



## SUMMARY

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# Foreword



**4000** collaborators

Established in **47** countries

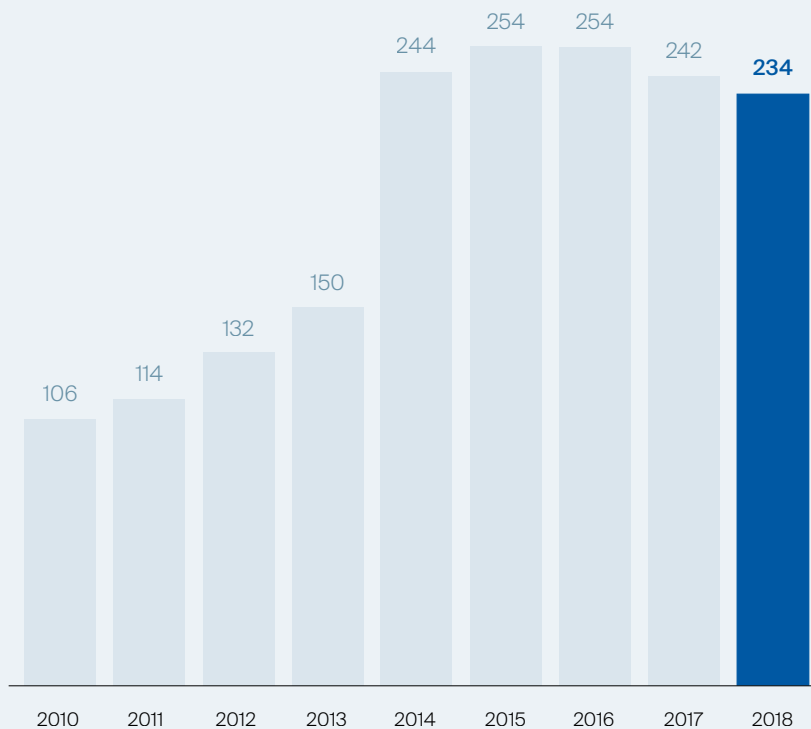
Active in **58** countries

The year 2018 was a great year for TPF.

Indeed, we were able to maintain our turnover despite the end of our Contracting business.

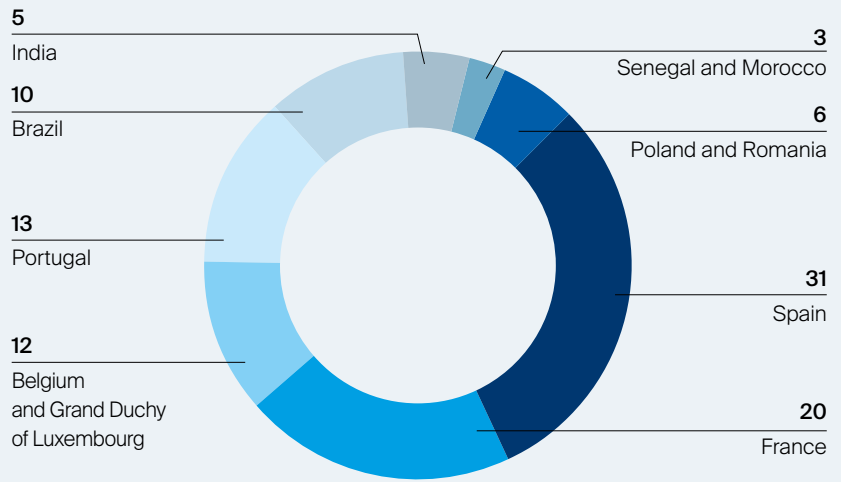
It was no longer part of our core business.

Evolution of Sales and Services (in million euros)



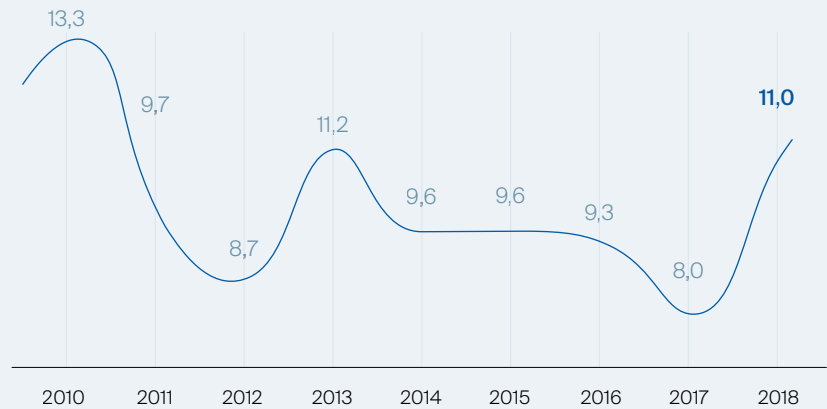
TPF SA Belgium has subsidiaries and branches in 47 countries, with operations in 11 countries depending directly on the company. Spain and Portugal operate as sub-holding companies and control operations in 36 countries.

### Geographical breakdown of sales and services for 2018 (%)



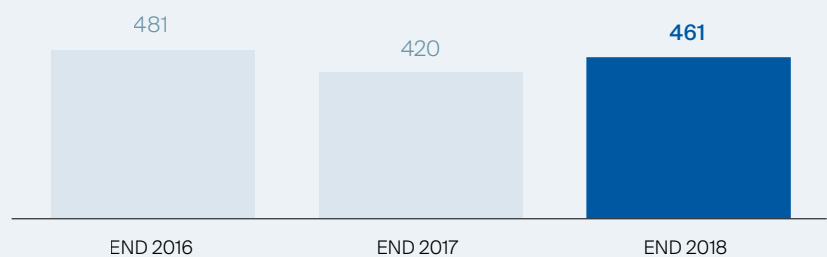
This was an excellent year since we were also able to increase our operating margin.

### Evolution of the EBITDA / Sales and Services (%)



We have also been able to improve our order backlog, bringing it to a total of 461,314,161 euros at the end of 2018, which represents 23.69 months of activity.

### Evolution of the order backlog (in million euros)



This order backlog allows us to be particularly optimistic for years to come, especially as we will have opportunities to find answers to the upcoming climate chaos and find solutions to make the world a better place.

In the previous annual report, we introduced changes to the management bodies of the Board of Directors.

With this renewal effort in mind, we have also modified four of our management teams:

- in France, Mr. William Meynard, Chief Executive Officer of TPF Ingénierie (also a member of the Executive Committee of TPF),
- in Spain, Mr. Tom Van Looy, CEO of TPF Getinsa Euroestudios (also a member of the Executive Committee of TPF),
- in Morocco, Mr. Youssef El Hamzaoui, General Manager of TPF Pyramide Ingénierie,
- and in Poland, Mr. Grzegorz Placek, General Manager of TPF sp. z.o.o.

Finally, we would like to highlight 4 of the 1,500 projects we worked on in 2018.

- In France, in the building sector, the year 2018 was marked by the delivery of the Villefontaine Brand Village, a project on which TPF has been working since 2015 through the completion of studies, followed by the execution of the works.

This emblematic project carried by La Compagnie de Phalsbourg (22,000 m<sup>2</sup> of retail space on a 13-hectare plot) presents an innovation relating to the glass cover process of the 68 “glass-house” shops designed by architect Gianni Ranaulo, and technically designed by TPF’s engineers using exterior glazing glued in the context of an “Atex” (Technical Experimentation Test) procedure of the Centre Scientifique et Technique du Bâtiment (CSTB). Our engineers also synthesized the execution studies on BIM models between four lots: frame, wood cover, waterproofing, and glass cover.

This atypical project, built in two years and following important environmental requirements (BREEAM “Very Good”, RT (Thermal Regulation)

2012 -20%), won the MAPIC Award 2018 in the “Best Outlet Center” category.

- In the field of transport, we have extensive expertise in public transport (train, metro, bus, tram, etc.). As such, we can mention the project we are carrying out in Tenerife in the field of mobility. TPF is developing a new technological solution to achieve mobility plans and travel demand models based on the exploitation of geolocated mobile phone data from mobile networks.

- Water issues probably constitute the most serious problems we are facing. An increasing number of regions in the world are threatened with “absolute scarcity” that could lead to “water wars”. On the other hand, this problem is forcing countries to completely revise their plan for flood management. In Portugal, for example, the Ministry of Agriculture, Fisheries, Food and Environment has entrusted us with two new contracts for the development of a flood risk management plan (PGR) for the Miño-Sil and Ebre river basins.

These PGRs will be carried out in accordance with the European Floods Directive (2007/60/EC). They will enable the Ministry to set targets for flood management based on preliminary analyses (flood prone area maps and flood risk maps).

Services to be carried out within 24 months include the study of river restoration works and green infrastructure as well as the completion of an inventory of protection systems already in place. But not only, as it is also our responsibility to carry out a geomorphological study, to develop two-dimensional hydraulic and hydrological models (425 km catch for the Miño-Sil basin and 2 km for the Ebro basin) and to proceed with the characterization of some 2,000 crossing structures.

- With regard to our efforts to make the world a better place, we would like to highlight the socio-environmental engineering activities we are developing in Brazil, including the implementation of a program to hire local workforce for the aluminium producer Norsk Hydro, the elaboration of a Resettlement Action Plan (RAP) for the 144 families affected by the Ventos de São Clemente wind farm project, in the state of Pernambuco, the development of a diagnosis to

evaluate the impact of the Fundão Dam rupture on tourism, cultural, sports and leisure activities in the cities of Santo de Serra, Aracruz, São Mateus, Conceição da Barra, Funão and Linhares; the implementation of an environmental

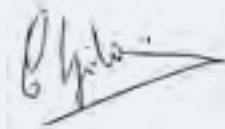
education programme as part of the construction of a pipeline of approximately 56 km for the Minas-Rio project of the mining giant Anglo American.

We wish to thank all our employees and express our deepest gratitude. Through their daily commitment, they contribute greatly to the success of the Group and its expansion.

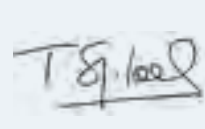
**José Santos**  
Chief Operating Officer



**Christophe Gilain**  
Managing Director



**Thomas Spitaels**  
Chief Executive Officer







**Thomas Spitaels**

Chief Executive Officer



**Christophe Gilain**

Managing Director,  
Member of the Executive  
Committee



**José Castro Santos**

Chief Operating Officer,  
Member of the Executive  
Committee



**Jorge Nandin de Carvalho**

Member of the Executive  
Committee



**Atul Bhobe**

Member of the Executive  
Committee



**William Meynard**

Member of the Executive  
Committee



**Amadou De**

Member of the Executive  
Committee



**Tom Van Looy**

Member of the Executive  
Committee



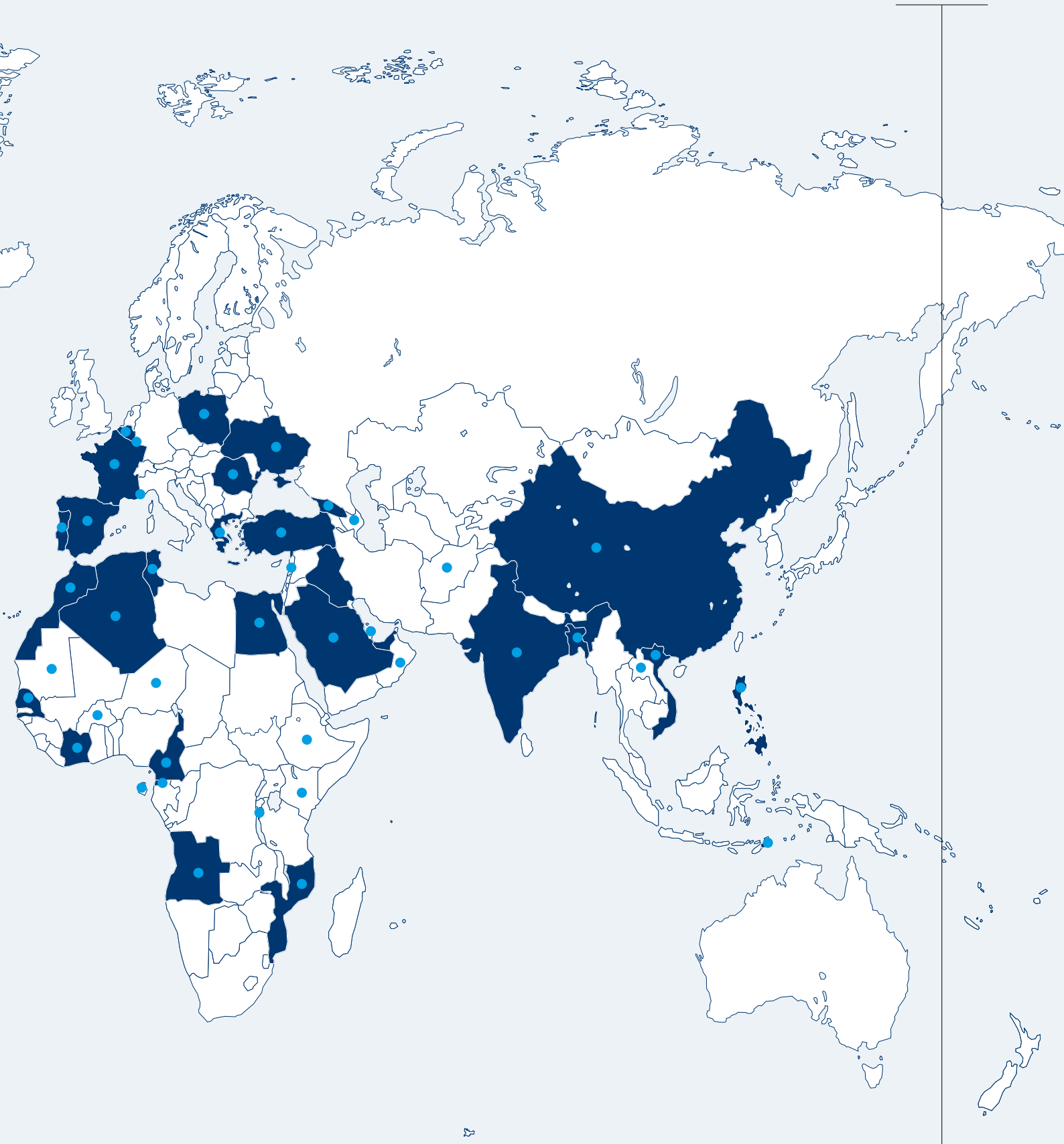
**João Recena**

Member of the Executive  
Committee

# Executive Committee

# TPF in the World





- Our subsidiaries and branch offices
- Our countries of operation in 2018

# Highlights



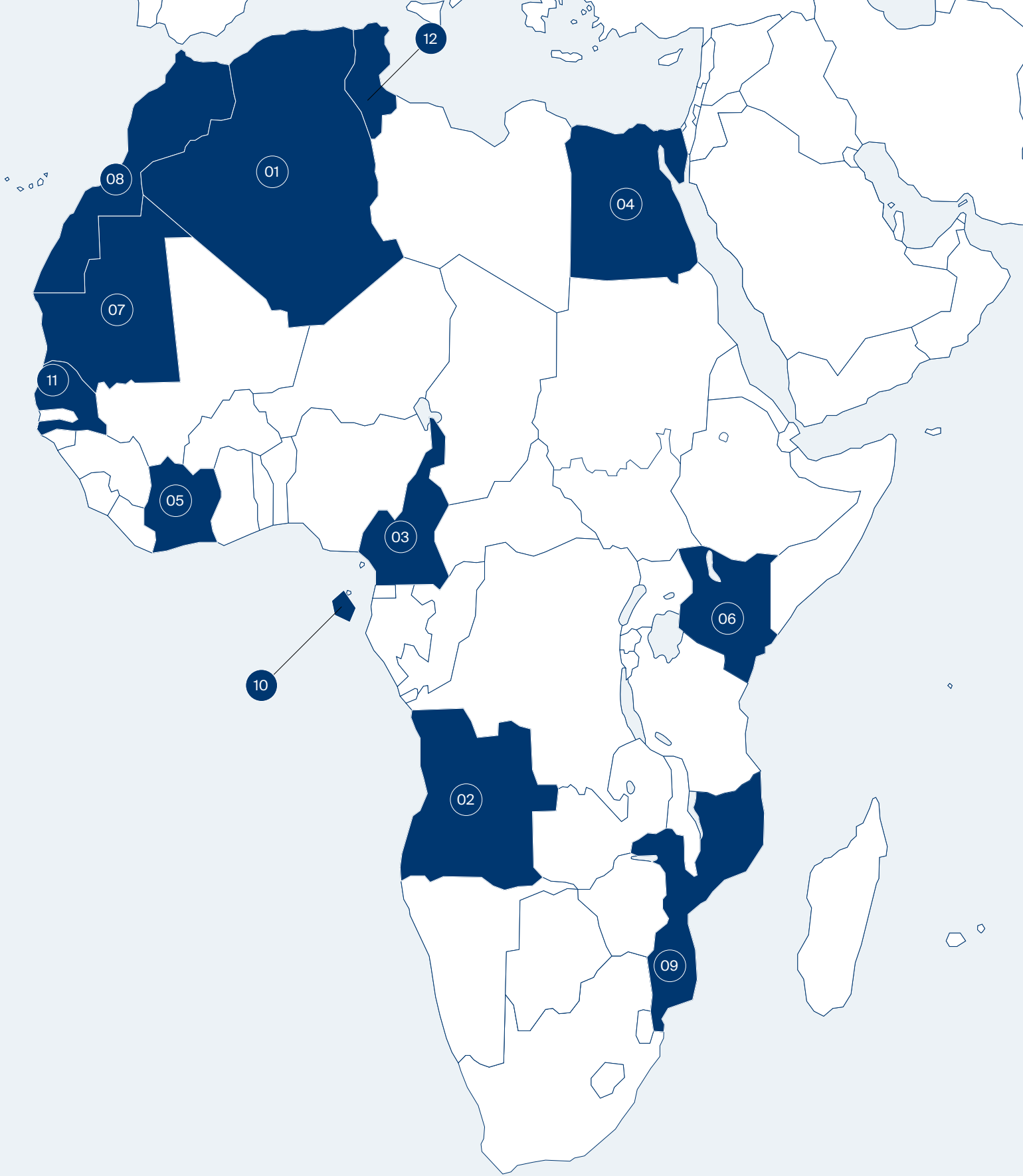
By geographical area  
and by sector

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# Africa

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Algeria	01
Angola	02
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São Tomé and Príncipe	10
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## Public transport infrastructure: metro, tram, bus rapid transit system

**This was a successful year for our teams who worked hard on the construction site for the extension of line 1 of the Algiers metro. This is evidenced by the inauguration of two new stations in the heart of the capital. The first loop of 24 km on the Algiers metro network is now complete.**

The stakes were high especially as the project was located in a dense urban environment, in the heart of a historical heritage.

In addition to the construction of the new «Ali Boumendjel» and «Martyrs' Square» metro stations, with four and two accesses respectively, the extension project for Line 1 A1 focused on the construction of a tunnel of approximately 1,450 m long and three ventilation shafts.

In addition, excavations supervised by a team of researchers were conducted in conjunction with the civil works.

At the request of the Algerian company Cosider Travaux Publics, TPF was commissioned to carry out performance studies for civil engineering works for extension E of the Algiers metro from El Harrach Center to Algiers International Airport, a total of 9 km and ten new stations.



## Structures and road infrastructures

**In the road sector, TPF is involved in the construction of the Algerian East - West motorway, one of the largest infrastructure projects launched by the Algerian Ministry of Public Works. More specifically, TPF was given the task of preparing execution studies in the project to build facilities and operational equipment for the Central and Western lots.**

With a length of more than 367 km, the Central section of the motorway crosses seven wilayas and runs from Chlef to Bordj Bou-Ar-  
rédj. The study contract we have

signed with COSIDER Travaux Publics covers the construction of 18 toll stations, 7 maintenance centres, 20 rest areas and 10 service areas.

The Western section features a length of more than 330 km, crosses four wilayas and runs from Relizane to Tlemcen. The study contract concluded with



the renowned Portuguese company TEIXEIRA DUARTE - Engenharia Construções, S.A. concerns the construction of 15 access stations (toll), 22 rest areas and 9 maintenance and operating centres of which 2 are on the main road.

Note that for these two lots, our engineers were also commissioned to carry out architectural and engineering studies for the buildings part as well as technical studies related to infrastructure works (earthworks, road layout and pavement, infrastructure for wet and dry networks, signage and public lighting).



