation of the bid documents for the IT installation of the PCS platform.

BARCELONA

Quality and process improvement in the port of Barcelona

The Quality Mark was created by the Port Authority of Barcelona to offer the end-users of the port a higher level of QoS.

Idom has carried out the reengineering of the port-logistics processes, defining the level of quality and parameters of the service that are needed to offer this level, and indicators to measure the performance of the actors in a continuous way, adhering to the Port Community Quality Mark.

Idom has been supporting the Barcelona Port Authority in the development of its Quality Mark, since November 2008.

Photography: Choppershoot.com

IMPROVING COMPETITIVENESS

Mexico is committed to strengthening its economic competitiveness

The OECD Program for Strengthening the Economic Competition and Regulatory Improvement for the competitiveness of Mexico has the objective of helping the Federal Government to improve the competitiveness of the country and the regulatory framework for companies; an administrative burden which is especially cumbersome, requiring much time for the completion of the formalities with the Government.

Idom has been working with the OECD in the development of this program, evaluating international experiences in the implementation of interoperability systems in e-government, and analysing how best to apply international best practices to the systems of the Federal Government of Mexico.

MEXICO

SUSTAINABLE PRODUCTIVITY

Modernisation of the public administration in the State of Colima in Mexico

The aim of the project is to assist the State of Colima in meeting their commitment to sustainable productivity, economic progress and modernization of the "Executive Power" process through improved regulation and administrative simplification, thereby improving the business environment of the micro, small and medium-sized enterprises.

The objectives are: to have a register of current procedures and services in the State of Colima, improve the business environment for conducting business; reduce unnecessary administrative burden for entrepreneurs and quantify and reduce where appropriate, the costs associated with administrative procedures, with emphasis on those relating to the business environment, as well as those with the greatest impact on the citizen.

Photography: Alfonso Calza

QUITO

Geographic Information System for the capital of Ecuador

The Metropolitan Public Company of Urban Development of Quito has awarded the consortium Idom-Iver the design, building and roll-out of the Metropolitan Information System for the Municipality of the Metropolitan District of Quito.

The system is designed to serve as a web-based platform for interoperability, which will integrate three differentiated functional modules into the same environment:

- A Spatial Data Infrastructure (SDI) to facilitate the dissemination of Geo-referenced and Documented public data.

- A GIS for the management and maintenance of cadastral information of the Metropolitan District.

- A System of District Indicators (SDI), to facilitate the generation of interactive reports, dashboards and incorporate statistics in tabular formats, graphics and mapping.

The future system will permit local planning, as well as providing a source of basic information for public and private investors, local or foreign, while ensuring that the citizens are informed of the services and actions that are developed in their municipality.

The modernization of the cadastral management processes will result in greater efficiency in the formalities associated with its maintenance and management, thereby ensuring the integrity of the level of information, be that physical, economic and legal components.

CADASTRAL RENEWAL

Updating the information systems of the Provincial Council of Bizkaia

The Provincial Council of Bizkaia is responsible for the management of the real estate cadastre, which consists of an inventory and administrative record of land ownership, both urban and rustic.

Since 1980, Idom has been involved with the Cadastre and Valuation Service in its management. The work developed involves renovating and maintaining the Cadastre of Bizkaia, and automating the information on a computing platform (GIS).

In addition, Idom has recently carried out the Consulting and Analysis Project for the renewal of the Information Systems of the Cadastre of Bizkaia, focusing on the optimization of the processes of cadastral management, and reengineering of the cadastral information systems, in order to contribute to improving the efficiency and sustainability of the system of territorial management of Bizkaia.

Idom has been working for more than 30 years on the sustainability and development of the cadastre of the Provincial Council of Bizkaia

Photography: Carlos Olmedillas

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ADVANCED TERRITORIES

The physical and technological infrastructure of the territory is the backbone that supports business and institutional competitiveness, boosting the economy and attracting talent and investment

Luis Gómez Liste
Geodesy and Cartography Engineer

Photography: Jorge Rey

EGYPT

Technical assistance for the National Programme of Transport

The transport sector is a key element in the economic integration of Egypt in the Euro-Mediterranean Free Trade Area, which arose from the Barcelona Declaration of 1995.

