



eptisa

ANNUAL REPORT
2016

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LETTER FROM LUIS VILLARROYA

2016 has been an exciting year for Eptisa. The company was acquired by JSTI, a leading Chinese company in the Asian engineering projects market already present in Europe, Africa, North America, Asia and Oceania. This merger enables synergies on a scale never experienced in the company and brings significant backing for our balance sheet. In spite of the entry of new capital Eptisa has retained its management team, a fundamental condition to harness the work the company has been performing in a turbulent international economic environment.

As a result of this union we have set up an office in Beijing with the aim of providing joint JSTI and Eptisa services to local contractors and add value to our technical knowledge in the water sector.

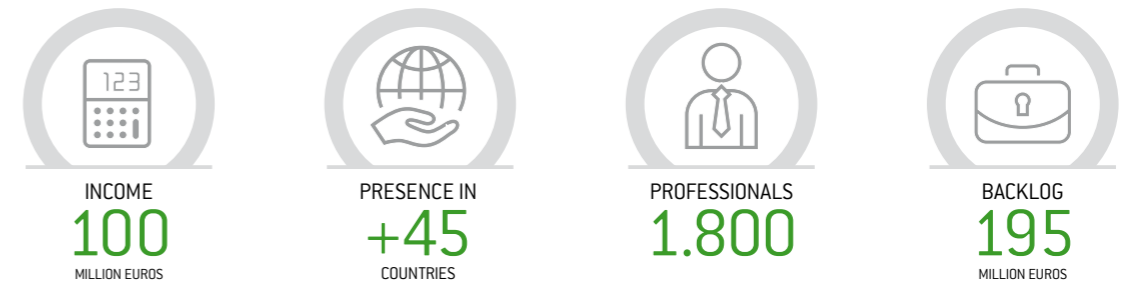
In Asia, we have also increased the number of new contracts in Sri Lanka and South Korea. In line with the new tendencies our teams in India are executing the smart city projects in Udaipur, Jaipur and Indore. We have set up an office in Peru to coordinate our projects in the region, while in sub-Saharan Africa we are consolidating our presence with new engineering contracts. These successes are a clear sign of an ever more international brand position.

Another milestone of which we are proud is that the Asian Development Bank has announced that we are the leading Spanish engineering firm in contracts awarded last five years with almost 40 million dollars in projects.

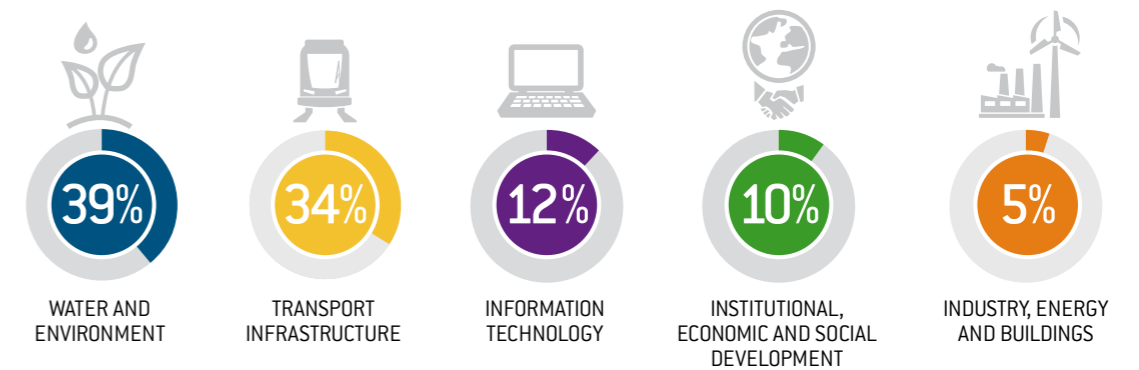
All these data are a clear symptom that Eptisa can contemplate the future with optimism and perform our work as well as we have in 2016.



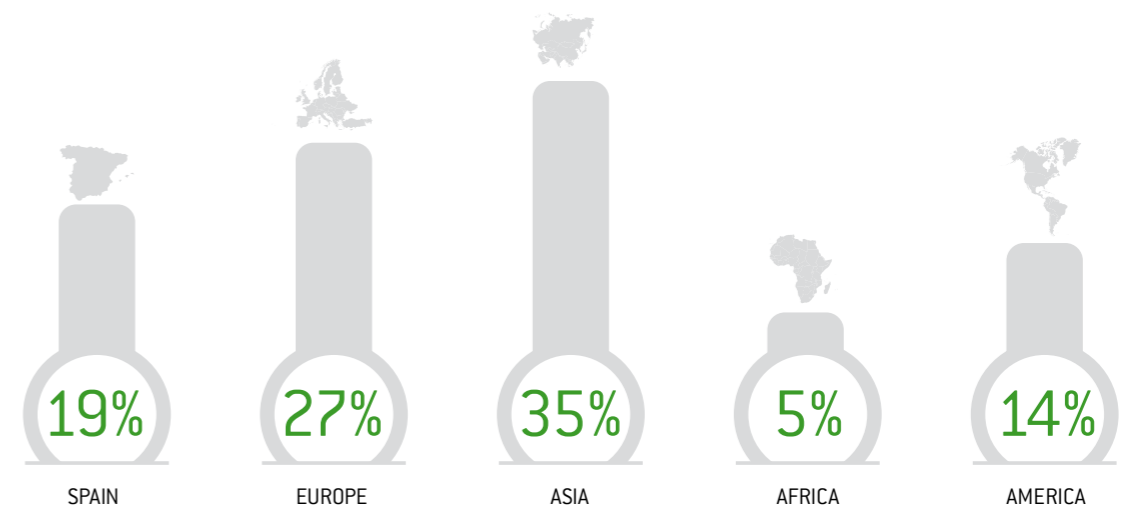
EPTISA'S KEY FIGURES



ACTIVITY BY SECTORS



GEOGRAPHIC DISTRIBUTION



In a world seemingly obsessed with speed, to implement projects adequately it is necessary to reaffirm the values of hard work and good practice. That's how we do it in Spain where, in spite of a context of weak investment in infrastructures, Eptisa continues to execute projects in the transport, water and environment, building and information technology sectors with excellent results



SPAIN



TRANSPORT

In 2016 we continue offering our engineering and consultancy services in both regional and urban projects to improve mobility and quality of life of people

Throughout 2016 we carried out projects in the **road infrastructure** field that include both the planning and construction in addition to consultancy on road safety.

The Ministry of Public Works and Transport through the Demarcation of Roads of the State in western **Andalusia** entrusted us with a study of high accident concentration in two sections of the N-351 and another two of the A-7 to determine the most hazardous points of the same and enable the definition of the measures to be taken to avoid accidents.



In the **Basque Country** we were selected for construction management of the Antzuola - Bergara section of the GI-632 variant project, the section that will complete the Zumarraga- Bergara highway.

We conducted **quality control of the materials** during execution of the final works on the Amorebieta - Muxika section, performing the associated laboratory tests and trials and the in-situ testing. We performed the same tasks for stabilisation of the slopes in Kamiñalde de Ondarroa.

We continue to work for the Gipuzkoa Provincial Council on the inclinometers management system to control slips on the slopes of its functional road network.

In **Castile and León** we finished the technical assistance for drafting the informative study of a section of more than 89 km of the A-40 highway between Avila and Maqueda. The works included drafting the Summary Report for the Environmental Consultancy and the Environmental Impact Assessment.

Our laboratory in Valladolid continues to conduct quality control tests of materials, implementation of the same, controlling compaction, deformation modules by plate load tests and spreading control for the works of the section between Santiuste and Burgo de Osma of the A-11 in the province of **Soria**.

We were also entrusted with quality control during the 2016 pavement course campaign on the AP-66. The works consisted of taking samples at various points on the **León - Campomanes** highway to determine the parameters of the various layers of the pavement and base.

In **Alicante** we finished drafting the layout and construction design of the A-7 between Crevillent and the Orihuela-Benferri junction for widening the highway to three lanes in this section.

In **Catalonia** we drew up various projects for upgrading the road network. One of these is the conditioning of the section from Sant Julià de Ramis to Sant Jordi Desvalls of the GI-633 road in **Girona**. The project

aimed to extend the current roadway base from the current 6 m to obtain a 7/9 cross section to support two 3,5-metre lanes and 1 m of hard shoulder on each side.

Another is general upgrade of the prolongation of Avenida Paisas Catalanes between the Viladoris road and Prat de la Riba square in Manresa in the province of **Barcelona** with the aim of enhancing connectivity between the urban centre of Manresa and the locality's major arterial thoroughfares, the C-55 and the C-16.



We finished the project for the Reus - Perafort section of the new Reus road to the Camp de Tarragona high speed railway station, upgrading the access and road safety of the C-63 in Lloret de Mar and road safety on a two-kilometre section of the C-352 in La Roca del Vallés.

In **Galicia** we performed technical assistance for construction of the Celeiro - San Cibrao section of the high-capacity North Coast highway. The most noteworthy works assigned to us were the design and optimisation of sections of semi-rigid pavement, quality control of execution of the base and performance of an innovative assessment study of the adherence between the subsoil / concrete and the bituminous mixture.



QUALITY CONTROL DURING THE 2016 PAVEMENT CAMPAIGN ON THE AP-66

The works consisted of taking samples at various points on the León - Campomanes highway to determine the parameters of the various layers of the pavement and base. With these data the granting authority designed the reinforcement to be applied on the section: milling and thickness and type of agglomerate. Subsequently, during execution of the new pavement layers, Eptisa carried out quality control of both materials (aggregates, emulsions, bitumen and hot mixtures) and execution (extraction of samples and macrotexture).

AUCALSA implements these campaigns on an annual basis and Eptisa has been the benchmark laboratory for the last 4 years.

We finished the controls and inspections of the concrete and piers of the **Cangas - Teis** section of the Rande Bridge on the AP-9 Atlantic Coast Highway in Vigo to widen the bridge to three lanes in each direction.

We also finished the technical consultancy services we provided to the Regional Government of Galicia for optimisation of standard sections of pavement.

In the **R&D&i** field we finished the "P@vement Check" project, a pavement management system that enables efficient management of infrastructures on the basis of objective inspections by mobile mapping technology and software for development model prediction and investment strategies.



In October we organised the 50th session of the Workshops on Geotechnical Works in conjunction with the Spanish Society for Soil Mechanics and Geotechnical Engineering (SEMSIG) and with the collaboration of the Centre for Studies and Experimentation of Public Works (CEDEX).



We also took part in the conference "A Smart Fotocatali-City" organised by the Iberian Photocatalysis Association in Madrid in which the current panorama of environmental and indoor pollution was examined and potential photocatalytic solutions for pavements, façades, roofing and interiors and the progress made over the last five years were debated explained.

In R&D&i we finished the "P@vement Check" project, a prototype for measuring the efficiency of photocatalytic materials



CONSTRUCTION MANAGEMENT OF THE PROJECT TO FINISH THE ANTZUOLA - BERGARA SECTION OF THE GI-632 VARIANT IN THE BASQUE COUNTRY

The Provincial Council of Gipuzkoa and Bidegi awarded Eptisa a new contract to perform construction management of the 4.8 km-long Antzuola - Bergara section of the GI-632 variant project, the section that will complete the Zumarraga- Bergara highway.

We were entrusted with the construction management, geometric and execution quality control, geological consultancy, coordination of occupational health and safety, environmental, planning and budgeting monitoring and documentation of the final result over the period of 25 months the project lasted. The contract also includes special support depending on the needs of the works and drafting of the amended engineering and complementary designs among other tasks.

This section is considered to pose a real challenge from the engineering point of view since it required construction of bracing diaphragm walls, stabilisation of cleared terrain, foundations for embankments, execution of rip-rap and walls in the area of the Bergara intersection to achieve the project objectives.



STUDY OF HIGH ACCIDENT CONCENTRATION SECTIONS OF THE N-351 AND THE A-7 HIGHWAYS IN CÁDIZ

The Ministry of Public Works and Transport, through the Demarcation of Roads of the State in western Andalusia, has entrusted us with an accident concentration study of two sections of the N-351 and another two of the A-7 to determine the most hazardous points of the same and enable the definition of the measures to be taken to avoid accidents.

To do so, we analysed the following parameters of the sections:

- Accident rate: where and when accidents occur, of what kind and the concurrent factors
- Infrastructure: layout, equipment, shoulders, traffic density and user behaviour

A diagnosis was performed on the basis of this information that has enabled us to ascertain the problems with the roadways and the causes of the accidents. In conclusion, we proposed corrective measures that will be implemented throughout 2017 to remove the factors that cause the accidents.

DETAILED DESIGN FOR UPGRADING THE SANT JULIÀ DE RAMIS TO SANT JORDI DESVALLS SECTION OF THE GI-633 ROAD (GIRONA)

The aim of the project was to extend the roadway platform from the current 6 m to obtain a 7/9 cross section to support two 3.5-metre lanes and 1 m of hard shoulder on either side on the section between KP 0+000 and PK 6+290. The proposed solution consists of reusing the existing pavement and widening the road to obtain the additional 3 metres required to reach the 9 m of the new roadway. Reuse of the existing pavement entailed conducting a deflection study and an IRI study of longitudinal regularity in order to determine the thickness of the bituminous mixtures to be placed over the existing surface course.

Improvement of the road safety on the section also includes upgrading the longitudinal drainage, bringing the signalling up to the required standard and adapting the safety barriers to comply with the new regulations. Other noteworthy aspects of this job include relocating the electric power and telephone lines to obtain the required safety margin from the roadway.

The planned investment in this project, awarded by Infraestructures.cat of the Regional Government of Catalonia, is around 4.5 million euros.



The **railway** is one of most sustainable means of transport in comparison with the alternatives. It has a lower environmental cost per transported tonne and the risk associated with transport of hazardous goods is minimal. That is why Eptisa is committed to the development of this means of transport. We provide various services in this sector from project studies and design to technical assistance, quality control and auscultation.

We conducted the feasibility study for the Huelva Port Authority to increase the goods transport capacity of the **Seville - Huelva** railway line.

In the province of **Cádiz** we provided technical assistance and works supervision services for various tram-train projects between Chiclana de la Frontera and San Fernando:

- A cycling route between Chiclana de la Frontera and Cádiz
- Urban development of access to the Cádiz intermodal station from Avenida de Astilleros
- Track superstructure
- Ardila junction infrastructure and interchanger
- Canopies for the tram-train stops
- Plaza de Sevilla Intermodal station in Cádiz

In the **Basque Country** we are working on a technical assistance for control of the construction

works of the platform on the Hernalde-Zizurkil section of the Basque "Y", in Gipuzkoa.



We continue to work on quality control of materials on the **Madrid - Galicia** high speed railway line during the construction of 7,600 metre-long tunnel on the **Prado - Porto** section and the left track of the Prado tunnel with a length of more than 7,400 metres.

We are conducting quality control of materials for execution of the consolidation and impermeability works of the Antón Martín - Portazgo tunnel of line 1 of Metro de **Madrid**.

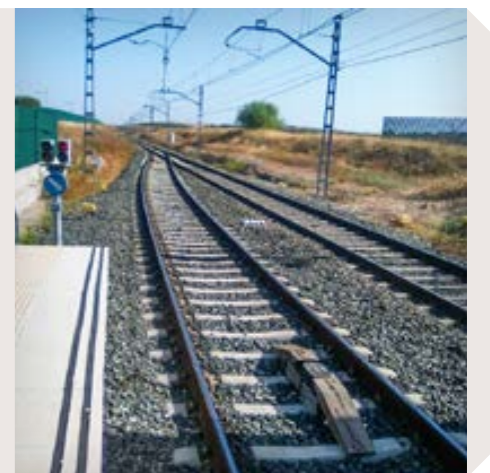
We continue to perform the structural tests on the **Venta de Baños - Burgos** section of the high speed railway line and an auscultation plan on slopes and embankments of the railway network for ADIF.

Eptisa is committed to the development of the railway sector, one of the most sustainable means of transport, in which we provide various services to our clients

FEASIBILITY STUDY FOR INCREASE OF THE GOODS TRANSPORT CAPACITY OF THE SEVILLE - HUELVA RAILWAY LINE

The Seville - Huelva line is the main incoming and outgoing route for goods to and from the port of Huelva. Eptisa is drawing up a report that will determine the capacity of the track, its conditioning or problematic factors, the measures that must be taken to increase its traffic capacity, the financial cost of the actions required and the effects of increased goods traffic on the line's infrastructure.

The basic aim of this report was to optimise the regular flow of material through a network of transport links, in this case by rail, with the storage centres. These works include management of both the physical and information flows plus complementary goods handling activities before final distribution to the customer that contribute added value to the process.



TRAM-TRAIN CONSTRUCTION PROJECTS BETWEEN CHICLANA DE LA FRONTERA AND SAN FERNANDO

In the province of Cádiz we provided technical assistance and works supervision services for various tram-train projects between Chiclana de la Frontera and San Fernando:

- *Canopies for the tram-train stops. Phase 1 and execution of canopy at the Intermodal station Plaza de Sevilla in Cádiz.* Ten of the eleven stations and the Intermodal Station were finished. The facilities have been legalised during the year to enable commissioning.
- *Track superstructure:* The ballast has been packed, welding finished and signalling installed on around 500 m of track and the track devices to be installed in 2017 have been accepted.
- *Ardila junction infrastructure:* A service road required for detour of the supply network to Cádiz has been completed.
- *Ardila interchange:* The site development works in the surroundings of the interchange consist of adapting the existing civil works in order to execute three inter-city and local bus stop bays, a customer service module and installation of three canopies provided by the Transport Consortium. They also include landscaping, lighting, telecommunications and electrical installations. The building permits were obtained in 2016 and the works started in January 2017.
- *Urban development of access to the Cádiz intermodal station from Avenida de Astilleros:* Finished in February.
- *Cycling route between Chiclana de la Frontera and Cádiz*

The ballast has been packed, welding finished and signalling installed on around 500 m of track and the track devices to be installed in 2017 have been accepted



QUALITY CONTROL OF MATERIALS FOR THE CONSOLIDATION AND IMPERMEABILITY WORKS OF THE ANTÓN MARTÍN - PORTAZGO TUNNEL FOR METRO DE MADRID

We are conducting quality control of materials for execution of the consolidation and impermeability works of the Antón Martín - Portazgo tunnel of Line 1 of Metro de Madrid. This line, opened in 1919, is the oldest line of the entire network. The works consisted of reinforcement by injecting concrete and application of special sprayed concrete with steel mesh support after dismantling all the tunnel devices and meticulous cleaning of the cladding. Eptisa carried out the associated laboratory tests (concrete, grout, steel) and the in situ tests (anchoring).



We have been awarded three projects in the ports sector in 2016.

Quality control of the materials during execution of the works on the central breakwater for expansion of phase one of the exterior port of Bilbao and stabilisation of the western sector of the Punta Lucero quarry by means of laboratory (concrete, aggregates, steels, bolts, etc.) and in-situ testing.

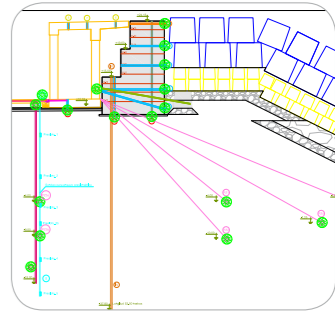
We carried out the same activities for the works to reinforce the Ondarroa breakwater.

Monitoring of Batán dock in the North Wharf 3 of the port of Seville was our third project. To control the inclination and deformation of the wharf's diaphragm

we installed and operated static and dynamic measuring systems using fibre-optic sensors and high-pressure inclinometers.

We also continued with the technical assistance for the A Coruña Port Authority for control and execution of the construction works of the gallery for protection of piping in the breakwater of the new Punta Langosteira port facilities in Arteixo. We performed the geotechnical survey to ascertain the characteristics of the material of the breakwater and installed instruments on both the body and structures of the same.

We finished the laboratory and on-site tests during construction of a new mobile RO-RO ramp at the Bouzas intermodal terminal for the port of Vigo.



QUALITY CONTROL OF MATERIALS FOR REINFORCEMENT OF THE ONDARROA BREAKWATER

The works consisted of manufacture and placement of 20-tonne concrete blocks on the extrados of the crown wall to obtain the required permeability to reduce the loads on the same and prevent overtopping. The height was increased on 154 metres of the crown wall after cleaning the surfaces by drilling and placing 32 mm-diameter anchoring bars in two staggered rows every 3 metres.

Eptisa performed quality control of the materials during execution of the works by means of laboratory testing of concrete, aggregates and rocks and in-situ sclerometric testing of the concrete structures.

The works consisted of placement of 20-tonne concrete blocks on the extrados of the crown wall to obtain the required permeability to reduce the loads on the same and prevent overtopping



MONITORING OF BATÁN DOCK IN THE NORTH WHARF 3 OF THE PORT OF SEVILLE

To control the inclination and deformation of the wharf's approximately 650 metre-long diaphragm wall we installed and operated a static and dynamic measuring system using fibre-optic sensors and high-pressure inclinometers, an automatic data collection station with data management software and alarms accessible via the Internet.

Monitoring consisted of installing eight inclinometers under the deck, eight two metre-long fibre-optic deformation sensors below the water line and an automatic data acquisition station connected to all the sensors.



stay parking facilities P1, P2 and P3 of the El Prat-**Barcelona** airport to refurbish the area and unite the control systems to enable centralised management of all the facilities.

In the **Tenerife Sur** airport we provide AENA with technical assistance services for construction management and control and monitoring of general upgrading of the parking apron. The aim of this project is upgrade the technical specifications of the pavement of the apron, in some cases by repairing fissures and cracks and in others by demolition and rebuilding of the base and surface course. This contract is executed in consortium with Gestinsa, Payma and GOC.

AENA also contracted us to draft the designs or specifications, construction management and control and monitoring in the airports that make up its network. This contract is also executed in consortium with Gestinsa, Payma and GOC.

In **Bilbao** airport we provide AENA with technical assistance services for draw up the design and for construction management and control and monitoring of enlargement the pavement of the 12-30 runway.

We drew up the expert report on the state of the pavement for the inquiry into an incident at a private aerodrome in Spain in which an aircraft suffered serious damage.

In the **Tenerife Sur** airport we provide AENA with technical assistance services for construction management and control and monitoring of general upgrading of the parking apron

DRAFTING OF THE EXPERT REPORT ON THE ACCESS ROAD TO THE RUNWAY OF A SPANISH AIRPORT

We drew up the expert report for the inquiry into an incident at a private aerodrome in Spain in which an aircraft suffered serious damage. Defects in the pavement of an access lane were possibly involved.

After a field campaign we identified the structure and load-bearing capacity of the pavement and the airport PCN. In addition to the structural validity study we performed an in-depth study of the activity log of the access lane and of the accident itself.



REPLACEMENT OF THE CONTROL SYSTEMS AND EQUIPMENT OF THE LONG-STAY PARKING FACILITIES P1, P2 AND P3 OF THE EL PRAT-BARCELONA AIRPORT



We won the contract for the engineering tasks required for execution of the works for "Changing the parking system equipment in the long-stay P1, P2 and P3 parking facilities" for the El Prat-Barcelona airport. In the first phase we provide the technical assistance for drafting the designs including the required preliminary documents and the detailed design that defines the work packages on which the bidding will be based. Once the works contract has been awarded we will begin the technical assistance for construction management and control and monitoring of the works themselves.