*Facilities and equipment for operating the East-West motorway / Western Lot*

## Structures and railway infrastructures

**In the rail sector, the results of the year are interesting and fruitful in many respects.**

**The Company that was awarded the contract for the upgrade of the East-West Oran-Algiers-Annaba railway line commissioned TPF to carry out the EIA and risk assessment of the Algiers- Constantine line, with a total length of 175 km.**

The objectives are multiple: reduce travel time, improve comfort and safety, reduce the risk of accidents. The route of the Algiers-Constantine line passes through a mountainous region, which is itself crossed by several transport corridors including the East-West motorway.

**At the same time, our execution studies for COSIDER Travaux Publics are progressing well.**

And as such, some railway projects certainly deserve to be highlighted such as the completion of the South-East loop whose objective is to improve the transportation of goods and passengers across all regions of the country. Our team is involved in the construction of the new Ksar El Boukhari - Boughzoul and Boughzoul - Djelfa lines representing a total of 160 km.



*Oued Tlelat - Tlemcen railway line*

# Algeria

*Bougzoul -  
Djelfa railway  
line*



Finally, let us mention the doubling of the Béjaïa-Béni Mansour railway line, currently in operation, with a rectification of the route over a distance of 87 km. This project will allow passenger trains to travel at a speed of 180 km/h and freight trains to travel at a speed of 100 km/h.

**In the field of control and supervision of works, TPF has built a solid reputation over the last ten years both with its peers and with public institutions such as the ANESRIF (the National Agency for Studies and Monitoring of Railway Investments).**

As evidenced by our participation in the realisation of four railway lines totalling 700 km, namely those of Annaba-Ramdane Djamel, Relizane-Tiaret-Tissemsilt, Oued Tlalat-Tlemcen and the mining line East - Lot3.

**TPF is also a reference consultant in the field of railway electrification.**

The Technical Installations Department of TPF has developed a specific simulation programme for SETIRAIL, for the electrification of the railway line section that connects the towns of Affroun and Tipaza/El Hamdania Port, which are 40 km apart. The results obtained provided us with essential information for determining the location of the required traction substations, the capacity of the transformers and the main features of the overhead contact system.

Additionally, for the same client, we have developed the simulation study for the electrification of the Annaba-Oued-Keberit section of the East Mining Line at 1x25KV. This rail line section has an approximate length of 150 km.

**Let's end this overview with the construction project for the new**

**Sidi Bel Abbes station: an imposing building of 8,500 m<sup>2</sup> on 3 levels, including 2 above ground, which will contribute to the modernization of the city.**

TPF relied on the collaboration of its Spanish and Portuguese subsidiaries to develop the detailed design of the technical systems (mechanical installations, air conditioning system, power supply and telecommunications).

Note that we have worked on this project using Revit and BIM360 software.



## Building sector – Urban planning

This year, real estate developer SARL ENADRA ESSAHIHA LIL AKKAREURLKHALIDJELMOURD-JANE appointed us for the development of its new 18,000m<sup>2</sup> hotel project in Boumerdès.

The 4\* hotel will have a capacity of 240 rooms. Among the activities and tasks assigned to us is the preparation of all technical documentation, including the architectural file, contractors

shortlist file and related technical follow-up.



*New hotel  
project  
in Boumerdès*

# Angola

*United Nations  
Information  
Center  
for PALOPs,  
Luanda*

## Building sector – Urban planning

**The Angolan capital will soon be equipped with a United Nations information centre to meet the specific needs of Portuguese-speaking countries (PALOP). TPF was chosen by the Ministry of Social Communication of the Republic of Angola to supervise and control the construction.**

It is a building with more than 10,000 m<sup>2</sup> of floor space spread over six floors above ground and one level below ground.

The whole is divided into three building blocks with different heights. It will include a museum, spaces with rooms suitable for all types of events, meetings and conferences or technical premises.



## Water - Environment

**In Luena, capital of the province of Moxico, we were invited to look after the extension of the drinking water distribution network. In total: 150 km of pipelines, 15,000 residential connections and 30 months of work.**

The Ministry of Energy and Water has entrusted us with the revision

of the project and the supervision of the works.

This project is financed by the International Bank for Reconstruction and Development, and is particularly complex given its location in a disorganized and densely populated peri-urban area.

## Energy

**In the Cuanza Norte province, we are currently studying the Caculo Cabaça hydroelectric project on the Kwanza River. The completion of this massive project, featuring an installed capacity of 2,200 MW, has been entrusted to the Consortium China Gezhouba Group Co. Ltd. (CGGC) and Niara Holding.**

This structuring project will be executed in about 80 months and is part of the National Energy Security Plan 2025, which aims to reach 9,000 MW within 6 years.

The hydroelectric development benefits from the 215 m drop between the reservoir and the release structures, downstream from the natural cascades of Caculo Cabaça. It includes a roller compacted concrete dam (RCC) with a maximum height of 103 m and a crest length of 553 m, a hydroelectric power station and a hydraulic circuit. The tank has a storage capacity of 440 million m<sup>3</sup>. The plant is equipped with four turbines, with a nominal unit power of 530 MW.

With regard to the hydraulic circuit, it consists of a water intake, four feed galleries with a diameter of 9m, an underground plant and two galleries with a diameter of 16 m. The project also includes a second hydropower station at the foot of the dam designed for an ecological flow of 60m<sup>3</sup>/s and two substations (the main one of 400 kV and the other one of 220 kV).

This year TPF continued its mission of environmental assistance for the realization of the works. It should be noted that in addition to being designated for the revision of the technical methodology, TPF was also responsible for the complete revision of the project in all its civil engineering components.



*Caculo Cabaça  
Hydroelectric  
Project on the  
Kwanza River*

## Water - Environment



**As in many countries, the participation of Water User Associations (WUAs) in decisions concerning the management of irrigated areas has increased considerably in recent years.**

**In 2018, TPF's activity in this area focused on the irrigated perimeters of the rice farming association SEMRY (Société d'Expansion et de Modernisation de la Riziculture de Yagoua) and more specifically on the project "Study and establishment of water user associations and support to the operation and maintenance of hydro-agricultural infrastructures".**

It involves the establishment of a sustainable and efficient operation and maintenance (O&M) system, including the creation and structuring of functional associations of water users.

This intense task involves:

- defining a legal and organizational framework for the implementation of O&M, including monitoring of water resources with the sharing of responsibilities;
- defining a legal and organizational framework for the creation and operation of the WUAs;
- training the members of the WUA Committee in the administrative, financial and technical management of the Association;
- training the Project Owner's agents in a participatory approach of irrigation management, O&M and monitoring of water resources;
- defining, with the WUAs and the Project Owner, a series of fixed fees due after assessing the operators' ability to pay and a detailed analysis of O&M costs;
- setting up a functional and efficient maintenance fund system;
- developing an equipment plan for the Project Owner for the O&M;
- setting up a geo-referenced database;
- setting up an information system on the monitoring of water resources.



## Energy

**Faced with the growing demand for electric energy from the population and the industrial sector, the Cameroonian government has launched many projects in recent years.**

**The new contract we have concluded this year with the United Nations Industrial Development Organization (UNIDO) is for the development of a small hydro-power plant in the coastal region of Manjo.**

Our mission: to carry out the technical, environmental and economic feasibility study, to evaluate the socio-environmental impact, to carry out the execution study and

to set up the tender procedure for the award of the construction work contract. This project will last 6 months and benefits from multilateral funding from the Government of Cameroon and the Global Environment Facility (GEF).

**In the Adamaoua region, the Bini hydroelectric project in Warak is ongoing. While partnering with the company Intertechne, TPF has won the mission of assistance to project management and supervision of construction works for this development.**

In addition to the construction of a dam with a capacity of 603 hm<sup>3</sup>, a hydroelectric plant of 75 MW and

a 225-kV power line of about 70 km to the post of MOUNGUEL, this flagship project of the Ministry of Water, Energy and Mines also concerns rural electrification and the construction of access roads. Its implementation requires the displacement of 300 persons for whom a Relocation Plan has been implemented, in accordance with the requirements of the World Bank. The contract we signed covers a period of 22 months.

*Construction site of the hydroelectric development of Bini in Warak*



## Public transport infrastructure: metro, tram, bus rapid transit system



**Egypt's national Transport Master Plan, which outlines action through to 2027, remains a high priority for the government. Projects under development are numerous as are the opportunities available to TPF. Their implementation will improve air, sea and land transport.**

**In addition to the projects initiated in 2017 which are still under way, i.e. the studies for the modernisation of the signalling systems of the Tanta - El Mansoura - Damietta railway section and the electrification system of Cairo's Light Rail Line 1, it is worth mentioning the development of Egypt's first two monorail lines.**

The "6th of October City Rail Transit Monorail project" extends for 42 km; whereas the "New Capital Rail Transit Monorail" covers a distance of 52 km. Both monorail projects play a crucial role in the urban development of Egypt's capital city, as Greater Cairo and its satellite cities are an important part of the country's urban transport plan.

TPF was hired to conduct preliminary studies and prepare the documents for putting the projects out to tender under an EPC+F+I contract scheme (Engineering, Procurement, Construction + Financing + Installation). More specifically, we are responsible for the technical studies related to transport, civil works and railway installations. Moreover, we will carry out the social, economic and legal studies required for tendering the works and will support the client throughout the procurement and contract award process.



## Structures and road infrastructures

The Ivorian road network has nearly 75,000 km of dirt roads, some of which are not passable or highly degraded.

The Road Management Agency (AGEROUTE), acting on behalf of the Ministry of Economic Infrastructure has requested our assistance in the framework of the contract "2018-0-1-0395 / 03-21 reprofiling work on dirt roads in Ivory Coast - Phase 1".

Our mission is to provide project management for the monitoring and control of the rehabilitation works of 215 kilometres of rural tracks including the rehabilitation of the road surface on several sections and the construction of sanitation structures (scuppers, culverts). The primary objective is to improve the level of service and the evacuation of agricultural production.



## Water - Environment

Improving drinking water supply in Bouafle, Duekoue, Guiglo, Bolequin, Mankono, Boudiali, Ferkessedougou and Ouangolodougou is one of the objectives of the programme initiated by the Ivorian State "Water for All".



To achieve this, it is necessary to carry out a diagnosis of the drinking water supply and to formulate proposals for orientation schemes to be implemented in the coming years with a view to ensuring sustainable access to drinking water.

Appointed by the Ministry of Economic Infrastructure, TPF shall

carry out the study of water demand, the diagnosis of existing drinking water supply systems, the development of master plans for drinking water supply and accompanying measures, the economic and financial analysis or the development of the investment plan.

# Kenya

## Energy

**In the field of energy, TPF won the contract for the feasibility study of the Sagana River hydroelectric project, with an electrical capacity estimated at 35 MW.**

The study carried out on behalf of REIKE Ltd will examine the techno-economic and financial aspects. Services to be carried out include geological, hydrological and hydraulic studies as well as the design of the structure. This new challenge will have to be completed in 16 months.

**Meanwhile, not far from Kisumu, on the Yala River, our teams continue to work on the Ndanu Falls hydropower project.**

The hydroelectric installation will generate electric power estimated

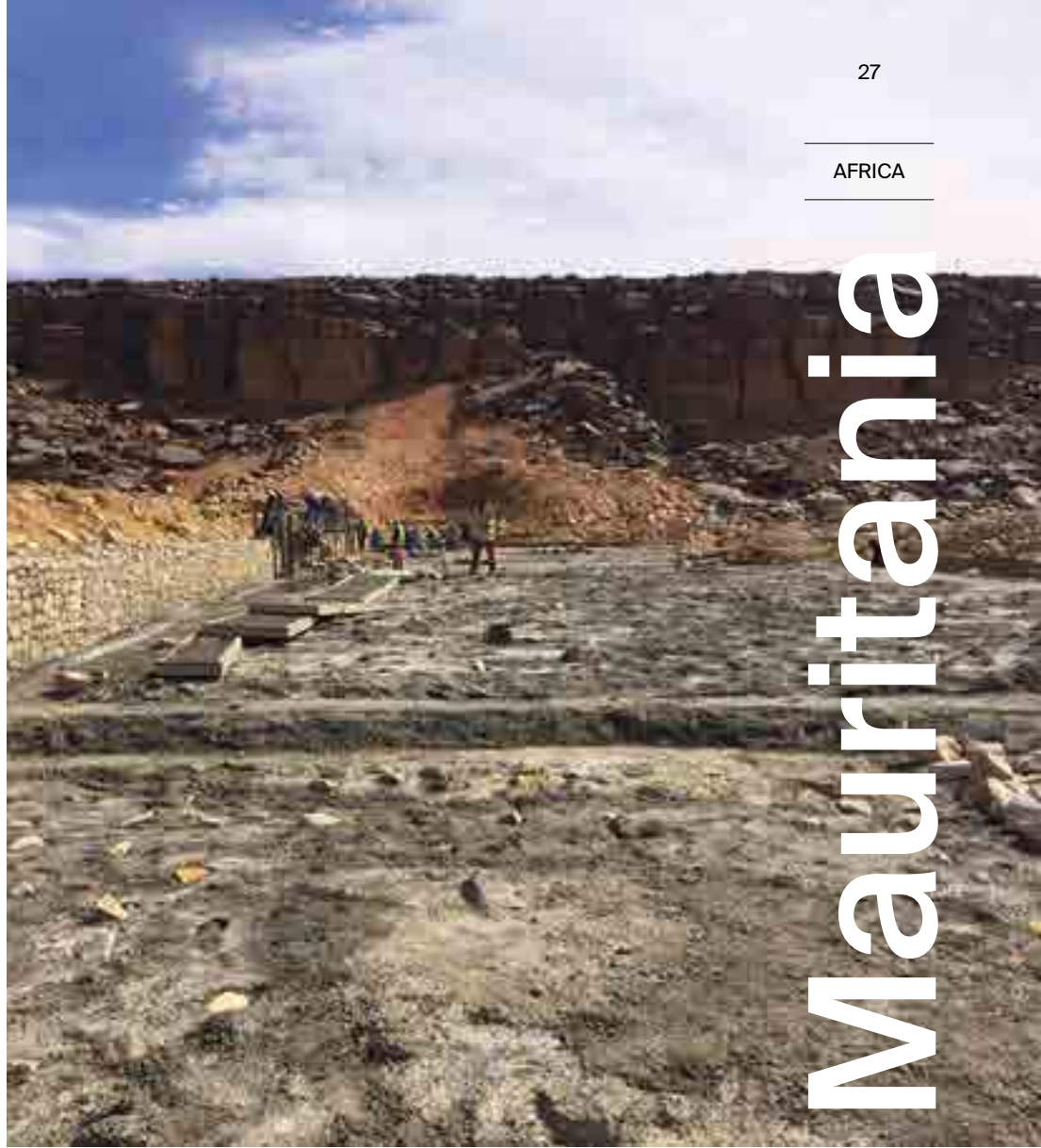
at 10 MW and consists of a mini-hydroelectric power station, a mobile dam, a water intake and a supply canal, a buffer tank and a penstock, a hydraulic power station and a tailrace.

In recent months, we have also participated in the technical and economic feasibility study for a second mini-hydroelectric plant on the Yala River, with an estimated electrical capacity of 8 MW. This mission includes hydrological and hydraulic studies as well as the design of structures.

*Ndanu Falls*



# Mauritania



*Sequelil Dam  
in Adrar*

## Water - Environment

**The contracts signed with the Ministry of Agriculture and with the Ministry of Hydraulics and Sanitation to provide consulting services related to water and environment projects are progressing at a good pace.**

One of them involves the supervision of the construction of the Sequelil Dam in Adrar.

Besides, we are responsible for the identification of 100 storm-water runoff retention structures in the wilayas of Hodhs, Assaba, Guidimagha, Gorgol, Brakna, Tagant, Inchit, Adrar and Tiris Zemmour. This major programme for runoff collection and reuse is part of a long-term policy that will improve ecosystems and living conditions in the area.

# Morocco

*New Kenitra station*

## Structures and railway infrastructures

The exceptional event of the year is the inauguration of the Moroccan TGV Al-Boraq, the first high-speed line of Africa. The realisation of this project required the redevelopment and construction of several new stations, including the one in Kenitra, which was of particular interest to us.

The new Kenitra train station, dedicated to the Al-Boraq high-speed train, has a 13,000 m<sup>2</sup> passenger building and an underground car park with a capacity of 200 spaces. Its ground floor features shops, restaurants, entertainment areas and a reception area for travellers.

TPF has worked on this project as a full-service contractor, incorporating the latest technologies in the fields of energy and environment.



*Jamaï Palace, Fès*



## Building sector – Urban planning

In the luxury hotel sector, TPF was asked to participate in the rehabilitation and extension of the Jamaï Palace in Fès, one of the most prestigious historical hotels of the Kingdom built in 1879. This project is quite substantial, representing an investment of about 56 million euros.

The hotel features 31 suites and 60 rooms. The goal of the project

owner, in this case the ONCF, is to match the very high standard of the Mamounia hotel in Marrakech. TPF was asked to carry out studies and follow-up of the works for the stability, architecture and decoration lots.

In the education sector, the International University of Rabat (UIR) aims to become a university of excellence ranked on a global scale. As part of its development



**strategy, the UIR plans to continue building educational and research infrastructures.**

Also ongoing is the framework contract which we won for studies and the follow-up of construction works of various UIR projects.

This year saw the start of the first phase of the construction project for the new faculty of dentistry in Rabat. At the same time, construction work began on two 15,000m<sup>2</sup> buildings dedicated to the Business School. Started mid-2018, they should be finalized in September 2019.

**In the field of healthcare, TPF is involved in the construction project of the new University Hospital Center in Tangier, which is scheduled to open in June 2020.**

The realization of this new medical and technological centre supported by the Cheikh Zaid Foundation is spread in three phases. The first concerns the construction of the 250-bed multidisciplinary hospital with several specialties as well as

the construction of the University of Medicine and Health Sciences. The second concerns the construction of a dental clinic (health centre, teaching and dental research). Finally, the last phase involves an extension of the hospital to reach a capacity of 500 beds.

TPF's mission is to carry out studies as a full-service contractor and supervise the construction of the works.

*University Hospital in Tangier*

*International University of Rabat (UIR) - Buildings dedicated to the Business School*



# Mozambique

*Zambezi Valley*

*Development of strategic plans for the integrated development of water resources in the Nampula province*

*Development of the National Plan of Spatial Planning*

ACTIVITY REPORT



## Water - Environment

**In 2018, along with our partners, we pursued the development of strategic plans for the integrated development of water resources in the provinces of Nampula and Zambezie, which are intervention zones of respectively 44,700 km<sup>2</sup> and 25,600 km<sup>2</sup>.**

The basins of the Meluli, Monapo, Mecuburi, Ligonha and Moto-monho rivers in the province of Nampula, as well as those of the Molocue, Nipiode, Raraga and Moniga rivers in the Zambezia province are concerned. The Ministry of Land, Environment and Rural Development (MITADER) has entrusted us with the production of monographs, the definition of development scenarios as well as strategic investment plans and

integrated development of water resources. This work involves holding workshops at the local level with the different stakeholders.

These studies are financed by the World Bank, and their objective is to provide the Government with the tools for managing, conserving and developing water resources needed for the sustainable and integrated socio-economic development of these regions.

**This year, the group has once again been involved in many projects in the field of storm-water management and flood control.**

**In Beira, an urban green infrastructure project, aimed at**

**creating a network of multi-functional green spaces and open spaces, has also started this year.**

The development of these infrastructures offers multiple interests such as the improvement of the water flow of the Chiveve River basin, the reduction of flooding risks and therefore better flood control, as well as the development of recreational activities and environmental education. The supervision contract we have won covers 42 months (24 months during the construction phase and 18 months during the warranty phase).

**At the same time, the rehabilitation works of the rainwater**



**drainage system of the city of Beira were successfully completed. Mission accomplished for TPF and its partners in charge of the management and supervision of the works.**

Our work is not finished yet since we are also involved in the "Post-construction" phase. The technical assistance we are currently providing to the Municipality of Beira relates to the management, operation and sustainable maintenance of the drainage system. Among our actions, the creation of the Beira Drainage System Depart-

ment and the development of commissioning, operation and maintenance plans.