The Ministry of Transport of Egypt has launched a National Transport Programme with the objective of achieving an efficient multimodal transport system, consolidating the strategic position of Egypt.

The activities have included the promotion of investment in the private sector, training for the Ministry, design and support in the implementation of projects, participation in the Euro-Mediterranean Transport System and the communication strategy.

SERVICES I Improvement and Redesign

CLIENT I Government of Egypt - UE

THE CARIBBEAN

Strategic plan for maritime transport of passengers and cargo

Idom is developing a strategic plan of action for shipping, freight logistics and facilitation of trade in the CARICOM countries and the Dominican Republic.

The study includes the analysis of the trade flows from the region and an econometric trade model linking these flows to a number of explanatory variables related to connectivity logistics, the quality of the infrastructures and trade facilitation measures.

The analysis of all the regional and global maritime routes, supported by a GIS system, is an important element for the characterisation of the competitiveness of exports, both the current situation and in different future scenarios, considering the impact of changes in the infrastructure, such as the expansion of the Panama Canal or new ports in the region, as well as changes in trade policies.

COSTA RICA

Improving border operations between Costa Rica and Nicaragua

Idom Consulting has successfully completed the project of the reorganisation and optimal design of the Peñas Blancas Border (between Costa Rica and Nicaragua), in order to improve operations and performance. This study was commissioned by the Ministry of Foreign Trade of Costa Rica (COMEX).

The study outlines the changes needed in the processes and operations that take place at the border and the organisation of such, including the necessary improvements to the infrastructure, technological solutions, the improvement of the processes and the most appropriate management model, detailing the estimated costs of implementation and analysis of the economic and financial feasibility of the project.

Photography: Irfan Naqi

MEXICO

National Infrastructure Plan

Idom Consulting has designed a plan for transport infrastructure projects; at the request of the Secretariat of Communications and Transportation of Mexico (SCT).

So far, Mexico has defined four separate transport plans: airports, ports, roads and rail. This new plan defines, for the first time, an integral transportation strategy and a portfolio of projects for each mode of transport, based on a single vision. Idom prioritized the portfolio of projects using methodologies and simulation excises of the different modes of transportation.

The plan presents a portfolio of approximately 441 projects with a budget of 500 billion pesos, which together will offer Mexico greater competitiveness, improved development of the multimodal potential of the country and substantial improvement in environment issues and security, for both the passenger and cargo.

BRAZIL

Definition of the Innovation and Technology Centre of Novo Hamburgo

The prefecture of Novo Hamburgo in the State of Rio Grande do Sul, in Brazil, is developing a project to improve urban infrastructure and services. This project, called Procidades, has the support of the Inter-American Development Bank (IDB).

In the project, a demand for infrastructure and projects that improve local competitiveness has been identified. Specifically, the need for a Centre of Innovation and Technology has been identified. Idom has been supporting the prefecture of Novo Hamburgo in the definition of the governance plan, strategic business plan and the urban-architecture conceptual design of the centre.

SERVICES I Governance Plan, Business Plan, Management Model and Spatial Proposal

CLIENT I Inter-American Development Bank, Brasilia, Brazil

MEXICO

Technological Eco-park, Oaxaca

Through the State Plan for Sustainable Development, the Government of Oaxaca has been promoting a number of strategies for increased economic growth and welfare.

One of the axes of the plan is the creation of a new competitive infrastructure to consolidate strategic areas and promote technology-based companies.

This has resulted in the creation of the Technology Park of Oaxaca, oriented towards the development of renewable energy. To this end, Idom has carried out a complete study, including feasibility and the urbanisation and headquarters building project.