The El Prat-Barcelona airport uses two parking control systems, Meipark and Parkare. The use of two systems complicates control and management of the facilities which, together with the age of some of the units, urges renovation and unification of the same. The result will be centralised management of all the airport's parking facilities regardless of how they are used or where they are located.

SITE DEVELOPMENT OF THE FORMER SUBCONTRACTORS' ZONE OF THE BARAJAS PLAN OF THE ADOLFO SUAREZ MADRID- BARAJAS AIRPORT FOR AENA

The project consists of converting the lot that housed the subcontractors that supported AENA in the construction works for the Barajas Plan. The aim is to condition the lot to accommodate subcontractors' sheds once again, thus recovering an area that is practically deserted at present.

Eptisa is responsible for the works execution engineering. The tasks are divided into two phases: In the first phase we provide the technical assistance for drafting the designs including the required preliminary documents and the detailed design that defines the work packages on which the bidding will be based. Once the works have been awarded we will begin the technical assistance, control and monitoring of the same.

Due to our know-how in the sector we carried out several works on **airports** all over Spain.

In the **Adolfo Suárez Madrid – Barajas** airport we are performing three technical assistances, control and monitoring of works. One is for rehabilitation of the pavement and facilities of the **P1 parking** building in which we provide services for monitoring and supervision of the execution of facilities including structures, embankments, land clearance and backfill. It also includes prevention of interference by these works with the airport's operational, environmental, safety and health coordination functions and supervision of delivery of the final works documentation.

Site development of the former subcontractors' **zone of the Barajas Plan** to condition the lot to accommodate subcontractors' sheds once more is another of our projects. The works are divided into two phases, the technical assistance for drafting of the design and, once the works have been awarded, the technical assistance, control and monitoring.

Lastly, at Madrid Airport we also provide the services for rehabilitation of the **Rent a Car P1** parking facility. The works involve upgrading the facility to enable its surface area to be used by the Airport and adapt it to the new technologies and requirements.

In **Fuerteventura**, we performed the technical assistance for drafting the design and for management, control and monitoring of the works in two jobs: adaptation of the airport's platform to improve the pavement of the parking apron and screeding and levelling of the runway. This job was carried out in consortium with GOC.

We performed the same tasks for replacement of the control systems and equipment of the long-

In the **Adolfo Suárez Madrid – Barajas** airport we are performing three technical assistances, control and monitoring of works





WATER AND THE ENVIRONMENT

Over the years we have proven our capacity in this sector due to the numerous projects we have executed in which we demonstrate the quality of our work, always delivering the projects within the established deadlines

In **hydraulic infrastructures** we finished the technical assistance services to project management for works control and supervision, coordination of safety and health and environmental control and supervision of the works for supply of the central zone of the mining basins from the Las Parras dam in the municipalities of Escucha, Martín del Río, Montalbán and Utrillas.



At the Negratín dam in Granada we completed the technical assistance for construction management, quality control and safety and health of the works for the consolidation of the left abutment, rehabilitation of the gallery on the left bank and sealing of a fissure on the right bank.

We performed **auscultation and monitoring tasks on dams and reservoirs**: on the Almendra and Aldeadávila dams for Iberdrola, on the Ebro - Pyrenees and northwest hydraulic production units for Endesa Generación and on the Paso Nuevo and Canfranc dams for Acciona. We also continue to implement maintenance of the automated auscultation systems of 19 dams and one canal for Gas Natural Fenosa.

In **sanitation infrastructure** field we continue with the design and construction works of the collectors for the discharge group from the urban centre of Uleila del Campo in Almería to the new WWTP in which we perform works management, control and monitoring, works supervision and health and safety coordination.

We continue to widen our experience in **water treatment plant** facilities. In 2016 we executed projects that covered the entire water treatment sequence from concept design, through the process, detailed engineering, construction, fitting out to commissioning.

We were awarded a contract for design and construction of the collectors and WWTP for the town of **Logrosán** in Cáceres to cover the needs of 3,000 people.

We continue working for the regional water operator Canal Isabel II on design and construction of extension and upgrading of the **Arroyo del Soto WWTP**. This year we drew up the construction design on the basis of the project tender in accordance with the design criteria and tender documentation.

We finished construction of six wastewater treatment plants for ACUAES in the province of **Segovia** that will provide service to villages with population equivalents of between 1,000 and 1,500. These are **sustainable plants** endowed with processes that require minimal labour and maintenance, efficient operation in spite of seasonal variations of flow and load, low energy expenditure and excellent integration with the environment. The two-year operating period has now begun. During this time we will conduct a study of the efficiency and proper operation of these plants for implementation in other rural towns.

In **Burgos** we finished the consultancy and technical assistance services for drafting the technical specifications, support for assessment of tenders submitted for the works contract, drafting of the

construction design and expropriation tasks and supervision and control of the works for the extension of the Wastewater Treatment Plant.

We have executed the service for monitoring of the **Júcar catchment hydrological plan** for the Júcar River Basin Authority as set forth in RD 907/2007.

In April we finished adapting the national **flood prone areas** system for review and integration of the Areas with Significant Tidal Flooding Potential (ARPSI) in the western Cantabria hydrographic zone.

We were also involved in projects related to the **industrial environment**. In **Andalusia** we continue to work on closing the phosphogypsum reservoirs for Fertiberia in the Río Tinto swamps in Huelva that occupy an area of approximately 720 hectares caused by manufacture of phosphoric acid in the area.

In **Galicia** we finished environmental control and supervision of the Areosa landfill, of the urban waste transfer plants of Sogama and partially finished those of the Cerceda Environmental Complex.

In Andalusia we continue to work on closing the phosphogypsum reservoirs for Fertiberia in the Río Tinto swamps in Huelva

DESIGN AND CONSTRUCTION WORKS FOR THE ARROYO DEL SOTO WWTP IN MADRID



We are developing the design and construction of an extension to the Arroyo del Soto WWTP and upgrading the same for Canal Isabel II in the satellite town of Mostoles, Madrid. The plant, with a flow of 35,000 m³/day, is being retrofitted to comply with Directive 91/271/EEC with special reference to nutrient removal and will continue to operate during the works.

The process of active sludge at half load is being maintained while the existing treatment plant is being fitted out for Biological Nutrient Removal, a process that eliminates nitrogen in accordance with the regulations. The new line will be fitted with a sludge thickener using the dissolved air flotation and digestion systems. Furthermore, the water line

will consist of screening, intake, roughing canals, de-sanding and de-greasing, primary decanting, biological treatment, chemical phosphorus removal, dosing and storage of methanol and molasses and secondary decanting.

In order to comply with the standard without stopping filtering, a detailed analysis of each construction phase was carried out taking not only the constructive procedures into account but also that the facility had to keep operating hydraulically and functionally to meet the discharge parameters.

DESIGN AND CONSTRUCTION WORKS FOR GROUPING DISCHARGES AND WWTP IN ULEILA DEL CAMPO IN ALMERÍA

The project consists of executing a network of collectors to bring the wastewater of Uleila del Campo and its industrial estate together in one place. The wastewater is transferred to a new treatment plant built outside the urban centre.

The services awarded to Eptisa include construction management, control and monitoring, works supervision and health and safety coordination.

The discharge grouping is designed with 315 mm-diameter PVC piping. Two of the three planned collectors run under the course of the El Cañal and La Fuentecilla stream beds and the third, that originates in the industrial estate, under a road for more than two kilometres. The collector network and the treatment plant itself were created taking the growth forecasts to 2031 and seasonal variations into account since the population can reach 2,600 inhabitants during the summer months.



EXTENSION OF THE BURGOS WASTEWATER TREATMENT PLANT

This project involves extension of the WWTP to raise the treatment capacity to 156,000 m³/day with nutrient removal and tertiary treatment plus 600 m³/day of irrigation-grade water flow, remodelling and extension of the existing sludge treatment line, the measures required to upgrade existing water treatment lines and commissioning and operation of the facilities for a period of 12 months. The purpose of the extension is to provide service to the increasing demand of the surrounding towns and new industrial activities of the area.

Before the beginning of works, we carried out consultancy and technical assistance services for management of drafting the detailed design, preparing the technical specifications and evaluation of the tenders submitted for the works contract.

Once the works began we addressed the expropriation, works control and monitoring tasks. Lastly, we undertook commissioning and test period.



MONITORING OF THE JÚCAR BASIN HYDROLOGICAL PLAN

We were awarded a contract by the Júcar River Basin Authority to monitor its Hydrological Plan with which it intends to comply with the Hydrological Planning Regulation.

Eptisa provides assistance on various fronts in this project:

- Characterisation of changes in the water resources and their quality
- Analysis of the variation in the uses and demand for water
- Monitoring of the flow and degree of compliance with the ecological flow regime
- Monitoring of the condition of surface water bodies
- Progress in application of the measures programme
- Updating the Protected Area Records
- Analysis of the cost of water services and its impact on users
- Analysis of temporary deterioration



Our role also includes drafting the Annual Monitoring Reports for the 2015/16 and 2016/17 hydrological years which will inform the Water Board of the catchment area and the Ministry of the Environment on the progress of the Plan.



CONSTRUCTION DESIGN FOR CLOSURE OF THE PHOSPHOGYPSUM PONDS OF THE FERTIBERIA PRODUCTION CENTRE IN HUELVA

We continue work towards closure of 720 hectares of Fertiberia phosphogypsum ponds in Huelva and have carried out a series of field studies from the hydro-geological, dynamic stability, karstification potential and human health and ecosystem environmental risk points of view.

The project includes:

- Construction design of the retained acid waters removal system
- Movement of gypsum for road formation and slope reduction
- Execution of internal water drainage infrastructures by means of capture trenches and evacuation onto slopes, intermediate berms and at the foot of slopes
- Sealing the surface of tailing mounds by means of various natural and synthetic materials
- Execution of the drainage infrastructure for evacuation of rainwater
- Replanting and landscaping
- Installation of a system for monitoring the ponds both during the works and in the post-closure period and geotechnical monitoring of the same
- Design of a series of additional infrastructures such as sealing technical boreholes that enable the hydraulic connection, sealing tidal channels, rip-rap tsunami protection, perimeter drainage and a drainage control network

The plan has been drawn up in accordance with the Environmental Monitoring Plan.



INDUSTRY, ENERGY AND BUILDING

Here at Eptisa we are committed to renewable energy. Therefore we take part in various wind and biomass projects and for some of them have provided solutions created by our team for optimisation of facilities and infrastructures. And in the building sector, we have adapted our engineering and architectural services to the integrated management of construction and urban development projects

In the **wind power** sector in recent years we have developed SAYTL_{Dynamic}, a preventive system for intensive and continuous control of wind turbine pathologies from the project phase to O&M by means of continuous data acquisition equipment and web-based SCADA for display, management and alarms. We also continue to conduct research and development into problems with the foundations of the wind turbines.

We also worked on **Los Ausines Wind Farm** in Carcedo de Burgos (Burgos), conducting the quality control of civil works for implementation of 15 wind turbines and site development of the access platform to the area.

We finished the technical assistance services for civil works and electromechanical assembly to install the selective catalytic reduction (SCR) systems in the **biomass plants** of Energías de La Loma in Villanueva del Arzobispo (Jaén), and Energías de La Mancha Eneman in Villarta de San Juan (Ciudad Real). This project was executed for ENEL Green Power.

We are executing the second phase of the turnkey project for installation of the intermediate silo fly ash wetting and extraction structure for transport to a non-hazardous waste landfill at the **Puentes de García Rodríguez thermal power station** in the province of A Coruña. These works were ordered by Endesa and also include installation of wheel washer units for trucks in the landfill.

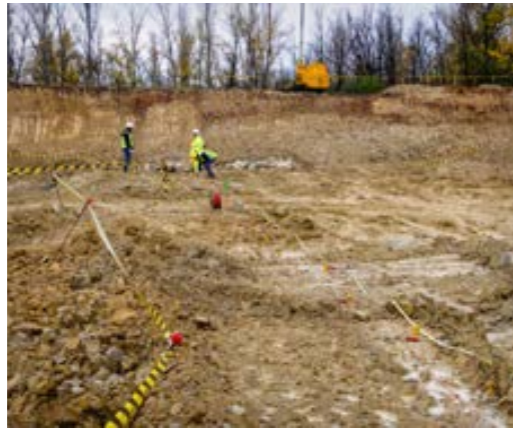
For ENRESA we drew up the detailed engineering project for closure of Section I and construction of section II of cell 29 of the **El Cabril Storage Centre** (Córdoba) for the disposal of very low level waste. We were awarded the technical assistance during the construction of this site which is expected to last around 16 months.

As a member of a consortium we are carrying out geological characterization of the future site of the **Centralized Temporary Storage in Villar de Cañas** (Cuenca) for the same client. Our responsibility focuses on supervision of the field operations and analysis of the results obtained after compiling

We conduct studies and geological maps, prospecting campaigns and supervision of field operations to place several Individualized and Centralized Temporary Storages in Spain

the parameters and their correlation with the data obtained from previous campaigns.

We carried out a geophysical prospecting campaign in the area intended for the Individualised Temporary Storage (ITS) of the **Santa María de Garoña Nuclear Power Plant** (Burgos). The project, drawn up for the company Centrales Nucleares del Norte, S. A. (NUCLENOR), includes construction of a perimeter wall that surrounds two reinforced concrete slabs between which the cylindrical containers of spent fuel will be deposited.



For Iberdrola we are working on the project for seismic mapping of sites of the Spanish Nuclear Power Plants

Iberdrola Ingeniería y Construcción entrusted us with prior compilation of existing geological information and preparation of the geological and geomorphologic cartography for seismic mapping of sites of the **Spanish Nuclear Power Plants**. The work consisted of gathering information at the regional and near-regional scales with digital terrain models, LiDas, satellite imagery, aerial photographs, earthquake focal mechanisms and in situ stress measurement data.

In **Albuixech**, Valencia, a food **industry** group has entrusted us with remodelling its head and branch offices, 3,000 m² of factory extension, a new freezing chamber and implementation of a new CPD to provide global service to the company.

We conducted quality control of materials during execution of the factory building and site development of various lots in the Sestao Bai industrial estate in **Bizkaia**.

The Ministry of Industry of the regional government of **Castile and León** awarded us the contract to provide technical assistance to the Mines Service on the technical aspects for control and inspection of **mine reservoirs and tailing dumps** under the provisions of Royal Decree 975/2009 of June, 12.

LOS AUSINES WIND FARM IN CARCEDO DE BURGOS IN BURGOS

We were entrusted with the quality control of civil works for execution of 15 wind turbines and site development of the access platform to Los Ausines Wind Farm in Carcedo de Burgos (Burgos). The quality control focussed on testing concrete and steel and verification of the soil compaction (in-situ density and plate load tests) in order to check the quality of the materials and their use on the worksite.



We carry out the quality control of civil works for execution of 15 wind turbines



SERVICES FOR DYNAMIC GEOTECHNICAL CHARACTERISATION OF THE CENTRALISED TEMPORARY STORAGE SITE OF VILLAR DE CAÑAS IN CUENCA

Eptisa, as a partner in consortium with AGS and Sondeos Peñarroya, was awarded the services contract for dynamic geotechnical characterisation of the Centralised Temporary Storage (CTS) of Villar de Cañas in Cuenca, commissioned by ENRESA (National Radioactive Waste Corporation). The aim of the project was to obtain the static and dynamic parameters of the terrain required for drafting up the terrain-structure analysis and proper modelling of the CTS buildings foundation.

Following the requirements of the American nuclear regulations, a series of geotechnical probes and geophysical prospecting at depths of up to 200 metres were carried out. Hydro-geological research bores were also drilled with their associated lithological, geophysical and hydraulic sampling and geothermal tests were performed to obtain the electrical resistivity, temperature and thermal conductivity of the terrain.

Our responsibility focussed on supervision of the field operations and analysis of the results obtained after compiling the static and dynamic geotechnical parameters and their correlation with the data obtained from previous campaigns.

A series of geotechnical probes and geophysical prospecting at depths of up to 200 metres were carried out for the characterisation



We continue with the closure of 720 hectares of Fertiheria's **phosphogypsum ponds** in the Río Tinto swamps in **Huelva** and have carried out a series of field studies.

In the **building** sector we drew up the executive design for the mechanical and electrical facilities and construction management of works for remodelling the facilities of a museum for a international sporting entity. With 475 m², the new **museum** will be focused on television broadcast of sporting events.

By midyear we had finished the upgrade and reform project of the **former Lazkao electric power station** to devote the building to the rolling stock offices of CAF, the railway company. This rehabilitation has succeeded in highlighting the merits of the building, an authentic example of mid-twentieth century Gipuzkoa industrial architecture, and in adapting its internal morphology to contemporary uses. Eptisa has clearly met this architectonic transformation challenge.

We began construction of a **54-dwelling residential block** with a built area of 5,260 m² in **Portugalete** (Bizkaia). We were in charge of the technical management of the development including drafting of the construction design and works construction management.

In **Barcelona** we provided technical assistance services to the public corporation Barcelona de

Infraestructuras Municipales (BIMSA) for various infrastructure and **urban furnishing** activities in the city.

We continue to provide **integrated management and supervision assistance** for the SAREB banking group, an activity we have been performing since 2013. Eptisa compiles all the available technical and administrative





information on the company's assets, analyses the current projects and executed works to finish with an economic viability and sensitivity analysis of the development. With respect to execution, we initiate renewal of permits, take care of official formalities and select and recruit all personnel required for the project including architectural teams, safety officers, quality control laboratories and construction companies. Finally, we do the monitoring and coordination of the development until the residences are handed over to their new owners.

The municipal corporation **Bilbao** Kirolak awarded us the contract for construction management for the upgrade works on the **Astxanda Sports Centre** to implement the design also drawn up by Eptisa. The works were completed at the end of the year. We also opened the 7-a-side football field in the **sports facilities of Mallona**, having drawn up the design and conducted construction management of the works.

TURNKEY PROJECT FOR INSTALLATION OF A FLY ASH WETTING AND EXTRACTION SYSTEM FOR THE PUENTES DE GARCÍA RODRÍGUEZ THERMAL POWER PLANT IN A CORUÑA

Within the framework of the upgrading of thermal power plants in compliance with the Industrial Emissions Directive, we are executing the turnkey project for installation of the intermediate silo fly ash wetting and extraction structure for transport to a non-hazardous waste landfill at the Puentes de García Rodríguez Thermal Power Plant managed by Endesa in A Coruña province. The project also includes wheel-washers for trucks at the landfill site.

We have already installed the first fly-ash wetting line that enables extraction by both the dry and wet methods. With respect to civil works, we have executed the new structure connected to the existing system in the silo to support two new wetting systems and the roadways and pavements have been upgraded to enable manoeuvres and transit of heavy vehicles. New junctions and connections have also been added to the plant's sanitation system.

As for mechanical facilities, we have designed and installed a wetting system and the required connections on the discharge side of the existing silo that enables dump trucks to deposit their load under the silo while keeping the dry mode outlet operative.

We have also installed a new wheel-washing system at the non-hazardous waste landfill, a new electric power supply for the wetting system and the wheel-washer and a wetting control system integrated with the power plant's general operating program.



TECHNICAL MANAGEMENT OF A HOUSING DEVELOPMENT IN PORTUGALETE, BIZKAIA

We were in charge of the technical management including drafting of the detailed design and construction management of a 54-dwelling residential development with garages in Portugalete with a total built area of 5,260 m² and a budget of € 4,329,000.

In 2016 we started constructing the block 12 with 54 apartments. This is included in the City Council's General Urban Planning within the framework of which a total of 100 government-subsidised dwellings and 313 open market properties have already been finished and only two blocks remain to conclude the project.



EXTENSION OF THE TECHNICAL OFFICE BUILDING FOR CAF IN BEASAIN, GIPUZKOA

In November 2016 we finished drawing up the design of a new office building for the railway rolling stock manufacturer CAF in Beasain (Gipuzkoa). With a built area of 4,600 m² it will house the extension of the R&D technical offices.

The building consists of a ground floor with shared classrooms and meeting room and five upper floors of open office space for administrative purposes.

The open facades are designed as curtain walls with anti-reflective etched glazing in order to obtain a higher shade factor and a more matte finish that keeps reflection to a minimum. The opaque facades are fitted with a metallic exterior cladding in extruded aluminium sheet or aluminium-based composite to lighten the effect of the large volume of the building.



TECHNICAL ASSISTANCE TO THE WORKS OF BIMSA'S INFRASTRUCTURE DEPARTMENT IN BARCELONA

Eptisa provides assistance to the infrastructure department of BIMSA, the public corporation of Barcelona to carry out temporal, economic and qualitative monitoring tasks that include coordination between the constructor, construction management, service companies, the public area managers of the Barcelona City Council, the Department of Mobility and the Local Police.

We are also responsible for updating the GestBimsa databases and upgrading and monitoring data in the other BIMSA sections.

Some of the works we monitored in 2016 included the roof of the Sants station, site development of the Lesseps - Escorial section of the Mig ring road, Mühlberg and Pedraforca streets, the groundwater connection for the Sants railway corridor, adaptation and upgrading of 41 children's playgrounds and the bicycle lanes on Travessera de Gràcia, Marina and Cartagena streets.





INFORMATION, MONITORING AND CONTROL TECHNOLOGIES

We provide innovative, global, integrated IT solutions backed by our long and successful track record. By uniting our expertise in the information technology with monitoring, telemetry and infrastructure control, we provide services that cover all phases of engineering projects

In the **water** sector we work in the Interactive Cartographic Viewer VYCARIO of the Canal de Isabel II, a mapviewer that integrates the corporate applications required to review geographic data. It is a responsive system, which means that it can be viewed in web format on mobile phones, computers and tablets, thus enabling display, print-out, data export and advanced analysis such as the cut-off polygon.

We apply new technologies in the auscultation and monitoring of **dams**, an area in which we have executed numerous projects.

Iberdrola has awarded us a contract to improve the auscultation systems of the **Almendra** and **Aldeadávila** dams in order to improve control over the behaviour of the infrastructures.

We signed two contracts with Acciona Energía to improve the Paso Nuevo and Canfranc dam auscultation systems in the province of **Huesca**.

In 2016 we renewed the contract for auscultation of a total of 30 dams in the **Ebro-Pyrenees** Hydraulic Production Unit for Endesa Generación. We have

been executing this project since 2010, incorporating integrated management of the automated auscultation systems.

We are now beginning to perform the same tasks for this company on a total of 40 dams in the Ebro-Pyrenees and Northwest Hydraulic Production Units.

AUTOMATION AND MONITORING OF THE NEW DAM AUSCULTATION SYSTEM OF THE EBRO-PYRENEES AND NORTHWEST HYDRAULIC PRODUCTION UNITS

Endesa Generación awarded Eptisa this work on a total of 40 of its dams. The contract, under which we are upgrading and modernising the auscultation systems of the dams and enhancing control of their structural behaviour, has a term of three years.

The scope of each intervention per dam consists of drafting the installation project, replacing or modifying the sensors that comprise the instrumentation system, implementing the distributed periphery-based fieldbus, the secure power system, the fibre optic communication system and testing and commissioning of the facility.



The contract includes upgrading and modernising the auscultation systems of 40 dams and enhancing control of their structural behaviour



STREET MAP SYSTEM FOR TELEPIZZA

For a good part of the year we were working for Telepizza to define a new street guide system and on the creation of the guidelines and procedures required for standardisation of the new system's data model. As a result of this work we developed a data normalisation and georeferencing system that feeds the data model of the company's new corporate street guide. We also created a master database of the street guides of Spain, Portugal and the United Kingdom to optimise the system and avoid having to normalise postal addresses periodically.