**Mention should also be made of the studies currently under way to prevent the risk of flooding in the Zambezi Valley.**

The objective is to rigorously update the hydrological and hydraulic model of the river. The idea is also to define with greater precision the impact of floods in high-risk areas and to have a decision support tool for flood

risk management (measures to be taken: protection, prevention and mitigation).

**Finally, in Maputo, the capital of Mozambique, TPF continues to supervise the rehabilitation of priority drainage works.**

These will last 18 months and it will take 12 months for follow-up.



*Rehabilitation of the rainwater drainage system of the city of Beira*

*Urban Green Infrastructure Project in Beira - Cbizeve River Basin*

## Economic development - Urbanization

**This year, we continued our collaboration with the company Biodesign for the development of the National Plan of Spatial Planning, representing an area of 801,590 km<sup>2</sup>. This 18-month contract is part of a program, launched by the Government of Mozambique, through the National Fund for Sustainable Development and financed by the International Development Association of the World Bank.**

A true strategic planning document, it will identify positive prospects, define broad guidelines for setting land use goals, and target sectoral priorities for global action.

In addition to the development of decision support tools (GIS geographic information system, information exchange platform,

strategic environmental assessment) and the realisation of an action plan for institutional capacity building, we have also been responsible for setting up training courses. Let us also mention the key role played by local players in the conduct of this project (in the mining, agricultural, forestry, industrial, energy and environ-

mental sectors as well as in the water, education, tourism, road and transport sectors). Their involvement is essential for the success of the project.

# São Tomé and Príncipe

*Hydropower  
plant of  
Contador*



## Energy

**In the São Tomé and Príncipe Archipelago, TPF is currently working on the project for the rehabilitation and extension of the Contador hydropower plant.**

The Fiduciary and Project Administration Agency (AFAP) has entrusted us with an assessment study to evaluate water resources available for energy production in the hydroelectric power station of

Contador, with regards to its rehabilitation and increasing its capacity. The objective is to evaluate quantities of available water but also their quality.





## Water - Environment

**The tourist development on the Petite Côte and the completion of major structuring projects such as the international airport Blaise Diagne de Diass and the urban centres of Diamniadio and Lac Rose will substantially increase the water needs of Senegal.**

In order to respond to this demand and the difficulties related to the water deficit, the Government of Senegal has asked the National Water Company of Senegal (SONES) to find sustainable ways to anticipate the sufficient mobilization of water resources in Senegal.

It is within this framework that TPF has been appointed to ensure work control and supervision for the additional work planned on the Urban Hydraulics component of the Urban Water and Sanitation Project (PEAMU). The work will be carried out in two tranches: a firm tranche covering the laying of ductile iron pipes with diameters ranging from 500 to 1200 mm over a linear length of 52 km and a conditional tranche involving the construction of a 3,000 m<sup>3</sup> water tower and the extension and densification of conveyance networks of diameters ranging from 200 to 400 mm over a linear 39 km.

It should be noted that TPF will work on this project with Cabinet Merlin and Cabinet Merlin Afrique de l'Ouest for 20 months. Work is expected to start in the spring of 2019 and be completed by the end of 2020.

**The year was also marked by the continuation of the project**

**to build the seawater desalination plant in the Mamelles area of Dakar.**

This ambitious project is funded by the Japan International Co-operation Agency (JICA) and represents an investment of 208,855,154 euros. It consists of two components: on the one hand, the construction of the actual plant with a capacity of 50,000 m<sup>3</sup>/day (expandable to 100,000 m<sup>3</sup>/day), including the water intake, the outfall, the pumping station and the power supply and, on the other hand, the renewal of nearly 460 km of pipelines.

In addition to the study of the master plan, TPF was also entrusted, in a consortium, with the design, the assistance to the call for tenders, the control and supervision of the construction, the facilitation of the implementation of the Environmental Management Plan (greenhouse gas) and the Environmental Monitoring Plan, as well as the development of monitoring capacities for the maintenance and operation of the plant during the warranty period. These services will open up new prospects for the future of the Group in the field of seawater desalination.

Work should begin in 2019 and be completed in 2022.



*Laying of ductile iron pipes*



*Seawater desalination plant in the Mamelles area of Dakar*

# Senegal

## Water - Environment

The pace and diversity of TPF's missions has increased in recent years. In 2018, three topics mainly concerned us: the treatment of wastewater, the maintenance of dams and the production of fresh water from seawater.

**In Sidi Bouzid, the construction supervision and commissioning of the Wastewater Treatment Plant, including raw sewage collection and outfall systems, is ongoing.**

The Sidi Bouzid WWTP is an extended aeration plant with a treatment capacity of 7,500 m<sup>3</sup>/d. The services provided by TPF also include supervision of the construction of 2 pumping stations handling a flow of 750 m<sup>3</sup>/h, as well as 13.5 km of sewers for conveying wastewater to the plant and 2 km of outfall pipe.

**Highlights of the year include the signing of two new technical assistance contracts.**

**One of the assignments covers the provision of technical assistance for the monitoring and maintenance of a number of dams in operation.**

The scope of our services comprises collection of information, inspection visits, condition assessment of the dams and their electrical and mechanical systems, review of monitoring data available and preparation of annual reports and monitoring reports on each dam.

**The other major contract was signed with the National Water Distribution Utility (SONEDE) to deliver technical assistance related to the implementation of a Desalination Plant in Zarat.**

TPF is responsible for preparation of tender documents for the works contracts, detailed design review, and supervision of the construction of a reverse-osmosis seawater desalination plant, with a permeate capacity of 50,000 m<sup>3</sup>/d (expandable to 100,000 m<sup>3</sup>/d), and its connection to the existing network. The desalination plant features a seawater intake pipeline (1,800 mm in diameter), a seawater pumping system with a capacity of 5,000 m<sup>3</sup>/h (expandable to 10,000 m<sup>3</sup>/h), a brine outfall pipe (1,400mm in diameter), a tank consisting of two chambers, each with a storage capacity of 10,000m<sup>3</sup>, and a pumping system for product water.



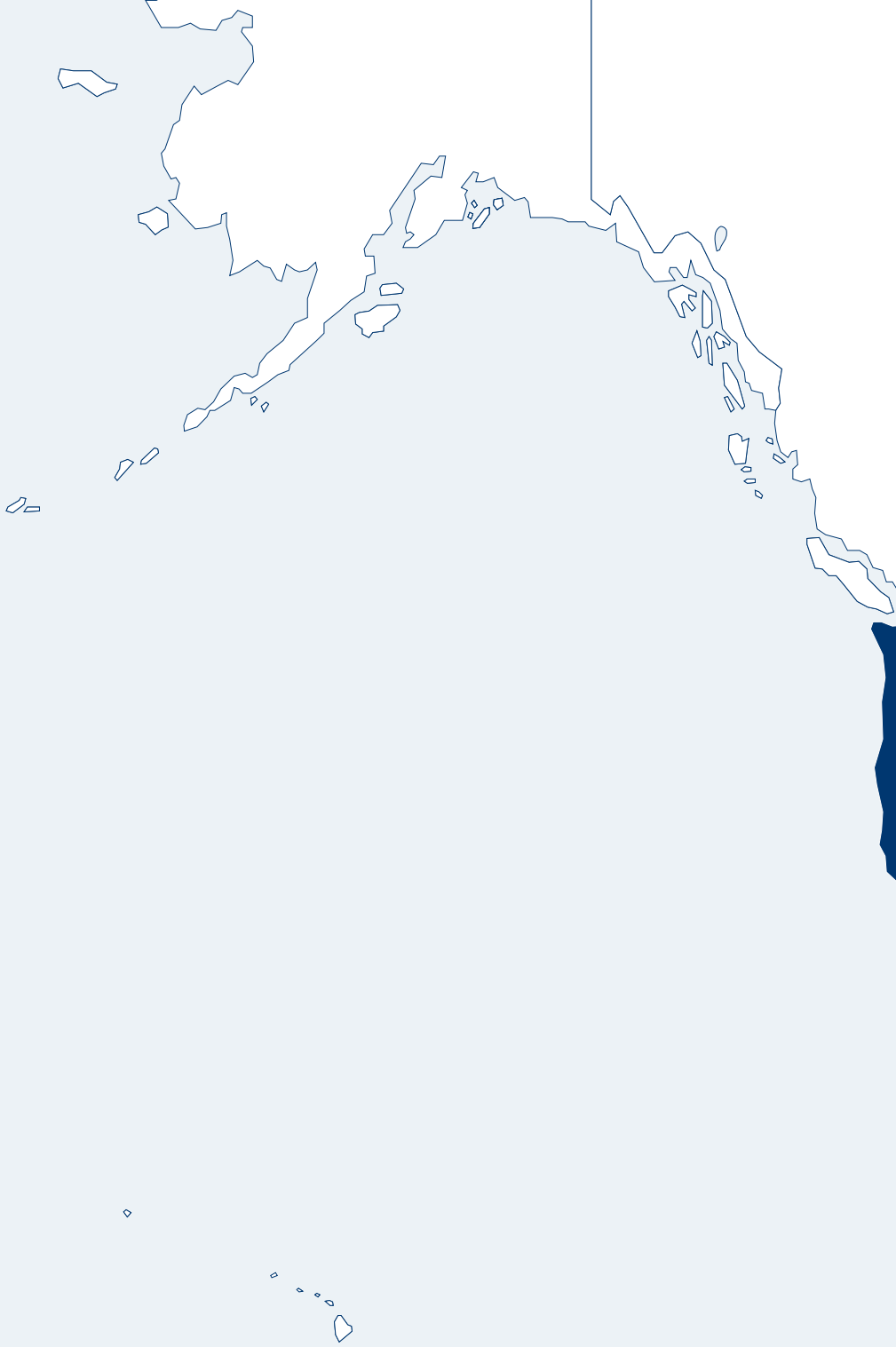
*Reverse-osmosis  
seawater  
desalination  
plant, Zarat*

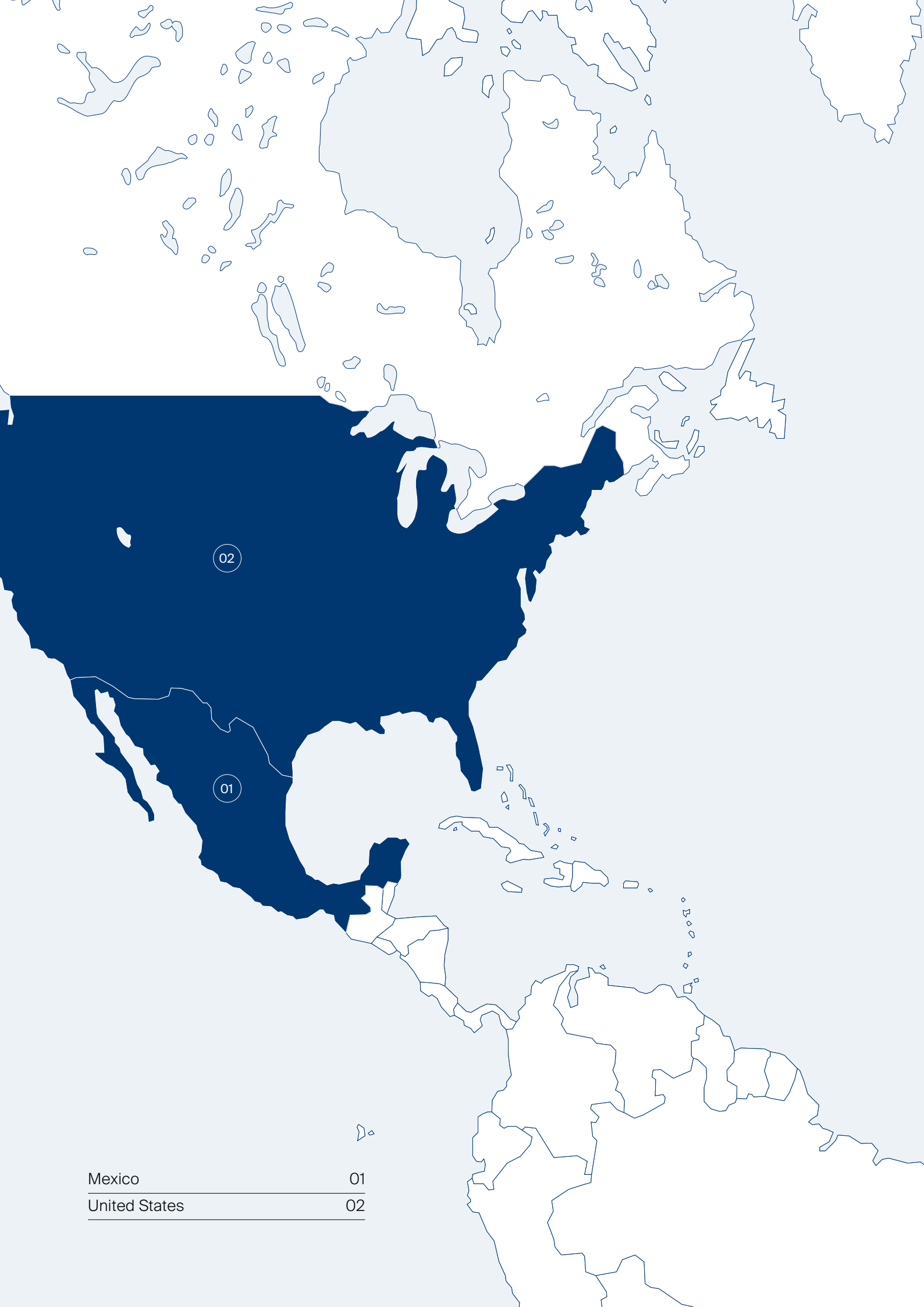


*Sewage  
treatment plant  
of Sidi Bouzid*

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# North America





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# Mexico

*Water pipelines  
for the Lomas de  
Chapultepec  
neighbourhood,  
Mexico*

## Water - Environment

Providing daily water to Mexico City, one of the largest cities in the world, is an incredible challenge. Mexico city has a plan to rehabilitate its pipelines and build new infrastructure.



It is in this context that SACMEX, (Mexico City's Water Utility), appointed us for the detailed design of new water pipelines for the Lomas de Chapultepec neighbourhood in Mexico City. The new pipeline system will have a length of 50 km.

The purpose of the contract is to design new infrastructure that will improve drinking water supply

conditions in some neighbourhoods of the Miguel Hidalgo borough. First of all, our company will undertake a detailed topographic survey and a geotechnical investigation of the project site. We will also analyse alternative solutions and perform the detailed design of the new networks and related facilities, as well as the environmental impact assessment of the project.

## Structures and railway infrastructures

**The construction of the California High-Speed Rail is undoubtedly one of the most ambitious projects on the North American continent.**

The first step of this emblematic project is to build a High-Speed Line between San Francisco and Los Angeles, designed for trains running at a maximum speed of 350 km/h, which would then connect Sacramento to San Diego over a distance of 1,288 km.

TPF is the lead designer on the design-and-build contract for Construction Package 4.

# United States

*California HSR*



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# Central America

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# Costa Rica

*Construction  
of the San José  
Northern Ring  
Road*

## Structures and road infrastructures

This year again, road projects have been an important part of TPF's work as evidenced by this small retrospective.



TPF is in charge of the technical supervision of the construction of the Northern Ring Road around San José in Costa Rica, on behalf of the Estrella-Solís construction consortium. It is a very important project for Costa Rica since it involves closing the only existing ring road in San José. The projected highway has a length of 5.4km and 4 junctions, of which two are 3-level interchanges. In addition, 15 structures were designed.

We also continue to supervise the operation of the concession for the National Road 27. The contract ends in March 2019 and is currently being negotiated for two more years.

Moreover, a new contract was signed to provide consulting services to the UNOPS during the construction of the Garantías Sociales intersection in San José. Besides, a study was carried out for the presentation of a private initiative regarding the National Road 32 (San José - Limón), in the section between the bridge over the Virilla River and the crossing over the Frío River.

## Structures and road infrastructures

In the « Franja Transversal del Norte region», TPF is responsible for a road project which involves the construction of a road section from the bridge over the San Ramón River (at Raxruhá) to the bridge over the Chixoy River (at Playagrande).

The project seeks to encourage social and economic development in the northern region of the country. TPF is in charge of the supervision of the construction of section II, with a total length of 98.6 km, which consists in a dual carriageway with two

lanes per carriageway. The project is scheduled for completion in early 2019.



# Guatemala

*Bridge over the  
San Ramón  
River*

# Honduras

*Logistics Road Corridor from Villa de San Antonio to Goascorán*

ACTIVITY REPORT

## Structures and road infrastructures

**The Government of Honduras is determined to make the country a logistics centre for Central American countries.**

**TPF is very pleased to participate in this ambitious infrastructure program and more specifically to the construction of the Logis-**

**tics Road Corridor from Villa de San Antonio to Goascorán.**

We are successfully providing consulting services for the conduct of a technical audit and the supervision of the works for the construction of two stretches of the Corridor: section II, from El

Quebrachal to San Juan II Bridge, and section III, which runs from San Juan II Bridge to Goascorán.

The road is part of the Honduras Interoceanic Logistics Corridor and connects to the south with the road heading to El Amarillo, on the border with El Salvador.



# Panama

*East Arraiján  
Wastewater  
Treatment  
Plant*



## Water - Environment

The water sector, particularly the treatment of drinking water and wastewater, is one of the priority areas of intervention for the Panamanian authorities. Extending the quality of water and sanitation services coverage in cities near the capital and in the central and western provinces of the country is a real challenge.

About twenty kilometres from the capital, we are currently delivering design services to the Joint Venture Contractor in charge of the expansion of the Federico Guardia Conte Drinking Water Treatment Plant in Chilibre, in order to increase its treatment capacity by 15 MGD (0.658m<sup>3</sup>/s).

Additionally, in the province of West Panama, TPF is responsible for the design of the Wastewater Treatment Plant (WWTP), within the framework

of the design-and-build contract for the East Arraiján sewerage system. Worth over \$120 million, the contract was awarded by the Panama's Ministry of Health to PTAR ARRAIJÁN 2016, a consortium led by FCC Aqualia.

The WWTP will initially serve a population equivalent (PE) of 151,703, but provision has been made for future expansion to 243,504 PE. The plant employs conventional anaerobic digestion technology, including biological

nitrogen removal and chemical phosphorus removal processes. The generated biogas can be used at the treatment facilities, both in the boilers and as fuel for one generator with capacity to produce electricity that can be consumed by the plant itself.



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# Latin America



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# Argentina

*Paseo  
del Bajo Project*

## Structures and road infrastructures

In Buenos Aires, TPF is assisting with the construction of the 7 km Paseo del Bajo road project: an arterial route running north-south across the city.

During 2018, we have been supervising the works on a 2,415.90 m section consisting of 4 dedicated lanes in cutting for trucks and long-distance buses, and 8 lanes

for light vehicles running on the surface. This project will improve traffic flow on the Paseo del Bajo road.







*Paseo  
del Bajo Project*

## Building sector – Urban planning

**The new contract we won this year in the building sector demonstrates our desire to diversify our services in Argentina. It is part of the National Plan for the development of social economy “Manos a la obra” (“hands at work”).**

This program aims to help the residents of Barrio 31 carry out upgrade works in their homes in order to improve their living standards. The project consists in the provision of technical assistance to all the individuals adhering to the programme. In the first place, they will be assisted to define the required remodelling works, including the preparation of the relevant drawings. Then, they will be advised on the purchase of materials, which are subsidized by the programme. Finally, the

works will be supervised to verify the correct use of the said materials. The consultancy services will cover the attention and resolution of more than 400 cases over a period of 8 months.

**In the suburbs of the Argentine capital, in Lanus, two projects are particularly close to our hearts. TPF was recently awarded the design review and construction supervision of the Lanus Tannery Industrial Park and Lanus Industrial Effluent Treatment Plant.**

The contract includes the civil works, MEP systems, ancillary works, environmental monitoring, health and safety coordination and all the tasks required for the commissioning of the works.

# Bolivia

*Strait  
of Tiquina*

## Structures and road infrastructures

**This year, TPF dedicated even more time to the road sector. In addition to the contracts that we already have, such as the Guanay-Chimate Road, which is expected to be completed in 2019, or the Muyupamba-Ipati section, which will be extended until the end of 2019, TPF is carrying out the feasibility study and the technical, economic, social and environmental assessment of the bridge over the Tiquina Strait and its approaches.**

The objective of this project, which has an investment of 300 million USD, is to guarantee the vehicular traffic that links the municipalities of Copacabana and Tito Yupanqui with San Pedro de Tiquina, in the Department of La Paz, and with the rest of Bolivia. This bridge will solve the current problems related

to the crossing of passengers and freight through the Tiquina Strait, which is currently made by precarious pontoons.