SERVICES I Feasibility study, Master Plan, Architectural and Construction Projects

CLIENT I Secretariat of Economic Development - Government of Oaxaca (FEV funding)

Infographics: Manuel Leira Carmena

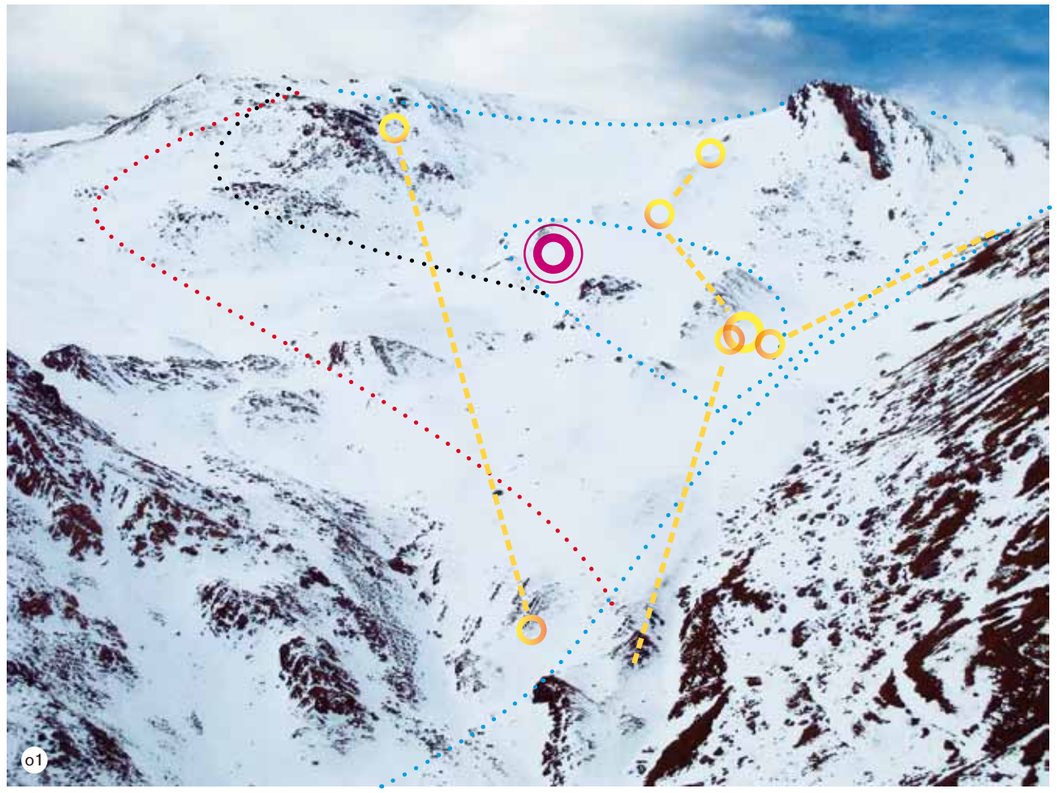
A TERRITORY ON THE RISE

Boosting winter tourism in the Aragonese Pyrenees.
Enlargement of the Cerler ski resort

Over the last 5 years, Idom has been developing a project to create a unique ski domain in Spain, which by its nature goes beyond the scope of the mere expansion of a ski resort, becoming in effect a territorial development project.

The project which contemplates the enlargement possibilities of the ski resort of Cerler, will examine four potential areas: the Ardones Valley, the Valley of Castanesa, and the Valleys of Alto Isabena and el Ubago de Aneto, and the access to the resort through two different valleys.

500,000 VISITORS ANNUALLY
is the estimation of the attraction potential of the enlargement