Due to its international expansion, Telepizza has entrusted Eptisa with implementation of this system during 2017 in all the countries where it has a presence.

Gas Natural Fenosa awarded Eptisa a five-year contract to perform preventive and corrective maintenance of the automated auscultation systems of 19 operating dams and one canal located in the provinces of Ourense, Lugo, Pontevedra, A Coruña, Guadalajara, Toledo and Segovia. Control is performed automatically by harvesting information from nearly 600 sensors.

Furthermore, we continue to work on development and application of the portable test dynamic acquisition system for control of the foundations of **wind turbines**. This is a proprietary system with which we can foresee and verify the damage that appears with certain frequency in these facilities.

In the **transport** sector we continue to work for ADIF on the slope and embankment auscultation plan of the railway network and in slip control on the slopes of the highway network for the Gipuzkoa Provincial Council.

We were working for Telepizza throughout the year to define a new **street guide system** and on the creation of the guidelines and procedures required for standardisation of the new system's data model. The aim is to upgrade the infrastructures to current technologies, the available information and the functional capacity required by the international expansion of the company.

We provide technical assistance for database control and review system of **Spanish Land Cover and Land Use Information System 2014 (SIOSE)** and the study for integration of the same and convergence

with the Reference Geographic Information and other national systems.

We created and started up the corporate GIS for the Insurance Compensation Consortium, a system that enables assisted and **automatic georeferencing** of the claims files for incidents such as earthquakes or storms.

We provide solutions with **mapping technologies based on GPS and mobility** on state-of-the-art mobile devices designed for use in extreme working conditions for representation and management of accurately geo-positioned features in the geographic information system. These services are oriented to the utility, renewable energy, defence, security and emergency response, agricultural, forestry and environmental protection sectors.

We are working on two projects in the **defence and security** sector. One of these is the Multinational Geospatial Co-production Program (MGCP) which, with the collaboration of the collaborating countries, aims to achieve a database of high-resolution digital vector cartography of regions that currently lack them based on current, high-precision satellite images. It is coordinated by the United States National Geospatial - Intelligence Agency (NGA).

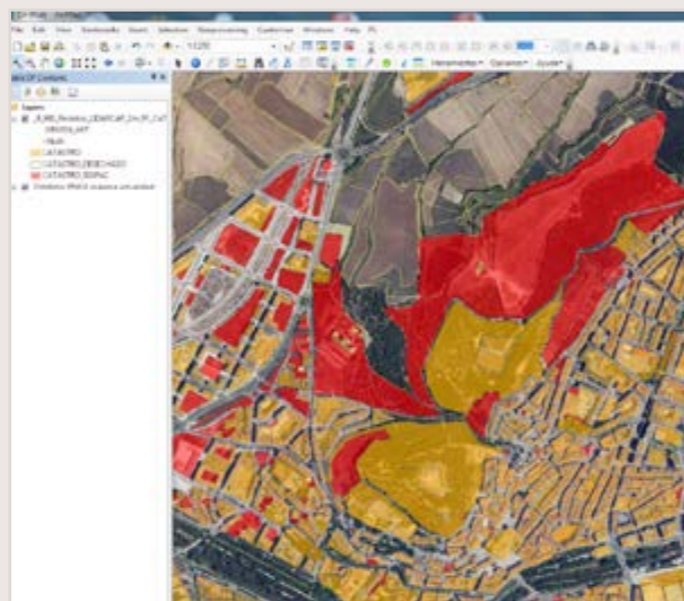
The other was the development and production start-up of a **GIS viewer** for the Ministry of Defence that enables the worldwide vectorized and validated cartography to be downloaded. This project was executed in conjunction with Ingeniería de Sistemas para la Defensa de España (ISDEFE) of the Spanish Ministry of Defence.

We provide solutions with mapping technologies based on GPS and mobility on state-of-the-art mobile devices designed for use in extreme working conditions

QUALITY CONTROL OF SIOSE DATABASES FOR THE NATIONAL GEOGRAPHIC INSTITUTE

Our mission in this project was to provide technical service for database control and review system of the 2014 SIOSE (Spanish Land Cover and Land Use Information System 2014) and study for integration of the same and convergence with the Reference Geographic Information and other national systems. Both the general aspects and geometric and semantic data were reviewed in each of the selected autonomous communities.

The objective of the technical management with respect to the study of integration and convergence with the National Geographic Institute and other national systems was development of a methodology for production of high resolution SIOSE consisting of several steps in which other national systems were being integrated, such as the fixed photo of the forest map of Spain, the urban cadastre and the LIDAR scan. Throughout the project we have performed review and validation tasks of the results obtained during the various stages. We have also developed a tool for purging the sliver polygons that arise from spatial overlay of different GIS layers.

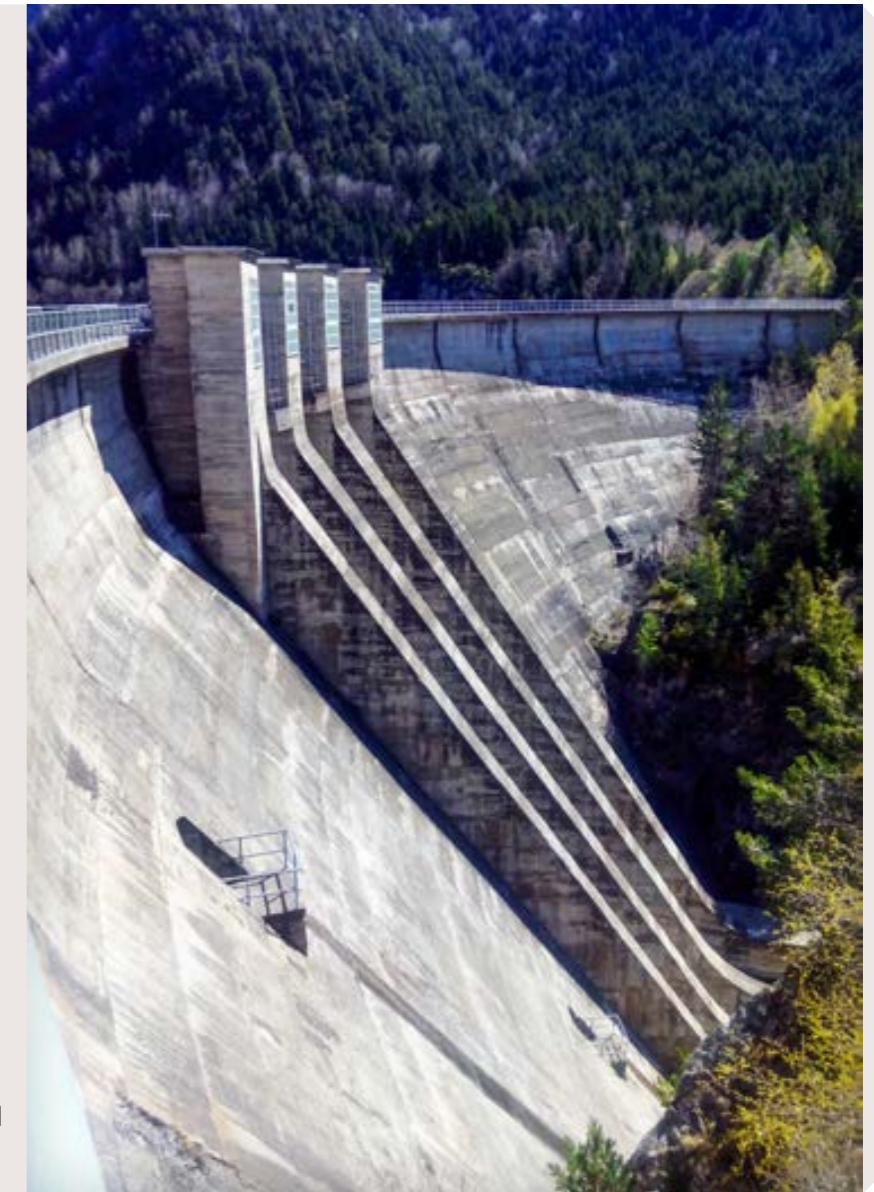


IMPROVEMENT OF THE PASO NUEVO AND CANFRANC DAMS AUSCULTATION SYSTEMS IN HUESCA

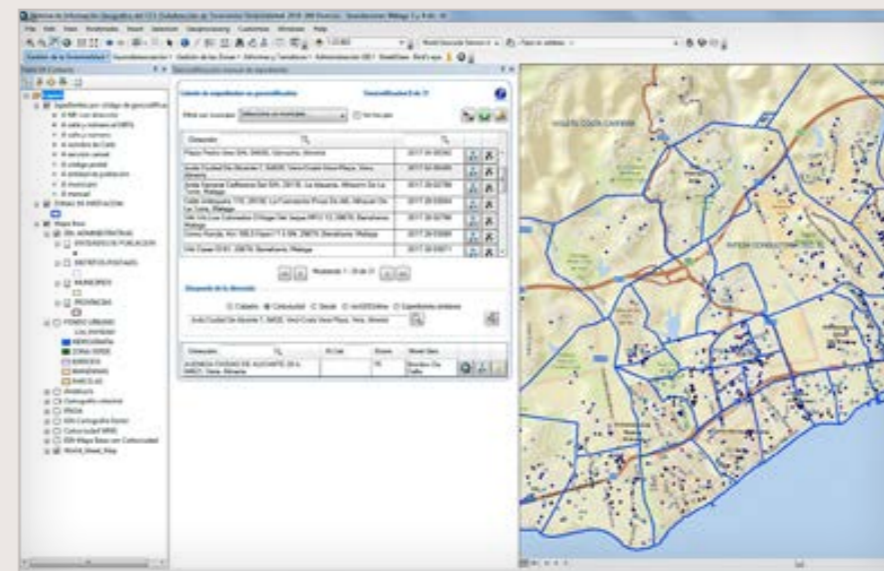
Acciona Energía commissioned this project which, in the case of the Paso Nuevo dam, consisted of automation of the pendulum system by upgrading and modernisation of these instruments, essential for the operability of the auscultation system in concrete dams. The scope of the works consisted of relocating the plachets for manual control and installation of automated remote control pendulums.

In the first phase of the Canfranc dam project we inspected the 65 sensors that comprise the instrumentation system and replaced inoperative devices. Subsequently, we programmed the programmable logic controller (PLC) and start-up and validated the automated control system including verification of the communications between the PLC in the dam and the Control Centre in Pamplona. We also submitted the final documentation of the work carried out.

We automated the pendulum system in the Paso Nuevo dam and reviewed 65 sensors in the Canfranc facility in addition to starting up and validating the automated control system



CREATION OF THE CORPORATE GIS OF THE INSURANCE COMPENSATION CONSORTIUM



We created a system that enables automatic and assisted georeferencing of the claims files for incidents such as earthquakes or storms for the Insurance Compensation Consortium. The Consortium can now georeference almost 100% of thousands of files accurately, thus achieving a better organisation of their appraisal jobs and providing much shorter response times to their clients.

The system also enables coordination between appraisal teams, which substantially improves efficiency and minimises the number of conflicts between teams and the subsequent analysis of incidents, thus enabling better fraud or error detection and providing lessons for more efficient future treatment of claims.



EUROPE

Eptisa implemented dozens of projects in the majority of the engineering sectors throughout Europe in 2016. Every year we strengthen our position in the infrastructure and development programme markets in Europe with a tenacity and dedication of which we are justly proud



UNITED KINGDOM

The project includes the design of the reinforced concrete Astmoor & Bridgewater viaduct and technical support for the construction

Eptisa is performing part of the design of the **Mersey Gateway** project in conjunction with COWI, Aecom and Fhecor for construction of a new viaduct on the outskirts of Liverpool. This toll bridge over the Mersey River includes the main access roads to the Borough of Halton.

The infrastructure consists of a **cable-stayed bridge** with three towers 80, 110 and 125 metres high with a length over the water of 1,000 m. It will be accessed by large viaducts with a total length of 1,130 m that will improve regional transport and relieve the traffic on the congested Silver Jubilee Bridge and at

the access and exit points to and from the eastern side of Liverpool. The project also entails a number of changes and improvements to the existing road network between Widnes and Runcorn.

Eptisa's part in the project includes the design of the 625 metre-long reinforced concrete Astmoor & Bridgewater viaduct and its 255 metre and 140 metre-long approaches, various types of retaining wall and the geotechnical and drainage studies for the entire project including the main bridge. We are also responsible for technical support for the construction.

IRELAND

We have been contracted as inspectors of the minor structures and geotechnical design of the **New Ross bypass PPP project on the N25** that consists of a 14 km-long dual carriageway with new sections of both the N25 and N30 National Primary Routes. The infrastructure begins at a roundabout

with the existing N25 at Glenmore before crossing the Barrow River on a three tower extrados bridge extending 900 m from Pink Point to Stokestown where it joins the N30 at Corcorans Cross. We are also Category III checker for the aforesaid Barrow Bridge.



SCOTLAND

The construction company Dragados and the British engineering firm ARUP have commissioned us to design the **pavement** of a new **seaport** in the city of Aberdeen through which a great deal of the crude oil from the North Sea arrives in the country.

Eptisa has designed an innovative, highly efficient solution consisting of 120,000 m² of rigid paving for the port based on various analytical, experimental and finite element modelling methods. The singularity of this type of infrastructure is worth noting as it will have to withstand heavy machinery capable of transporting loads of up to 50 tons and weights per axle of around 10 times road standards, mobile cranes with load capacity of up to 100 tons



or heavy cranes weighing 1,500 tons with load capacities of 350 tons and radius of 30 metres. A real engineering challenge.

GREECE

The Ministry of Economy and Development of the Hellenic Republic has contracted us as a **Specialised Consultant for Quality Control**. This is one of the most important consulting contracts in the European Union and involves comprehensive auditing and inspection of all the country's infrastructure projects co-financed with EU funds in the 2014-2020 period.

The total budget for the contract, under which more than 4,000 projects will be inspected, is € 16 million. The works include auditing tendering procedures, contractual documents, construction works, designs, quantities, certifications and inspection and laboratory testing of materials. To perform these tasks we have set up our own independent laboratory certified under the ISO 17025 standard. Eptisa already performed this work between 2008 and 2015 with outstanding success, earning the recognition of both the Greek and European authorities.



The total budget for the contract, under which more than 4,000 projects will be inspected, is € 16 million and its implementation will last 6 years





THE BALKANS

We have a wide and significant presence in this region, which is why we have permanent offices in Macedonia, Croatia, Serbia, Bosnia and Herzegovina, Montenegro and Albania and numerous project offices in other countries. In the last 11 years we have signed more than 140 contracts in the Balkans.

We are currently working on energy, environmental, water, transport and socio-economic development projects, all of which give us great satisfaction and help us to face our future in the region with optimism.

During the time we have operated in the region we have participated in major projects in all possible consultancy and engineering niches: transport infrastructures, environmental management, building and architecture, reform of public administrations, development of information systems, integrated water resources management, support for implementation of grant schemes in the social sectors, energy efficiency and renewable energy. These objective data place our work and the Eptisa brand in a very favourable position in the area.

ALBANIA

We consolidate our position in Albania day by day. Our technical personnel are currently working on various projects in different sectors in the country.

In the **water** sector, in 2016 we were awarded a contract for construction supervision of a wastewater



treatment plant for the Gramsh municipality and Pishaj Commune with the aim of improving the health and environmental conditions of the areas by providing a sustainable sewerage system.

Eptisa continues to supervise the construction of a sewerage system and a wastewater treatment plant in the Velipoja area.

In the **transport** field we are still working on the supervision project for upgrading of 150 kilometres of secondary and local roads throughout Albania.

We continue to provide technical support to the Albanian Road Authority for procurement and construction of bypass roads in Fier and Vlore, providing consultancy on project implementation and contract management, training for managers and assisting in the preparation of future investment in roads. The Albanian Road Authority has insisted on extending Eptisa's services due to success of this project.

In the transport field we are still working on the supervision project for upgrading of 150 kilometres of secondary and local roads throughout Albania

CONSTRUCTION SUPERVISION OF A SEWERAGE SYSTEM AND A WWTP IN THE VELIPOJA AREA IN ALBANIA

With the aim of upgrading the wastewater collection and treatment and sewerage in the area, the Government of Albania entrusted Eptisa to provide supervision services for implementation of the works and three supply contracts related to construction of more than 30 kilometres of gravity-fed piping, 1.15 kilometres of main transmission pipeline from the pumping station to the wastewater treatment plant, culverts, house connections and six pumping stations. Our team is also supervising extension of the WWTP to treat a total flow of 465 m³/h and reach the final design flow of 48,300 P.E.

The project seeks to comply with the European standards on disposal of treated wastewater in rivers, lakes and the sea. The supervision services of this new infrastructure are financed by the European Union IPA programme.



BOSNIA AND HERZEGOVINA

The number of projects in which we are engaged in the country continues to grow. We obtained three new contracts in 2016, proof of the excellent brand image resulting from the success of our projects.

In the area of **institutional strengthening** we signed a contract to support the Office of the National IPA Coordinator (NIPAC) in programming IPA II. Funded by the Instrument for Pre-accession Assistance (IPA) to the European Union, the programme seeks to support NIPAC, the SPOs and all other relevant institutions and organisations in Bosnia and Herzegovina at all levels of governance

to comply with the requirements for effective and efficient accession, national programming and use of IPA II funds focussed on the processes of the national programme.

Likewise, we continue to support the Ministry of Human Rights and Refugees to enhance their control capabilities and support social service providers. As a member of a consortium we are working to develop a generic model to assist elderly and disabled people and fostering the creation of two mobile teams that provide assistance to these beneficiaries. Furthermore, we are working



to strengthen the skills of the Ministry and other institutions responsible for collecting data for the protection of human rights in the country.

In the **environmental** field Eptisa has been awarded a contract for the prevention and mitigation of flood risks in the Republika Srpska. The overall objective of the project, financed by the Public Utility Vode Srpske through an EIB loan, is to foster the development and improvement of protection against floods.

We also continue to supervise the programme for the construction and rehabilitation of **water** supply and sanitation infrastructures in several municipalities of the same region. Funded by the European Investment Bank, the plan includes 21 construction works in 19 locations. Eptisa supervises the design, construction, implementation and commissioning of numerous environmental infrastructures.

We have finished the support provided for the transposition and implementation of the European directives related to water and the improvement of water resource management in the Sava River basin. Our work enables the designated authorities to draw up a river basin management plan in line

with the local legislation, the EU *acquis* on the environment and with several highly relevant international conventions and treaties.

We continue to provide supervision services for the design, construction, implementation and commissioning of a new water supply system in the municipality of Capljina. This project is funded by the European Bank for Reconstruction and Development.

We have won another new contract in the **transport** sector. It consists of preparing the preliminary studies and designs for construction of a highway on Route 3 between Sarajevo and Vardiste within the network managed by the South East Europe Transport Observatory (SEETO). The project is funded by the European Union to drive social and economic development in Bosnia and Herzegovina through the improvement of transport infrastructure in line with the priorities of the SEETO Network.

We have finished the supervision of design and construction works of 36.6 kilometres of the Banja Luka - Doboj highway. We were responsible for the Prnjavor - Doboj section and several local and access roads.

CROATIA

Our Croatian subsidiary, which coordinates both the technical and commercial aspects of the business, has achieved a significant position in the country's consulting engineering market. We were awarded two important new contracts this year.

On the one hand, we have been contracted to **strengthen the capacities** of the Ministry of the Environmental and Nature Protection to mitigate the consequences of climate change and prepare the draft of the Climate Change Adaptation Strategy. This important project of national scope is funded by the Instrument for Pre-accession Assistance (IPA) of the European Union.

And on the other hand we won the contract for the "Sisak Water II" project in the **water** sector. The works include preparing the project, design, procurement support and contract supervision to upgrade the water supply system of Sisak. Financed by the EU and the European Bank for Reconstruction and Development, the project is expected to conclude in September 2018.

We are also executing the *Sisak Wastewater Programme - Supervision of Design and Construction* in the same region, the aim of which is to upgrade the sewerage, wastewater treatment and water resource protection infrastructures in Sisak and its surrounding area of Sisacko-Moslavacka County.

The supervision services we provide for the construction, mechanical, technological, electrical and other works of the sewerage system and the WWTP for Čakovec city are still in progress. Once finished, the station will have a capacity of 75,000 P.E.



We are providing technical assistance for implementation of an integrated **flood and drought forecasting** system and a warning system covering the entire Sava river basin.

In the **environmental management** sector we have successfully completed technical assistance for management of the operational environment program of the Instrument for Pre-Accession Assistance (IPA) of the European Union, financed with structural funds.

We continue to work on the supervision programme for the construction works of the state-of-the-art **solid waste** management centre in Marišćina in the County of Primorsko-Goranska to develop an environmentally and financially sustainable management system. It also includes the county waste management centre.

In the environmental field Eptisa has been awarded a contract for the prevention and mitigation of flood risks in the Republika Srpska

SUPPORT THE OFFICE OF THE NATIONAL IPA COORDINATOR IN BOSNIA AND HERZEGOVINA FOR PROGRAMMING IPA II

We were awarded the contract to support the Office of the National IPA Coordinator (NIPAC), the SPOs and all other relevant institutions and stakeholders in Bosnia and Herzegovina to comply the requirements for efficient and effective application of the IPA II funds, above all in the national programmes.

The works entrusted to Eptisa include preparation of the programme documents and capacity-building through various activities aimed at achieving specific results including transfer of technical know-how through specific workshops, internal meetings and study tours.



STRENGTHENING CAPACITIES OF THE MINISTRY OF ENVIRONMENTAL AND NATURE PROTECTION OF CROATIA FOR CLIMATE CHANGE MITIGATION

We continue to execute the works for the Central Finance and Contracting Agency of Croatia to provide climate change mitigation capacity building to the Ministry of the Environment and Nature Protection including the draft copy of the National Climate Change Adaptation Strategy.

Financed by the Instrument for Pre-Accession Assistance (IPA) of the European Union, the project aims to mitigate the consequences of climate change in Croatia by taking the following measures:

- Strengthening the Ministry's capacity to assess vulnerability and the impact of climate change through education and the use of technological tools to develop climatic models and to raise public awareness of the issue.
- Helping the beneficiaries of the project to define vulnerable sectors, assess the impact of the climate change scenarios and prioritise the measures and activities to be taken to mitigate the same.
- Preparing the draft of the National Climate Change Adaptation Strategy and Action Plan until 2040 with a view to 2070.



In the environmental management sector we have successfully completed technical assistance for management of the EU's IPA operational environment program

KOSOVO¹

Eptisa continues to grow in Kosovo, implementing projects that are vital for the country's development.

In the **environmental** sector we have been entrusted with supervision of construction works and supplies for a food industry rendering plant and an administration building. Our team provides technical support to the contracting authority to facilitate completion of the works and the supply contract by supervising the project for a period of 24 months.

We are implementing the *Framework Agreement for the Kosovo Environmental Programme* which involves developing the capacities of the Ministry of Environment and Spatial Planning, the Inter-ministerial Water Council, local governments and other stakeholders in environmental monitoring and management.