The most significant features of the road are: an approximate bridge length of 1,100 m, and a cross-section composed of a single carriageway with three lanes (14.5 m) or a double carriageway with two lanes (18.5 m). The approach roads have a length of 3 km, and the estimated Annual Average Daily Traffic for 2036 is 9,462 vehicles.

**The TPF Group is also present in the department of Santa Cruz where it currently supervises the construction of the Santa Cruz de Cochabamba dual carriageway, in the section Montero – Yapacani.**

This road stretch (69.7 km) will benefit the towns that are adjacent to the highway, such as Montero, Portachuelo, Palometillas, La Arboleda, Buena Vista, San Carlos and Santa Fe, as well as Santa Rosa del Sara, Caranda, San Juan de Yapacani and other towns that will use the road as an access.

The section includes 11 bridges, the most outstanding of which are those traversing the Piraí and Yapacani rivers. In the case of the Piraí River, it is a 326.7-metre-long four-lane bridge. In the case of Yapacani, it is a modern double-carriageway bridge with a total length of 980 m. The project, carried out by the Chinese company Sinohydro, has a total investment of 104 million USD.





## Building sector – Urban planning

In 2018, the Government of Ceará started the second phase of a significant health investment program, PROEXMAES II (Program for Expansion and Improvement of Specialized Health Care II). TPF was hired as the manager of this Program, financed by the Inter-American Development Bank (IDB).

It will have an investment of US\$ 178.5 million, of which US\$ 123 million will be financed by the IDB and US\$ 55.5 million by local counterparts.

The PROEXMAES II components include consulting services, team

qualification, health infrastructure reforms, acquisition of hospital equipment, hospital units implementation (highlighting the new Jaguaribe Valley Regional Hospital) and investments in management modernization.

The expected benefits are a decrease in the annual rate of hospitalization for Diabetes Mellitus in the population aged 30 to 59 years and reduction in the waiting time for issuance of CT scans and laboratory tests.



*New Regional  
Hospital of the  
Jaguaribe Valley*

## Water - Environment

**This is the first time that the World Water Forum has been organized in a country in the southern hemisphere, in this case Brazil. This year, more specifically in Brasilia, water resources and environmental protection were at the centre of discussions. These themes are particularly important to us.**

**TPF therefore collaborates to the sewage system expansion in the Metropolitan Region of Salvador, the capital of the state of Bahia. Our design office was appointed by the Bahia Institute of Water and Sanitation (Embasa) and by the Inter-American Institute for Cooperation on Agriculture (IICA) to elaborate the enterprises basic designs.**

In addition to extending the network, the contract also comprises a sewage plant implementation using the energy produced from Biogas. It is expected that the project will benefit 335,896 inhabitants until 2030.

**In terms of environmental protection, in the state of Ceará, our Brazilian subsidiary is participating in the establishment of new conservation units. These are intended to protect the territorial space and its environmental resources with their major natural features.**

TPF was hired by the Environment Secretary State (SEMA) to develop environmental projects and studies, infrastructure designs and environmental education to support the creation, implementation and management of conservation units in the state, aiming at the integration of economic, social, cultural, territorial and environmental policies for sustainable development.

The project includes 24 Conservation Units (CUs) and 1 ecological corridor linking the Pacoti River Environmental Protection Area (APA) to the Serra de Baturité APA. The CUs are constituted by 13 APAs, 5 state parks, 2 natural monuments, 1 ecological station and 1 wildlife refuge and 2 areas of relevant ecological interest.

Among conservation areas, we can mention Cocó Park: 1,571 hectares of green space spread over four municipalities (Fortaleza, Maracanaú, Pacatuba and Itaitinga). The project covers basic cartography studies, executive design for the seedlings production and composting unit, diagnosis of social and institutional organization of residents, land survey and real estate, and socioeconomic diagnosis of the communities in the region, covering about 1,250 families.

Let's also mention the Economic Ecological Zoning of the Coastal Zone of the State of Ceará covering 23 municipalities. The main activities of the project are the diagnosis of the physical environment, mapping of use and study of water resources, study of hydrodynamic conditions, diagnosis of biotic conditions, socioeconomics and legal aspects, spatial database structured in GIS, natural domains, environmental systems and strategic environmental sectors, prognosis with aerial surveys and respect to the units capacity support, ZEEC proposal regarding the environmental aspects, draft of the legal instrument, social mobilization and workshops/public hearings.

Finally, also in the state of Ceará, we are also involved in the pier construction design of the Botanical Park, the permaculture project in the Sítio Fundão and environmental education courses.

**Brazil is making huge investments for the development of the water and sanitation sectors, particularly for the urban sanitation component. We are therefore particularly pleased to be able to participate in the Tietê Project, the largest environmental sanitation programme ever undertaken in Brazil.**

*Cocó Park*



Established in 1992, the Tietê Project aims to gradually revitalize the Tietê River, an important river that crosses the city of São Paulo, by expanding and optimizing the collection, transportation and treatment of the sewage system.



*Tietê Project*

The project covers 39 municipalities in the State of São Paulo in an area of 7,945 km<sup>2</sup>, including the capital São Paulo, and reaches 21 million inhabitants, about 10% of the country population. TPF's role includes the management, supervision and technical assistance of projects and programs.

## Irrigation

**In Brazil, a number of irrigated perimeters are now faced with obsolescence of equipment and networks.**

**This is precisely the case for the hydro-mechanical and electrical equipment of pumping stations of irrigated perimeters of Jacarecica I and Poço da Ribeira, located in the city of Itabaiana-SE, which have reached the end of their life after 30 years in operation.**

In order to reduce maintenance costs, the energy bill and the frequency of breakdowns related to their obsolescence, the COHIDRO (Development of Water Resources and Irrigation Company of Sergipe), responsible for the operation and management of projects, hired TPF to modernize and automate the water pumping systems of these irrigated perimeters.

With 124 units for irrigated farming, each one with two ha of net area, Jacarecica I Perimeter has a total of 252 ha irrigable. The water catchment and conduction for irrigation in the Perimeter is done by a pumping station with

four sets of motor pump, unit flow equal to 397 m<sup>3</sup>/h, providing a project flow of 1,191 m<sup>3</sup>/h. The system is composed of three adductors with a total length of 19,932 m, in ductile iron, with diameters from 50 to 300 mm.



*Automation of pumping systems in irrigated perimeters*

The Poção da Ribeira Irrigated Perimeter is 50km away from the state capital. Currently, the project contains 466 water intakes, covering an area of 1,970 ha, in which 1,100 ha are irrigable.

The water is caught from the Rio Traíras dam and also used for human supply. The pumping stations have a flow of 3,456m<sup>3</sup>/h and 1,800 m of pipelines.

## Socio-environmental engineering

**In recent months, TPF's socio-environmental engineering activities have continued to grow. Our clients have shown us their trust by signing new contracts, whether they are new clients such as Norsk**

**Hydro Brazil and EchoEnergia, or existing clients.**

**Among highlights of this year, we will undoubtedly remember the first service contract concluded with aluminium pro-**

**ducer Norsk Hydro Brazil, for a period of 24 months.**

The company commissioned us to design and execute a project of Support and Encouragement towards the local workforce in the municipality of Barcarena in Pará State. This programme aims to develop and implement a social project with strategies promoting the insertion of local professionals, especially residents of the surrounding communities close to operations of the company. It concerns various economic sectors in Barcarena and includes the commerce, industry and services sector, and includes managing Hydro's requests. A sample survey is underway with local residents for the characterisation of local labour, and another survey with companies for the characterisation of available jobs.

**Among topics at the forefront of the news this year, we can also mention our first mission for EchoEnergia, the wind energy specialist in Brazil.**

Its objective is to prepare the Resettlement Action Plan-PAR for 144 families in the Wind Power Complex - Ventos de São Clemente in the State of Pernambuco.



*Rio Grande do Sul windfarm*



*Socio-economic diagnosis of cities along the Rio Doce*

*Participatory workshop - Fundão Dam*

Our responsibilities also include: the socio-economic registration of affected families, the elaboration of appraisal property reports of rural properties, the socio-organizational registration of the affected communities, the development of rural property bank available in the region and the property valuation of the affected properties.

**As part of the Sustainable Rural Pernambuco Program - ProRural, linked to the State Secretariat of Agriculture and Agrarian Reform, we have conducted a technical audit of 255 infrastructure and economic inclusion projects in the rural areas of the state of Pernambuco.**

In addition to promoting rural infrastructure projects and investments in rural economic inclusion aimed at increasing access to water and sanitation, this sustainable development program also supports productive projects (agriculture, livestock, fishing, agro-food sector). ProRural hired our Brazilian company to audit a set of projects

and identify the quality of its execution, the operation status of the works / projects and the capacity of management by the communities. After the evaluation of the projects and their execution, corrective measures were indicated, systematized in terms of performance.

**In the State of Espírito Santo, TPF has signed a new contract with the Renova Foundation for the elaboration of a diagnosis aimed at assessing the impact of the Fundão dam's rupture on tourist, cultural, sports and recreational activities in the cities of Santo de Serra, Aracruz, São Mateus, Conceição da Barra, Fundão and Linhares.**

To this end, we work closely with the communities concerned to define a strategy and a programme of actions adapted to the local context. The collection and analysis of information is done through a participatory process, for example through field research and participatory workshops.

Once the diagnosis is made, remediation activities and compensation actions can be implemented.

**In addition, the Brazilian company specializing in the production of renewable energy CPFL Energias Renováveis SA asked us to draw up the socio-economic diagnosis of the cities of São Miguel do Gostoso, Touros, Parazinho João Câmara, Caiçara do Norte, São Bento do Norte, Jandaíra and Pedra Grande, all located in the state of Rio Grande do Norte.**

The objective of the contract is to characterise the territory by highlighting the major demographic and economic data (inventory and analysis of demographic and economic indicators, local statistical data such as health services, education, social well-being and infrastructure, or the structuring of public finances), to identify challenges and opportunities, and to measure the impact generated by wind investments in these regions.

It should also be noted that our long-standing expertise in the field of environmental education has enabled us to win a new 24-month contract as part of the development by mining company Anglo American in the Minas-Rio project., including the construction of a pipeline of approximately 56 km and a 230 KV transmission line.

This vast iron ore deposit is located in the states of Minas Gerais and Rio de Janeiro. Our mission is to set up an environmental education programme involving all internal and external stakeholders, such as the 33 communities living in the pipeline crossing zone, or the 8 Conservation Units located in the region.

For the external public, the main activities will be developed based on identity and social organization, water resources, income generation and local culture themes.

For the company's employees, our team will develop activities which contribute to improve the environmental management system of Anglo American, focusing on control and mitigation actions as well as emergency situation actions.

**In a completely different area, the mining company VALE entrusted us with the review of Communication Channels in order to implement a model of excellence in Grievance.**

**The implementation of this new model of excellence and mechanism will be guided by the Human Rights Principles and the best international and national practices.**



A benchmark of mining companies was initially conducted, as well as a requirements mapping, as recommended by our main references in Grievance. For this project, a Diagnosis of the Vale's Channels of Communication had been drawn up from its processes mapping, interviews with focal points of the company and suppliers. In addition, proposals were made for improvements to the construction of a new Grievance model to the company, resulting in a Conceptual Design Model.

In continuation of this work, we are currently acting as Technical advisor to discuss and consolidate the Grievance model with the Vale's Working Group, including proposals for solutions and

recommendations for process improvement, benefits and requirements implementation; proposal of databases normalization with the Positioning Book review, network of internal focal points, register of stakeholders and attendance to events; construction and validation of a theme classification tree, hierarchical event matrix and drawing of workflows.

Our team has also supported Vale to build a Business Case of the Grievance Model, to implement a Pilot Project in the Espírito Santo State and in prototyping a new platform that meets the registration, analysis, response and evaluation features of events with different user interfaces.





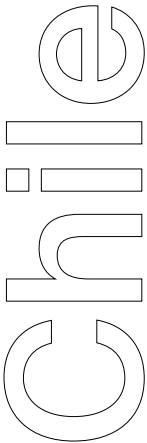
*Santiago de  
Chile Metro*

## Public transport infrastructure: metro, tram, bus rapid transit system

**Over the years, TPF has managed to position itself among the leaders in engineering and infrastructure. On behalf of the Project Management Unit of METRO S.A., the Group has performed the technical inspection of all civil works for infrastructure and systems on Lines 1, 2, 3, 4, 4A and 5 of the Santiago Metro.**

Specifically, the contracted services involved the inspection of

works carried out on administrative buildings, stations, depots, main tracks, siding and test tracks. Among the most relevant projects, we can mention the installation of the TETRA ACCESSNET-T IP radio and CBTC (Communications-Based Train Control) systems, the implementation of noise mitigation measures for the Teniente Cruz Viaduct/Tunnel and the construction and installation of more than 60 elevators.



## Structures and railway infrastructures

**TPF was awarded all the service contracts to conduct the technical inspection of works included in the contract for the supply, installation and maintenance of level crossings on the national railway network.**

The tasks to accomplish under the contracts include detailed design review, technical inspection and coordination during the

maintenance of passive and active warning systems, energy control and remote monitoring systems for the automation of 117

level crossings, as part of the modernization of the Chilean railway network.

## Building sector – Urban planning

**While infrastructure projects have set the pace this year, TPF's building activities have also progressed well. Our Technical Inspection Department was involved in Santiago Metro's Baquedano station.**

The project has been promoted by METRO, CARABINEROS DE CHILE and Mapuche Health Care Centre; the latter within the framework of the Development and Integration Plan for the We Liwen Indigenous Community Association.

The project included the construction of administrative and rest areas for institutional staff, distrib-

uted over 2 levels. It should be noted that demolitions, installation of metallic structures, concrete pouring and finishing works were required among other tasks. The supervision services covered the monitoring of civil engineering work, installations and systems.

**The company continues to provide structural engineering services to the State Railway Company. In 2018, we can highlight the contract to conduct a preliminary diagnosis of the condition of the roof of Alameda Station, a central railway station built in 1885 that will be upgraded to terminal standards.**

Due to its architectural relevance and its importance for the railway and urban history of Santiago, the buildings of the Central Station were designated a Historic Monument in 1983. The main purpose of the contract is to conduct a survey of roof damage. As a result, it is necessary to identify the main risks associated with the condition of the structure and design technical solutions for maintenance. Inspection work has been carried out using cutting-edge technology, such as Trimble TX8 3D laser scanners and drones.

*Santiago Metro's Baquedano station*



*Renovation of Alameda station*



The contracts currently being executed illustrate the confidence we have built with our Colombian partners and the recognition of our know-how in fields as diverse as transport infrastructure, building, urban development and water.

## Public transport infrastructure: metro, tram, bus rapid transit system



**Transport and urban mobility were also at the forefront of our activity this year.**

All our teams are hard at work to move projects forward as quickly as possible, whether it's about achieving the feasibility study and the detailed design of works for the implementation of the Transmilenio BRT system on Avenida

Villavicencio (4.7 km), carrying out the design of road infrastructure and related public realm (for Av. Contador, Av. Santa Bárbara, Av. Jorge Humberto Botero and Av. La Sirena) or to develop detailed designs for greenways, all of them in Bogotá, along the banks of the Córdoba, San Francisco and Boyacá canals.



*TransMillenio  
High Capacity  
Rapid Bus  
Transit System  
Project*

*Creation of  
greenways along  
the banks of the  
Córdoba canals*

## Structures and road infrastructures

**Colombia wants to make the development of transport infrastructure one of its priorities. Progress in this area raises new challenges.**

The Group has successfully accomplished the technical, legal and financial structuring of 8 road

projects consisting of 266 km of secondary and tertiary roads geographically distributed across the whole country. Moreover, we are ready to move on to the detailed design stage of the Nuquí – Las Ánimas road link project, in the Department of Chocó. It will cover a distance of 155 km.

In the field of road construction supervision, we have effectively completed the monitoring services for the rehabilitation of Group 2 of Bogotá's Arterial Road Network.

At the same time, considerable progress has been made with the

*Ernesto  
Cortissoz Airport,  
Barranquilla*

*New control  
tower at Olaya  
Herrera Airport,  
Medellín*

supervision of four ongoing projects: the Honda – Manizales road corridor project, the Chía- Mosquera – La Mesa – Girardot road concession contract, the “Transversal

Central del Pacífico” road corridor project, under the “Vías para El Chocó” Scheme; and the contract entered into with Aleatica (OHL former Concessionary) to provide

supervision services for Functional Unit 1 and Functional Unit 2 of the Río Magdalena Motorway concession project.

## Structures and airport infrastructures

**In Colombia, air transport continues to be a growing sector. Also, current projects are particularly numerous.**

**TPF was awarded a new contract in the Department of Chocó.**

It aims to conduct feasibility studies and detailed designs, as well as the supervision of the environmental, land acquisition and social aspects of the works for the commissioning of Nuquí Airport, in the Department of Chocó.

**Other airports are not left out:**

During the year, we have worked on the assignment involving financial, administrative, technical, legal, operational, and environmental and airport safety supervision



within the framework of the concession contract for 6 airports (José María Córdova International Airport (Rionegro), Olaya Herrera Airport (Medellín), El Caraño Airport (Quibó), Los Garzones Airport (Montería), Antonio Roldán Airport (Carepa) and Las Brujas Airport (Corozal).

In addition, our team provided Independent Checking Engineer

services for the upgrading of the Ernesto Cortissoz Airport in Barranquilla.



## Building sector – Urban planning

**In the building sector, work on the supervision contract for Phase II of the Free Housing Program is moving forward at a good pace.**

The assignment involves monitoring of around thirty design-build priority-housing projects (3,414 households) located mainly in Colombia's North-Western, Cen-

tral and Southern regions, including the foothill plains.

## Water - Environment

**In the field of water and the environment, TPF has been particularly strong and active in the Centre and North-West of the country.**

West of Bogotá, TPF has secured a new contract to perform technical, administrative, financial, environmental, accounting and legal supervision of the works for the construction of a Functional Link between the towns of Engativá and Suba on the Juan Amarillo Wetland.

In the department of Cundinamarca, about thirty kilometres

from Bogotá, the construction supervision of a new Wastewater Treatment Plant that will serve the municipal district of Tabio continues.

In north-western Colombia, we provide technical, administrative, financial, legal, environmental and social supervision services for water supply and sewerage projects in Quibdó. The scope of the contract is to monitor the construction and installation of 50 km of sewers, together with the construction and upgrading of two drinking water treatment plants.



*Sewer collectors  
in Quibdó*

*Juan Amarillo  
Wetland,  
Bogota*



# Ecuador

*Cangagua  
College*



## Building sector – Urban planning

**In Ecuador, TPF is a reference in the field of building and more particularly in education.**

As an example, TPF is supervising the construction of six new Higher Education Units of 28,000 m<sup>2</sup> each, as part of the Higher Education Reform Scheme promoted by the Ministry of Education and financed by the World Bank.

Additionally, in Los Ríos Province, we are in charge of the supervision of the construction of the Millennium Educational Unit Valencia 1 (Vicente Rocafuerte) in the municipality of Valencia and of the major Educational Unit Nueva Mocache, in the municipality of Mocache.



## Structures and road infrastructures

The Ministry of Public Works and Communications entrusted us this year with the supervision of the works for the rehabilitation of some by-roads in San Pedro and Canindeyú departments, in the eastern region.



The assignment encompasses 4 sections with a total length of around 68 km. Completion of the work is scheduled for 2021.

With this new contract won in partnership with TECMA, TPF is strengthening its international development in the field of roads.

## Structures and road infrastructures

In the Anta Province (Cusco Region) and in the Cotabambas Province (Apurimac Region),

TPF is providing the supervision of management, upgrading and maintenance work on the PE-35

(Mollepuquio) – Hinchaypujio – Cotabambas – Tambobamba – Chalhuanhuacho road corridor, 204 km in length, in accordance with target levels of service.