o1

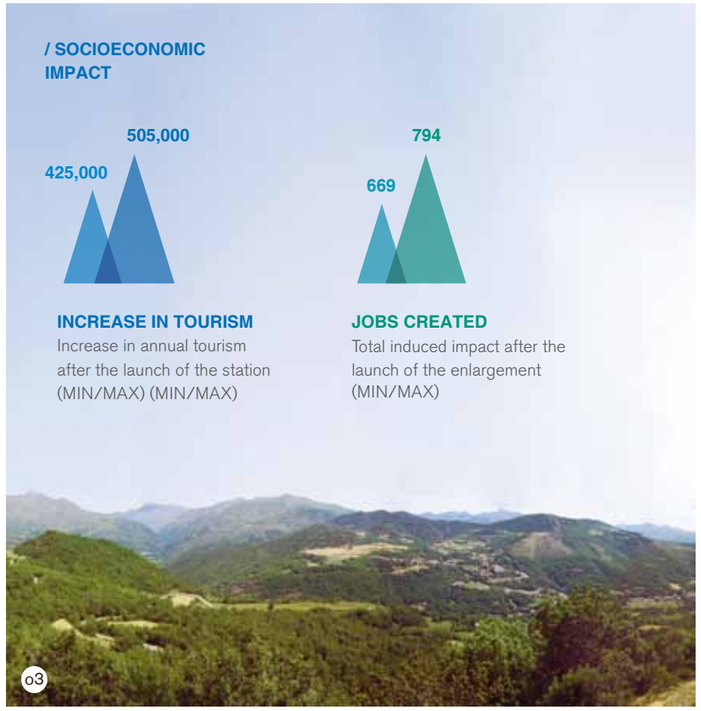
The expansion will make Cerler the most extensive ski domain in Spain

When fully operational, the area will attract up to half a million skiers each year, generating important economic activity in the Ribagorza region of the province of Huesca.

After several preliminary works and the announcement by the Government of Aragon that the project was of general interest for Aragon (PIGA), Idom drafted all the documentation, which included the new access and parking facilities, as well as the expansion of the ski resort (new layouts, service areas, ski slopes, service roads, ski lifts, water and snow harvesting, avalanche systems, power supply, water supply and water treatment, telecommunications…).

Of the four domains encompassed in the project (Castanesa, Aneto, Ardonés and Isábena), the environmental impact statement for the Castanesa domain has already been finalised and approved.


o2



o3

For the most part, the project considers an area with little population, aging and with very few possibilities of alternative economic development.

The expansion of the ski resort of Cerler will be an engine for economic development in the area.

56 (176 Ha)
new ski slopes

01 / Ski runs and ski lifts in the area of Tous

02 / All new buildings will be generated from the optimal construction relationship between technological, eco-efficient and functional criteria

03 / Baliera Valley from Señiú

SERVICES I General Interest Project of Aragon

CLIENT I ARAMON, Montañas de Aragón

THE BASQUE COUNTRY

Enhance the structure of the territory by setting the landscape guidelines

The landscape is a key element for individual or collective well-being, and is a dynamic element that reflects the relationship of people with their environment over time. Therefore, its conservation should be designed to maintain and improve its quality and diversity, without ceasing to integrate new elements and uses.

The main objective of the Landscape Inventory and Landscape Guidelines of the functional area of Balmaseda-Zalla (Bizkaia) is to promote the protection and management of the landscapes, completing the Territorial Development Plans.

BOLIVIA

Participation as a strategic element

Bolivia has one of the lowest ratios of water and sanitation coverage in Latin America due to its complex orography coupled with rapid and uncontrolled urban growth.

The main objective of the project is to improve the indicators on water and sanitation in the peri-urban areas of La Paz, El Alto, Cochabamba and Santa Cruz, carrying out participatory work with the authorities of the Ministry on Environment and Water in Bolivia.

The project aims to impact on strengthening institutions in the development of local capacities in the field of water governance and adaptation to climate change and the support to improve the functioning of the intuitions.

Photo: Orduña in Bizkaia

Photography: Carlos Olmedillas

POLICIES FOR PRODUCTIVITY AND COMPETITIVENESS

Well-designed and sustainable competitiveness and productivity policies can guarantee the improved performance of the private sector and the economy of intelligent territories