In the **water** sector we have successfully completed the feasibility study and preliminary design for the construction of a dam at Leposaviq. The aim of the investment is to improve the social and economic infrastructure and the supply and quality of drinking water to residents of Socanica, Lesak and other settlements in the Leposaviq municipality. In addition to the dam, the project includes construction of around 20 km of supply pipe, a fence, a security booth, an access road and all the works required to make the water supply system fully operational. The project is managed by the European Union office in Kosovo.

In the **energy** field we continue to implement the feasibility study for the environmental measures for the Kosovo B thermal power plant. The project includes a technical, economic, financial and environmental feasibility study for the plant to meet the requirements of the Energy Community Treaty.



We are in charge of supervising the construction works for the infrastructure schemes in northern Kosovo, a 32-month **economic, transport and social infrastructure development** programme. We will provide technical assistance to the Contracting Authority to supervise the works for implementation of three municipal infrastructure schemes in northern Kosovo: reconstruction of the Zubin Potok to Dren regional road, the Zvečan/Zvečan sports centre and construction of a public building in Mitrovica.

We also continue to work on the design of the Municipal Social and Economic Infrastructure (Phase VIII) which seeks to achieve more balanced regional development in Kosovo by increasing the municipal social and economic infrastructure, the quality of life and the economic development potential of the municipalities. The purpose of this contract is to prepare a tendering process dossier of works for extension and upgrading of the current Gjakova municipal building and the tendering process dossier for the construction works of a secondary school in Gracanica.



FRAMEWORK AGREEMENT FOR THE KOSOVO ENVIRONMENTAL PROGRAMME

We continue to implement the Framework Agreement for the Kosovo Environmental Programme financed by the Swedish Embassy through the International Development Cooperation Agency. With a budget of € 3.3 million, the project focuses on developing the capacities of the Ministry of Environment and Spatial Planning, the Inter-ministerial Water Council, local governments and other stakeholders in environmental monitoring and management to enable the country to enact environmental legislation that follows the directives of the European Union.

The programme also supports the Kosovo Environmental Agency to enhance knowledge and protection of biodiversity and management of trans-boundary protected areas. In the water field, it seeks to increase the knowledge of institutions concerning the country's water resources in order to manage them more efficiently and thus protect the environment.

¹ It should be remembered that Eptisa takes a neutral position on the political issues of the western Balkans region and fully supports EU policy. Designation of Kosovo is without prejudice to positions on status or sovereignty and is in line with EU policy.

MACEDONIA²

We have been operating in this country, where we have a permanent office that is currently managing eight projects, for more than a decade.

In the **environmental** field we continue to implement the project to set up an integrated self-sustainable waste management system in the eastern and north-eastern regions of Macedonia.

We are supporting the Republic of Macedonia as a candidate country for accession to the EU through adoption of measures to achieve compliance with EU requirements in the **water** sector by executing significant projects.

Two important projects were presented at the 2016 National Water Conference, which are being implemented by Eptisa. One is the *Development of the National Water Study*, the purpose of which is to protect the environment from the adverse effects of urban wastewater by collection and treatment of the same before discharge, ensuring the drinking water supply and enhancing water management capacity.

The other project, known as *Reform in the system for water supply, collection and treatment at local level*, seeks to comply with the EU directives on water in the capital, Skopje, and in ten other municipalities by reforming the utilities to achieve, in addition to the collection and treatment of wastewater, efficient management of the supply.

A good example of the excellent engineering services provided by Eptisa in the Western Balkans is the supervision of the construction works for rehabilitation and extension of the sewerage network in Prilep (Phase II). This plan will allow 95% of the inhabitants of Prilep to be connected to the sewerage system. It includes supervision of construction of 43 km of new sewer lines, construction of more than 1,200 sewer manholes and around 2,680 connections with the buildings.

In **social development** area we carried out the Fostering Social Entrepreneurship Project that benefits the Ministry of Labour and Social Policy which seeks to boost labour market through inclusiveness through creation of new employment opportunities by driving social and economic initiatives. It is aimed at young people between 15 and 29 years of age. Financed by the EU, its planned execution period is 18 months.

We also continue to work on the local integration programme for refugees, internal displaced persons and minority groups. The project goal is to increase self-reliance through participation and inclusion in society and to enhance the quality of life and access to rights and services for social inclusion of the Roma, Ashkali and Egyptian communities living in the country.

In the **transport** sector we are still executing the supervision and technical assistance to upgrade the



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We continue the works supervision for rehabilitation and extension of the sewerage network in Prilep, which will allow 95% of the inhabitants to be connected to the sewerage system

Kumanovo - Beljakovce section of railway corridor VIII. A 30.8 km-long EBRD-funded infrastructure is intended to drive regional development as part of the European corridor linking the Black Sea in Bulgaria with the Adriatic coast of Albania.

Our supervision of the upgrade of the railway section Bitola-Kremenica, part of trans-European corridor X, is still under way. Eptisa's role as engineer under the FIDIC Red Book on Conditions of Contract involves supervision of the reconstruction works of 17 kilometres of track.

PROJECT TO ESTABLISH AN INTEGRATED SELF-SUSTAINABLE WASTE MANAGEMENT SYSTEM IN THE EASTERN AND NORTH-WESTERN REGIONS OF MACEDONIA

We were awarded a contract in consortium with EPEM S.A. to develop the documents required to establish a regional waste management system in the two regions and procuring works for the related infrastructure.

El contract is financed by European Union funds and consists of several different activities:

- Drafting of feasibility studies to establish an integrated self-sustainable waste management system for the two regions
- Drafting of environmental impact assessment studies based on the feasibility studies
- Drafting of the profitability study for setting up the system.
- Drafting of the detailed designs and cost estimates for each facility for treatment and disposal of selected waste
- Assistance in drawing up volumes 3, 4 and 5 of the tender dossiers for the works contracts of the selected facilities in accordance with the Practical Guide to Contract Procedures for EU External Actions (PRAG) and the relevant FIDIC Conditions of Contract.



During the year we have assessed sixteen different locations to decide the best place for the landfill that will serve the new infrastructures of both regions. Having decided on a location, we continued to work on drafting the feasibility study with the cost/benefit analysis and the environmental impact assessment study.

— MONTENEGRO

We executed our first project in Montenegro in 2003. Since then, Eptisa has come a long way and today we are a nationwide leader in the environment and energy sectors.

In the **sustainable transport** and **energy** sectors we provide technical assistance to the *Developing Sustainable Energy Use* programme to support the Ministries of Economy, Transport and Marine Affairs, Sustainable Development and Tourism and

the National Statistics Office and other stakeholders to develop and implement a regulatory framework to increase the use of sustainable energy in the transport sector. Our role includes drafting of studies and action plans in the crude oil and by-products, district heating and cooling, high-efficiency cogeneration fields and various capacity building and awareness activities. The programme is financed with funds from the EU Instrument for Pre-Accession Assistance.



— SERBIA



The strong growth of our Serbian subsidiary is due to the excellent work carried out by the team. We were awarded five new contracts in 2016 alone.

We are providing the Ministry of Agriculture and **Environmental** Protection with technical assistance for two projects with considerable significance for the country's development. The first is a project known as "*Priority Environmental Infrastructure for Development (PEID)*", funded by the Government of Sweden, which supports the preparation of priority infrastructure projects for financing and implementation in the environmental sector and capacity building for the Ministry and related institutions.

The second is the *Implementation of the Environmental Approximation Strategy (EAS 2)* funded by the European Union and which has three priority objectives:

- To build institutional capacities for implementation of the full content of Chapter 27 of the Acquis
- To draw up the Directive Specific Implementation Plans (DSIPs)
- To organise a multi-annual investment and financing plan for implementation of priority projects in Serbia

In **hydraulic infrastructures** we are responsible for supervising the construction of the EU-funded water supply, wastewater collection and treatment project for the city of Raska. This includes the design and construction works for a 16,500 P.E. WWTP in Rvati according to the Conditions of Contract of the FIDIC Yellow Book.

We are still implementing the **Municipal Infrastructure Support Programme**, a three-phase technical assistance plan with a budget of € 24.5 million that entails a commitment to help Serbia to upgrade its municipal infrastructure services, improve the capacities of local government employees and enhance the standard of living of the inhabitants.

In the **energy** field we were awarded cadastre for small hydro power plants to support implementation of Serbia's Energy Development Strategy in the renewable energy sector by encouraging investment in potential small hydro power plants.

We successfully completed supervision of construction and commissioning of the new wastewater treatment plant in the Nikola Tesla Thermal Power Plant.

In the **socio-economic and public administration reform sectors** we continue to provide technical assistance services for the project to support social inclusion of vulnerable groups, including the Roma, by increasing the diversification of community social services.

Implementation of the "*EU in Serbia Communication Network (EUINFONET)*" service contract continued in 2016 with a wide range of events organised to increase **public awareness of the EU** and an understanding of Serbia's accession process.

We also support the country's authorities by ensuring effective management of the EU pre-accession process through a technical assistance contract.

We have completed the project called *Strengthening Media Freedom* through which we assisted the Government of Serbia and the Ministry of Culture and Information to harmonise the legal framework that governs the sector and strengthen the skills of journalists and other key personnel. We also provided assistance to the EU delegation and the Commissariat for **Refugees and Migration** for implementation and supervision of a € 14.2 million grant programme to provide decent living conditions and to integrate immigrants who decide to remain in Serbia, as well as supporting those who prefer to return to Kosovo.

In the **transport** sector we began supervision of construction of the 1.1 km Predejane and 1.8 km Manajle tunnels in consortium with local company Koridori Srbije. The tunnels are part of the E-75 highway, a branch of Corridor X of the Trans-European Motorway (TEM) that connects the countries of Western Europe with the Balkans.

Construction of the E-80 highway between Prosek and Dimitrovgrad in which we supervise the works of several international contractors continues to make good progress. The 59.6 kilometre-long section includes construction of bridges, tunnels and intersections.

We work for the Ministry of Agriculture and Environmental Protection in the development of environmental infrastructure and the implementation of an environmental approximation strategy

MUNICIPAL INFRASTRUCTURE SUPPORT PROGRAMME IN SERBIA



We are executing the Municipal Infrastructure Support Programme, a technical assistance scheme to help Serbia to improve its municipal infrastructure services, the human capacities of its local governments and the standard of living of its inhabitants.

Various parts of the project were implemented in 2016, which is endowed with a budget of € 24,5 million and a three-phase implementation. In the already completed second phase, eight feasibility studies and a capacity building programme for priority projects in the environmental protection, economic development and tourism sectors were drawn up. We provided supervision services to five EU-funded works contracts and six Financial and Operational Performance Improvement Programmes (FOPIP) were implemented to benefit public service companies.

In the third phase we delivered five feasibility studies for the national pipeline project and provided support to further develop the SLAP information system for the Standing Conference of Towns and Municipalities. We also supervised the following works contracts:

- A wastewater treatment plant in Leskovac
- The regional water supply scheme of Kolubara
- The regional water supply scheme of Morava
- The water and sludge lines for the Communal WWTP of Vrbas-Kula
- A wastewater treatment plant in Sabac

REGIONAL PROJECTS

Eptisa worked on four regional projects implemented in several Balkan countries during 2016.

The **Municipal Infrastructure Development Fund** is an initiative to provide financing to local governments and utility companies for infrastructure investments in the Western Balkan countries. It is financed by the European Bank for Reconstruction and Development and the German bank KfW.

Regional Housing Programme. We are providing technical assistance to Bosnia and Herzegovina, Croatia, Montenegro and Serbia in provision and subsequent implementation of durable housing solutions for refugees and displaced persons following the region's armed conflicts in the 1990s.



Framework Contract for Consultancy Services in the Transport Sector, lots 1, 2 and 4. These lots consist of infrastructure projects in roads, railways and airports. The sub-projects consist mainly of rapid technical, economic, financial, environmental and social assessment interventions for monitoring projects in one or more of the countries where the European Investment Bank, the financing agency, operates.

We finished the support consultancy in the **EU Energy Efficiency Programmes.** As part of a consortium Eptisa provided consulting services in Croatia and Slovenia this year to support financial intermediaries and final beneficiaries during implementation of the energy efficiency programmes.

ROMANIA

Despite a somewhat challenging business environment Eptisa maintains its position in the Romanian market, working on 29 projects with a total budget of more than € 41 million that include the country's key sectors: water supply and wastewater, waste management, urban heating infrastructures and civil construction.

In **water** sector we had a difficult but successful year. We signed two new major integrated service contracts to develop the required documents to obtain co-financing from the European Union during the 2014-2020 programming period for water and sanitation infrastructure works in the Prahova and Iasi Counties. In addition to support throughout the tendering process, both contracts involve project management and supervision of works during implementation.

The regional operator in Dolj County awarded us a technical assistance contract for works supervision, contract management and reporting during the defect notification period in the extension of EU co-financed water and wastewater networks.



We also signed four new contracts for works supervision in the Cluj, Bistrita-Nasaud, Harghita and Suceava Counties and an addendum to the existing contract in the Valcea County.

We continue to implement EU-funded projects for regional water operators in the Counties of Botosani, Olt, Teleorman, Arges, Valcea, Buzau, Harghita, Iasi and Dolj, providing project management, design and works supervision services.

In 2016 we have implemented 29 projects with a total budget of more than € 41 million that include the country's key sectors

TECHNICAL ASSISTANCE FOR THE REGIONAL DEVELOPMENT PROJECT OF THE WATER AND WASTEWATER INFRASTRUCTURE IN IASI COUNTY IN THE PROGRAMMING PERIOD 2014-2020

We are performing technical assistance for preparation of the documents required to obtain co-financing from the European Union for the water and wastewater infrastructure in Iasi County and drafting of the project tendering documentation. We also support the regional water operator Apavital in execution of the same.

The following are our main responsibilities;

- Drafting of the financing application and of the supporting documents: feasibility studies, flood management, topographical, geotechnical, hydro-geological and water quality studies, among others. Drafting the financial and institutional analyses and environmental impact assessment
- Elaboration of the tender dossier and providing support during the tendering process
- Project management support, such as publicity or water balance audit, and supervision of works contracts in accordance with FIDIC Conditions of Contract.



We continue the civil works supervision under the framework contract with District 3 of the Bucharest Municipality for which we rehabilitate, modernise or consolidate different buildings

In 2016 we continued to work on **waste management** projects, supervising works for implementation of integrated waste management systems in the Botosani, Salaj and Bihor Counties.

In the **energy** sector we have completed most of the works supervision services for modernisation of the centralised heating system in the city of Bacau with the aim of ensuring compliance with environmental standards on air emissions and enhancing the efficiency of the heating supply.

In the **civil engineering** area we are still supervising a wide variety of civil works under the framework contract with District 3 of the Bucharest Municipality for which we rehabilitate, modernise or consolidate residential buildings, nurseries, schools, sports centres and administrative buildings.

Our contract to provide technical assistance to the Ministry of Health for rehabilitation of neonatal units and maternity units was extended in terms of budget and implementation period during the year. This project is funded by the World Bank and the European Investment Bank.

In the **transport** sector we began to implement a contract for technical assistance services for management and supervision of the works of the Henri Coanda housing complex. The project includes construction of the internal road infrastructure, access to water supply and sewerage services and commissioning of public lighting systems.

We also support drafting of the feasibility study for rehabilitation and modernisation of urban streets in the city of Turda.

TECHNICAL ASSISTANCE FOR MANAGEMENT AND SUPERVISION OF THE WORKS IN THE HENRI COANDA HOUSING COMPLEX - LOTS I AND II - IN ROMANIA

We provide technical assistance for works management and supervision of the project for development of the public supply, sewerage and public lighting networks and roads to ensure a proper infrastructure for the residents of the Henri Coanda housing complex in District 1.

Eptisa's role in the project consists of the following:

- To supervise the design and construction works in accordance with the FIDIC Conditions of Contract and Romanian legislation on construction quality.
- To provide qualified support to the beneficiary for management of the project for its successful implementation in accordance with the provisions of the Financing Contract.
- To ensure adequate publicity of the project in accordance with the EU Visual Identity Manual for Structural Funds in Romania 2007-2013.



MOLDOVA

In the **institutional strengthening** area we provide consultancy services for modernisation of local water and sanitation public services in the Republic of Moldova and for implementation of measures

to achieve energy efficiency that include activities such as review of tendering documents, building efficiency measurement assessment methods and training courses.

UKRAINE

We continue to implement the project for *Support to Ukraine in Approximation of the European Union Environmental Acquis* (APENA). The project focuses on strengthening the institutional and legal capacity of the Ministry of Ecology and Natural Resources, and other institutions involved, in fulfilling Ukraine's **environmental** obligations to comply with the EU-Ukraine Association Agreement.

The APENA programme focuses on three main sectors: governance and integration of the environmental policy, water quality and water resources management and protection of nature. In 2016, the first three years of the program were successfully completed in support of negotiations for new environmental legislation, transposition planning and institutional analysis.

At the beginning of the year we began to develop the hydraulic analysis and modelling of the municipal **water** supply system, drafting of preliminary designs and terms of reference for reconstruction of the water pumping stations and treatment plants in addition to drafting designs for reconstruction of the municipal water network in Zhytomyr. This contract is financed with funds from the World Bank.



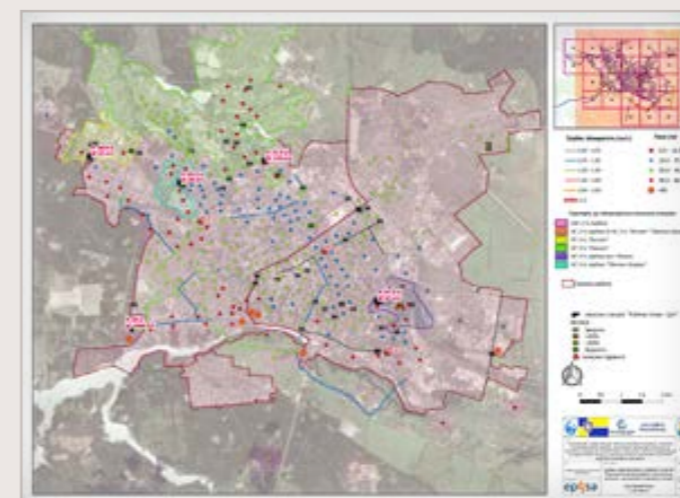
ENGINEERING PROJECT FOR RECONSTRUCTION OF THE MUNICIPAL WATER NETWORK IN ZHYTOMYR, UKRAINE

In January we started the engineering project "Hydraulic analysis and modelling of municipal water supply system, preparation of preliminary designs and terms of reference for reconstruction of pumping stations and water treatment plants and preparation of designs for reconstruction of municipal water network in Zhytomyr". This programme is financed by the World Bank and aims to enhance the efficiency of the city's water supply and distribution system and reduce losses through leakage.

The programme has achieved the following milestones over the last 12 months:

- A GIS model with hydraulic modelling to determine the best scenario for reconstruction of the main water pipelines
- The best configuration of the Water Treatment Plant and management of reconstruction of the pumping station was established by means of analysis of the different water treatment technologies for the conditions in Zhytomyr.
- The feasibility study performed to assess the potential methods for upgrading the deteriorated pipelines identified the most effective way to reconstruct the selected water supply networks.

The next steps Eptisa will take are the detailed design of the Geographic Information Systems (GIS) and drafting of the construction design documentation.



The best configuration of the DWTP and management of reconstruction of the pumping station was established by means of analysis of the different water treatment technologies for the conditions in Zhytomyr

BELARUS



In 2016 we successfully completed the project for design and supervision of works for construction of a mechanical waste separation plant in the city of Grodno. Funded by the World Bank, the programme consisted of providing technical support to the city of Grodno for development and implementation of the municipal **solid waste** mechanical materials recovery facility

as an integrated part of the municipal waste management system and its recycling programme.

Eptisa was responsible for supervision of the contractor works during the main activities:

- Coordination and inspection of the construction for both approval of the contractor's works programme and of the plant, equipment, construction methods and materials, the Contractor's Quality Assurance Programme (QAP) and the inception meeting.
- Supervision of production and installation of equipment during the works.
- Contractor commissioning and performance compliance support, monitoring of the integrity, accuracy and robustness of the facilities tests, review of the performance data and information on potential problems and detailed and construction design.

TURKEY

The contracts obtained and the high quality of our executed projects have ensured that Eptisa is a benchmark engineering consultancy in Turkey. Therefore we have two offices in the country, in Ankara and Istanbul, and employ around one hundred qualified personnel who not only manage projects in Turkey but also in other countries in Central Asia.

In the **water** sector we provide technical assistance and supervision of water and sewerage project in Bartın, the purpose of which is to strengthen the municipality's capacities and control the construction of a WWTP.

We are working on supervision of the phase one of the construction works for the wastewater and storm-

water treatment plant in Ceyhan and the creation of a storm-water drainage network for the entire area. This project is part of the Regional Development Component of the *Environment Operational Programme - Instrument for Pre-accession Assistance (IPA)* in Turkey, co-financed by the European Union and the Turkish Government.

We have finished the technical assistance provided to the Ministry of Environment and Urban Development for implementation preparation of the **Strategic Environmental Assessment**, which covers the public and private sectors and civil society. The purpose of this contract is to create the legal, institutional, administrative and technical conditions for implementation of EU



Directive 2001/42/EC. The project also involved intensive training programmes, workshops and seminars for the competent authorities. The aim is to provide a high level of environmental protection and contribute to integration of environment-related provisions in the governmental plans and programmes.

In the **transport** sector we finished the Marmaray construction project that we executed in consortium with the Turkish company Prota. These works connect the railway lines between the European and Asian parts of Istanbul through an underwater tunnel in the Bosphorus Strait. We were responsible for the structures associated with the Gebze-Haydarpaşa and Sirkeci-Halkalı lines within the scope of this project. The new railway system runs along approximately 76 kilometres of the coast of Marmara.

Furthermore, in the **social development** sector we finished the technical assistance to the Ministry of National Education to provide the Government with tools for students to learn about the European Union, its common values, fundamental rights and policies.



The programme is funded by the EU Instrument for Pre-Accession Assistance (IPA) and the Turkish institutions. The project has reached an estimated 150,000 people.

TECHNICAL ASSISTANCE AND SUPERVISION OF THE BARTIN WATER AND SEWERAGE PROJECT IN TURKEY

We won the contract to provide technical assistance services to the Turkish municipality of Bartın and to the Project Implementation Unit (PIU), by developing their administrative, financial and technical capacity and assisting in the development of an efficient Water Utility Department (WUD). The project also includes works supervision of the WWTP and sewerage collectors, preliminary treatment, underwater outfall in İnkümu and rehabilitation of the current water supply and distribution system.

The project is financed by Turkish funds and the European Union under a 29-month IPA Programme.

Our service includes:

- Administrative, technical and financial capacity building of the WUD
- Modernisation of the WUD and provision of the training and support required to achieve institutional sustainability
- Technical assistance to the WUD and the PIU in performance of cartography, GIS, hydraulic modelling and leak detection, among others
- Procurement management and supervision of construction of the Bartın WWTP, wastewater collectors, preliminary treatment, the underwater outfall in İnkümu and rehabilitation of the current water supply and distribution system
- Review and updating of the tendering documents and technical assistance during award process and procurement
- Review of the design and tender dossier to upgrade the current water supply and distribution system
- Development of the programme to monitor industrial discharges into the public sewerage network to enable the Provincial Environmental Department to comply with the environment-related norms and standards



CAUCASUS

We are working on the project to draw up high-quality studies for the countries of the Eastern Partnership, comprised of Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine. The goal is to achieve greater integration between the Member States and the European Union through the following platforms:

- Democracy, good governance and stability

GEORGIA

We took part in the implementation of nine infrastructure projects, mainly with technical assistance, feasibility studies, detailed design and construction supervision of water supply and sewerage systems, secondary and local roads, refurbishment of municipal buildings, historical heritage sites and recreational areas as well as institutional strengthening and capacity building of 68 municipalities in various regions of the country.