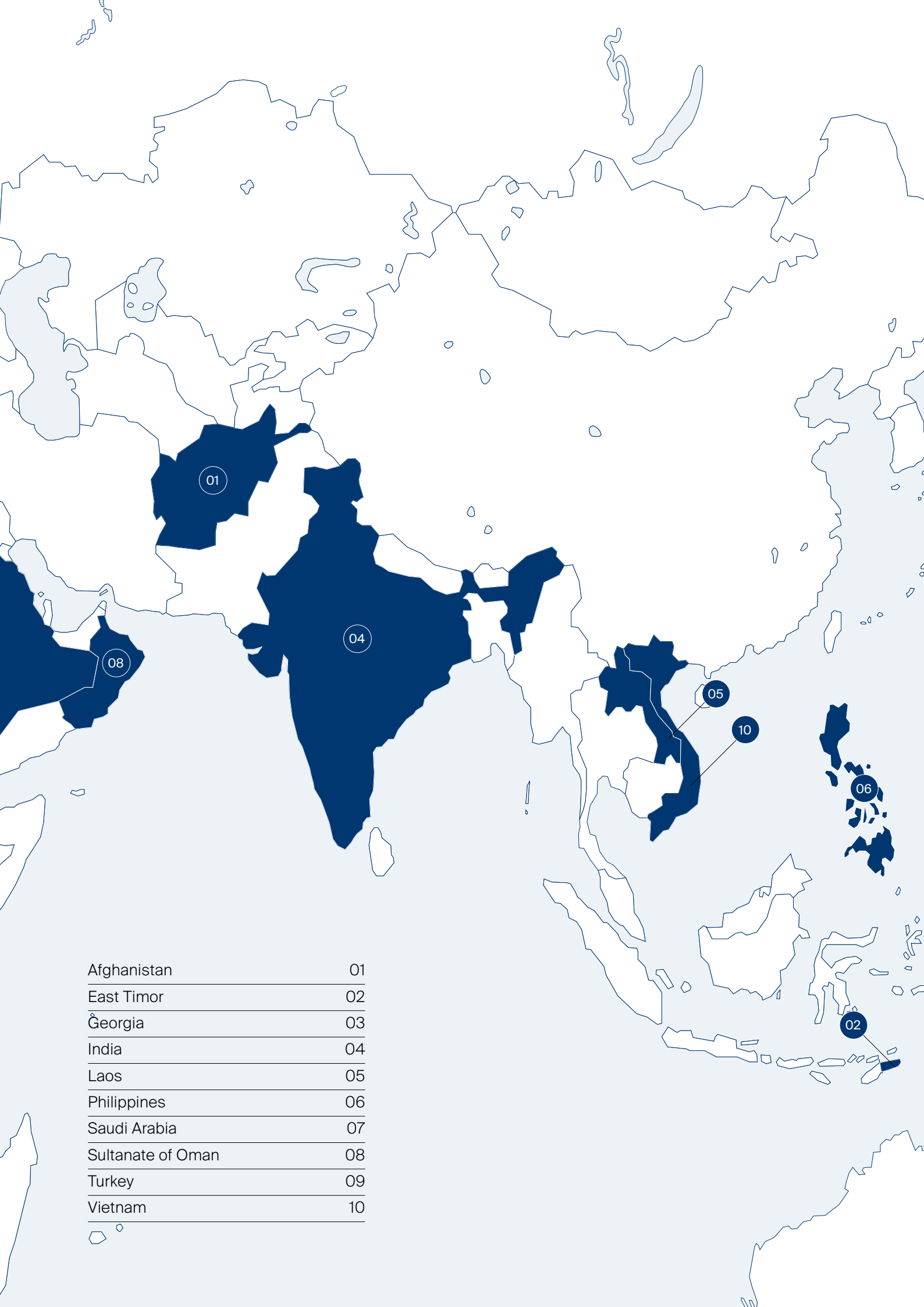


TPF is responsible for the supervision services covering the management, monitoring and control of operations, including coordination with the maintenance contractor. Our supervision services guarantee that the maintenance contractor carries out road management operations in such a way that performance of the corridor remains within the parameters of the planned service levels at all times, thus avoiding early deterioration of the road.

# Asia







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# Afghanistan

*Rehabilitation  
of Salang  
Tunnel*

## Structures and road infrastructures



**Our first contract won on the Afghan territory is a good illustration of our desire to develop our activities in Asia.**

**TPF is currently carrying out studies to enable the rehabilitation of the Salang road tunnel, one of the highest tunnels in the world.**

This structure is the mandatory passage of the Salang pass in the Hindu Kush. It is 2.8 km long and

is of paramount importance because it connects Kabul with the north of the country. This contract, signed with the Ministry of Public Works of the Islamic Republic of Afghanistan, in partnership with the company Khatib & Alami provides for the technical inspection of the tunnel and galleries, including the execution study of the rehabilitation works and the preparation of the tender documents.



## Structures and road infrastructures

**This year, in the isolated enclave of Oecussi-Ambeno, TPF won the supervision of the rehabilitation, construction and maintenance works for a 12 km road section between the Tono Noefefan Bridge and the village of Oenuo.**

This project is part of the Strategic Development Plan for the period 2010 - 2030. One of the goals of this plan is to provide the coastal region between Noefefan and Citrana with the road infrastructure necessary for its growth, and to improve living conditions of its inhabitants.

This new contract, which was awarded by the Authorities of the Special Administrative Region (RAS) of Oecussi-Ambeno and the Special Zones of Market Social Economy (known by the Portuguese acronym ZEESM - Zona especial de economia social de mercado) of Timor-Leste, has a duration of 22 months.



## Water - Environment

**In the water and environment sector, we continue our involvement in the implementation of the Dili Master Plan for Sanitation and Drainage (2014-2015).**

Execution studies are carried out jointly with our local partners as

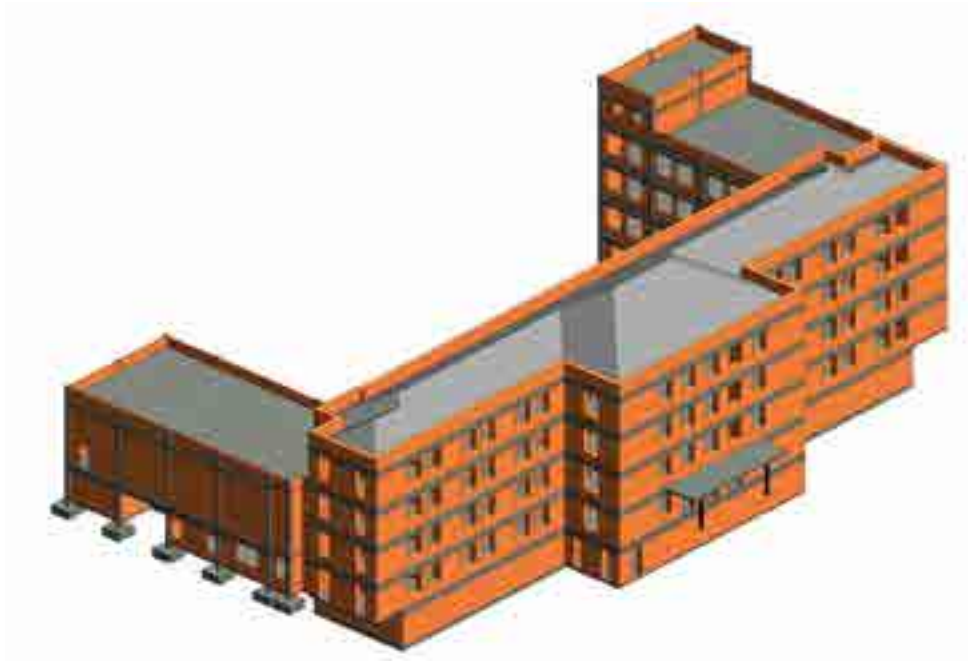
part of the agreement signed with the National Directorate of Water and Sanitation Services of Timor-Leste. These studies focus on the regulation of rivers Maloa, Kuluhun, Santana, Bemori and Becora, the displacement of affected populations, work on the sewerage

network or the construction of new bridges and structures. Nine months are planned to accomplish this mission.

# Georgia

*Reconstruction-  
rehabilitation  
of public schools  
in Tbilisi*

## Building sector – Urban planning



**The consulting services for the project “Reconstruction-rehabilitation of public schools in Tbilisi and increase in energy efficiency” have been completed during 2018.**

**Approximately 25 schools will benefit from work to improve their energy efficiency, to proceed with their structural renovation and to bring them up to earthquake-resistant standards.**

The contract signed with the CEB included, among other services, the following tasks: conduct of assessments (building condition surveys and structural assessments, including the facilities and layouts from an educational perspective and the performance of energy audits), preparation of design and tender documents (drafting and delivery of reports on the technical assessments, which will be used by ESIDA as the basis to prioritize the schools to be refurbished, and provision of the information required to carry out the design work) and review/elaboration of the Unified Set of Standards.



India has one of the largest road networks in the world but the roads are often narrow and in poor condition and the motorway network suffers from underdevelopment. No wonder then that road projects have more than ever the wind in their sails.

## Structures and road infrastructures

**In West Bengal, TPF is acting as Authority's Engineer alongside the Public Works (Roads) Directorate to oversee construction work on two major projects.**

The first project is about the construction of the Gajoldoba Hub Bridge (Single span steel Bridge) over Teesta Main Left Canal (TMLC) including approaches as well as the widening & strengthening of Road from Sahudangi to NH-31

via Paramunda More, Gajoldoba Bazar and Kranti out post from 0.25 KM to 40.05 KM except from 4.70 KM to 22.80 KM of Gajoldoba Tourism Hub Project (Bhorer Alo) under Jalpaiguri Highway Division in the district of Jalpaiguri.

*Four-laning of 241 kilometres of national roads in the State of Assam*



The second concerns the widening and strengthening of the Dalgaoon-Lankapara Road (from km 0.00 to km 0.400 & from km 1.500 to km 18.100) under Alipurduar motorways Division in the District of Alipurduar

**Still in the same State, we have been appointed to prepare the Detailed Project Report for a 29Km long 4-lane road around Kolkata.**

It concerns the strengthening and widening to standard 4/2 lane of arterial road from Pragati Maidan Fire Station to Bantala (0 Km to 5 Km) and SH-3A from Bantala to Ghoshpur near Ghatapukur (5.0 Km to 29.00 Km) in the District of North 24 Parganas / South 24 Parganas to be executed in EPC Mode.

The main challenge is to design a road width of 25-30 m, featuring several structures (3 flyovers, 2 major bridges 71 m and 160 m long, 8 minor bridges) and to have the minimum of undesirable side effects on the environment (buildings and utilities).

**In Mumbai, our team is working on the megaproject Mumbai Trans Harbor Link (MTHL), still under construction. Once completed, this impressive bridge will connect Mumbai to the satellite city of Navi Mumbai. With a length of 21.8 km long, including approach viaducts (5.5 km) and six lanes of traffic, it will be the longest sea bridge in India.**

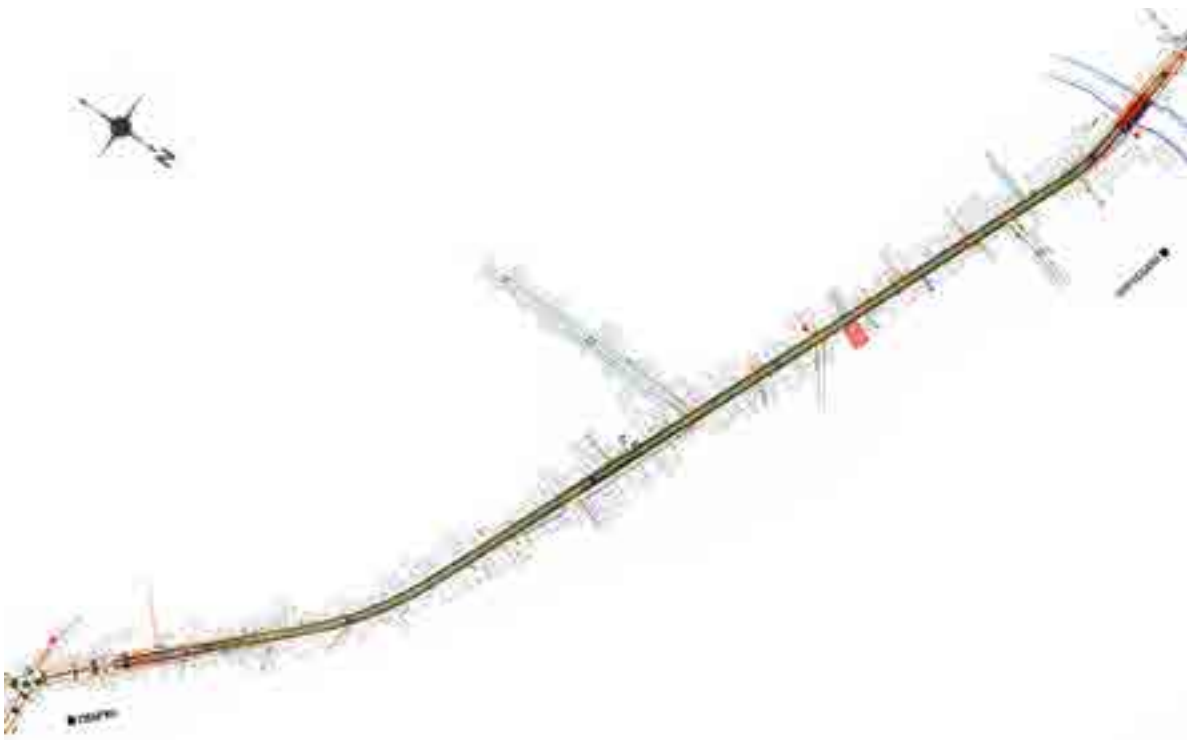
It is within the framework of this project and more particularly of

Package 3 that we provide Independent design checking and engineering services to the company Larsen & Toubro (L & T) Limited: 3.613 km long road bridge and earthwork section (CH 18+187 km to CH 21+800 Km) having interchanges at the SH-54 and the NH-4B near Chirle and Railway over Bridges at two locations in Navi Mumbai.

**In North Eastern State of Assam, we have been appointed by the National Highways and Infrastructure Development Corporation (NHIDCL), Government of India to study the Feasibility and also to prepare Detailed Report for 4-laning of 241Km of National Highway.**

The Consultancy Services for preparation of DPR for develop-





*Design of a 2.3 km long flyover in Siwan, Bihar State*

ment of Economic Corridors, Inter Corridors and Feeder Routes aim to improve the efficiency of freight movement in India under Bharatmala Pariyojana (Lot-1) Package IA

This corridor or road will boost major freight movement in the state and will connect important production and consumption centres.

As part of the development, around 9 nos. Major Bridges, 104 nos. Minor Bridges, 6 nos. ROBs, 23 nos. VUP / LVUP, 1no. Flyover and 1 no. Trumpet to be designed. The consultancy also includes design of bypasses to avoid congested / habitation areas and project clearances like Forest, Land Acquisition, Railways etc.

**In the State of Bihar, we have been appointed by Bihar Rajya Pul Nirman Nigam Ltd (BRPNL), Government of Bihar to prepare Detailed Report for 2.3Km long Flyover in the town of Siwan.**

The main challenge is to design a flyover including ramps in a congested location with an available road width of 20m, and to have the minimum of undesirable side effects on the environment (buildings and utilities).

**Finally, in the State of Maharashtra, TPF is functioning as the lender's engineer and acting as an advisory consultant to the lender for two main projects:**

- Consultancy services for Lenders' Engineer for 4 Laning of Loha-Waranga Section

of NH - 361 from km. 187.800 to km. 244.369 (Design Length 56.569 km) in the State of Maharashtra which is being developed by MEP Longjian Loha Waranga Road Pvt. Ltd. (MLLWRPL) on HAM basis;

- Consultancy services for Lenders' Engineer for Construction of 6/8-laning of existing 4 lane Vadape to Thane from Km 539.202 to km 563.000 section of NH-3 (new NH-848) in the State of Maharashtra which is being developed by MEP Longjian VTR Pvt. Ltd. (MLVPL) on HAM basis.

# Laos

*Vientiane  
Sustainable  
Urban  
Transport  
Project  
(VSUTPF)*

## Public transport infrastructure - metro, tram, bus rapid transit systems

In the face of global warming and in order to preserve the environment for future generations, TPF is committed to supporting cities in the development of sustainable urban transport systems.

A good example of this is our participation as consultants, in joint venture with Eptisa Servicios de Ingenieria, S.L., in the implementation of the Vientiane

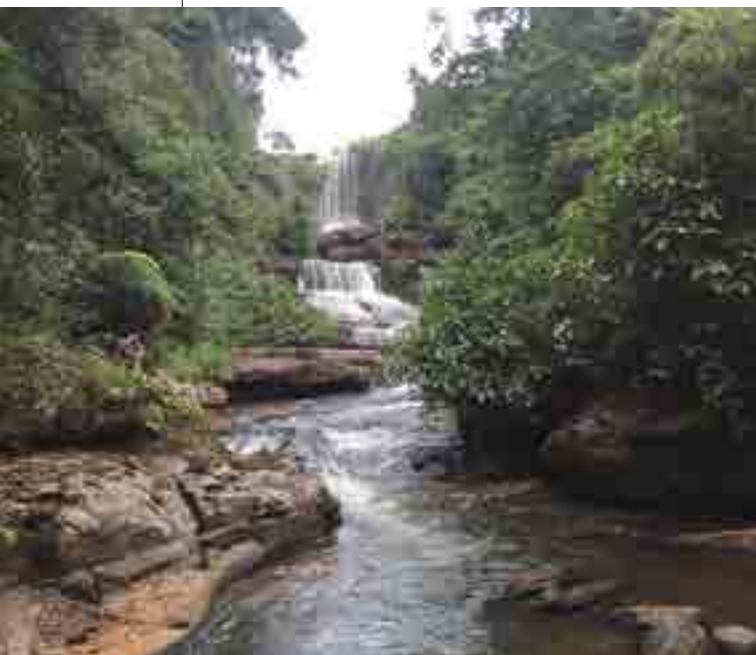
**Sustainable Urban Transport Project (VSUTP), which advocates the need for an adequate urban mobility model in the capital city of Laos.**

The primary objective of the scheme is to provide a high-quality public Bus Rapid Transit (BRT) network that will reduce travel times, while increasing reliability. With a length of more than 20 km, the proposed BRT corridor will

pass through the core area of Vientiane, linking Wattay International Airport to the National University of Laos.



## Energy



**Hydropower is a sector that TPF is well aware of, and its development in Asia is not about to stop. The energy potential is real, but still under-exploited.**

**In Laos, we are continuing mapping studies carried out under the leadership of the Ministry of Energy and Mines as part of the World Bank Energy Sector Management Assistance Program.**

Among our tasks, the mapping of natural resources, inventorying and georeferencing all existing mini-hydropower plants or locating potentially interesting new

sites throughout the country.

It should be noted that this 12-month work is carried out with the valuable help of specialized local technicians trained in several disciplines (data collection and analysis, results analysis, geo-spatial planning and technical-economic analysis).



Public transport infrastructure - metro, tram, bus rapid transit systems

**In Manila, TPF continues to provide Independent Checking Engineer Services for the extension, operation and maintenance of Line 1 of the Light Transit Rail.**

The assignment involves the transfer to the concessionaire of responsibilities for the operation and maintenance of the existing line, and for the construction, operation and maintenance of a line extension with a total length of 11.7 km (10.5 km of elevated rail and 1.2 km of at-grade system). The project is intended to increase daily passenger capacity from 500,000 to 800,000 throughout the 32-year concession period.



Structures and road infrastructures

**As in the previous year, TPF's road activities focused on Operation and maintenance of the Muntinlupa Cavite Expressway (MCX).**

Remember that this 4 km structure, inaugurated in July 2015, connects South Luzon Expressway (SLEX) to Daang, South of Manila.

TPF was also responsible for the supervision of the design and construction works

*Extension of line 1 of the Manila light rail*

*Muntinlupa Cavite Expressway Toll Freeway (MCX)*



## Public transport infrastructure: metro, tram, bus rapid transit system

In Saudi Arabia, the project for the design and construction of the Riyadh Metro, which is led by TPF, is in its final phase.

And, consequently, so is our work as Independent Checking

Engineers in charge of the design review of Lines 1 and 2 (Lot 1), with special emphasis on underground works and stations, elevated stations, viaducts and track.

As a reminder, the Riyadh metro is a gigantic project that will include 6 automatic lines, 176 km of tracks and no less than 85 stations.



## Structures and railway infrastructures

The inauguration of the 450 km high-speed line between Makkah and Madinah undoubtedly appears as this year's flagship event.