Marta Álvarez
Economist

Photography: Alfonso Calza

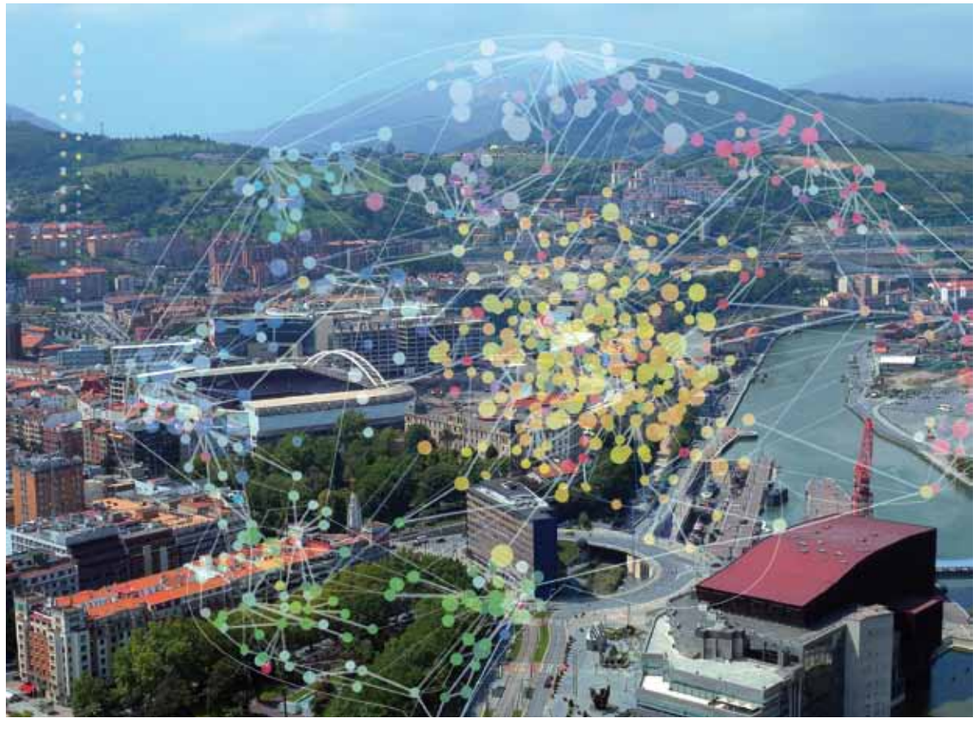
COLOMBIA

Technical assistance for the identification of logistical hurdles in 10 sectors of the Productive Transformation Programme

The aim of the project has been to provide Bancoldex, the administrator of the Productive Transformation Programme, with a transversal study, identifying and characterising twelve obstacles associated with infrastructure, in the supply chain of ten highly productive and competitive sectors generating added value in Colombia.

During the study, an analysis of the logistics chain has been carried out. Workshops involving the key stakeholders in each of the 10 analysed economic sectors have been held. In parallel, the national transport infrastructures as well as proposed development plans have been analysed.

Finally, possible solutions to overcome the identified obstacles have been defined and characterised. The impact on the sectors in the event that these measures are not adopted has also been analysed.



STRATEGIC INITIATIVES

Analysis of the Lidera & Compite strategies of the Basque Government

The objective of the project is to analyse the results obtained from the Lidera & Compite strategies of the Basque Government in the period 2009-2011.

Different strategic initiatives have been analysed, such as electric vehicles, intelligent networks (Smart Grids), Natural Gas, ultrafast broadband and the science industry.

In relation to the Compite strategy, a review of the results in the three key areas has been carried out: R&D, Innovation and the Area of Information Society.

For this purpose, an analysis of the programme has been carried out, and the results have been aggregated according to area, from an analysis of the data of the programme and year of the internal databases; beneficiary surveys; and an analysis of the surveys about the results of the projects in areas such as the exploitation of results, employment, turnover, improvement in the competitiveness and innovation capacity.

Photo: Photomontage based on a photo by Carlos Olmedillas

o1

o2

o3

01 / Marcos Rupérez (FHa) Marian Arilla & Pedro Montaner (Idom)

02 / Eneko Zarraoa (Idom), Luis Correas (Gerente FHa), Igor Cantero (Cegasa)

03 / Workshop on Hydrogen, held at the offices of Idom Bilbao

HYDROGEN TECHNOLOGY

Idom is collaborating with the Hydrogen foundation in the implementation of its Strategic Plan

The Foundation for the Development of New Hydrogen Technologies in Aragon (FHa) is a private, non-profit body that has as its objective, the promotion of strategic projects based around hydrogen in renewable energy, electric vehicles and energy efficiency.