In the **water** sector we continue to work as Project Management Consultant for implementation of the *Urban Services Improvement Investment Programme -Tranche 1*. The project, funded by the Asian Development Bank, contributes to the sustainable supply and operation of water and sewerage services at six Georgian secondary centres. We were awarded two additional sub-projects within the framework of this project:

- Drafting of the detailed design for the Chiatura water supply system

- Economic integration and convergence with EU sector-related policies
- Energy security
- Contacts between people

Among other tasks in this programme, Eptisa carries out the topography, pre-feasibility, feasibility, needs assessment studies and political reports.

- Drafting of the detailed design for the Gudauri sewerage system, drinking water network and wastewater treatment plant

We continued the feasibility study on water supply and sanitation systems in semi-urban and rural communities in Adjara, a project funded by the German development bank KfW.

We are also working on the detailed engineering design for upgrading the Zemo Samgori **irrigation system** which involves rehabilitation of the largest irrigation and drainage system in Georgia, with a total gravity irrigation network of over 30,000 ha.

In the field of **building** we took part in the consulting contract to design the entire interior and exterior rehabilitation and supervision of the construction works of several public school facilities including upgrading public utilities and provision of laboratories.

We supervise the works of several sub-projects within the framework of *Imereti Regional Development Project II*, aimed to improve **tourism and recreational infrastructures** in the Imereti Region. The project is financed with funds from the World Bank.

In the sphere of **socio-economic development** we are the consultants for phase 1 of supervision of civil works in the *Second Regional and Municipal Infrastructure Development Project*. This complex project is comprised of more than 20 sub-projects in various geographical regions of Georgia to rehabilitate secondary roads, bridges, water supply and sewerage networks, sewerage collectors, kindergarten, sports complexes, museums, theatres, community centres and recreational areas.

In 2016 Eptisa was awarded a project to provide **institutional strengthening** to Georgian local governments for management of the project cycle within the framework of the aforementioned Second Project.

Under the *Second Secondary and Local Roads Project* we initiated supervision of the Output and Performance-based Road Contracting (OPRC) for rehabilitation and maintenance of the regional **roads** of Kakheti.

We were awarded a contract financed by the World Bank for supervision of construction of the new section of the Gurjaani - Bakurtsikhe bypass on the Akhmeta - Telavi - Bakurtsikhe secondary road.



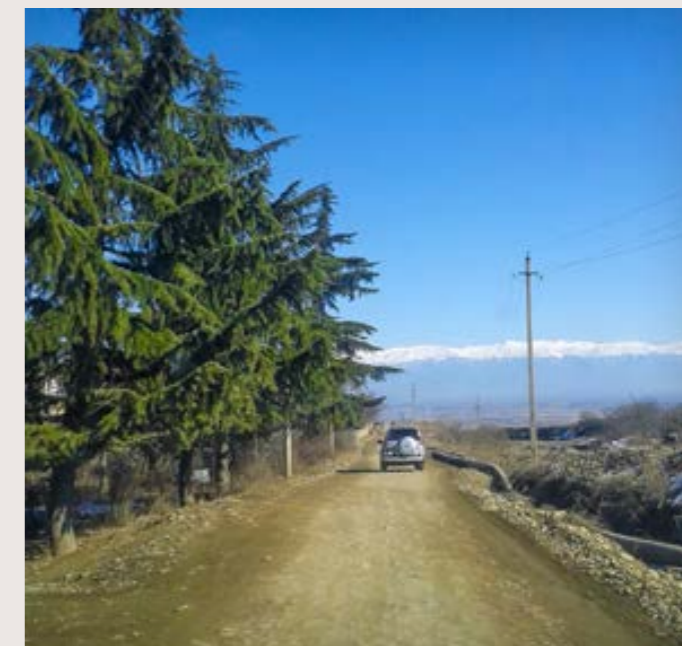
SUPERVISION OF THE CONSTRUCTION WORKS OF THE NEW GURJAANI TO BAKURTSIKHE BYPASS SECTION OF THE AKHMETA – TELAVI - BAKURTSIKHE SECONDARY ROAD IN GEORGIA

We were awarded a contract to supervise the construction of the Gurjaani to Bakurtsikhe bypass on the Akhmeta – Telavi - Bakurtsikhe road under the Design-and-Build (D&B) contracting methodology. This 15 kilometre-long section forms part of the Third Secondary and Local Roads Project (SLRP-III) financed by the World Bank.

The main goal of the contract is to ensure that the D&B contractor delivers a high quality product that fully satisfies the engineering design, technical specifications and applicable safeguard policies. Eptisa is responsible for contract administration following the FIDIC Yellow Book and for supervision of implementation and verification of the works and services performed by the contractor during the design and construction phases.



Eptisa is responsible for contract administration and for supervision of implementation and verification of the works and services



STRENGTHENING THE INSTITUTIONAL CAPACITY OF GEORGIAN LOCAL SELF-GOVERNMENTS ON PROJECT CYCLE MANAGEMENT

We provide technical assistance and training to local self-governments in Georgia to improve project cycle management by strengthening the complete cycle of each project including identification, design and preparation, tendering and contract award under the currently applicable Georgian legislation, implementation, contract management, supervision, reporting and assessment.

Financed by the World Bank, the programme seeks to enhance the efficiency and reliability of selected municipal service infrastructures and to contribute to the establishment of an effective system of local self-government.



AZERBAIJAN

We successfully completed the United Nations Development Program (UNDP) contract *"Integrating Climate Change Risks into Water and Flood Management by Vulnerable Mountainous Communities in the Greater Caucasus Region"*. A control centre, a meteorological station in the high altitude part of the area and a hydro-meteorological station in the lower part have been installed to **avoid floods** and their effects in the region with the highest peaks in the Caucasus.

We were responsible for the detailed specifications of these facilities, the drawings and draft copies,

identification of the specific devices required, the essential performance parameters and identification of the outsourced works. We also supervised installation of the equipment and supplied all the manuals, software and training materials necessary for its operation and maintenance. The control centre uses SAYTL, an application developed by Eptisa, for the SCADA system configuration and data analysis, to process the data from the stations. We will be providing technical assistance to the stations set up under the UNDP for the year following their commissioning.



ASIA

Asia is growing at a breakneck pace. Highways, viaducts, urban planning and building are among the region's needs we have been participating in them for years with projects from Uzbekistan to the Philippines. Always meeting the standards of Eptisa's seal of quality





SOUTHEAST ASIA

These last twelve months have been a time of consolidation and growth for Eptisa in Southeast Asia as shown by the 11 projects we implemented in the region of which four were awarded in 2016. A regional office was set up in Manila, the Philippines and a satellite in Hanoi, Vietnam, that have provided valuable support for these developments.

The Asian Development Bank continues to trust in our company and has granted us two new technical assistance projects.

We are proud to say that the company's presence is firmly consolidated in Southeast Asia where we contribute to the economic and social development of the countries by providing inclusive, environmentally sustainable economic growth that fosters regional integration.

THE PHILIPPINES

Eptisa has finalised the consulting contract to define the **irrigation development master plan** for the next ten years and provided consultancy to the National Irrigation Administration of the Philippines on the design of the institutional and corporate plan of the National Irrigation

Administration. The programme was financed by the World Bank. The main tasks were development of an irrigation infrastructure database and information system, definition of development strategies for the systems and management of the same for the next decade.

VIETNAM

We were awarded a new technical assistance contract to assist the Government of Vietnam to establish sustainable and resilient to climate change **urban development** in various cities and to implement a National Urban Development Strategy.

In the **water** sector we are working on a new project for drinking water access in some regions of Vietnam by enhancing the efficiency of water supply companies. This contract is part of a sectoral investment programme approved by the Asian Development Bank, tranche 2 of which includes the provinces of Binh Duong, Dak Lak, Thua Thien Hue and Quang Tri and the cities of Da Nang and Hai Phong. We provide the institutional strengthening, construction supervision and management services and the quality assurance standards for construction of a raw water intake and pipelines, a pumping station, a 35,000 m³/d water treatment plant in Buon Ma Thuot, a booster pumping station and 222.5 km of transmission and distribution piping network in addition to three minor water supply projects in the EaKar, Buon Don y Krong Nang districts.

We finished the contract for the water supply company of Bac Giang in which Eptisa was in charge of the detailed design of the facilities, drafting of the bidding document and providing support to the supply company for procurement during the bidding



procedure. Financed by the Asian Development Bank, the project included a raw water pumping station and a pre-sedimentation basin in Song Mai, a drinking water treatment plant in Quang Phuc with a capacity of 25,000 m³/day and the transmission and distribution piping systems in the city of Bac Giang.

TECHNICAL ASSISTANCE TO DRAW UP A SUSTAINABLE AND RESILIENT TO CLIMATE CHANGE URBAN DEVELOPMENT STRATEGY

Eptisa has been awarded a new project in Vietnam to provide technical assistance to the country's government to achieve sustainable urban development and to enhance its climate change resilience in various cities, as well as to implement a National Urban Development Strategy.

The project will include pilot projects to put the main features and key documents in the planning processes into practice to ensure acceptance, application and capacity-building at the provincial and municipal levels. Financed by the Asian Development Bank, the programme will test a low-cost housing model that can withstand disasters and is appropriate for areas that suffer from storms and flooding.

Part of our task is to formulate an investment framework resilient to climate change in urban areas with a planning horizon of 15 years that will identify the current gaps in urban policies and institutions. This framework will define the project selection criteria that will assist in prioritising and determining a future investment programme for the urban sector through result-based loans.



The project will develop a low-cost housing model appropriate for areas that suffer from storms and flooding, among other activities



LAOS

The company continues to expand its presence in this country with the implementation of three projects in the fields of urban and tourism infrastructure and water.

We continue working on the design, project management and works supervision of **civil engineering of the tourism infrastructure** in the provinces of Khammouane, Luangprabang and Oudonxay financed by the Asian Development Bank.

The Laotian Department of Housing and Urban Planning awarded Eptisa a contract to provide the support services for project management and implementation support, detailed design, supervision of the civil works

and capacity building in the second **development programme of the cities of Houayxay and Luang Namtha** in the Greater Mekong Sub-region.

The Ministry of Agriculture and Forestry continues to entrust Eptisa with the capacity building programme for the National Flood and Drought Early Warning Centre funded by the Asian Development Bank within the framework of the regional **flood and drought risk mitigation and management** programme. Eptisa provides technical assistance for the design of the water resource planning system and management of the Centre itself and of other stakeholders, providing consultancy to enable them to obtain the required reliable, relevant data.

The Ministry of Agriculture and Forestry continues to entrust Eptisa with the capacity building programme for the National Flood and Drought Early Warning Centre

SECOND GREATER MEKONG SUBREGION CORRIDOR TOWNS DEVELOPMENT PROJECT

The Housing and Urban Planning Department of the Ministry of Public Works and Transport of the Lao People's Democratic Republic has awarded Eptisa a contract to provide support and implementation services for detailed design projects, supervision of the civil works and capacity building in the second development programme of the cities of Houayxay and Luang Namtha.

Financed by the Asian Development Bank, the project aims to improve the urban services of these two towns in the Greater Mekong Subregion, thus contributing to maintaining economic growth and achieving the objectives of reducing poverty, ensuring sustainable development and supporting regional integration in accordance with the 2010 - 2015 National Socio-economic Development Plan.

Under the contract, which will be executed until 2021, the consortium led by Eptisa will address the Strategic Local Economic Development Plans, assist in prioritising investments in urban



infrastructures, help to strengthen institutional capacity to manage public investments and contribute to increasing community awareness through a variety of activities.

CAMBODIA

We were awarded a new contract to support the Cities Development Initiative for Asia - Prefeasibility study for the Second Integrated Urban Environmental Management Project in



the Tonle Sap Basin. Our technical assistance will identify priority **urban environmental** programmes in six towns in the area and develop the same at the pre-feasibility study level together with a mid-term financing plan.

We continue to assist the **National Flood Forecasting Centre** to improve hydraulic design standards. The project is part of the regional programme for flood and drought risk management and mitigation financed by the Asian Development Bank. The goal of the project is to strengthen the Centre to increase national and regional coordination in the management of serious water-related problems. Eptisa assesses the country's hydro-meteorological network and proposes measures to improve the data acquisition system required for flood forecasting and early warning. We are also developing and managing an operational strategy for dissemination of the programme.

PRE-FEASIBILITY STUDY FOR THE SECOND TONLE SAP INTEGRATED URBAN MANAGEMENT PROJECT

We are providing the technical assistance to identify priority urban environmental projects in six cities of the Tonle Sap Cambodian basin and develop those given priority at a pre-feasibility study level together with a mid-term financing plan. These projects are within the framework of the Cities Development Initiative for Asia that provides assistance to medium-sized Asian cities to close the gap between their development plans and the implementation of their investments in infrastructure through investment and pre-structuring of the appropriate projects.



This project provides assistance to medium-sized Asian cities to close the gap between their development plans and the implementation of their investments in infrastructure

SOUTH KOREA

In the **building** sector, the Host Broadcaster awarded Eptisa a contract for the biggest winter sports event in 2018. The project includes the architectural and finishing designs, the mechanical and electrical facilities for the premises to be used by the television and radio services that will

broadcast the event from inside the International Broadcasting Centre, a complex with 30,000 m² of floor space that will be built by the organizing committee of the event. We will perform both the detailed design of all the premises and the construction designs.



CENTRAL ASIA



We continue to work in the reconstruction of sewerage and water supply facilities in nine cities and three Uzbek regions

UZBEKISTAN

In the **water** sector we continue to carry out activities including reconstruction of wastewater treatment facilities, sewerage networks, pipelines and water supply systems in nine cities, as well as in the Djizzak and Khorazm regions and the Republic of Karakalpakstan. These works form part of the technical assistance services to the Uzbekistan Communal Services Agency as part of a consortium with UBI Consulting for supervision and management of the

sub-projects under the *Water Supply and Sanitation Services Investment Programme - Tranche 1*.

Our responsibilities include supervision of the feasibility studies and final design, approval of key personnel, construction schedules, the declaration of methods, temporary occupation of land by contractors, materials and material sourcing and conducting periodic works inspections.



TAJIKISTAN

We continue to support the Agency for Land Reclamation and Irrigation of the Government of the Republic of Tajikistan with the project to enhance the resilience of communities in the Pyanj River Basin in view of their vulnerability to the impact of **climate change**. Funded by the Asian Development Bank, its objective is to develop flood protection systems and improve the strength of irrigation infrastructures.

We finished the technical assistance tasks to design an investment aid programme to increase income for agriculture in the Chubek irrigation system area to enhance the productivity of **water** for agricultural purposes. The contract was terminated with submission of the final report with the main project findings and conclusions.





KYRGYZSTAN

We continue working as consultants for the engineering services and supervision of rehabilitation of a 120-km section of the road between Bishkek and Osh for the Ministry of Transport and Communications of Kyrgyzstan. This project seeks to improve the safety and connectivity of the roadway, the poor conditions of which pose a risk for traffic and an obstacle for trade and regional development.

We have finished the **Sustainable Development** project for the first regional landfill and the wastewater treatment infrastructures for the communities located along the west coast of Issyk-Kul, in which the feasibility studies were included. As a member of a consortium, Eptisa is in charge of the engineering designs, calculations and drawings for the transfer stations in Balykchy and Karakol and for full development of a plan to establish a landfill with an initial operating capacity for 10 years (total volume of around 1,000,000

m³). We have also drawn up the detailed designs and full documentation for the tendering process for implementation of Phase II. The Issyk-Kul basin is vital for biodiversity worldwide. The region was declared a Biosphere Reserve by the Government of Kyrgyzstan in 1998 and by UNESCO in 2001. The Issyk-Kul Sustainable Development Project is classified Environmental Assessment Category A by the Asian Development Bank.

We have also finished the technical assistance service to improve the **water** supply and sewerage network in Osh, Jalal-Abad and Bazar-Korgon. In his project we have done the design and cost study for upgrading or new building of the required infrastructures, and the Resettlement Action Plan and Environmental Management Plan in compliance with the Asian Development Bank's procedures. We also helped the customer to draw up the tender, select the works contractors and to supervise their activity during execution of the works.

We have finished the sustainable development project for the first regional landfill and wastewater treatment infrastructures in the Issyk-Kul region

ENGINEERING AND WORKS SUPERVISION SERVICES FOR THE CAREC PROGRAMME FOR IMPROVEMENT OF CORRIDOR 3

Under the contract funded by the Asian Development Bank within the framework of the Central Asian Regional Economic Cooperation Programme (CAREC), we continued to provide consultancy services for the engineering and supervision of reconstruction and upgrading of a 120 km section of road between Bishkek and Osh known as CAREC Corridor 3. Under the auspices of the Ministry of Transport and Communications of Kyrgyzstan, the project aims to improve the poor conditions of this section that pose serious traffic hazards and are an obstacle for trade and regional development.

The project includes increasing the number of the traffic signals, lane markings, street lighting, parking areas, bus stops, safety barriers and sidewalks, as well as strengthening the capacity of the Ministry of Transport and Communications and implementation of awareness campaigns to enhance road safety for users of the road and for the adjacent communities.

In addition to considerably enhancing the safety of people, this programme will foster cross-border connectivity and promote trade, in line with the priority of the government of Kyrgyzstan to update key regional economic corridors as part of the 2013-2017 National Strategy for Sustainable Development.



SOUTH ASIA

This has been a year of growth for Eptisa. We achieved a foothold in Sri Lanka with a water sector project and were awarded projects financed by multilateral funding agencies in India, Bangladesh and Nepal in various sectors, such as those linked to smart cities in India, involving cutting-edge technology.

We have strengthened our project management and operations team with the aim of increasing our presence in the region and ensuring streamlined, efficient project execution. This team has set up standardised procedures with excellent results, having paid special attention to quality control and risk management, both critical areas for an engineering firm.

SRI LANKA

We have been awarded our first project in the country to carry out construction supervision and contract administration for the rehabilitation of Meda-Ela **drainage system** in Kandy City.

Our main task as consultant on this programme is ratification of the contractors' work plans for execution of the contracts in order to prevent delays by proposing

corrective actions to speed up the works. We are acting as an engineer to ensure quality construction that fully meets the engineering design and the technical specifications including environmental management. The latest technology such as the Total Station Survey, CADD, Geographic Information Systems and MS Project and Primavera software programs will be used to monitor progress.





INDIA

In the **transport** sector, the National Highways and Infrastructure Development Corporation awarded us two consultancy projects for the feasibility study, drafting of the detailed project report and pre-construction services in the States of Sikkim and Arunachal Pradesh. We also obtained a consultancy contract as the Authority's engineer for the project involving two lanes of the Hunli to Anini road in Arunachal Pradesh.

We have also been entrusted with two construction supervision projects in the State of Jharkhand. One is for upgrading more than 42 km of the Giridih – Gandey – Pandedih road. The works include widening the road to create two lanes. The other project involves widening and strengthening the 57.9 km-long Thethaitangar – Bolba – Kersai – Kinkel road, including construction of bridges and culverts.

We continue to work on the project for the Ministry of Road Transport and Highways for construction, operation and maintenance of the **Z-Morh tunnel** in the State of Jammu and Kashmir. Our scope in this project includes the review of all designs and drawings and subsequent supervision of the construction works for the 6.5 km-long tunnel that will provide year-round connection between Kashmir and Leh.

In 2016 we completed the engineering project for the Rohtak-Hissar section of the four-lane NH-10 highway in the State of Haryana for the National Highways Authority of India (NHAI). We also finished the consultancy work for supervision of construction of the Nuapada – Bangomunda highway section with a length of around 80 km in the State of Orissa.

We continue to work on the **iRAP survey** to enhance road safety in various pilot projects that involve design and supervision of multi-sector corrective measures to be implemented in the State highway corridors.

We were awarded the consultancy and technical assistance services during implementation of the *"Monitoring and Evaluation of the Demo Project under the Road Safety Component of the Road Safety Plan"* in the State of Telengana.

In the **urban infrastructure** sector we were awarded three projects under the *"Smart City Mission"* launched by the Government of India: the project management consultancy for the smart cities of Jaipur and Udaipur and technical and administrative support for the Indore smart city project.

We continue to provide the consultancy services for **institutional strengthening** and capacity building of the Public Health Engineering Department of the Jammu and Kashmir Government. We work side-by-side with the Department on planning and design of rehabilitation and upgrading plans including implementation of invoicing and **water** collection software, accountancy software and a GPS-based water tanker tracking system.



PROJECT MANAGEMENT CONSULTANCY FOR UDAIPUR AND JAIPUR SMART CITY PROJECTS

The Government of Rajasthan, through the public municipal corporations 'Jaipur Smart City Limited' (JSCL) and 'Udaipur Smart City Limited', has awarded Eptisa two new technical assistance contracts for execution of smart city projects in its towns. Both Jaipur and Udaipur are World Heritage sites visited by millions of tourists each year. The projects will be implemented in the historic centres of both localities in order to update facilities, enhance the liveability, mobility and public transport and services and to improve conservation of their natural beauty spots while reducing the carbon footprint thanks to measures implemented on the basis of the obtained results.

We are assisting the local authorities of Udaipur with the introduction of a properly organised bus-based public transport system, efficient operational control of utilities through tools such as SCADA, GIS and Smart Grid and integrated solid waste management, among other issues.

In Jaipur we are also helping JSCL, in particular, with overall management, planning and structuring of sub-projects, the tendering process and selection of contractors in addition to assisting with the works supervision, monitoring and assessment of programme results.

Amongst the projects proposed for implementation the transformation of the Gandhi Nagar train station into a model station by providing it with systems such as a smart parking system, automatic entry and exit doors and a Wi-Fi deserves special mention. JSCL has also proposed construction of an underground car park in Ramganj Bazar and installation of a roof-top solar power system for the University of Rajasthan.



FEASIBILITY STUDIES AND DETAILED PROJECT REPORTS FOR THE NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION OF INDIA



The National Highways and Infrastructure Development Corporation of India has awarded Eptisa two contracts to establish

the technical, economic and financial feasibility of the projects for roads rehabilitation and widening two lanes with paved hard shoulders.

On the one hand we provide consultancy for the feasibility study, drafting of the detailed project report and pre-construction services for improvement of the sections and corridors selected for the BHARTAMALA project and for connectivity of the national highways with disadvantaged areas and religious and tourist sites along National Highway 310A in the state of Sikkim.

And on the other, we are also responsible for the feasibility study, the detailed project report and the pre-construction services of the corridors included in the SARDP-NE programme in the state of Arunachal Pradesh.

CONSTRUCTION SUPERVISION OF IMPROVEMENT AND UPGRADING TO TWO LANES OF THE GIRIDIH – GANDEY – PANDEDIH ROAD

The project entails widening the single/intermediate lane to form a double lane until achieve a width of 12 metres. It also includes construction of a 2.5 metre-wide earthen shoulder on each side of the 42-kilometre-long section, drainage on both sides and on one side only in isolated parts of the constructed area.

Our goals as the consulting agency are as follows:

- To review the design of the detailed project report.
- To manage the quality control of the works and to ensure that they fully meet the technical design to be provided to the contractor by Eptisa together with the plans.
- To verify the road parameters in relation to the design specifications during the period of liability for errors.