This Haramain high-speed train now carries Muslim pilgrims as well as regular passengers between the two holy cities, via the

port of Jeddah in two hours. TPF was responsible for the supervision of the construction, design and project management of Phase 2.

## Water - Environment

In the field of water and environment, during 2018, TPF has been working in three new contracts in the country:

The detailed design of the expansion of the Dammam Wastewater Treatment Plant (WWTP) and the design of the works for the renovation and expansion of the WWTP of the Jeddah Airport (Phase II), both for TEDAGUA,

and a third contract to provide technical assistance to the Constructor participating in the design-build tender process for the Shuqaiq desalination plant, which was delivered on time to our client FCC.

The three contracts involved the provision of technical assistance services to the Constructor and the conduct of the relevant stud-

ies during the tender phase.

The projects for the WWTP of the Jeddah Airport and for the new Dammam WWTP were carried out for the same consortium, under a DBOT modality (design-build-operate-transfer). In the case of FCC, the assignment involved the marine works required for the construction of the Shuqaiq desalination plant.



## Maritime and port infrastructures

**This year's flagship operations include the execution studies to be carried out under the EPC contract for the construction of the technical corridor of the Duqm refinery, at the heart of the port area.**

This project, launched by the Special Economic Zone Authority of Duqm (SEZAD), concerns the construction of a technical corridor 6.5 km long and 37.2 m wide between the refinery and the pier, dedicated to the export of various

petroleum products. It also involves the construction of roads along the corridor, the construction of various bridges-pipelines allowing the crossing of valleys and canals, the construction of overpasses, free from any obstacle as well as the construction of anti-vandalism fencing on each side of the pipelines.



## Public transport infrastructure: metro, tram, bus rapid transit system

**We can mention two of the projects that marked the year 2018 in Istanbul.**

First, the construction project for the pedestrian tunnel connecting the Osmanbey metro station and a new building in Sisli. Our mission was to carry out the preliminary design and the execution study.

Also, the project of urban requalification of an old bus station, carried by the metropolitan municipality (İstanbul Büyükşehir Belediyesi - IBB). Our team has been appointed to carry out the preliminary design.

**In terms of new challenges, TPF signed in November 2018 the contract for the design of the**

**railway link Yıldırım Bayazit University and Çubuk.**

The objective of the project is to integrate the Çubuk District, in Ankara, with the main public transportation centres and urban railway lines. The project has an estimated duration of one year and is expected to be completed by the end of 2019.



## Structures and railway infrastructures

**The extension and modernization of the Turkish rail network is accompanied by a series of infrastructure works.**

**In this area, we can look forward to the advancement of several projects that our multidisciplinary teams are currently working on.**

TPF is responsible for the quality control of the works to upgrade

the signalling and telecommunications systems on the railway sections of Bogazköprü to Yenice and Mersin to Toprakale, which are expected to be completed in the first half of 2019.

We are also in charge of the construction supervision of the Adapazari – Karasu Port railway line, which is scheduled to enter the second phase in the third quarter of the year in order to complete the

infrastructure and superstructure.

Additionally, the contract signed in 2008 for the coordination of the construction of the Ankara-Istanbul High Speed Rail Line will be completed by September 2019.



*Ankara -  
Istanbul HSRL*

## Building sector – Urban planning

Among the highlights of the last twelve months, we can mention the completion of the execution study entrusted to us by the metropolitan municipality (IBB) as part of the Istanbul ethnographic park development project, a large open public area of 350,000m<sup>2</sup> dedicated to sports and recreation.

In addition to the development of sports and recreational activities focused on traditional and modern sports, the project also provides for the development of gardens, the creation of exhibition spaces, restaurants and the establishment of support and administrative services. It should be noted that this mission could not have been com-

pleted without the work of our Turkish and Portuguese experts specialized in disciplines as diverse as architecture, landscape architecture, geology, geotechnics, civil engineering and electromechanics.

*Istanbul  
Ethnographic  
Park*



# Vietnam



## Public transport infrastructure: metro, tram, bus rapid transit system

*Pilot metro line  
construction  
No. 3 - Hanoi*



TPF expands its presence in the Vietnamese transport sector with the award of a metro project in Hanoi. In June 2018, TPF started working on the construction of the Line 3 of the Hanoi Metro Railway System as the Consultant for Project Management Support (Phase 2).

The assignment includes the civil works and railway systems, the supply of rolling stock, and the installation of an automatic fare collection system for a new metro line with a total length of 12.5 km, which includes 8.5 km of viaducts and 4 km of tunnel, 12 stations (8 elevated and 4 underground stations), and a maintenance depot. The total investment, which

amounts to €1,127 million, is financed by the European Investment Bank (EIB), the French Government (DGTresor), the French Agency for Development (AFD), and the Government of Vietnam.

As this is one of the first metro lines to be built in Vietnam, the main purpose of TPF is to advise the Client, the Hanoi Metropolitan

Railway Management Board, on all the aspects related to the construction of a metro line, including overall project management, financial management, tunnel construction, railway systems, environmental protection, occupational safety, resettlement, gender and communications. The contract has a duration of four years.



*Pilot metro  
line construction  
No. 3 -  
Hanoi*

## Structures and road infrastructures

**The year 2018 ended with a great outlook for the Vietnam Expressway Administration.**

The technical assistance contract that we signed with the latter was finalized. The purpose of the assignment was to perform

an assessment of the current situation of the organization and, based on this assessment and on a benchmarking framework that compared international expressway management models that have proved successful, to propose a new organizational

model with recommendations for its implementation.

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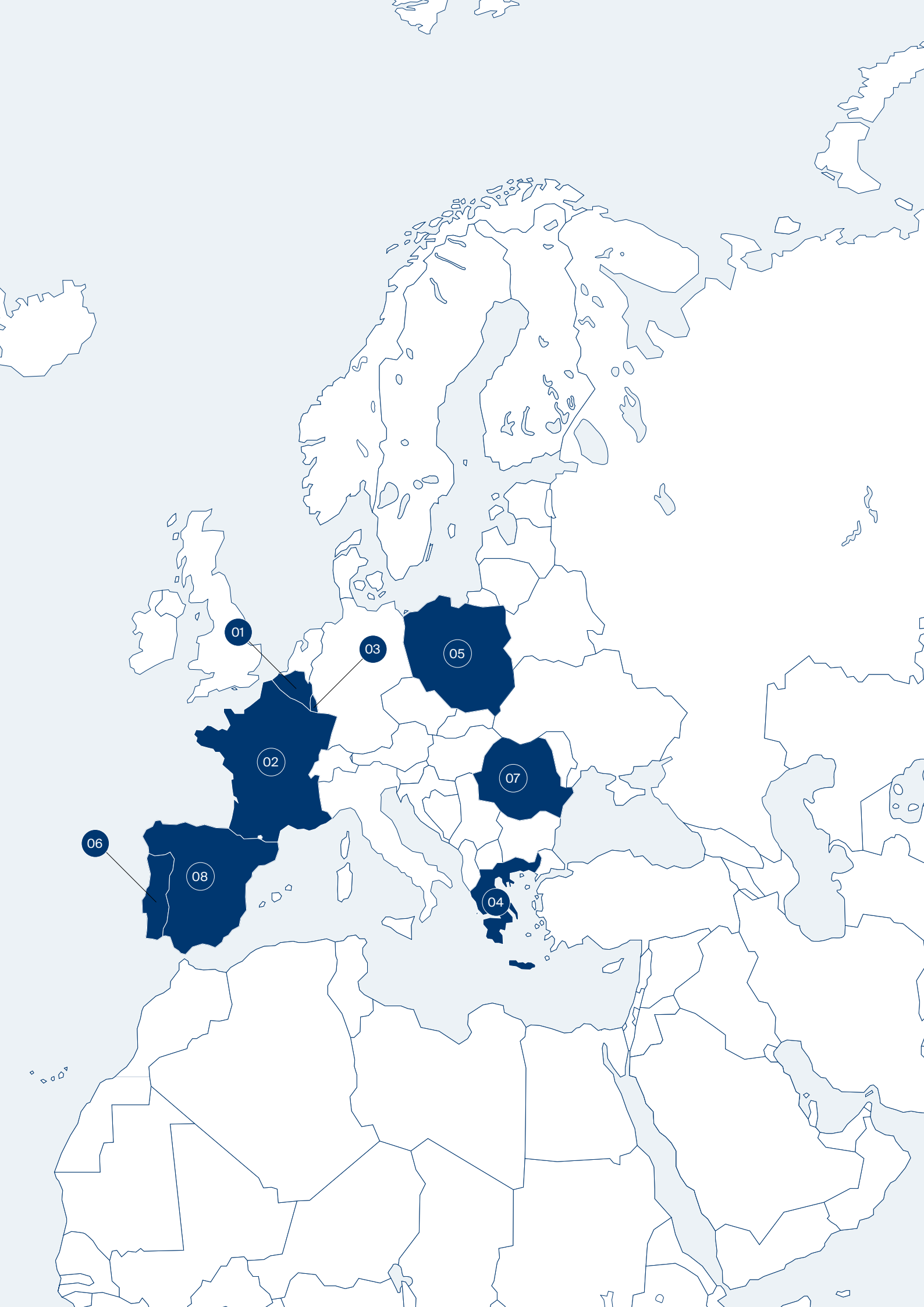
# Europe

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EUROPE

# Belgium



## Building sector – Urban planning

*Rehabilitation  
of the former  
Papeteries de  
Genval*



2018 was another extremely busy year, whether projects concern housing, office buildings, mixed-use complexes, hospitals, new urban neighbourhoods, hotels, industrial buildings, shopping centres or mobility centres. In recent years, TPF has supported almost the entire building sector on large multi-technical projects, sometimes of a rare complexity.

In Neder-Over-Heembeek, TPF is participating in the project

**to build one hundred housing units, rue de Faines.**

Among these units, there are about fifteen intergenerational housing units and fifteen others for aging people with mental disabilities. The whole area represents a surface of 11,500 m<sup>2</sup>. The site should be completed in 2019. TPF is carrying out a consulting engineer mission in technical building services and stability.

**In Rixensart, the project to rehabilitate the former Papeteries de Genval into a mixed complex combining housing and shops is continuing its development. This major undertaking is divided into three phases, spread over six years.**

The first phase was successfully completed, involving the construction of 172 apartments, 12,802 m<sup>2</sup> of shops, a retirement home and the creation of 475 parking spaces, totalling 54,196 m<sup>2</sup>. The official inauguration of the works took place on September 10, 2015.

Work was also finished this year on the second phase of the construction for 163 apartments (ranging from studios to three-bedroom apartments and luxurious penthouse) and the creation of 165 parking spaces, totalling 22,736 m<sup>2</sup>. The whole project includes 97 low energy apartments.

A third phase is reserved for housing, totalling 12,982 m<sup>2</sup>, including a first batch of 38 one-to three-bedroom apartments and 14 stu-



*Real estate project  
rue de Faines in  
Neder-Over-  
Heembeek*

## Belgium

*New  
administrative  
center and  
housing building  
on the site of  
Jardins de la  
Chasse in  
Etterbeek*

dios spread over 5 levels, as well as a second batch of 19 one-to-two-bedroom apartments and 8 studios spread over 4 levels. TPF is currently conducting studies related to stability.

The new eco-district will focus on conviviality and nature. Besides the installation of street furniture, there will also be the creation of several plots and a large esplanade at the heart of the site.

**Meanwhile, the new administrative center and housing building on the site of Jardins de la Chasse in Etterbeek are taking shape. The site should be completed in 2019.**

In addition to the Communal Administration, the new administrative centre will house the CPAS, a police station and a space for associations. The adjoining building will have 41 apartments. The

entire project covers an area of approximately 30,000 m<sup>2</sup>. TPF was appointed as a consulting engineer for a technical building services mission.





**Moreover, with regard to mixed real estate projects, TPF is involved in revitalizing the site of the former fire station in Namur.**

By 2022, this former site of more than one hectare will give way to a new district mixing 134 housing units, services, a local food store (800 m<sup>2</sup>), a municipal library (2,000 m<sup>2</sup>), a restaurant (300 m<sup>2</sup>), a park (3,500 m<sup>2</sup>) open to the public and underground parking on two levels (430 spaces).

Roofs will feature gardens and vegetable gardens whose production will be used and sold at the nearby Al'Ferre local market.

In addition to being part of a sustainable development approach

(shared cars, large bicycle parking, thermal and photovoltaic solar panels, A class EPB, rainwater harvesting, park biodiversity, urban agriculture), the project is exemplary in terms of gender integration in the public space (lighting, flooring, comfortable furniture, public toilets accessible via the park, drinking water fountain).

In the framework of the mixed contract (for works and concession) launched by the Régie Foncière of the City of Namur and won by SA Cœur de Ville, TPF is responsible for carrying out studies on technical building services relating to the library, housing units, museum (casco) and car parks.

*Revitalization of the site of the former fire station in Namur*

# urijum Belgium

*Rehabilitation  
of the former site  
of the Bavière  
Hospital - New  
police station*

In Liège, TPF is also involved in the realization of another mixed project, just as exciting. This is the rehabilitation of the former site of the Bavière hospital, located between Boulevard de la Constitution, Rue des Bonnes Villes and quai de la Dérivation.

The former site of about 4 hectares will host in the next ten years student and regular housing units, a police station, a sports centre, a school, a nursery, the faculty of dentistry of the University Hospital Center of the University of Liege (ULG), or about 88,300m<sup>2</sup> of total floor area above ground.

TPF has been entrusted with building technical services and EPB studies for the part related to the “sports centre, police station, faculty of dentistry, underground area and smoke extraction”. The study phase is currently underway.

In Brussels, a whole new district will rise on the site of Heysel, at the foot of the Atomium, and will see the day in 2023. Neo II, the 2nd component of the Neo project aims to build an international convention centre of approximately 49,000 m<sup>2</sup> and a luxury hotel with a capacity of 250 rooms.

The convention centre will be equipped with the latest audio-visual and digital communication technology and simultaneous translation (minimum four languages). It will be able to welcome more than 5,000 participants to various events (international congresses, shows, meetings, animations) in the respect of the highest standards of security.

The Neo II project, designed by Jean Nouvel, has been entrusted to the CFE / Cofinimmo consortium as part of a Design-Build-Finance-Maintain (DBFM) contract. TPF was





Authors "AM MODULO - DJGA - TPF"

asked to provide the Stability and Special Techniques missions.

**In the health sector, the construction project of the King Albert II Institute is continuing. This year saw the completion of studies.**

This new 120-bed cancer and hematology center will be built next

to the main building of the Saint-Luc University Clinic in Woluwe-Saint-Lambert. It will bring together 22,000 m<sup>2</sup> of traditional hospitalization, consultation and research activities related to the treatment of adult and paediatric cancers and will be in direct connection with the existing radiotherapy center.

Our engineers focus on the technical aspects of the project: stability, building technical services, rational use of energy.

**In Tournai, TPF also contributed to the renovation and extension of the Bastions shopping center. After two years of work, it presents new attractions.**

*Construction project of the King Albert II Institute in Woluwe-Saint-Lambert*



*The Bastions in Tournai*

A total of 15,000 m<sup>2</sup> of additional space, more than forty new stores combining local and international brands, a diversified Horeca offer and a more modern and luminous building extension thanks to the huge glass roof. TPF acted as a consulting engineer for building technical services, stability, EPB and BREEAM.

**In the tourism sector, Spanish Hotel Group NH is expected to open the new NHOW BRUSSELS hotel by 2020, in place of the former Hyatt Regency hotel on Rue Royale in Brussels. The building belongs to Pandox, the Swedish hotel group leader in hotel properties.**

The 305 rooms of the former hotel as well as public spaces (reception, restaurant and corridors) will be completely renovated according to the concept "spend your night in an art gallery".

The project represents an area of 22,000 m<sup>2</sup>. TPF has been appointed to carry out a project management and construction management mission.

**TPF also carries out missions for one of its agribusiness clients, AVIETA, the sugar waffle manufacturer based in Vinalmont (Huy) and Zonhoven (Hasselt).**

The company used our expertise in the construction of a new 15,000 m<sup>2</sup> plant at the Vinalmont site to create four 20,000 waffle per hour production lines (expandable to eight). The new building will be added to existing infrastructure.

This project is extremely involving for our teams coordinating the entire project and in charge of architecture, engineering (technical building services, including production equipment), civil engineering, hygiene consultancy, project management.

**Finally, the close and long-standing relationship with the US Army Corps of Engineers Europe District (USACE) has allowed TPF to work on five new projects. The air bases concerned are those of Chièvres and Zutendaal in Belgium and that of Egelshoven in the Netherlands.**

The projects are aimed either at the construction of new buildings or the renovation or conversion of existing installations. The consortium composed of TPF and Cromwell Architects Engineers intervenes on these projects to draft the DB RFP (Design-Built Request for Proposal) specifications and to ensure the follow-up of worksites for the works relating to the architecture, the stability, the infrastructures, technical installations and the protection of forces. The studies started this year and will end at the end of 2019. The total work is estimated at 20 million dollars.

**Let's conclude this overview with the construction of the Grognon underground car park at the Confluence site in Namur. This construction project has an impressive size: it will be spread over 4 levels in the basement, for a total of 747 spaces, including 132 assigned to the Walloon Parliament.**

The car park will be comfortable and functional: very large spaces (2.40 m and 2.50 m), 19 PRM spaces of 3.30 m, detection and

*AVIETA -  
new production  
plant on the  
Vinalmont site*





guidance system to free places, 6 electric charging stations, 53 free bike slots, locker room with 48 lockers.

It will also be user-friendly (multi-media screens, two sanitary facilities and public toilets, exhibition spaces), smart (plate recognition, online reservation system, internet access) and environmentally friendly.

To carry out this ambitious project, TPF has been entrusted with the full mission of technical building services and stability.



*Grognon  
underground  
parking in  
Namur*



## Water - Environment

In the Brussels region and more precisely in the Verrewinkelbeek valley, the inauguration of a new sewer collector marks the culmination of work that took nearly 28 years to materialize.

The provisional acceptance of the work of the third and last section of the collector, which began in 2011, took place at the end of the year. The structure, which is approximately 6 km long, now transports wastewater from the communes of Rhode-Saint-Genèse, Linkebeek, Uccle and Drogenbos to the Brussels-South wastewater treatment plant.

Let us mention that the first and second phases were realized during the 90's.



*New sewer collector - Verrewinkelbeek Valley (Brussels)*



## Energy

**Public lighting and intelligent energy management systems have been at the forefront of our activity this year.**

Among the highlights, we can mention our participation in the project of modernization of street lighting in the Walloon Region, within the LuWa group led by Citelum and CFE. The project is

large since it will spread over a period of 20 years.

TPF also intends to invest its know-how in smart metering and related reporting systems in order to meet the new challenges and increasing market demands in terms of energy performance.



*Modernization of public lighting in the Walloon Region*

## Maintenance and operation of technical installations

**TPF strengthened its Maintenance activity thanks to the signing of two new contracts.**

**In Mechelen, our technicians will provide maintenance for over ten years for more than 25 cultural and social buildings, including several museums.**

Our role will also be to monitor energy consumption and propose solutions that reduce energy costs.

**The second contract was signed with the Information and**

**Communication Center (CIC) of the Federal Police.**

For ten years, TPF will maintain the communication and crisis centres of the ten provinces in Belgium.



*Information and Communication Center (CIC) of the Federal Police*

# France



*BRT in the Agglomeration Community of Cannes Pays de Lérins*

## Public transport infrastructure: metro, tram, bus rapid transit system

After being awarded the project management framework agreement on the design and construction of the Bus Rapid Transit system (BRT) for the Greater Cannes Pays de Lérins agglomeration, TPF was

awarded this year a subsequent contract for the Mandelieu Centre sector.

In addition to road improvements, the project includes the requalification and improvement of pedes-

trian access to the BRT, the layout of a greenway, the widening of a bridge, the development of bus stops, the synthesis and deviation studies of existing networks as well as the creation of new networks inherent to planning.

*Extension of Terminal 2 - Nice Côte d'Azur Airport*

## Structures and airport infrastructures

© Stéphane Aurel Architecture - image : 3d Fabrique



Thanks to its expertise in the airport sector, TPF has won a contract with Stéphane Aurel Architecture, SBP Schlaich Bergemann Partner, BMF Bureau Michel Forgue, Batiss and Amd.sigma, as the project management contractor for the Terminal 2 expansion of Nice Côte d'Azur Airport.

The construction will take place in two phases.