Idom has been collaborating with the FHa in the updating of their Strategic Plan and in the definition and implementation of several projects with the objective of supporting the collaboration of companies in new developments in the generation, storage and use of H_2, the development of fuel cells and applications for the automotive industry, and the generation of future business opportunities in these areas.

Among the activities carried out in 2012, noteworthy is the organisation of three workshops to consolidate a cluster at national level and identify collaborative projects. The workshops we held in Galicia, Valencia and the Basque Country. The workshops were organised in Galicia with the support of the Energy Institute of Galicia (INEGA), in Valencia with the support of the Institute of Energy Engineering of the Community of Valencia, and in the Basque Country with the support of Tecnalia and Cener. In total over 40 companies and organisations working in these areas attended and seven projects were identified for future assessment.

A business development strategy for high pressure alkaline electrolyzers is one of the results of this annual event, as well as an evaluation project on the creation of a consortium integrating energy efficiency companies.

Photography: Domi Alonso

COLOMBIA

Development Plan for the Steel, Metalworking and Shipyard sectors

In the framework of the Productive Transformation Program launched by the Government of Colombia, the lines of action include the sectors of steel, metal piping, machine-tool, capital goods, electrical and building materials, structures and galvanized steel, and shipyard.

The objective of this programme is to position these sectors at world class level. Idom has carried out an analysis of the current situation of these sectors in both in Colombia and benchmark countries with the objective of identifying the weaknesses (and threats) of the Colombian sectors and the opportunities (and strengths) in relation to the global context as leverage to develop their competitiveness.

The project will provide these sectors with a short, medium and long term vision which will be complemented with a detailed plan of action.

Competitiveness and productivity improvement programme for 120 Companies in Bogota, Cali and Medellin

Idom Consulting has undertaken the implementation of the FINPYME Diagnostics Program of the Inter-American Investment Corporation (IDB Group) in Colombia.

Following the diagnosis of the competitive position of 120 Colombian SMEs of very diverse sectors, technical assistance was given in the implementation of competitiveness plans, defined at an earlier stage.

These activities have had a great impact, with 253 companies receiving training through working conferences on innovation and market intelligence; the participation of 67 companies in an innovation and financial management virtual platform; 41 companies in the family business workshop; 44 companies in the strategic planning and internationalization workshops; and 26 companies receiving 40 hours of personalized consulting.

TUNISIA

Improving the competitiveness of Tunisian companies

The Business Competitiveness Program in Tunisia has become the most important public support initiative for the private sector in the MEDA countries, offering direct support to Tunisian companies in accessing the European market.

The consortium of companies led by Idom provides technical assistance and training to more than 200 Tunisian companies from different sectors, with emphasis on the agri-food sectors, textile, mechanical and building materials.

In the initial pre-diagnosis phase, the needs of companies (technology and production processes, strategic management and organizational) are identified, following which companies with similar needs are grouped in threes or fours, thus allowing them to receive assistance in conjunction.

Photo: CAF Plant (Construcciones y Auxiliar de Ferrocarriles) in Zaragoza

Photography: Alfonso Calza

10 Idom in the world

Some important figures

The financial situation of Idom is solid and solvent, as befits a business project that aspires to establish personal relationships and, therefore long term assets.

300

Million euros contracted services supplied by the entire group

80

Million euros of Turnkey contracts

73 %

International activity providing professional services

2,500

people

”For me, solving a problem or recognising the feasibility of certain plant development projects is relatively easy, as it just involves picking up the phone and calling Idom, with the reassurance that they will provide us with the best solution