In the urban infrastructure sector we were awarded three projects under the "Smart City Mission" launched by the Government of India in the Jaipur, Udaipur and Indore cities



BANGLADESH

We are still working on three projects for the LGED under the framework contract to improve environmental infrastructure in coastal cities

We are still working on three **urban infrastructure** projects for the Local Government Engineering Department (LGED). On the one hand, we continue to develop the design and consultancy project to improve the environmental infrastructure in coastal cities aimed at creating a sustainable infrastructure to combat climate change.

We have also provided the technical assistance for project supervision and management under this programme for which we have performed numerous activities such as quality control, drafting of monthly reports, the final project report and operations and maintenance planning.

On the other hand, we are in charge of development of institutional and community capacity building

for the project to upgrade the coastal environment-related infrastructures. In this case, we have implemented non-structural measures to mitigate climate risks.

Eptisa was also awarded another project in 2016 by the LGED to provide consultancy services to the **rural infrastructure** maintenance programme in 13 districts of Bangladesh.

In the **transport** sector, we began the implementation of construction of the combined Moghbazar - Mouchak flyover bridge in the capital, Dhaka. This infrastructure forms part of a series of works aimed at improving the traffic in the city.

CONSTRUCTION SUPERVISION OF THE MOGHBAZAR - MOUCHAK FLYOVER BRIDGE IN DHAKA

Eptisa is supporting the Local Government Engineering Department with construction of the Moghbazar - Mouchak flyover in the capital of the country as part of the Dhaka Urban Transport Project. The purpose of the flyover is to ease the traffic jams suffered by the city. The flyover will be more than 8 km long and will include intersections with eight roads and three railway lines.

Our tasks include development of the works plan, design, monitoring, supervision and evaluation of the construction works, identification of problems and solutions, coordination, review of progress of the project and reporting to the Local Government Engineering Department and other stakeholders. The contract lasts 10 months.



PROJECT DESIGN ADVANCE FOR RURAL INFRASTRUCTURE MAINTENANCE PROGRAMME

The Rural Infrastructure Maintenance Programme has started to extend and upgrade the transport infrastructure of 13 vulnerable districts with respect to tides, hurricanes and flooding due to largely to climate change. These districts have a high economic potential due to their vicinity to the Dhaka - Chittagong economic corridor and strengthening their rural infrastructure will provide year-round connectivity between the agricultural production areas and towns.

We will be in charge of the consultancy for the project, financed by the Asian Development Bank, which will entail preparing and analyzing the Results-Based Lending Program, assessing the climate risks and vulnerability of the 13 districts, performing feasibility studies and drawing up the business plan for rural road maintenance policy, engineering designs and bidding documents.

We are also responsible for other tasks including, but not limited to, cost estimation, performing the sectoral, economic and financial analysis, comprehensive project proposal and holding capacity and awareness workshops and training on climate change adaptation.



NEPAL

We are extremely active in the country, having been awarded new contracts in various sectors.

In the **water** sector we continue to work on design and construction supervision of the Melamchi headworks and diversion tunnel.

Within the framework of this project we were awarded the contract for Phase 2 of the detailed design consultancy for Melamchi, an important water diversion project. It includes drawing up the bidding documents for the diversion of 340 million l/d of water from the Yangri and Larke rivers to the Melamchi diversion tunnel with the aim of ensuring an integrated water supply system with a capacity of 510 million l/d.

Eptisa also won the contract for consultancy services for the review of the design and supervision of the construction to expand the Sundarjal **Water Treatment Plant**.

We were awarded two projects in the **transport** sector. The first entails the construction supervision of bridges as part of the road transport sector development project and highway upgrading works including slope stabilisation. The second involves consultancy for the strategic environmental and social assessment and the sustainability study for the trade corridor from Birgunj to Kathmandu.

PHASE 2 OF MELAMCHI PROJECT: CONSULTANCY SERVICES FOR THE WATER DIVERSION PROJECT FROM YANGRI AND LARKE RIVERS

We provide a 12-month consultancy service for Phase 2 of the Melamchi Project to divert water from the Yangri and Larke rivers to the tunnel currently under construction. The water taken from the Larke River will be diverted through a tunnel with a length of approximately 2 km with capacity for 170 million l/d to the Yangri river diversion intake, which will conduct the water to the Melamchi water intake through a 10 km tunnel with capacity for 340 million l/d. The aim of these infrastructures is to ensure an integrated water supply system for the Kathmandu Valley of 510 million l/d.

Our work included the detailed field study, research, design, socio-economic studies, environmental impact assessment, preparation of the land acquisition compensation and resettlement plan, environmental management and social improvement support plans. Cost estimation and tender document preparation are also included for the Yangri and Larke river diversion tunnel, intake tunnels, access roads to the catchments and intake tunnels, camp site facilities and water treatment plant in Sundarjal in the Kathmandu Valley.



STRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT AND SUSTAINABILITY STUDY FOR THE BIRGUNJ TO KATHMANDU TRADE CORRIDOR

Eptisa acts as the consultant for these studies, conducted by the Foreign Cooperation Branch of the Nepal - India Regional Trade and Transport Project, in order to provide a base to ensure that the Department of Roads and the main stakeholders take environmental and social considerations into account in the decision-making process of the development of regional trade corridor between Birgunj and Kathmandu.

We will also contribute to embedding good practices with respect to biodiversity and environmental and social management in the development of the road transport sector in Nepal in general and specifically to update feasibility studies, environmental impact studies, engineering designs and implementation of investments in the Birgunj to Kathmandu corridor.



A continent brimming with life and development, America is expanding its infrastructures, improving those already in place and developing its potential while strengthening its institutions and governments. In this context, Eptisa performs its work in the central and southern parts of the continent with an increasingly strong corporate image



AMERICA





AMERICA

Eptisa makes a commitment to the enormous potential of Latin America in the field of engineering and consultancy. For that reason we have decided to increase our human and material resources in the area by opening a new office in Peru to provide cover to the entire region

We have finished phase three of the transnational **Institutional Strengthening** programme to support development of a Medium-Term Expenditure Framework (MTEP). This programme has enabled the following goals to be met:

- Verification of implementation of medium-term expenditure frameworks in Guatemala, Costa Rica and Panama
- Design and implementation of reforms and roadmaps on planning and budgeting within medium-term macroeconomic and fiscal frameworks in Guatemala and Costa Rica
- Improvement in the quality of the medium-term expenditure frameworks and budgetary assessment in Nicaragua

Financed by the Swiss Cooperation Agency, this programme has provided support to the Secretariat of COSEFIN and its Member States. In 2016, we organized the II Regional Seminar on Medium-Term Expenditure Framework, where fiscal and budget-planning issues were addressed and whose conclusions were transmitted to the ministers of COSEFIN. Eptisa led the consortium responsible for its execution.



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HAITI

The good work we have done in the country together with the increase of the awarded projects is allowing us to grow day by day and become one of the few international engineering companies with a permanent presence in Haiti.

In the **transport** sector the Ministry of the Economy and Finance of Haiti awarded us a contract for the creation of a methodological guidebook for the design and maintenance of transport infrastructures in rural environments.

We continue supervising the rehabilitation works of an area of 130,000 m² of runway at **Toussaint Louverture International Airport** in Port au Prince for the Ministry of Public Works, Transport and Communication. This project is funded by the Inter-American Development Bank.

We have also been entrusted with supervision of the rehabilitation works of 18 km of the Canon-Formon **rural track**. Located in the Macaya National Park it is the only area in the country with virgin cloud forest, which means that environmental protection is vital on this job.

In the **water** sector we finished the hydro-geological study of the metropolitan area of Port au Prince for the Massif de la Selle and Nappe de la Plaine du Cul-de-Sac aquifers. This project is financed with funds from the Inter-American Development Bank. Its objective is to draw up the preliminary reports for implementation of extraction wells for drinking water.

With respect to **institutional, economic and social development**, we are continuing with implementation of the Institutional Support for Strengthening the Haitian State project funded by the European Union under the State Building Contract.

We also finished the technical assistance to the Ministry of Trade and Industry Support Programme, the objective of which was to enhance the capacity of the Ministry in the analysis, drafting and implementation of the commercial, industrial and competitiveness policies. The project is funded by the European Union within the framework of the 10th EDF.



In the transport sector we are implementing three projects to improve the development of the country's infrastructure

INSTITUTIONAL SUPPORT FOR STRENGTHENING THE STATE OF HAITI WITHIN THE FRAMEWORK OF THE STATE BUILDING CONTRACT (SBC)



Eptisa is continuing with technical assistance to the Institutional Support for Strengthening the Haitian State project funded by the European Union under the State Building Contract. This programme aims to strengthen the capacities of the Haitian Government in the fields of financial, public administration and education management.

In 2016 a study tour to Ivory Coast on which a delegation of 12 members from different ministries, the legislative assembly and civil society visited public and private institutions that have generated new collaboration initiatives between the two countries.

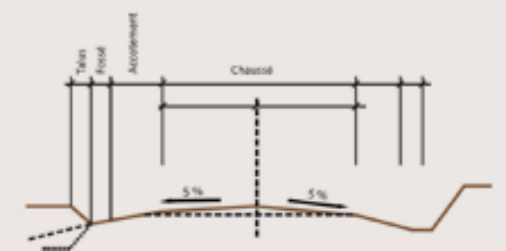
Other success of the programme was the organisation of a training cycle on public administration for 60 civil servants from Haiti in order to carry out reform of the country's public administration. The course included subjects such as combating corruption, public procurement and declaration of assets.

The programme has been renewed for another year, proof of the excellent implementation of the tasks involved.

DRAFTING OF A METHODOLOGICAL GUIDEBOOK FOR THE DESIGN AND MAINTENANCE OF TRANSPORT INFRASTRUCTURES IN RURAL ENVIRONNEMENTS

The Ministry of the Economy and Finance of Haiti awarded us a contract for the creation of a methodological guidebook for the design and maintenance of transport infrastructures in rural areas in order to execute the construction and maintenance works of highways, tracks and rural roads to enhance access to rural communities.

The works include drawing up the manual, training of public servants and local engineers designated by the customer and delivery of the appropriate guidebooks adapted to each particular task. The construction techniques used in Haiti, the available human and material resources, the type of means of transport most common in the rural areas and the type of works involved have all been taken into account to ensure that the guidebooks are functional. They include treatment of subjects like drainage, materials and paving, among others.





BRAZIL

In consortium with JSTI we were awarded a consultancy services contract for the development of a technical and financial due diligence for a major Chinese construction company

In the **water** sector, in consortium with JSTI we were awarded consultancy services for the development of a technical and financial due diligence for a major Chinese construction company to evaluate the option of obtaining a concession contract with a term of 25 years for the supply of drinking water to São Paulo which will add 4.7m³/s to the existing system.

In the **building** sector we successfully concluded drawing up the design of the premises of the International Broadcasting Centre (IBC) created for the radio and television facilities for broadcast the 2016 Olympic Games in Rio de Janeiro. The project includes detailed design engineering of 90 premises with a total area of 50,000 m².

GUATEMALA



In the **water** sector we continue to execute the construction design and technical support for the works of the Renace IV hydroelectric power project. The works include an intake gate, canal, tunnel, regulation reservoir, penstock, machine hall and a substation. The design power of the hydroelectric installation is 55 MW with a flow rate of 13 m³/s and a net head of 489 m.

In the **institutional, economic and social development** sector we continue to provide technical assistance to the Support Programme for Security and Justice in Guatemala (SEJUST) with the aim of improving the justice and security sector to enable it to act more effectively in the investigation and prosecution of crime, ensuring due process and by protecting the rights of victims and vulnerable groups and seeking the re-education, rehabilitation and reintegration of lawbreakers. Our role focussed on strengthening the penitentiary system of the Secretariat of Social Welfare by creating action protocols and supervision of the works for construction of two courts and five workshops in various juvenile detention centres.

DOMINICAN REPUBLIC

In 2016 we finished implementation of a user-based **cadastral system**, another commercial system and a geographic information system for the country's drinking water and sewerage networks for the National Institute of Drinking Water and Sewage (INAP) of the Dominican Republic.

In the **institutional, economic and social development** sector we are providing technical assistance to the

Civil Society and Local Authorities Support Programme (PASCAL) aimed at consolidating democratic governability and social cohesion in Dominican Republic. It involves the institutional strengthening of the Ministry of Public Administration, support to 40 pilot local government bodies in implementation of the Public Authorities Act and improvement of the provision of public services in said municipal districts driven by enhanced participation by citizens.

CIVIL SOCIETY AND LOCAL AUTHORITIES SUPPORT PROGRAMME (PASCAL)

We are conducting a technical assistance to the Ministry of Public Administration for implementation of the municipal component of its 2012-2016 Strategic Plan, which includes the Civil Society and Local Authorities Support Programme (PASCAL), aimed at contributing to consolidation of democratic governability and social cohesion in the Dominican Republic.

One of the milestones of the project is the creation of a new tool, SISMAP (Municipal Public Administration Monitoring System) that performs tracking and monitoring to measure the degree of development of municipal management in terms of efficiency, quality and participation in the regulatory and procedural structures that affect the strength of municipal administration. The tool places key administrative documents on the use of public and human resources and accountability at the disposal of the citizens. SISMAP is an effective instrument for enhancing the transparency of municipalities and is expected to contribute to the creation of an efficient, transparent and participative municipal management culture that guarantees citizens' free access to public information.

Another success of the program was drafting of the Organic Law for Local Government and Regional Administration (Ley Orgánica de la Administración Local y el Régimen Territorial) the objective of which is to foster and strengthen the mechanisms of control, inspection, transparency, monitoring of service quality, accountability and the impact of public investment at the regional level.



HONDURAS

We continue to provide technical assistance to the Ministry of Labour and Social Security to implement the **Institutional Strengthening** Programme for Decent Employment in Honduras (EURO+LABOR) that aims to increase the capacity of the Honduran Government to foster decent employment while reducing unemployment and sub-employment.

On the other hand, we finished the technical assistance for the *Project to Support the Public Administration of Honduras and its Participation in the Regional Integration Process* (PAAPIR) that supported the government in promoting greater social cohesion by strengthening state institutions and other civil society organisations.



We finished the technical assistance for the Project to Support the Public Administration and the Regional Integration Process (PAAPIR)

PANAMA

This year we began work on the land ownership project "Services for Regularization and Titling in Rural Areas of the Azuero Peninsula" for the National Land Administration Authority (ANATI), handing over more than 4,000 title deeds to the beneficiaries. The work done so far consists of a **cadastral survey** of a total of 40,000 hectares of rural land and processing of the title files required for registration in the Public Registry.

We were also awarded another cadastral and titling project called "Services for Regularization and Titling in Rural Areas of Antón, La Pintada, Natá, Olá and Penonomé in the Province of Coclé" that aims to regularize the rural districts of the province and provide the inhabitants with title deeds to their land. With this new award Eptisa consolidates its position as a benchmark in cadastral and titling projects in Panama.



NICARAGUA

In the **water** sector, we finished the feasibility study for the El Carmen hydroelectric facility involving a dam with a height of 93 meters including the hydraulic circuit, the machinery hall and a substation. The installed power is 100 MW with a design flow of 140 m³/s.

ARGENTINA

We finished the technical assistance under the project called **Improvement of the Regional Economies and Local Development** the aim of which was to provide access to new technologies to SMEs in the northeast and northwest of the country. Under the programme specific technical assistance was provided to sectors within the specialty fields of the National Institute of Industrial Technology (INTI) with the aim of modernising the companies' services and providing consultancy to ensure that the activity impacts small and medium-size enterprises as strongly as possible to make them more competitive on the domestic and international markets.

We finished the technical assistance to INTI for the Improvement of the Regional Economies and Local Development project aimed to provide access to new technologies to SMEs in the northeast and northwest of the country

PERU

Our position in the country has been consolidated by the numerous new projects that Eptisa has been awarded in the Andean country and opening of a new office that will cover the entire Latin American region.

In the **information technology** area Eptisa has developed the new Geographic Information System for Cálidda, the company that has the Peruvian State concession to design, build and operate the natural gas distribution system in the Department of Lima and the Constitutional Province of Callao.

We continue to work on developing an **indexing and document search** solution for the Intranet of the Superintendency of Banking, Insurance and Private Administrations of Pension Funds (SBS). Based on Google Search Appliance technology, it aims to supervise, detect and prevent money laundering and financing of terrorism. The SBS needs to search for documents produced and stored by several governmental agencies in a fast, centralised manner,

respecting the security rules and the inherent confidentiality of each system.

In the **R&D** field we have finished the contract for development of a georeferenced platform for real-time management of water infrastructures for the National Fund for Scientific, Technological Development and Technological Innovation (FONDECYT). The aim of the project was to develop a geographic information system based on SCADA technology to unify all infrastructure, users and social indicators data to optimize management of the integrated water cycle.

In the **water** sector we have finished the project to design the hydroelectric installation for the Carhuac power station which includes the tendering study for works and electromechanical equipment.

In **transport** we were awarded a contract for works supervision to upgrade section 2 of the IIRSA 2 highway, also known as the central highway. The length of the section is 380 km.

Our position in the country has been consolidated thanks to the projects developed in the information technology sector and the opening of a new regional office

SUPERVISION OF THE WORKS TO UPGRADE SECTION 2 OF THE IIRSA 2 HIGHWAY IN PERU

We are member of the consortium selected to supervise the works for upgrading the surface course and structures of the road known as the Central Highway that connects Lima with the Peruvian and central mountain ranges and runs through Ticlio Pass at an altitude of 4,818 metres.

We are responsible for supervision of the works execution of traffic circles, pedestrian overpasses, widening the platform and construction of variants.

The works form part of the section 2 of the Central IIRSA with a length of around 380 km and includes the road from the Ricardo Palma bridge to Huancayo via La Oroya and from there to the Cerro de Pasco detour.

This highway is part of the Amazon corridor for access to the Ucayali waterway within the framework of the Initiative for the Integration of the Regional Infrastructure of South America (IIRSA). The works are financed under a public-private concession agreement monitored by the Ministry of Transport and Communications of Peru.



GEOGRAPHIC INFORMATION SYSTEM FOR THE COMPANY CÁLIDDA

Eptisa has developed the new Geographic Information System for Cálidda, the company that holds the Peruvian State concession, for a term of 33 years with option of renewal, to design, build and operate the natural gas distribution system in the Department of Lima and the Constitutional Province of Callao.

Based on ESRI technology, the system enables provision of support for the following business processes:

- Technical network management: drafting and approval of preliminary designs, display of requests for feasibility of supply, loading of approved drawings and documentation to the works and codification of technical locations
- Works planning: drafting, management, and updating of the cartographic database. Design of the master plan
- Commercial management: administration of potential clients, sales force support, sales management, display of customers and alerts for construction and upgrading, address search and georeferencing of clients
- Emergency management: georeferencing of the emergency, simulation of network rupture and identification of affected persons.



COLOMBIA

We continue with the technical assistance project to the *New Territories of Peace in Colombia* in the field of **institutional, economic and social development**, the term of implementation of which has been extended for 12 more months with respect to the last addendum. The project aims to develop sustainable socio-economic inclusion of the territory through local capacity building, institutional strengthening and knowledge management.

Implementation of the *New Territories of Peace* project embraces the entire peace negotiation process between the Government of Juan Manuel Santos and the Revolutionary Armed Forces of Colombia- People's Army (FARC-EP).

In the **Information Technology** sector Eptisa collaborated with the Ministry of Information and Communication Technologies to carry out the development, implementation and start-up of a document search engine for the *Sí Virtual* platform. The application is based on Google

Search Appliance technology and provides public access to State information, procedures and services. It enables citizens to quickly access and consult numerous public data and to perform certain administrative procedures online.



BOLIVIA



In the **water** field we are working for the National Electricity Company of Bolivia (ENDE) on the detailed design, technical specifications and tendering documents of the construction project for the Rositas Hydroelectric Power Station. It is expected to generate an annual average power output of around 3,040 GWh/year.

We also finished the consulting contract for supervision of the execution of the Miguillas hydroelectric project that includes the Umapalca (87 MW) and Palillada (121 MW) power stations and review and updating of the feasibility study for hydroelectric development of the Rio Grande.

In the **environmental** sector, in mid-2016 we finished the *Programme to Support Sustainable Conservation*

of *Biodiversity* (PACSBio) that provided technical assistance to the national, regional and local authorities for the conservation of biodiversity and sustainable development in Bolivia through support for the policies within the framework of the National Protected Areas System. Among the milestones of this project, drafting of the municipal law on the creation of the Municipal Protected Area of the "Grandes Lagos Tectónicos de Exaltación" Integrated Management Natural Reserve deserves special mention.

We continue to execute the works for the Municipal Management Improvement Program Component II - Acquisition and implementation of the **Urban Cadastral** Information System (SEICU) for the Ministry of Public Works, Services and Housing of Bolivia. In this project we developed a multi-purpose digital cadastral system for the generation of alphanumeric, spatial and managerial information for cadastral management with digital user integration by a combination of Internet use with specific Geographic Information System tools.

In the **transport** sector we are providing technical assistance for construction of a section of highway between Monteagudo and Muyupampa. The length of the section is 49 kilometres with a paved area of 500,000 m² and involved an earthmoving volume of around half a million cubic metres. These works require extremely efficient management of consumption of materials in view of the difficulty in obtaining supplies due to the natural conditions of the region and its poor infrastructures.

TECHNICAL ASSISTANCE FOR CONSTRUCTION OF THE MONTEAGUDO - IPATI HIGHWAY. SECTION 1: MONTEAGUDO - MUYPUPAMPA

We have been contracted to provide technical assistance to the construction company Arias Infraestructuras for construction of a section of highway between Monteagudo and Muyupampa with a length of 49 kilometres, a paved area of 500,000 m² and earthworks volume of around half a million cubic meters.

The difficulty of this project resides in the lack of the desired quantity and quality of materials suitable for execution of the works. The sources of road-building material are located in protected areas or in places difficult to access with very low extraction, transport and treatment yields. To this must be added the presence of rivers with highly variable seasonal flows that impede transport at certain times of the year.

These construction constraints affect pavement design, the main innovation of which lies in the calculation and optimization of various type sections to minimise material consumption on the basis of a range of international standards and methodologies such as AASHTO, Shell and mechanistic-empirical pavement design calculations.



FINAL DESIGN, TECHNICAL SPECIFICATIONS AND TENDERING DOCUMENTATION FOR CONSTRUCTION OF THE ROSITAS HYDROELECTRIC POWER STATION IN BOLIVIA

We continue to work on the consultancy for final design and tendering documents for construction of the Rositas Hydroelectric Power Station for the National Electricity Company of Bolivia (ENDE), a project that aims to raise the electric power production figures, increase agricultural production, raise the income and employment levels in the region, organise settlements in virgin areas and drive the supply of potable water.

Eptisa is responsible for producing the documentation required to enable the tendering and construction processes and for drafting the Technical-financial and Environmental Feasibility Project for the second hydroelectric power station on the Rio Grande. The works include conducting the basic mapping and topography, geology and geomorphology, climatology, hydrology and hydro-sedimentary studies, the specific environmental studies and review and update of the Rositas Rio Grande Hydroelectric Project Feasibility Study and the Rio Grande Hydroelectric Development Pre-feasibility Study with an analysis of 6 alternative dams for selection of an additional hydroelectric project.