The first phase concerns the construction of a two-level long jetty that will serve six A320 aircraft and two A380 wide-wing aircraft. In order to limit pollution, aircraft stations will be equipped with 400Hz power supplies to reduce the use of aircraft auxiliary engines. Work will begin in 2019 and finish in 2021.

The second phase will deliver the building of the new terminal in early 2023, upstream of the "sterile"

zone (registration, screening inspection station, baggage sorting and delivery) which constitutes an integral part of the project.

The site will benefit from the use of natural ventilation and night cooling combined with the inertia of the building, bio-sourced ma-

terials and passive envelope protection to avoid the effects of solar heating leading to overconsumption of energy.

## Building sector - Urban planning

**Our presence in the construction sector in France remains absolutely essential. This year again, the multidisciplinary expertise of our teams allowed us to respond to the specificities of each project in the commercial field as well as in the areas of housing, offices, education, tertiary, logistics, digital or urban development.**

**The year 2018 was marked by the delivery of the Villefontaine Brand Village, a project on which TPF has been working since 2015 through the completion of the studies, followed by the execution of the works.**

This emblematic project carried by La Compagnie de Phalsbourg (22,000 m<sup>2</sup> of retail space on a 13-hectare plot) presents an innovation relating to the glass cover process of the 68 "glass-house" shops designed by architect Gianni Ranaulo, and technically designed by TPF's engineers using exterior glazing glued in the context of an "Atex" (Technical Experimentation Test) procedure of the Scientific and Technical Center for Building (CSTB). Our engineers also synthesized the execution studies on BIM model between four lots: frame, wood cover, waterproofing, and glass cover.

This atypical project, built in two years according to important environmental requirements (BREEAM "Very Good", TR (Thermal Regulation) 2012 -20%), won the MAPIC Award 2018 in the "Best Outlet Center" category.

**In terms of technical expertise, TPF also made a name for itself in the framework of the Tarbes IUT project designed by the Mil Lieux architecture agency on behalf of the Occitan Region.**

To design the new pedagogical building Civil engineering and sustainable construction of the IUT, our engineers have tested the use of a process of old and environmentally responsible construction: rammed earth (soil compressed in successive layers), in the constraining context of an area where the seismic risk is the largest in the metropolis. The study of the seismic capacities of this material, still poorly known, was carried out within the framework of a protocol set up with the FCBA (Forest Cellulose Wood-Construction Furnishing) technological institute of Bordeaux. In particular, it has been used to measure the dynamic behaviour of rammed earth building modules against various seismic loads. Rammed earth prototypes de-

signed by TPF engineers have passed the tests with flying colours at the end of the year: a promising experiment for the future of sustainable building.

*Villefontaine  
Brand Village*

*IUT project,  
Tarbes*



## France

*University  
residence Lucien  
Cornil,  
Marseille*

*LIDL logistics  
platform,  
Cestas*

*Mougins Town  
Hall*

*Nokia Campus,  
Lannion*

**Ecodesign was also at the heart of the construction project of the University Residence Lucien Cornil in Marseille.**

Associated with the agency A+ Architecture, TPF was distinguished by the National Award for Wood Construction 2018 in the category "Living together" which recognises creativity and excellence in engineering. The 22-meter-high, 4,830-square-meter building houses 200 student housing units. Covered with a metal mesh, the residence is made of a 3D structure based on cross laminated timber (CLT) panels to make walls, floors and roofs. The entire building is made of wood, with the exception of the ground floor slab, the two stairwells and the elevator shaft which are made of concrete.

**In the field of Logistics, TPF provided engineering services for the largest Lidl warehouse in France.**

The German food chain has entrusted our teams with design supervision and execution management for its Cestas logistics platform (52,000 m<sup>2</sup> including 7,000 m<sup>2</sup> in positive and negative cold) delivered at the end of 2018. It is the largest food processing centre ever built in France by Lidl to supply 72 stores in the Gironde, Landes, Lot et Garonne and Pyrénées Atlantiques. The project includes an important component of sustainable development: photovoltaic parking shades, natural lighting and LED lighting to promote energy savings, optimized waste recycling systems, Building Management System (BMS) for the management of energy consumption, recovery of heat generated by the machines to heat plenums and for the underfloor heating of the warehouse.



**In the Tertiary sector, the year 2018 was marked by the delivery of the Nokia Campus in Lannion.**

Three GF + 2 buildings totalling 9,000 m<sup>2</sup>, of which TPF has been the execution project manager, have been deployed on the historic Alcatel-Lucent site around a modular foyer for meetings and conferences. This is the largest project in the Brittany Region using tertiary HQE offices (high environmental quality), a certification obtained by our construction site due to its low nuisance, thermal comfort and visual comfort.

**October 2018 saw the commissioning of La Marseillaise Tower, a high-rise building with 31 floors and 35,000 m<sup>2</sup> of offices, designed by Ateliers Jean Nouvel on behalf of the promoter Constructa.**

This is the result of the work carried out by TPF since 2015 as part of a project management assistance mission.

The second building is the highest in the Phocaeen city (135 meters), and won the prestigious "Equerre d'argent" (Silver T-square) award in the "Activities" category.



**In Lille, the works of Partenord Habitat's new headquarters, which TPF also conducted as part of a design-build contract carried out by Nord France Construction, began in September 2018.**

Designed by Coldefy & Associés Architectes Urbanistes associated with TAG Atelier d'Architecture, this innovative mixed project comprises 15,000 m<sup>2</sup> of offices, housing and businesses, and meets the challenges of energy and digital transitions: valorisation of fatal energy, interconnectivity of buildings, energy storage, integration of BIM.

**TPF's expertise in the tertiary sector has also enabled us to win great commercial successes such as the construction of the new Mougins Town Hall, a building designed by Jean-Pierre Lott for which we are in charge of project management.**

An ambitious project from both an architectural and environmental point of view, its double-skin façade and its green space must meet the challenges of a RT 2012 -40% environmental design.

**France Télévisions has placed its trust in TPF to ensure the**

**design and monitoring of the realization of two major operations: the construction of the regional headquarters of France3 Normandie on the quays of Rouen and the development of audio-visual studios in Vendargues, in collaboration with CCD architecture.**

The first project, for which most of the work has been completed in 2018, meets the acoustic specifications for a television studio in a very constrained environment, due to the presence of a railway, a motorway bridge and a nearby boulevard, as well as a subterranean HSR line due to be built nearby. The solution chosen was to place the 7,500 tons of the building on prestressed spring boxes. This elastic separation of the building and the ground makes it possible to reduce the propagation of vibrations and impact noises on the structure.

The second project delivered this year in a record time of 5.5 months consisted in the creation of three plateaux of 1,100 m<sup>2</sup> units including one in option, as well as a workshop of 450 m<sup>2</sup> for scenic design production inside a former logistics warehouse of 16,000 m<sup>2</sup>. Its metal frame made it possible

*La Marseillaise  
Tower,  
Marseille*

*Partenord  
Habitat mixed  
programme,  
Lille*



# France

*Regional  
headquarters of  
France3  
Normandie,  
Rouen*

*Requalification of  
the Quai Gayant  
and redevelopment  
of the forecourt of  
the station and its  
surroundings,  
Saint-Quentin*

to have surfaces without posts, and the installation of concrete porticos made it possible to support very large fireproof acoustic doors of nearly one ton.

**With its expertise in Safety / New Technologies, TPF was entrusted by the Stade de France Consortium with a project management mission for the renovation of the video protection system for its sports infrastructure.**

The project includes the redesign of the application and storage server architecture, the migration of servers in the Data Center, the renewal of the video operating client stations, the migration of the security management software, the renewal of display servers, screens and image wall of the operational command post, updating the maintenance contract and renewing and installing new cameras.

**In the field of digital technology, TPF will also be involved in three Data Center projects.**

The first one deals with the realization of studies in electricity /

safety / HVAC / roads and networks, the assistance to the execution of construction contracts and the follow-up of their realization as part of an operation carried out on behalf of Ariane Group : the operation involved the renovation and expansion of the two main data centres and backup data center facilities at the Haillan site (Gironde), and the redevelopment of a tertiary zone for the relocation of areas impacted by the new construction, all conceived taking into account very strong confidentiality constraints.

The second project, delivered at the end of the year 2018, was also the subject of a complete project management mission aimed at increasing the capacity of two data centres on the Auzeville-Tolosane agricultural complex site for the account of the Ministry of Agriculture and Food.

The last project concerns the construction of two Data Centres for the European Organization for Nuclear Research (CERN): one at Sergy at point 2 of the Large Hadron Collider (LHC) and the other at Ferney-Voltaire at point 8. Stud-

ies are still in progress. This 3-year contract is all the more rewarding because it is the largest and most powerful particle accelerator in the world. Its purpose is to provide civil engineering services at all stages of the project, from feasibility studies to the supervision of works and the negotiation of contracts with contractors.

**In terms of urban development, the project to upgrade Quai Gayant and redevelop the forecourt of the station and its surroundings, carried by the City of Saint-Quentin, has been awarded Gold Winners of Landscape Awards Victoires du Paysage 2018 in the category "Communities - Urban Public Space". TPF has every reason to celebrate this distinction.**

The 5-hectare space has been conceived as a link between city and nature by the Format Paysage agency alongside Reichen and Robert & Associés and TPF, representative of the project management group.

**Studies on the creation of primary infrastructures in the zone**

© CCD architecture





**of concerted development Clausonnes in Valbonne continued this year, with a view to obtaining a consultation of construction companies as early as January 2019.**

The project accompanies the future development, on 40 hectares, of 150,000 m<sup>2</sup> of surface area including shops, offices, public services, community facilities, hotels, traditional businesses and semi-industrial, non-polluting activities. It includes the recalibration of a departmental road, the creation of roundabouts (including an elevated roundabout) and new roads, the construction of a footbridge and its connection to the future Bus Tram station, the creation of parking lots, and landscaping developments around the works. TPF is the representative of the project management group alongside AEI and IOA, and will also monitor the execution of the upcoming works, amounting to €25 million.



*Primary infrastructures in the zone of concerted development of Clausonnes - Valbonne*

## Building sector – Urban planning

**In Grand Duchy of Luxembourg, the year 2018 was marked by the launch of the sports center project on the former brown-fields of Belval. This ambitious real estate program initiated by the Belval Fund is part of the redevelopment of the site of the largest steel mill in Luxembourg into a new modern and sustainable urban district.**

The future Belval Sports Center will be used for school, out-of-school and public use. It will be made available to the University of Luxembourg, several high schools and primary schools or sports associations.

The project is large, it will consist of a reception center, a swimming center composed of three pools (two pools with six 25 m corridors and a plunge pool of 15 m with a depth of 3.8 m) as well as a multisport hall housing a teaching center and a multisport center consisting of a large room divided into four units of 27 x 15 m and various rooms for varied sports practices (climbing, bodybuilding, squash, cardio, martial arts...).

The programme also includes the development of an outdoor sports park including fitness and jogging tracks and outdoor courts (100 x 60 m synthetic football pitch, two 40 x 20 m multi-sport courts, 3 beach volleyball courts of 24 x 16 m).

We are currently carrying out studies within the MORENO consortium, A2M sprl PROGROUPE sa - ICB sarl - TPF Luxembourg sa - TPF ENGINEERING sa - FAAST - BABYLONE - PRONEW-TECH - ARCHIMEN and work should begin in 2021.



Public transport infrastructure - metro, tram, bus rapid transit systems

In Macedonia, the year 2018 marked the beginning of construction works on the Thessaloniki metro.

Considered a priority project for sustainable development and quality of life in Central Macedonia, Thessaloniki's driverless automated metro is expected to significantly reduce traffic and pollution levels in the city. TPF, together with an international consortium, is

responsible for the supervision of the civil works, railway systems, stations and rolling stock

The contract includes the main line (9.6 km) and 13 stations, as well as a 4.78 km extension towards the east and Kalamaria with 5 new stations. It will be automatically operated, without drivers, and the stations will be equipped with platform doors. Moreover, provision has been made for the construction of the infrastructure

required for the future extension of the metro to the airport, and for the construction of a bus transfer station to/from Micra Station. A car park facility is also planned to be constructed in the same area. With capacity for 65,000 passengers/day and a 15-minute journey between Micra Station and the centre of Thessaloniki, the number of trips by private cars will be proportionately reduced.

*Thessaloniki Metro*



# Poland

## Structures and road infrastructures

**For several years now, TPF has been in a leading position in the field of road construction studies and supervision. 2018 was no exception.**

**For example, we can mention the design and construction of the S-61 expressway; section: Suwalki ring road - Budzisko.**

The S-61 route is a part of the Trans-European transport corridor VIA BALTICA, and the supervised section of Suwalki-Budzisko connects the city of Suwałki with the border crossing with Lithuania.

As part of the investment, an express road S-61 length of 24.2 km will be created, two road junctions "Suwalki North" and "Szypliszki", 4 Services Areas, 34 engineering structures as well as the roads crossing with the investment will be rebuilt along with access roads. The scope of the investment in-

cludes also the construction of the technical infrastructure necessary for the proper functioning of the expressway. The deadline for completion of works in accordance with the Contract is on 2020.

**At the same time, the project to extend National Road No. 8 Warsaw - Białystok, Wyszkiw-Poreba section is also ongoing.**

It is one of the free separate contracts signed by TPF for the supervision of the construction works of the National Road No. 8 adjusting its parameters to the expressway. The scope of investment includes construction of the 2 roadways, 2 lanes expressway with emergency lane, construction and reconstruction of local roads, construction of 3 road junctions together with the construction and extension of transverse roads, construction of 1 passage for animals over the expressway,

12 viaducts, 2 bridges and 24 passes for animals under the road and construction of accompanying infrastructure. The completion of works is scheduled for May 2019.

**TPF is also involved in the major construction project for the S-19 Lublin-Rzeszow express road.**

In 2018, we signed the contract for the supervision of design and construction works and for the management of S-19 expressway, section Krasnik - Janow Lubelski (length of 18 km).

It should be mentioned that in the previous year TPF signed the contract for the supervision of the section Janow Lubelski Ring Road (6.45 km) of the same expressway. Both sections, currently in the design process, are the sections of the international transport corridor "VIA CARPATIA".

*National Road No. 8 linking Warsaw to Białystok, section Wyszkiw - Poreba*





## Structures and railway infrastructures

**In the rail sector, we continued our involvement in the modernization project of the suburban railway line Warsaw Wlochy - Grodzisk Mazowiecki (line 447), one of the major railway investment projects in the Warsaw metropolitan area.**

The project, co-financed by the European Union under the Connecting Europe Facility (CEF), aims to increase the speed to 120 km/h, the comfort of passenger service, the capacity and reliability. The project puts a lot of emphasis on the needs of people with limited mobility. As a result, thanks to the appropriate adjustment of platforms, travel comfort of disabled people will increase significantly.

The investment includes the replacement of the railway infrastructure, rail traffic control equipment, catenary, power equipment, railway crossing, bridges, viaducts, underground passages, buildings and platforms. Let us mention that TPF is responsible for the author's and investor's supervision of the works.

*Modernization  
of Line 447  
between  
Warsaw Wlochy  
and Grodzisk  
Mazowiecki*



## Building sector – Urban planning

**In Warsaw, TPF is helping to build a new state-of-the-art medical simulation centre on the main campus of the Warsaw Medical University (Warszawski Uniwersytet Medyczny-WUM). This ambitious project represents an investment of approximately 25 million euros and will cover a floor area of 15,500 m<sup>2</sup>.**

finish is scheduled in May 2019 and the execution start is planned in fall of 2019.

This new centre will be used for the research and training of doctors, nurses and paramedics and will contribute to the future improvement of medical care in Poland. The work of our team paid off since we have successfully completed the building permit design phase. The design works



*Medical simulation centre on the campus of Warsaw Medical University*



## Structures and road infrastructures

In the field of roads, we continued the supervision and control of the rehabilitation works of 342 km of roads included in the sub-concession of Baixo Alentejo,

including a toll section of 68 km, integrated with the A26 / IP28 between Roncão (Setúbal district) and Beja (Beja district).

The mission entrusted to us by the company IP-Infraestruturas de Portugal also deals with safety and health coordination on the site.

*Sub-concession  
of Baixo  
Alentejo*

## Structures and railway infrastructures

On the rail side, the deep modernization project of the Beira Alta railway line between Mangualde and Guarda on the one hand, and Guarda and Vilar Formoso on the Spanish border, is ongoing. In total, 124 km of tracks.

The tasks that we have to carry out within the consortium for the company IP-Infraestruturas de Portugal in a period of 28 months are varied: feasibility studies, preliminary design, environmental impact study,

execution studies or even environmental compliance report.

In addition to track renovation studies, we also need to carry out execution studies for new structures, including 9 special structures, 29 overpasses and 7 underpasses, as well as rehabilitation studies for 11 main railway stations and 16 secondary railway stations.



*Modernization  
of the Beira Alta  
railway line:  
sections Man-  
gualde - Guarda  
- Vilar Formoso*

## Maritime and port infrastructures



**On the island of Madeira, TPF continues to participate in the infrastructure rehabilitation project of the ports of Funchal, Machico, Caniçal and Porto Santo.**

As part of the rehabilitation and repair work to be undertaken, the Port Authority of the Autonomous Region of Madeira has entrusted us with the inspection of the works, the revision of existing reports and available information (topographic and hydrographic surveys) as well as the execution studies.

*Funchal port infrastructure rehabilitation project*

*Extension and modernization of the CUF hospital in Torres Vedras*

## Building sector – Urban planning

**For several years, TPF has carved out an enviable position both in the hospital and hotel world. The current projects are the best witnesses.**

**The extension and modernization of CUF hospitals in Torres Vedras and Sintra are on the right track.**

The site of the hospital center of Torres Vedras has two compo-

nents, namely the construction of an extension of 3,100 m<sup>2</sup> and the modernization of some buildings.

As for the Sintra Hospital Center, it will expand its area by 9,500 m<sup>2</sup>, with the construction of a new 3-storey building and modernisation of the existing 2-storey building.

The company José de Mello Saude is one of the major players in the

private hospital sector in Portugal. They have entrusted us with the management and supervision of the construction works, project management assistance in the preliminary design phase, the preparation of the bidding documents for the selection of the contractor, the development of the contractor short-list file and the evaluation of bids. Work will be spread over periods of 13 and 15 months respectively.







**In Lisbon, TPF is involved in two ambitious urban renewal projects: the demolition and transformation of a building into a 14-storey hotel, including 10 above ground (5,028 m<sup>2</sup>) on the avenue Duque de Ávila and the transformation of a building, with maintenance of the facade, in a luxurious hotel of 11 floors including 9 above ground (6,000 m<sup>2</sup>) on the avenue Defensores de Chaves.**

The latter will house, in the summer of 2019, 130 rooms as well as a

bar and a restaurant. The primary roles of TPF in these projects are those of the management and supervision of the works.

**In the Algarve region, one of the most popular tourist destinations in Portugal, TPF is involved in the realization of the Vilamoura Lakes tourism development project.**

Vilamoura Lakes has a construction potential of 300,000 m<sup>2</sup>, residential units for 8,500 inhabitants and lakes of 22 hectares

dedicated to sports and tourism activities. Figures reveal the importance of this vast complex developed by the property development company Vilamoura World on a plot of 168 ha.

Our mission is to conduct studies related to lakes, technical infrastructure and landscaping.

*Extension and modernization of the CUF hospital in Sintra*

*Tourism development Vilamoura Lakes*

*Transformation of a building into a luxury hotel - Avenue Defensores de Chaves in Lisbon*



# Portugal

*Alqueva  
Multiple  
Purpose Project  
(EFMA) -  
Morgavél Water  
Supply System*

## Water - Environment

**This year, we seized the opportunity offered by the infrastructure development company of Alqueva (in Portuguese, Empresa de Desenvolvimento and Infraestruturas do Alqueva - EDIA) to participate in the realization of this multi-purpose project for Alqueva (EFMA).**

More specifically, TPF was entrusted with the task of managing and supervising, in fifteen months, the connection works of the Morgavél water supply system and the improvement of the irrigation infrastructure of the Cuba-Odivelas Block, including the health and safety coordination, topographical assistance, environmental monitoring and the revision of the as-built plans for the works concerned.

The construction works for the Morgavél water supply system include the installation of the connecting pipe between the Roxo-Sado water supply system and the Morgavél system surge chamber, as well as the installation of the connecting pipeline between the Morgavél Canal and the Fonte Serne Reservoir.