Fernando Anoro
Director of CAF Zaragoza

”The client is the hub and the raison d'être of our activity

Juan Ramón López Laborda
Director of Idom Zaragoza

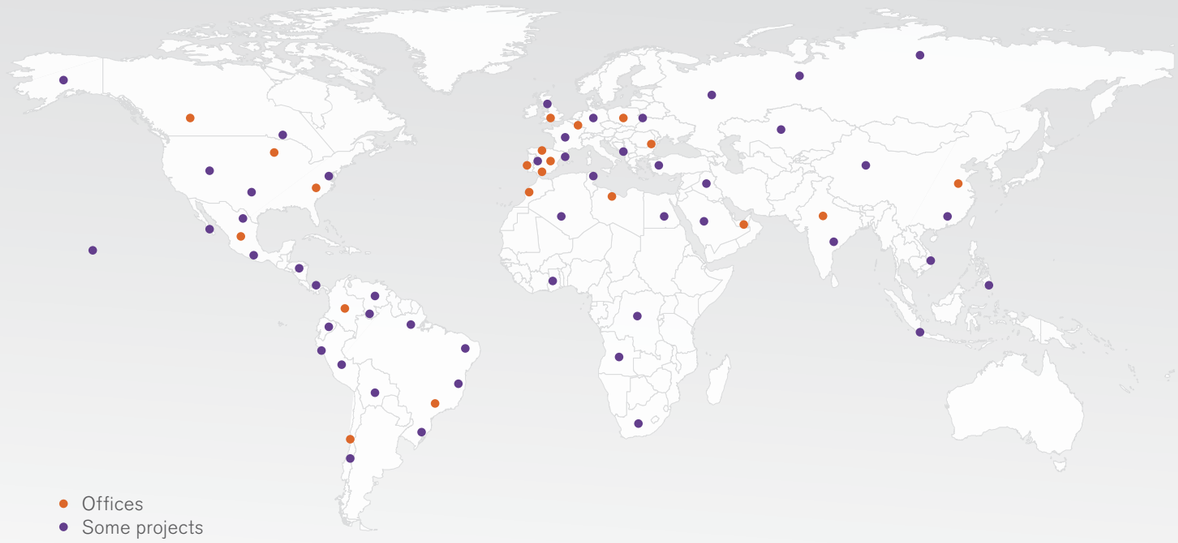
Photo: Fernando Anoro, Fernando Martínez Altarriba, Juan Ramón López Laborda

34
Offices

16
Countries with offices

120
Countries with projects

5
Continents



BELGIUM

1040 BRUSSELS
Rue de Treves, 49
Tel: +32 2 230 59 50
Fax: +32 2 230 70 35

BRAZIL

CEP 01227-200 SAO PAULO
Av. Angélica, 2163 - cjto 112
Consolação
Tel: +55 11 3818 8996
Fax: +55 11 3818 8996

CANADA

AB T3H 1J2 CALGARY
148 Coach Grove Place S.W.
Tel: +1 403 265 9664

CHILE

PROVIDENCIA, SANTIAGO
CP 7510041
San Pio X 2460, Of. 908
Tel: +56 22 9791110
Fax: +56 22 2997924

CHINA

BEIJING (Strategic-Technological Collaboration Unit)

Dahe Zhuangyuan Building,
4 - 2 - 1802. Distrito Haidian
Tel: +86 10 8248 6328

COLOMBIA

MEDELLIN Calle 7 Sur, número 42-70
Oficina 1003, Edificio Forum I
Tel: +57 4 313 0322
Mobile: +57 312 772 7350

INDIA

110017 NEW DELHI
Unit 10 & 10B, Southern Park, D-2,
District Centre Saket
Tel: +91 11 2956 4220
Fax: +91 11 2956 4221

LIBYA

TRIPOLI
Hay Al Andalus
Tripoli, Libya
Tel: +971 50 824 56 13

MOROCCO

20100 CASABLANCA
219, Boulevard Zerktouni Angle Bd.
Roudani nº 13 Maârif
Tel: +212 665 19 41 37

MEXICO

06500 MEXICO D.F.
Paseo de la Reforma 404 - Piso 5
Colonia Juárez, Delegación Cuauhtémoc
Tel.: +5255 5208 4649
Fax: +5255 5208 4358

POLAND

01-192 WARSAW
ul. Leszno 14
Tel: +48 22 535 65 80
Fax: +48 22 535 65 81

54-424 WROCLAW
Ul. Muchoborska 6
Tel: +48 71 785 45 98
Fax: +48 71 785 45 97

PORTUGAL

1600-100 LISBON
R. Gen. Firmino Miguel, 3 - 8º
Tel: +351 21 754 87 00
Fax: +351 21 754 87 99