The planned works consist of an earth dam with clay core with a height of 160 metres from the riverbed, a crest length of 655 metres and a useful reservoir of 19,000 hm³. It will also be equipped with a spillway consisting of 9 11-metre spans regulated by gates. The planned total installed capacity will be 600 MW and the annual average power output will be 3,040 GWh/year.



The project will raise the electric power production figures in the country, as well as increase agricultural production and economic levels in the region

The continent of Africa is composed of more than fifty nations. In spite of being the second biggest continent, according to the FAO its population only makes up 10% of the world total. Eptisa is present in seven countries in North Africa including Morocco, Algeria and Egypt and four in the Sub-Saharan region, such as Ethiopia, Ivory Coast, Kenya and Mozambique



AFRICA



AFRICA

This continent is a very important geographic zone for Eptisa and once again we have enhanced our presence with two new projects in Sub-Saharan Africa. We believe that the continent has enormous potential and are willing to work for its development

In the **institutional, economic and social development** area we are performing technical assistance for the European Union in the *Regional Capacity Building Programme for Civil Society Facility of Southern Neighbourhood Countries* with the aim of strengthening the capacities of non-state actors to promote national reforms and increase public accountability in southern Mediterranean states such as Morocco, Algeria, Tunisia, Libya, Egypt, Israel, the Occupied Palestinian Territory, Jordan, Lebanon and Syria.

The European Commission has extended our contract to implement **monitoring services** based on the ROM (Results Oriented Monitoring) methodology in EU-funded projects in Africa.

In the **energy** sector we continue our partnership with the European Union to provide technical assistance to the *Sustainable Energy for All (SE4All)* initiative. The purpose of the programme is to support the countries and regional organisations of West and Central Africa to improve their policies and legal frameworks to increase private and public investments and to foster investment aimed at enhanced access to and greater supply of energy, the promotion of renewable energy and increased energy efficiency. In 2016 we conducted a preliminary field study to identify the social, environmental and climate change impacts of the Mano River hydrological project commissioned by a trans-border resource management body made up of Liberia, Sierra Leone, Guinea and Ivory Coast.

The European Union's **Cooperation Programme** for PALOP and Timor Leste continues to make progress. Our brief in this project is to provide technical assistance to develop a single coordination instrument for the programme by means of enhanced coordination between the institutions involved. It is being implemented in Angola, Cape Verde, Guinea-Bissau, Mozambique, Sao Tome and Principe and Timor-Leste.

In the institutional, economic and social development area we continue to implement four major regional projects funded by the European Union

TECHNICAL ASSISTANCE FOR EVALUATION OF THE EUROPEAN UNION COOPERATION PROJECTS AND PROGRAMMES IN AFRICA

In 2016 the European Commission extended our contract for provision of monitoring services based on the ROM (Results Oriented Monitoring) methodology in EU-funded projects in Africa.

The aim of this project is to carry out short-term missions to support EC services and those of its delegations in Sub-Saharan Africa for control, assessment and reporting on EU-funded projects in Africa in order to verify proper execution of the same at all levels.

Eptisa is in charge of organising and implementing the monitoring mission in every selected project including a review of the main documents, a field visit and submission of a detailed monitoring report. We will also submit annual reports that consolidate the information of the individual monitoring reports of the year in question and adding aggregated data on the quality of the projects in the region. The technical personnel that performs these tasks have wide experience in cooperation and development projects in Africa and project management in general.

The goal is to ensure objective, impartial and rigorous control of the quality of the outcome of the aid and cooperation programmes of the European Union in Africa within a perspective of enhanced

performance and strengthening of future impacts.

In 2016 around 200 short-term missions were conducted.



IVORY COAST

We continue to perform external technical audit and advisory missions for the *Programme to support the effectiveness and quality of the Ivory Coast - European Union partnership (SEQUACI)*, financed by the European Union in order to ensure that the results of future and currently running EU in Ivory

Coast **cooperation programmes** are obtained by means of collection and analysis of qualitative and quantitative information. We carried out several missions in 2016 on matters such as food security and in support of the Ivory Coast Ministry of Agriculture.

ETHIOPIA

We have signed our first contract in the **transport** sector in this country due to our extensive know-how and experience. Our tasks include improving the management and maintenance of Agamsa-Bure road, a section of 84.56 km of currently gravel road. The project is managed under the auspices of the Ethiopian Roads Authority and financed by the World Bank.

The works include improving the route, paving, drainage, drafting of the social and environmental management plan, resettlement of communities, supervision of traffic management and performing road safety audits. The goal of our work is to boost the efficiency of maintenance of the roadway and enhance its safety.





KENYA

Eptisa has been awarded a technical and financial consultancy service for a DBOT (Design-Build-Operate-Transfer) contract, the second we have been awarded in Kenya. The project involves transforming an existing unpaved road into a paved road linking two corridors in the west of the country and thus creating a new and improved access from Tanzania to Nairobi. Our service includes:

- Review of the technical bidding documentation
- Analysis of the financial model of the concession
- Detailed assessment of the technical and financial risks
- Consultancy for the final project agreement



MOZAMBIQUE

We continue to support the Technical Secretariat for **Food Security and Nutrition** of Mozambique (SETSAN) to reduce the number of people suffering from hunger, currently around 30% of the country's households. By strengthening SETSAN's capacities we expect to enable it to undertake additional coordination, monitoring and evaluation tasks.

At the end of the year we completed our technical assistance to the EU project for **Institutional Strengthening** of the Ministry of Health (MISAU) under the project called *Support for the Development of Human Resources in the Areas of Health Management*



and Administration. The goal was to improve the health conditions of the population through the expansion of quality basic health services, focusing on infrastructure and human, material and financial resources. The work carried out for definition and drafting of training programs aimed at the medical technicians of hospital administration is especially noteworthy, as is the training of teachers in technical, pedagogical and methodological aspects.

The pilot phase of the 1:25,000 scale **territorial cartography** project was completed. This project is designed to increase the institutional capacities of the National Cartography and Remote Sensing Centre (CENACARTA) in the collection, processing, storage and provision of basic GIS data, satellite imagery and cartography of an area of the province of Maputo. Eptisa was in charge of acquiring the equipment required to achieve the project objectives and the theoretical and practical training programme for Mozambican personnel in aspects such as project management and coordination, topography, geodesy, photogrammetry, cartography, geographic information systems, databases and digital orthography.

The pilot phase of the territorial cartography project was completed, which was designed to increase the institutional capacities of the CENACARTA in processing GIS data, satellite imagery and cartography

TECHNICAL ASSISTANCE TO THE TECHNICAL SECRETARIAT FOR FOOD SECURITY AND NUTRITION OF MOZAMBIQUE FOR COORDINATION AND MONITORING OF THE MDG 1C

The country is trying to improve the quality of its food resources to deal with the problem of widespread malnutrition. Eptisa provides technical assistance services to the Technical Secretariat for Food Security and Nutrition (SETSAN) of the Government of Mozambique for coordination and monitoring of the food security situation of the country. The aim is to approach the objectives set in the Millennium Development Goal 1, Target 1C: "between 1990 and 2015 to halve the proportion of people who suffer from hunger".

In order to make headway against this problem we are carrying out tasks such as consolidating the reports of all the players involved, improving communication of implemented actions, effective monitoring of SETSAN's activities and their impacts, efficient coordination of the programme at the provincial and central level and support for the budgetary management of the programme.

The malnutrition is caused by the lack of variety in the diet and by certain poor nutritional practices, all aggravated by the poor quality of the water and sanitary arrangements. Eptisa is working hard to turn the situation around.



ALGERIA

With the aim of protecting the environment, the Ministry of Water Resources of Algeria is developing various wastewater treatment plants throughout the country

We maintained our technical assistance to the *Support Programme for the Environmental Sector (PAPSE)*. Our task is to support the Algerian authorities in the design and implementation of environmental policies from the point of view of sustainable development. Key budgetary support indicators for the sector have been obtained from this programme.

With the aim of protecting the environment, the Ministry of Water Resources of Algeria is developing various **wastewater treatment plants (WWTP)** throughout the country. Eptisa is working on control and monitoring of the works for construction and operation of the Akbou and Bou Ismail stations, and on technical assistance during the warranty and operation year.

In the **transport** sector we finished construction of a 20-kilometre section of the new passenger and goods railway line between the towns of Realizane, Tiaret and Tissemsilt. The design included track and platform layout, earthworks, esplanade design, sub-ballast and ballast, transverse and longitudinal drainage, track superstructure, railway and non-rail facilities, replacement of affected services and the structural protection of gas pipelines adjacent to the route. It also included designing the layout of roads and paths intercepted by the new railway line and replacement of the former while ensuring their transverse permeability.

SUPPORT PROGRAMME FOR THE ENVIRONMENTAL SECTOR (PAPSE) IN ALGERIA

The PAPSE project is continuing through technical assistance to the Ministry of the Environment and other institutions with the aim of supporting an environmental sector policy in the country, especially in the metropolitan area of Algiers. Eptisa provides consultancy on the following subjects:

- The sector strategy
- Institutional strengthening
- Integrated management of catchment areas in the littoral region of Algiers

Occasionally, we have also performed tasks such as project management training, institutional, organisational and financial analysis and rationalisation, and drafting of protected area management plans, among others.

The programme, kicked off in 2014, has already been applied with success. One example is experimentation with Environmental Performance Contracts that enable measurement of companies' commitment to questions of energy efficiency, eco-conceptualisation, biodiversity, greenhouse gases and the health-environment relationship.



EGYPT

We maintain our technical assistance services for the **Integrated and Sustainable Community Development Programme** in El Cairo. Financed with funds from the European Investment Bank, the programme seeks

to improve the quality of the buildings and the living conditions of citizens with fewer resources to foster their access to housing through the creation of jobs for people at risk of social exclusion.



MOROCCO

In the **water** sector we continue to execute the **turnkey project** for a drinking water plant for Fez and Meknes for the National Office for Electricity and Potable Water (ONEE). In 2016 the construction of the greater part of the civil works for the drinking water treatment plant with capacity of 172,800 m³/day (2,000 l/s) was finished.

We also provide technical assistance to the Department of **Irrigation** and Agricultural Space Development (DIAEA) within the framework of the project for the modernisation of irrigated agriculture in the Gharb, Haouz and Souss Massa areas (PNEE, Tranche 3) including the conversion of 22,000 hectares of agricultural land to drip irrigation. The assistance provided by Eptisa is organised into three action plans:

- Modernisation of the infrastructures
- Support for recovery and reuse of irrigation water
- Capacity-building for the DIAEA

This year we finished the assistance for monitoring of phase II of the *Support Programme for Implementation of the National Literacy Strategy*. It involved analysis of the eligibility conditions for disbursement of the budgetary support tranches. The programme



obtained significant quantitative and qualitative results:

- The number of people who learned to read and write reached 6.8 million, mostly belonging to the female, young person or rural population
- Training of trainers, the use of information technologies, assessments and certificates, among other aspects, were fostered

TURNKEY PROJECT: DESIGN, CONSTRUCTION AND COMMISSIONING OF THE FEZ AND MEKNES DRINKING WATER TREATMENT PLANT IN MOROCCO

The works for the drinking water treatment plant (DWTP) of Fez and Meknes in Morocco are still in progress. The objective of this project, managed by the Office National de l'Electricité et de l'Eau Potable (ONEE) and executed by Eptisa in consortium with GS Inima, is to build a plant with a capacity of 172,800 m³/day (2,000 l/s).

The water from the Idriss Reservoir will be treated in the plant to achieve the parameters required for human consumption. The treated water will then be conveyed from the plant to the distribution reservoirs in Fez and Meknes.

Our tasks include the design, basic and detailed engineering of the DWTP, the holding reservoir

and the pumping station, construction of the civil works and equipment buildings, installation of mechanical and electrical units and PLCs for automation and control and testing and commissioning of the facilities.

The DWTP treatment line consists of a manhole for flow regulation and measurement, mixing chamber 1, lamella separator, mixing chamber 2, flocculation, lamellar clarifiers, sand filters, filter screen washer, filtered water tank, washing water recovery tank, washing water settling tank, a 20,000 m³ treated water reservoir and a treated water metering and pumping station.

The sludge line consists of a sludge drain, sludge tank, gravity thickening and drying beds. The

reagent line consists of dosing with aluminium sulphate, ferric chloride, polyelectrolyte, lime, chlorine gas, active charcoal and potassium permanganate.

The plant will be completed with drinking water, service water and evacuation networks, electric power connection, transformer substation, instrumentation and remote control, lighting, building control, site development and enclosure.

A large proportion of the planned civil works was executed in 2016 thanks to the more than 200 workers devoted to the project, which is making good progress towards the finish date in late 2017.



MIDDLE EAST GULF REGION

We have consolidated our presence in the region by setting up an office in Dubai, the business capital of the Middle East. We have executed projects in this region in the water and social and institutional development sectors in countries such as Jordan, Oman and Lebanon





MIDDLE EAST



We continue to work for the Ministry of Water and Irrigation developing a National Water Information System

JORDAN

The country suffers from persistent water shortage that forces the Jordanian government to carry out proper management and distribution in accordance with the available hydraulic resources. In this context we continue to work for the Ministry of Water and Irrigation to develop a **National Water Information System (NWIS)** with a functional design that also involves upgrading the existing information systems. The objective is to enable sharing of water-related data between all stakeholders in a flexible, efficient manner with access by user name and password. Our tasks include assessment of the current system and the preliminary design of the new one. The data stored in the old NWIS will be migrated to the new one and data feeds will be set up from other existing systems in the Ministry. At the same time the information systems of other interested organisations will be

assessed and they will be provided with support to improve their capacity.

Furthermore, we continue to provide technical assistance to the programme to foster democratic **governance** in Jordan, support for civil society and for organisations with bases in the communities. The aim is to implement effective political dialogue among the players. Our work has three goals:

- To strengthen the institutional and administrative capacity of the Chamber of Deputies
- To develop the provincial institutions
- To help the non-governmental players in their efforts to foster good governance and accountability

The project is conducted in consortium with the German company GFA Consulting Group and the local NGO Partners-Jordan: Center for Civic Collaboration.



LEBANON

We are still implementing the technical assistance to the European Commission to support the **Promotion Social Dialogue** in Lebanon. We are executing this project in consortium with the German firm Gopa with the aim

of enhancing the capacity for dialogue between the Lebanese Ministry of Labour, the social stakeholders and civil society in order to reinforce social protection and thus consolidate the labour-related legislation.



GULF REGION

We have consolidated our presence in the region by setting up an office in Dubai.

This year we have developed specialized engineering works within the water treatment field in DWTP, WWTP and desalination projects in the area, incorporating state-of-the-art technology in the basic design of the plants. We have been working with other established Spanish firms on these tasks.

For example, in the desalination sector the basic designs for the Jeddah 4 desalination plant in Saudi Arabia deserves special mention as it is located in another country where efficient management of water resources is of vital importance.

OMAN

In 2016 we conducted technical assistance for the detailed engineering of the construction design of the Sohar desalination plant being built in the port area of the city. When it is finished the plant will have a production of desalinated water capacity of 250,000 m³/day. The construction budget exceeds € 169 million.

This project extends Eptisa's know-how in the desalination field and consolidates our presence in the Arabian Peninsula, a region with enormous potential for development of plants using this technology.



In Eptisa we firmly believe in developing our work taking into account the Corporate Social Responsibility that concerns us as an actor in society. That is why we develop each year more this commitment that allows us to generate trust and fulfil it together with our clients and collaborators. In this 2016, we have included social, economic and environmental development aspects in our offer and production processes that have contributed sustainability to our operational legacy.

The main aspects of the Corporate Social Responsibility policy of Eptisa and the progress of its implementation are detailed below.

CSR

CORPORATE SOCIAL RESPONSIBILITY



IMPLEMENTATION OF CORPORATE GOVERNANCE

The implementation of Corporate Governance best practices directly enhances trust, safety and value creation

Corporate Governance best practices is the development of a framework that effectively manages the relationships between the partners, the Board of Directors, management and key stakeholders in Eptisa. Therefore, Eptisa's management commits to ensuring that its executives act in a responsible and ethical manner in the course of their professional activity, applying Corporate Governance best practices via the implementation and monitoring of CSR related standards and recommendations, and to integrating these guidelines into the corporate culture and internal organization without overlooking strategic management and operational efficiency.

GOVERNING BODIES

In order to incorporate these Corporate Governance best practices and consequently fulfil its commitment to transparency and business ethics, Eptisa has the following Governing Bodies: General Shareholders Meeting, Board of Directors and Management Meeting.

Among others, the main objectives of these Governing Bodies include the following:

- Ensure the organisation's sustainability from the economic-financial, social and environmental point of view
- Foster an environment of ethical business practice in order to aid the Directors, managers and employees to prevent any unethical irregularities from occurring within Eptisa

- Ensure an effective framework of Corporate Governance, establishing the necessary internal policies and regulations
- Involve stakeholders in the Corporate Governance model in order to foster collaboration and cooperation so as to maximize value creation
- Contribute to creating long-term value through careful management of corporate reputation
- Potentiate the transparency and ensure the accuracy of the published financial information
- Monitor operational management efficiency, improvement of processes and compliance with the applicable legislation

GENERAL SHAREHOLDERS MEETING

The General Shareholders Meeting is the organ of expression of the partners' will. The decisions concerning the matters within their competence are adopted through majority.

Amongst others, matters within its competence include the following:

- Modifications to Eptisa's corporate structure

- Modifications to the composition of the Board of Directors
- Amendment of the Articles of Association
- Election of the External Auditor

All partners are represented at the General Shareholders Meeting and meet at least twice during each financial year.

Corporate Governance best practices is the framework that effectively manages the relationships between the partners, the Board of Directors, management and key stakeholders in Eptisa

BOARD OF DIRECTORS

The composition, meetings schedule and internal regulations of Eptisa's Board of Directors are defined in specific clauses in the Articles of Association and by the Capital Companies Act. Furthermore, Eptisa's Board of Directors also abides to the applicable recommendations of the Good Governance Code.

After the incorporation of Eptisa into the JSTI Group, a new Board of Directors was formed in September 2016, consisting of the following three Board Members:



JUNHUA WANG

CHAIRMAN OF EPTISA

Junhua Wang is Chairman of Eptisa since 2016 and Director of the Board Directors and CEO of JSTI. He has held positions of maximum responsibility for more than 30 years in the JSTI Group (former "Jiangsu Transportation Research Institute"), where he has held the position of Rotating President and Vice-President. He is also Vice-President of the Board of Directors of Jiangsu General Chamber of Commerce and Vice-President of the Board of Directors of Jiangsu Bright Foundation.

Junhua has a Master in Management Science and Engineering from Nanjing University of Science and Technology and a Master of Science degree in Automotive Engineering from the University of Jiangsu (former "Jiangsu Institute of Technology").



LUIS VILLARROYA

VICE-PRESIDENT AND CEO OF EPTISA

Luis Villarroya has been Vice-President of the Board and CEO of Eptisa since 2007, where he has held positions of the highest managerial responsibility since his incorporation in 1990. Luis is currently member of the Executive Committee of the Pan-American Federation of Consultants (FEPAC); Vice-President of the Steering Board of the Spanish Association of Engineering, Consultancy and Technology Services Companies (TECNIBERIA); Vice-president of the Steering Board of the Spanish Exporters and Investors Club and member of the Strategic Guidance Committee of ICEX (Spanish Institute of Foreign Commerce). He was member of the Board of Directors of the Spanish Energy Club and of Círculo de Empresarios and of AESMIDE (Association of Contractors Companies with Public Administrations).

Luis has a MBA from the Northwestern University of Chicago and a Master of Science degree in Civil Engineering from the Polytechnic University of Madrid.



DAPENG LI

BOARD MEMBER OF EPTISA

Dapeng Li is currently Rotating President of JSTI. He has been a JSTI member since 1998, as well as a member of Eptisa's Board of Directors since September 2016.

He has been the winner of the 5th edition of Top 100 Excellent China Highway Engineers and Top 10 Consultants and Designers of Jiangsu and was selected for the training of the 4th edition of the "333 Project" in Jiangsu.

Dapeng has a Master of Science degree in Transport Engineering from Chongqing Jiaotong University.

Previously the Board of Directors was composed of 7 Board Members, of which 3 were Executive Directors:



ÁNGEL CORCÓSTEGUI

Chairman of Eptisa and Founding Partner of Magnum Capital Industrial Partners



LUIS VILLARROYA

Vice-President and CEO of Eptisa



GERARDO ROIZ DE LA PARRA

Executive Director since 2013 and General Manager of the International Division of Eptisa



FRANCISCO JAVIER SANZ

Executive Director since 2015 and General Manager of Eptisa in Spain



ENRIQUE DE LEYVA

Board Member of Eptisa since 2007 and Founding Partner of Magnum Capital Industrial Partners



JOÃO TALONE

Board Member of Eptisa since 2007 and founding partner of Magnum Capital Industrial Partners



ALBERTO BERMEJO

Board Member of Eptisa since 2013 and partner of Magnum Capital Industrial Partners

Eptisa's Board of Directors is assisted by its Secretary, Gonzalo Garcia de Prado (Garrigues Law Firm), being an independent, impartial and professional person who, as a non-Board member, attends Board meetings but lacks voting rights. The Secretary diligently records in the Minutes the agreements, comments and proposals covered within the within the same.

The Board of Directors performs its tasks with unity of purpose and independence of judgement,

treats all partners equally and takes the company's interests - understood as maximising the sustainable economic value of the Company - as its guiding principle. Additionally, Eptisa's Board of Directors is committed to respecting the rules and regulations, fulfilling its obligations and contracts in good faith, respecting the customs and good practices of the sectors and territories in which it carries out its activity and observing the additional principles of social responsibility that it has voluntarily accepted.



After the incorporation of Eptisa into the JSTI Group, a new Board of Directors was formed in September 2016

Eptisa's Board of Directors reserves the power to approve the Company's general policies and strategies

It assumes, as a critical part of its mission, the approval of the Company's strategy, as well as, the accurate organisation required to put it into practice. Furthermore, Eptisa's Board of Directors commits to supervising and ensuring that Management fulfils the Company's targeted strategic objectives and respects its social purpose and interests. Consequently, Eptisa's Board of Directors reserves the power to approve the Company's general policies and strategies, and in particular the following:

- The strategic or business plan, as well as, management objectives and annual budgets
- The investment and financing policy without prejudice to the prerogatives of the General Shareholders Meeting
- Definition of the corporate structure, without prejudice to the prerogatives of the General Shareholders Meeting
- The Corporate Governance policy
- The Corporate Social Responsibility policy
- The remuneration policy and evaluation of the performance of top-executives
- The risk management policy and periodic monitoring of the internal information and control systems
- The dividends policy and the treasury shares policy, in particular their limits.

The Board of Directors also has the prerogative of informing the General Shareholders Meeting of the annual financial statements and the auditors' report.

The members are required to actively participate and limit to a minimum any possible faults of attendance. With sufficient time in advance, Eptisa's Management provides the board members with the required information in order for these to be able to take an active participation its meetings. Furthermore, all board members may request any additional information on any subject covered by the Board of Directors.

At the beginning of every financial year the Board of Directors sets the schedule of meetings for the coming year with a frequency of at least one ordinary meeting per month and/or any other meetings it may deem necessary. Once a year a meeting is scheduled to assess the operation of the Board of Directors in order to analyse its performance and detect aspects that could be improved.

Eptisa's Board of Directors is not remunerated and there are currently no other Board Committees.

MANAGEMENT COMMITTEE

Eptisa's Management Committee main function consists of defining, implementing and evaluating the strategic and operational plans of the Company approved by the Board of Directors.

The CEO of Eptisa appoints the Management Committee from among the members of the management team that takes care of the day-to-day operations of the Company. The following managers comprise Eptisa's Management Committee:

- Ignasi Cantarell
- Nuno Fragoso
- Gonzalo García
- David Pascual
- José María Pascual
- Gerardo Roiz de la Parra
- Javier Sanz
- José Ignacio Soriano
- Fernando Varela
- Luis Villarroya
- Youyou Zhang



COMMITMENT TO OUR PEOPLE

TECHNICAL RESOURCES DEPARTMENT

Eptisa promotes training, creativity and synergy among its professional to enhance efficiency, productivity and knowledge management. With this aim, the **technical recourses department** provides Eptisa's professionals anywhere in the world with the support of a technical team of engineers, architects, economists, geologists, programmers etc. that work to apply innovations, to modernise and optimise our services and make them available to the entire Company.

OCCUPATIONAL HEALTH, SAFETY AND HAZARD PREVENTION POLICY

Eptisa is firmly committed to its strict health, safety and hazard prevention policy with the aim of preventing accidents and improving the welfare of its employees everywhere in the world. Occupational health and safety recommendations are published through the communication and training plan disseminated on the Intranet.

Eptisa adopted the Joint Prevention Service in the technical specialities for all of Eptisa's companies. For this reason Eptisa implemented the **Occupational Hazard Prevention Management System**, which has as its main objective the prevention of accidents and enhancement of occupational health in order to eliminate and/or mitigate harm to people and damage to facilities, machinery, materials, products, etc., reduce downtime and foster safe, efficient working procedures.

This management system is certified by **CERNE under the OHSAS 18001 standard** which specifies the requirements of an Occupational Health and Safety (OHS) management system to enable the Company to monitor its OHS hazards and improve its OHS performance. It is an effective tool to establish an appropriate occupational health and safety policy (OHSP) in companies with the will to undergo continuous improvements.

EQUALITY POLICY AND WORK-LIFE BALANCE PLAN

The equality policy and work-life balance plans have contributed to the professional development of women in Eptisa and are an example of the Company's commitment to the family.

Again this year Eptisa renewed the collaboration agreement with the **Adecco Foundation** for the development of the initiative called **Family Plan** to support employees who have handicapped family members.

This programme, which is specialized in helping handicapped individuals integration into the labour market, is a fundamental element of Eptisa's Corporate Responsibility Policy. In this sense Eptisa's employees with handicapped children, siblings or spouses under 65 years of age can take part in the counselling plans implemented by the Adecco Foundation's recruitment consultants. This personalized attention of the family member consists of guidance, advice and the design of actions adapted to the needs of each participant. These needs are valued under a counselling plan in the following areas: Medical-clinical, family, social, educational and labour-related.

PERSONALIZED PROFESSIONAL CAREER DEVELOPMENT PLAN

Internal training and talent management plans help to develop the professional career of every employee of the organization based on the required responsibilities and capabilities for each position.

In Eptisa we want to foster the access to junior employment, developing a roadmap to attract and promote the youngest talent through a scholarship program and collaborations with universities, masters, etc. to allow them to access to their first job.

Eptisa continues implementing one more year the collaboration agreement with the Adecco Foundation for the development of the Family Plan to support employees who have handicapped family members

COMMITMENT TO ENVIRONMENTAL SUSTAINABILITY

Eptisa is committed to the creation of solutions to ensure the socio-environmental sustainability of our planet and enhance the development of society

Here at Eptisa we believe that progress must be accompanied by conservation of the environment. Societies will not be able to develop qualitatively without a healthy environment. Engineering, the sector in which we are engaged, is fundamental to maintaining the planet in a viable condition, recovering natural spaces, managing the water resources and the waste efficiently and obtaining alternative energy sources. That is why we strive to minimise the environmental impact of our activities by applying a good **environmental best practices programme** in order to save resource consumption and perform proper waste management. The environmental management system we have implemented describes the organisation's commitment to reducing our environmental impact.

INTEGRATION OF ENVIRONMENTAL SUSTAINABILITY VALUES IN SERVICES AND PRODUCTS

To drive social development we are working on the integration of socio-economic and environmental criteria into our production processes that will ensure the sustainability of the solutions provided and add value to the environment. To do so, we highlight the following among the operational action plans developed to safeguard environmental sustainability:

Transport

Eptisa is committed to optimising its travel arrangements in order to minimise the environmental and economic impact and enhance social wellbeing without over-exploiting the earth's resources.

Energy

The company focuses on saving energy and the

search for new alternative energy generation sources through the design of energy-efficient facilities and infrastructures. We have collaborated in development of the renewable energy sector in several countries.

Water

Eptisa is committed to improving access to public water all over the world by providing know-how and engineering and management services. We collaborate with multilateral organisations in projects to improve supply and sanitation infrastructures in developing countries and to efficiently manage water in the supply and sanitation networks to prevent drinking water losses.

INTERNAL MANAGEMENT OF BUILDINGS, OPERATING METHODS AND ENVIRONMENTAL PERFORMANCE

The following environmental initiatives, some of which are aimed at optimising services and saving costs, were implemented in 2016 with the ultimate goal of maintaining our competitiveness and adapting the company to the current times of crisis.

Initiatives Implemented in 2016

In 2016 Eptisa continued its commitment to sustainability as one of the main drivers of growth and development.

All our environmental initiatives were aimed at contributing to sustainable development through the rational use of natural and energy resources, minimising the environmental impact of our activities and fostering innovation.

Furthermore, within the overall objective of reducing our CO₂ footprint, we have developed a series of environmental initiatives to achieve this reduction over the next three years:

- We have continued to implement the policy of renewing the company's fleet of cars to make more energy-efficient vehicles available. This, together with initiatives such as implementation of a pool car for work-related travel and creation of internal fuel economy policies, enabled a nationwide **reduction of 15% in CO₂ emissions** from vehicles in 2016.
- We are well advanced with the project to replace all fluorescent lighting in the head offices with LED-type lamps. This, coupled with awareness-raising policies for responsible use of energy by personnel, has enabled an **overall energy saving of 14%** over the last three years.
- In 2016 we contracted an external company to conduct an energy audit during which both the facilities and the vehicle fleet of Eptisa were analysed. As a result a series of improvement actions aimed at increasing the energy efficiency of the company has been proposed. These proposals will be assessed during 2017 and the measures most in line with the environmental policy and corporate objectives will be implemented.

Sustainable consumption-related initiatives

- New print-out system to reduce consumption and waste of paper and toner.
- Awareness raising with respect to paper consumption and generation of paper and plastic waste.

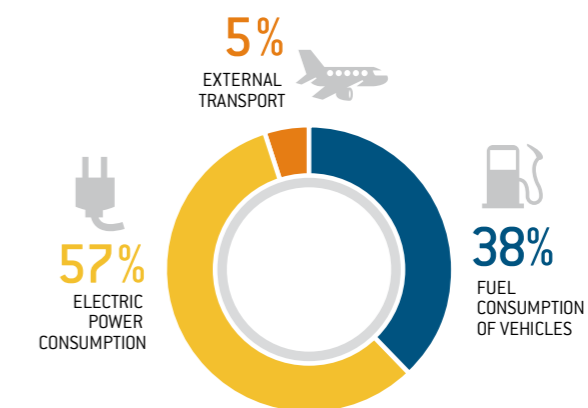
Objectives achieved in 2016

We were able to achieve the vast majority of the environmental objectives set for the 2016 financial year thanks to the series of environmental initiatives implemented in Eptisa. The following are the most significant achievements:

1. **Inclusion of sustainability criteria in infrastructure projects.** Specific checklists were developed in 2016 and have been implemented in the design phase of all Integrated Water Management projects. The staff involved in implementation of the same also took part in special training programmes.
2. **Reduction in generation of plastic waste** by more than 50% compared to the previous year.
3. The awareness raising and printing policies led to a **12% reduction in toner consumption** with a 9% per person reduction in consumption compared to the previous year. In addition, more than half the work centres **reduced paper consumption by at least 10%**.
4. The **carbon footprint** of the activities performed at head office has been calculated taking three main aspects into account:
 - *Fuel consumption of vehicles:* Emissions issued by resources owned or controlled by us
 - *Electric power consumption:* Generation of electricity purchased and consumed
 - *External transport:* Travel for professional purposes



The year-on-year reduction was 11%.



Challenges for 2017

The objectives for 2017 included in Eptisa's environmental programme are mainly aimed at:

- Increasing the number of infrastructure projects that include sustainability criteria
- Reducing our carbon footprint by 20% between 2016 and 2019
- Saving fuel and electric power and enhancing travel efficiency through initiatives related to these three main aspects

ISO 14001 ENVIRONMENTAL MANAGEMENT CERTIFICATES

Eptisa's Environmental Management System is certified by BUREAU VERITAS, an organisation accredited internationally by UKAS and in Spain by ENAC in accordance with the ISO 14001 standard.

Implementation of an Environmental Management System is an essential tool to contribute to sustainable development and achieve a balance between the environment, society and the economy.

Eptisa is committed to improving access to public water all over the world by providing know-how and engineering and management services



COMMITMENT TO QUALITY

Quality management for the achievement of excellence is Eptisa's commitment to the customer

Eptisa's commitment to quality management results in the use of excellence-oriented management models for continuous improvement. The management of Eptisa understands quality as the proper management of all resources to achieve optimal results, thus ensuring the achievement of excellence in the provision of service to customers.

QUALITY AND ENVIRONMENTAL POLICY

Eptisa's management has put an integrated quality and environmental management system which includes a Quality and Environmental Policy under the stipulations of the **UNE-EN ISO 9001 and 14001** standards, based on the following principles:

- Quality and environmental management are strategic issues for the company
- The development of all its employees is a priority in the corporate mission through continuous improvement of their personal, technical and managerial capacities
- Integrated client service is the main value that makes Eptisa a global company. We approach all works from a multidisciplinary, innovative perspective
- Continuous improvement of the system's efficiency and pollution prevention constitutes a fundamental value
- Integration of environmental criteria is fostered in all our activities and business processes
- We are committed to providing products and services that comply with the requirements of the currently applicable legislation, of Eptisa and of our clients

The system is oriented to achieving the following objectives:

- Customer satisfaction and the pursuit of professional excellence

- Carrying out our activities with the minimum possible environmental impact

The Management revises the system to analyze the efficacy of the Policy and set the specific, measurable and quantifiable objectives and targets for the current year.

The Policy is accessible to the public and communicated to all those who work for or on behalf of Eptisa to ensure that it is known, understood and implemented.

INTEGRATED QUALITY AND ENVIRONMENTAL MANAGEMENT SYSTEM

In Eptisa quality management and client satisfaction have always been a key objective. So much so that the Company had a certified quality management system implemented more than 20 years ago, applicable to all its processes and activities regardless the brand that operates in the market.

For the sake of simplicity and operational efficiency the quality and environmental management systems are merged into a single Integrated Quality and Environmental Management System (IQEMS), which means that all those who work at Eptisa share a commitment to quality and a deep respect and awareness for the environment.

ISO 9001 QUALITY MANAGEMENT CERTIFICATES

Eptisa's Quality Management System is certified by BUREAU VERITAS, an organisation accredited internationally by UKAS and in Spain by ENAC in accordance with the ISO 9001 standard. The implementation of a quality system is strategic to help improve the overall performance of the company and the development of sustainability initiatives.



COMMITMENT TO THE SOCIAL ENVIRONMENT

Technical knowledge and management skills at the service of the challenges of cooperation and social development

Much of world population growth occurs in emerging economies and developing countries where there is a strong demand for infrastructures and services to ensure the development of society. To achieve the objectives, these countries require better institutions and more stable governance.

Engineering projects in emerging economies pose immense professional challenges. Companies with experience in developing countries and with a pro-development approach, able to adapt to the local context, generate more value for society and operate with lower risks.

The company is a major player in the development of society by both providing services, conducting works and supplying equipment and by transferring technical know-how, technology and management capacity to the most disadvantaged environments on the planet. Eptisa is integrating approaches adapted to the particularities of the local context into its business strategies in order to generate greater value for society.

ACTION IN SOCIALLY VULNERABILITY AREAS

Socially vulnerable areas are disadvantaged areas in any country where a certain social precariousness is generated by poverty, unemployment, etc. These are areas where it is especially necessary for interventions to be transformational and generate opportunities for social change.

These contexts, often characterised by severe institutional weakness, require different approaches from those implemented in regions free from these problems.

Eptisa's experience in developing countries shows that there are no purely technical projects; technical problems are always associated with social problems. Therefore, we must understand how the local socio-cultural variables, which are different in every location, operate so that the proposed technical solutions respond suitably to all the dimensions involved.

The company is a major player in the development of society by both providing services, conducting works and supplying equipment and by transferring technical know-how, technology and management capacity to the most disadvantaged environments on the planet

INSTITUTIONAL, ECONOMIC AND SOCIAL DEVELOPMENT

Eptisa has been conducting specialised activity in the institutional, economic and social development sector since 1996 with the main objective of ensuring that business opportunities benefit not only the company, but also society as a whole.

Currently Eptisa is a **benchmark company in management of multilateral funds** and working with the main international development cooperation agencies.

We understand that companies have a very important role to play in transforming the social and economic reality. The culture of development cooperation calls for a balanced transformation between the economic, social and environmental dimensions in which efforts are focused on generating opportunities for the most disadvantaged or vulnerable countries or regions. As a consultant we provide useful services to the recipient country's institutions with the aim of strengthening their capacity to improve the standard of life of their population.

Socio-economic development has many objectives but is fundamentally focused on combating poverty, the scope of which requires a wide variety of actors including those of a technical nature, among which engineering has accumulated extensive knowledge.

Eptisa also specialises in **urban regeneration projects** with the goal of creating more humane and sustainable cities that can become the driving force of sustainable development. Elements such as technological innovation, combating climate change, sustainable mobility and citizen participation are being incorporated into city models to create an environment conducive to the well-being of the population.

RESPONSIBILITY AND RESPECT FOR THE LOCAL COMMUNITY

Eptisa's corporate responsibility is centred on respecting a series of principles in works and projects such as the use of local human and material resources, the sense of ownership of the population, fostering the awareness and consensus of the local stakeholders, compatibility with local development processes and conservation of natural resources.

In this context, and with the aim of moving towards more sustainable services from an environmental and social point of view, Eptisa has developed a number of **Sustainability Criteria** in the form of a checklist to be included in all projects at the design and implementation stages. These criteria take into account the environmental, social, economic, technological and institutional aspects of the projects to be executed in order to generate a more positive impact.

Eptisa's team of qualified experts understands perfectly that working together with other players such as consultants, research centres, public bodies and universities that contribute local knowledge is extremely important, as is the role of the NGOs with their experience and knowledge of the dynamics of civil society and the ease with which they communicate with and understand the needs of the population.

Conscious of the importance and dimension of social responsibility and the aspects related to working conditions in the course of the company's activity, Management actively fosters the responsibility of each employee to comply with national and international laws on working conditions and respect for the local community with which it interacts.

With the aim of moving towards more sustainable services from an environmental and social point of view, Eptisa has developed a number of Sustainability Criteria to be included in all projects at the design and implementation stages



COMMITMENT TO INNOVATION

Innovation as a cornerstone for a global and sustainable world

Innovation is a very important factor for the creation of sustainable competitive advantages. It enables the achievement of different results and improvement of processes in all fields. This is why it is essential that a commitment to sustainability includes a commitment to innovation. It is also a quality that customers rate extremely highly.

Here at Eptisa we know this and so we have adopted a management model based on the continuous addition of improvements, on changing and improving our processes, products and services, always keeping the needs of the customers firmly in mind. Our expert personnel make use of their knowledge to introduce technological innovations that improve products and services and provide benefits for society in every project.

EPTISA R&D PROJECTS

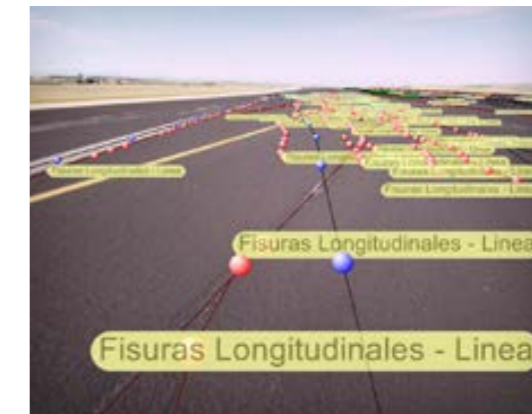
The R&D projects undertaken at Eptisa seek to create innovative products to meet the needs of customers and society, to promote improvements in internal management processes and to foster internal changes focused on improving the economic and social potential of the company.

WATEPAC project: Georeferenced monitoring and management of supply networks in Peru

We are developing a georeferenced platform for real-time management of water infrastructures for the National Fund for Scientific, Technological Development and Technological Innovation (FONDECYT) of Peru. The tool is based on integration of GIS and SCADA technologies.

The objective is to unify data such as geolocation of users and subscribers (indicators Q, X, Y, Z) in the same application, indicators of economic and social activity, the city street guide and inventory of all infrastructures. The tool harvests the geodata in real time and analyses them, performing an integrated process that provides a management platform that enables better decision making both for daily operation and for future infrastructure planning.

Integral Pavement Management System - P@vement Check



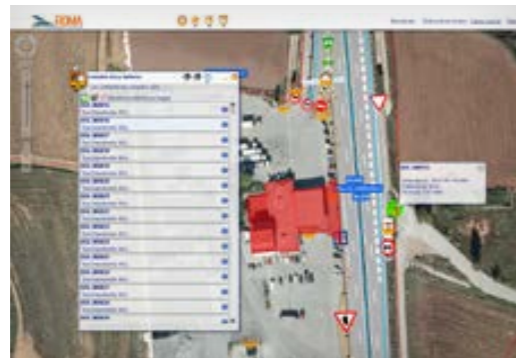
We created P@vement Check, a pavement management system that enables the Administrator to perform efficient management of infrastructures on the basis of objective inspections by mobile mapping technology and software for development model prediction and investment strategies. The model is based on a portable camera adaptable to any vehicle that, with a program of qualification of the state of

the pavement and a GIS environment, predicts the behaviour of the road in the long term and includes a simulator of investments for conservation.

The tool is co-financed by the Ministry of Industry, Energy and Tourism of Spain as part of the National Plan for Scientific Research, Development and Technological Innovation 2013-2016, with reference number TSI-100502-2013-10.

P@vement Check enables conservation planning and integrated maintenance of the paving of multiple infrastructures. It enhances the management of financial resources and the efficiency of mobility, all of which leads to a reduction in the risk of accidents and lower greenhouse gas emissions.

ROMA - Road Management System



This solution is based on Esri's GIS technology for treatment and management of the information associated with linear structures and which, due to the tools with which it is provided, enables management of assets with the prevention and conservation components of the infrastructures and their elements. ROMA is equipped with a pavement management module that enables knowledge of how, when, where and why action is required on a pavement and the cost of the investment.

Auscultation system for energy collectors in solar thermal power plants

We are working on the development phase of the design and development of an auscultation and diagnostic system for energy collectors in solar thermal power plants and the associated assessment procedures. It will automatically measure the relative positioning between mirrors and heat transfer piping in the structures that comprise the solar field so that the percentage of incident radiation from the reflectors onto the pipes is assessed, thus providing a diagnosis of which components are within or outside the design parameters.

This project was executed with The Energy and Resources Institute (TERI) of India. Eptisa is responsible for the design and development of the instrumentation, control units, system operation and manoeuvres and testing procedures and methods.



Preventive measures for pathologies in static elements of wind turbines

We began the operational phase of a system that enables control of the behaviour of static elements of wind turbines such as foundations, ferrules and towers from the design to the operational phase. It enables timely planning of the maintenance tasks.

The system consists of two tools:

- S@yTL^{Dynamic}, a preventive system for intensive, continuous monitoring of pathologies in wind turbines by means of continuous data acquisition units.
- A SCADA website for the associated display, management and alarms.

The preventive measures enable the solar field operator to foresee the need for repairs before the damage to the foundations causes shutdown of the turbine with the consequent loss of profit and, in many cases, increased cost of the repairs.

Air quality control of photocatalytic pavements in the District of Villaverde. Madrid City Council

Photocatalysis is a process by which some common atmospheric pollutants such as NO_x, SO_x and VOCs are removed from the atmosphere through oxidation activated by solar energy. In the Villaverde project photocatalytic coatings were applied to more than 40,000 m² of pavement and 3,000 m² of tunnels.

Giro Project: new architectural solutions for a new model of people-oriented gerontological care

The goal of the Giro Project developed by Eptisa is to create new products, environments and services to build and remodel efficient gerontological centres based on the people-oriented model of gerontological care that caters to the needs, preferences and expectations of the elderly and fosters development of their capacities, comfort and wellbeing. This programme aims to create a new, people-oriented accommodation model using modular construction solutions, to foster the wellbeing of people with user-friendly integrated accessibility, stimulate social interaction with open spaces and corridors that favour meetings and interchange combined with niches from which to observe daily life and to provide carefully designed specific solutions for people who suffer from dementia.



INTEGRITY MANAGEMENT SYSTEM - CODE OF ETHICS

Eptisa's Management continues with the implementation of the Integrity Management System and Code of Ethics for the establishment of principles, guidelines, values and basic rules of conduct that should guide the behaviour of all the people and collaborators that form the Group in the development of their professional activity

The Integrity Management System brings together the policies that based on principles and values and business commitments, govern our performance and business management: CSR policy, Code of Good Governance, Code of Ethics, etc.

In addition, it articulates the communication of these policies and ensures it compliance through a communication plan, and a monitoring, reporting and management system, a Statutory Compliance Regulation, a Compliance Officer designation and implementation of a channel and tracking system complaints.

With the implementation of Eptisa's Code of Ethics, it seeks to ensure that labour and human rights will be thoroughly followed, and that people, in all their diversity, will be fully integrated within the corporate structure and culture.

Eptisa's Management is committed to promoting, among its employees and collaborators, the knowledge, acknowledgement and assessment of the business behaviours which are in accordance with the principles established in the Code of Ethics.

SCOPE

The Code of Ethics is applicable to all levels of Eptisa's corporate structure:

- Board members
- Management
- All employees

When establishing business relationships with other companies and professionals, Eptisa will consider as key selection criteria their compliance to the management and behaviour principles set forth in Eptisa's Code of Ethics.

BASIC PRINCIPLES OF BEHAVIOUR

The following are the principles on which Eptisa's Code of Ethics is based:

- *Legality*: In the course of their professional activities all of Eptisa's management and employees shall strictly comply with the currently applicable legislation in the territory where the Company carries out its activity. No order which contravenes the provisions of the rule of law shall be obeyed.
- *Ethical integrity*: All those who work for Eptisa shall perform their tasks with objectivity and professionalism.
- *Human rights*: All activity carried out by Eptisa and the people who compose it shall scrupulously respect the Human Rights and public freedoms enshrined in the Universal Declaration of Human Rights.

We began the operational phase of a system that enables control of the behaviour of static elements of wind turbines such as foundations, ferrules and towers from the design to the operational phase

Eptisa's Management promotes among its employees and collaborators the knowledge, acknowledgement and assessment of the business behaviours which are in accordance with the principles established in the Code of Ethics



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