ROMANIA

011783 BUCAREST
Str. Brazilia, 16 - Ap. 1, Sector 1
Tel: +4021 231 07 01
Fax: +4021 231 13 34

SPAIN

08028 BARCELONA
Gran Vía Carlos III, 97
Tel: +34 93 409 22 22
Fax: +34 93 411 12 03

48015 BILBAO
Avda. Zarandoa, nº 23
Tel: +34 94 479 76 00
Fax: +34 94 476 18 04

35002 LAS PALMAS DE G. CANARIA
Viera y Clavijo, 30 - 1º
Tel: +34 928 43 19 50
Fax: +34 928 36 31 68

28049 MADRID
Avda. Monasterio del Escorial, 4
Tel: +34 91 444 11 50
Fax: +34 91 447 31 87

30004 MURCIA
Polo de Medina Nº 2 - 1º A
Tel: +34 968 21 22 29
Fax: +34 968 21 22 31

07003 PALMA DE MALLORCA
Avda. Conde Sallent, 11 - 4º
Tel: +34 971 42 56 70
Fax: +34 971 71 93 45

31008 PAMPLONA
C/ Pintor Maeztu, 6-1º Izda.
Tel: +34 948 23 50 73
Fax: +34 948 23 82 61

20018 SAN SEBASTIAN
Parque Empresarial Zuatzu
Edificio Donosti, Zuatzu kalea, 5
Tel: +34 943 40 06 02
Fax: +34 943 39 08 45

15703 SANTIAGO DE COMPOSTELA
Avda. de Lugo, 151 - 153
Tel: +34 981 55 43 91
Fax: +34 981 58 34 17

41927 Mairena de Aljarafe, SEVILLE
Plaza de las Naciones, Torre Norte
Tel: +34 95 560 05 28
Fax: +34 95 560 04 88

43001 TARRAGONA
Plaça Prim, 4-5 Pral. 1a
Tel: +34 977 252 408
Fax: +34 977 227 910

46002 VALENCIA
Barcas, 2 - 5º
Tel: +34 96 353 02 80
Fax: +34 96 352 44 51

01008 VITORIA - GASTEIZ
Pintor Adrián Aldecoa, 1
Tel: +34 945 14 39 78
Fax: +34 945 14 02 54

50012 ZARAGOZA
Argualas, 3
Tel: +34 976 56 15 36
Fax: +34 976 56 86 56

UNITED ARAB EMIRATES

ABU DHABI
PO Box 61955
Al Bateen
Tel: +971 50 824 56 13

UNITED KINGDOM

DERBYSHIRE DE56 2UA
Suite 2B, East Mill
Bridgefoot, Belper
Tel: +44 177 382 99 88
Fax: +44 177 382 93 93

KENT, KESTON BR2 6HQ
1 Leonard Place
Westerham Road
Tel: +44 1689 889 980
Fax: +44 1689 889 981

LONDON SE1 3QB
Unit 17G The Leathermarket
106a Weston Street
Tel: +44 207 397 5430
Fax: +44 207 357 9690

SOUTH WALES,
CARDIFF CF14 2DX
Churchgate Court
3 Church Road
Whitchurch
Tel: +44 2920 610 309
Fax: +44 2920 617 345

UNITED STATES

MINNEAPOLIS, MN 55402 - USA
15 South 5th Street - Suite 400
Tel: +1 612 332 8905
Fax: +1 612 334 3101

RICHMOND, VA 23230 - USA
5540 Falmouth Street - Suite 300
Tel: +1 804 282 3811
Fax: +1 804 282 3652

PROJECT INDEX

Generating energy

Transforming material

Caring for the planet and those who walk on it

Major infrastructure

Connecting people & places

Building society

Spaces for a better future

Boosting the results

Qualifying the public service

Idom in the world

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Comments may be sent to Gabriel Vilallonga:
gve@idom.com

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Jesús Bermejo
Lakchmi Salcedo

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Marta Axpe
Beatriz Chávarri
Brian Dermody
John Hart
Belén Hermosa
Ánxeles López
Eva Quevedo
Ana Román
Xabier Ruiz

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