With regard to the Cuba-Odivelas irrigation block, the aim is to improve the infrastructure of an area of 2,790 ha, located on the right bank of the Alvito-Pisão canal. Fourteen months are planned to accomplish the mission.



## Energy

This year 2018 has been particularly intense in the hydroelectric sector, punctuated by many events.

Just like in 2017, we continued our participation in the largest water project in Europe in the last 25 years, namely the construction of the Alto Tâmega hydroelectric complex. The € 1.2 billion project aims to increase energy storage capacity in the European Union.



It should be noted that the Spanish energy group Iberdrola was responsible for the construction of this vast complex. Its installed capacity will be 1,200 MW for an annual output of 1,800 GWh.

Our involvement in this major project is not limited to execution studies, pathway execution or to the responsibility of permit files.

It is also our responsibility to prepare the tender documents, the contract documents and to provide technical assistance for the construction works.

Finally, again in connection with the construction of the Alto Tâmega complex, we were recently asked not only to revise the internal emergency plans for

the Daivões and Alto do Tâmega dams and the simplified Gouvães emergency plan, but also to carry out the execution study of the control building of the Tâmega power generation system, located in the Gouvães power station.

*Portuguese  
electrical network  
renovation program*

# Portugal

*Environmental study - project of solar photovoltaic plant of Coruche*

**In addition, activity in the renewable energy sector remained very strong.**

The numerous environmental studies, currently underway, concern the photovoltaic solar power plants of Coruche and Benavente in the Lisbon and Tagus Valley regions, as well as the power stations in Elvas, Viana do Alentejo, Borba, Moura, Serpa, Tapada, Alpalhão, Fortios and Arronches in the Alentejo region, and finally the Alcains power stations in the North region.

In addition to environmental monitoring (birds, flora and chiroptera) of the effects of over-equipment of the effects of over-equipment projects for several wind farms and the strengthening of their power, we continue to provide environmental monitoring for the installation of equipment on the

park Arada-Montemuro wind farm (2nd phase).

**Let's finish our overview with the renovation programme of the Portuguese electricity network.**

TPF has signed an agreement in association with the manager of the Portuguese REN network (Rede Eléctrica Nacional) for the supervision of renovation works for several sub-stations and transmission lines of electricity throughout the territory (lot 3 ). Among the main substations, those of Vila Fria - 2 PN 150 kV, Vermoim (SVM) - PL 220kV Sakthi, Falagueira (SFR) - PN 400 kV, Vila Chã (SVC), Lavos (SLV) - PL 60 kV, Ourique (SOQ) - PL150 kV, Estói (SET) and Alto Mira (SAM). The contract should be honoured by the end of the first quarter of next year.





## Structures and road infrastructures

**The development of transport infrastructure is essential to improve the competitiveness of the Romanian economy and to facilitate its integration within the European Union.**

**If this year were to be the only highlight in this sector, it would be the Feasibility Study for Sfantu Gheorghe bypass, funded by**

**EC through the Large Infrastructure Operational Program.**

Our Romanian and Spanish teams work together on this project for the National Company of Road Infrastructure Administration.

The project purpose is to construct a by-pass (National Road standards) that will separate the heavy traffic

from transiting the Sfantu Gheorghe city. Given the complexity of the investment, TPF team is supposed to deliver the Feasibility Study along with the field (topographical, geotechnical, hydrological, seismology) surveys, the Environmental Impact Assessment, road alternative and traffic studies.

## Maritime and port infrastructures

**This year, the port activity was particularly abundant on the borders of the Black Sea and especially in Constanta.**

**We started the Technical Assistance and Works Supervision for the Modernization of a Deep-Sea Berth 80 in Constanta Port.**

For the next 3 years, TPF will supervise the works for the modernization of Berth 80, installation of new berth equipment for docking of larger grain vessels and the extension of the railway infrastructure to the silo park. By allocating Berth 80 for other activities, the

use of other deep-sea berths in the port of Constanta is made more efficient. The construction of the railway link will lead to the increase of the railway and to the efficiency of the railway system in the fluvial-maritime sector of the port and of the country. Through this investment, the attractiveness of Constanta port will increase compared to the other ports in the Black Sea basin.

**Also as part of the modernization of the infrastructure of the port of Constanta, in autumn 2018, TPF signed the contract for Supervision of works for the construction of mooring infra-**

**structure for technical ships and deck superstructure (equipment and utilities) for ship-to-ship services included in the project “Infrastructure modernization and Environmental protection in Constanta Port”**



The project aims at ensuring safe navigation conditions by improving mooring facilities, access channels and manoeuvring in Constanta Port and also increase the efficiency of existing infrastructure.

TPF undertakes the role of the “Engineer” to supervise the pre-construction, construction and post-construction phases. The main services to be provided by TPF cover the approval of the final Detailed Design and cross-check-

ing of the bathymetric and topographical studies performed by the Contractor. During the Construction phase, we will supervise the works progress, the Exploitation Project and the elaboration of the Construction Book/As built.

## Building sector – Urban planning

**In the building sector, the year 2018 has given us the opportunity to forge new partnerships.**

**In Bucharest, TPF was chosen for the construction project management of the first Oncology and Radiotherapy Emergency Hospital for Children.**

The investment includes the construction of 2 new buildings that will shelter and care for 200 cancer diagnosed children. The investment is foreseen to amount 16 million euros and covers sections for Radiotherapy, MRI and

CT areas, Oncology area for continuous and daily treatment, Haemato-oncology, Surgery, Neurosurgery, Intensive therapy.

**Moreover, TPF partnered with a private Contractor to ensure the detailed design and technical documentation for approvals and construction permits for the Rehabilitation of a military facility in Bucharest.**

The final investment will ensure the proper shelter of military technical equipment and machinery of the Ministry of Defence.

**Finally, not far from the capital, TPF is also involved in the Construction Management for a Private Facility for dry mortars.**

The engineering services cover Detailed Design, Project Management, Procurement, Technical Assistance and Works Supervision until final taking-over by the Client.

*Construction of the Marie Curie Children's Hospital in Bucharest*





## Water - Environment

In the water sector, a new contract funded by the EC under the Large Infrastructure Operational Programme was signed in July 2018 for Technical Assistance for Project Management, Public Awareness and Works Supervision for the Modernization of water and wastewater infrastructure in Hunedoara County (Valea Jiului).

The tasks now being tackled by our Romanian subsidiary, in association with our Spanish subsidiary, are numerous and diverse: updating the Feasibility Study, the Strategies for water leakage, sewerage infiltrations and sludge management, updating the Master Plan and providing support for the Client's Human Resources Development, and improving Project Implementation Unit procedures

This year, our teams have been active in the framework of the programming of the European Regional Development Funds for the period 2014-2020, more particularly on projects of modernization of drinking water and wastewater infrastructures in the counties of Arges and Bistrita.

TPF prepared the Feasibility Studies and Funding Applications, including field studies and Environmental Impact Assessment. Our teams also delivered the draft Tender Documents for services, supply and works and we ensure the technical support for the Client until the Funding Applications are approved by JASPERS.

*Modernization of the drinking water and wastewater infrastructure in Arges County - Mosoia pumping station*

*Modernization of the drinking water and wastewater infrastructure in Hunedoara County (Valea Jiului)*



## Public transport infrastructure: metro, tram, bus rapid transit system

In recent years, mobility has been an important aspect of the Group's business.

In the Island of Tenerife, for example, TPF is developing a new technological solution to carry out mobility plans and transport demand models based on the positioning of mobile phone terminals.

The matrices estimated from mobile phone data will be used as a starting point to obtain the travel matrices that will be employed for the

calibration of the demand models. For a more detailed characterisation of the distribution of the motorised mobility between public and private transport, the information from the telephone data will be complemented and adjusted to obtain the final travel matrices broken down by mode of transport. For this purpose, the following data sources are to be used:

- surveys aimed at residents and non-residents,
- information on cancellations in the public transport system.

Finally, the matrices will be further developed for each transport model during the calibration process, by means of a process for the allocation of travels to the network.

Once the databases of the mobile phone terminals, surveys and cancellations are available, an innovative process will be undertaken for the definition of the criteria that will guide the development of the travel matrices, their spatial distribution and their modal split, based on the combination of the previous data sources.

## Structures and road infrastructures

Among the major events of recent months, we can mention the opening ceremony of 27.1 km of the A-60 Leon - Santas Martas motorway which took place

on 18 July in the presence of the Minister of Public Works and all local and regional authorities.

For TPF, in charge of the supervision and control of the works, this is the culmination of nine years of work.

The section runs across five municipal districts of the province of Leon: the city of Leon, Villasa-bariego, Mansilla Mayor, Mansilla de las Mulas and Santas Martas. There are seven junctions along its length.

The dual carriageway crosses over the River Porma and the River Esla on two viaducts, 540 m and 740 m in length. It is expected to carry 20,000 vehicles per day as it passes through an area of significant heritage value. The total cost of construction of the 27.1-km long León section amounts to 137.59 million euros.

Road safety in tunnels has also been at the heart of the debate this year.

Following the Royal Decree 635/2006 concerning the minimum requirements for tunnels in the state-run road network, many structures must be updated to meet the highest safety standards.

TPF is conducting, under several contracts, risk assessments of a number of tunnels, using a methodology enabling analysis of exceptions to the regulations in force and comparison of different alternatives related to the tunnel's systems and equipment. This approach allows for the selection of tunnel arrangements in a more effective way in terms of cost and equipment. The assessment must take into account all the factors that may affect safety, particularly, tunnel

*New 20 km section of the A-60 motorway between the city of León and Santa Martas*







geometry, surrounding environment, equipment, pavement features and traffic volume and response. The aim of the Risk Assessment Reports we have prepared is, basically, to perform an analysis of each tunnel, with a view to putting forward measures which, besides complying with the

applicable legislation and continuing to ensure safe movement of vehicles, allow for the reduction of the cost of the upgrading works required to meet the applicable legislative requirements.

## Structures and railway infrastructures

**TPF won, as part of the Cantabrian-Mediterranean High-Speed Rail Corridor Project, the Feasibility Study for the section that will link Zaragoza to Castejón (about 90 Km in length).**

The aim of the study is to analyse several alignment alternatives for the construction of a standard-gauge railway line for both freight and passenger traffic. The route will connect two major geographical areas, with trains travelling from the Mediterranean coast to the Cantabrian coast without traversing the Iberian Peninsula.



*Cantabrian-Mediterranean High-Speed Rail Corridor, section Zaragoza - Castejón / Part along the Loteta Reservoir.*

In addition, the alignment alternatives will include a rail link between the new line and HSR Line Madrid-Barcelona-French Border, operating in both directions (Madrid-bound and Barcelona - bound); and an analysis of different options for rail connection with logistics centres.

The most suitable alternative will be selected after performing an assessment based on diverse parameters, such as economic, operational performance, environmental and geological criteria. The contracted services also include Public Reporting and the preparation of the Environmental Impact Assessment documents required to obtain permits.



# Logistics

**In Spain, TPF continues to gain a foothold in the logistics engineering market. In this respect, several particularly interesting projects have set the tone for these twelve months.**

During 2018, the preparation of the Study of the Logistics Sector in the Valencian Community was completed. This study is now used as the new logistics planning tool by the regional government.

Always in Valencia, TPF has entered into a contract with the Regional Department of Housing, Public Works and Urban Planning of Valencia to develop the Special Plan for the Sagunto Logistics Hub. Due to a sustained, sharp increase in operations in the industrial and logistics area that is located close to the Port of Sagunto (in the north of Valencia), zoning of additional space is required to accommodate a large logistics area of over 9.5 million square metres. Parc Sagunto was designed to cater for industrial and logistics facilities, along with the related equipment, infrastructure and services; while creating added value in terms of employment, investment and technological innovation. Therefore, it is necessary to develop a Special Plan in order to provide new road

and rail access to this area, and perform all permitting procedures for final approval in compliance with the provisions of the regulations in force. Since the Special Plan also envisages the construction of an intermodal freight terminal, a detailed zoning plan has accordingly been proposed for the whole industrial and logistics area that will be developed.

Moreover, the Company has also provided advice on railway intermodality to the management authorities of two of the most impor-

tant ports at a national and European level: the Port of Valencia and the Port of Algeciras. The purpose of these services was the establishment of action lines to strengthen connectivity with their hinterlands.

Finally, in Madrid TPF has also been responsible for the planning and design of the largest intermodal terminal in Spain, the Vicálvaro Logistics Center, which will require more than 150 million euros in its first phase. The center should be operational by 2024.



*Special plan for the Sagunto Logistics Hub*

*Logistics Network of the Valencian Community*





## Water - Environment

**As the climate changes, the world is exposed to the increasing intensity and frequency of floods. Arrangements for optimally controlling floods are essential.**

**In Spain, TPF has won two contracts with the Ministry of Agriculture, Fisheries, Food and Environment to draw up flood management plans for the Miño-Sil and Ebro river basins.**

The aim of the assignments is to carry out a preliminary flood risk assessment of the basins and develop flood hazard maps and flood risk maps, in compliance with the requirements of Directive 2007/60/EC.

The services include the design of river restoration works and green infrastructure, and the preparation of an inventory of the protection systems already in place.

Moreover, we will perform a geomorphologic study and two-dimensional hydrological and hydraulic models of 425 km in the Miño-Sil River Basin and 2 km in the Ebro River Basin.

In addition, characterization of more than 2,000 cross drainage structures will be undertaken.

The work will be performed over a period of 24 months.

**At the same time, Canal de Isabel II, the public company of the Community of Madrid, responsible for the management of the water cycle throughout the region asked us to develop a system capable of identifying and estimating flood risks associated with urban drainage networks.**

The assignment involves hydraulic modelling of excess water flows in sewers serving 134 districts of Madrid. After calculating water depth and flow velocity, potential damages can be estimated by assessing and prioritising impacts on the population, economic activity, road traffic, places of special interest and the natural environment in the flood-prone area. The final objective of the project is to develop a tool that will allow Canal de Isabel II to prioritize future sewer improvement measures by selecting the sections with the highest assessed risk.

*New Drinking Water Treatment Plant in Colmenar Viejo*

*Flood risk management plan for the Ebro basin*

Our services will span a period of 2 years.

**In the field of drinking water, Phase I of the new Colmenar Viejo Drinking Water Treatment Plant design-and-build project started in June 2018.**

The construction of the new DWTP is expected to be carried out in three stages. During Phase I, treatment capacity will be expanded by 7m<sup>3</sup>/s. Construction at this stage will take place over a period of 54 months on a plot of land adjacent to the site of the existing DWTP, without causing disruption to the plant's operation.

The works included in Phase 2 and Phase 3 will be undertaken on the site (north and south) of

the current DWTP. Just like the preceding stage, Phase 2 will provide for expansion of water treatment capacity by 7m<sup>3</sup>/s. Regarding Phase 3, it is important to point out that the new facilities will be equipped with a new sludge treatment system.

The plant is aimed at increasing drinking water production capacity by 14m<sup>3</sup>/s and improving the quality of the potable water supplied to the region of Madrid.

**Finally, in the framework of the Strategic Waste Management Plan for the Principality of Asturias, which covers the period from 2014 to 2024, TPF is carrying out a project aimed at the construction of a plant for the sorting and treatment of indus-**

**trial waste for the Asturias Waste Management Authority (COGERSA), with an estimated investment of 64 million euros and a duration of 5 years.**

The plant has been designed with the aim of recovering glass, paper, packaging, plastics and metals for recycling. The recovery of materials with greater economic value will be prioritized. Waste recovery will also include the organic components, which will be treated by an aerobic stabilization process that will result in the generation of a biostabilised material and the manufacture of refuse-derived fuel for chemical or heat recovery. The design of the plant complies with the requirements to be considered a waste management facility SAN-DACH category 3.



## Energy

**In the renewable energy sector, our Energy Department has become more interested in geothermal energy.**

Our team performed the detailed design of a Geothermal District Heating (GeoDH) system based on mine water that will heat multiple buildings located near the Barredo Well in Mieres, Asturias. The goal of the project is to install a system for distributing heat to multiple buildings via a pipe network which is connected to the buildings' own heating and hot water systems. In this case, underground mine water from the Barredo Well will be used for heat production. The concession for the use of the geothermal energy

resources required to implement the project was awarded to the company HULLERAS DEL NORTE, S.A., S.M.E.

The buildings falling within the scope of the project are the Barredo Well Generation Building, Mieres Polytechnic School, Bernaldo de Quirós Institute, the M9 and M10 buildings in Horaco Fernández Iguazo Street, and the buildings in Rector Julio Rodríguez Street, Gonzalo Gutiérrez Quirós Street, Valeriano Miranda Street and Horacio Fernández Iguazo Street.

The generation unit is located in the old industrial building that used to serve the well, about 100 m away. The building accommodates

two chillers with a unit output of 1 MW, capable of producing enough thermal power for pumping and circulating hot water to the buildings.

## Telecoms

**In the field of telecoms, TPF has entered into a new one-year service contract (+ two-year extension) with the Spanish public company ISDEFE. The assignment involves conducting frequency planning studies and frequency management for mobile services, fixed services and space radio-communication services.**

The contract encompasses the following tasks:

- Activities related to fixed services, such as performing a technical analysis of requests for the allocation of frequencies to fixed broadband and radiolocation services, as well as compatibility studies of requests for the mobile service in the bands allocated to the fixed service.
- Activities associated with mobile and fixed narrowband services, mainly a technical analysis of frequency assignment requests for mobile services.
- Activities associated with space services, including the technical analysis of frequency assignment requests for space services and the conduct of compatibility studies of requests for other services.
- Management and operation of Information Systems and provision of technical support in other radio spectrum management activities.

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# Expertise Centres





# Building

As a historical activity of the Group, building engineering is a highly significant part of its turnover, being close to 30%.

The activities carried out in 2018 by our 900 employees of the Building Expertise Centre mainly concern housing (20%), education (17%), offices (15%) and health facilities (14%)

This year again, TPF contributed to the development of tomorrow's urban landscape by co-signing prestigious buildings with internationally renowned architects.

At a time of energy transition and digital information, our business has an obligation to evolve. Our professionals are facing new requirements: they must adapt and renew themselves constantly.

The life cycle of materials, energy-efficient and even positive-energy buildings, and integration of the BIM process in all phases of a project are now part of the daily life of our engineers.

Finally, by interconnecting buildings, the Smart City is about to achieve synthesis between buildings and infrastructures, and is forcing us to reflect on the scale of cities.

Nearly half of the Building activity is carried out in FRANCE where TPF has resolutely taken the turn of energy transition.

For instance, when TPF builds housing units for students, they are often built using wood and receive many awards. This is the case of the Lucien Cornil Residence in Marseille, which won the 2018 National Wood Construction Award in the "Living Together" category.

The 22-meter-high, 4,830-square-meter building houses 200 student housing units. Covered with a metal mesh, the residence is made of a 3D structure based on cross laminated timber (CLT) panels to create the walls, floors and roofs. The entire building is made of wood, apart from the ground floor slab, the two stairwells and the elevator shaft which are made of concrete.

Any new high school construction in France is now required to have the BEPOS label (Positive Energy Building), to integrate renewable biomass energy systems, and to be built with bio-sourced materials.

In this context, our teams have been awarded the Sommières High School contract this year: 1,200 students, a restaurant serving 900 meals a day, a boarding school with 100 beds and a sports centre with an athletic track and multi-sports field. The project will cost 28 M € and should be delivered in 2021.

In the hospital sector, digital transition is also well underway. For example, we can mention the renovation and extension project of the Lariboisière Hospital in Paris, designed and produced using a BIM digital model.

The project involves the construction of 2 new, dissociated buildings and the restructuring of the junction between one of these new buildings and the historical part, i.e. a total surface area of 51,000 m<sup>2</sup>.

The New Lariboisière building (39,000 m<sup>2</sup> total work area) is composed of a technical platform (imaging, intervention block, obstetric block, resuscitation, continuous care unit, and neonatology), four levels for conventional hospitalization, an ambulatory and interventional treatment unit, a medico-technical logistics platform with central sterilization and indoor pharmacy, and an emergency reception service with a capacity of 100,000 patients per year.

The second building, called Nouveau Morax, (3,600 m<sup>2</sup> of total work area) will integrate major players in technical, computer and biomedical project management.

This project rests entirely on a collaborative design-realisation BIM (with Revit Server) allowing the exchange of data between our French and Tunisian teams and other stakeholders such as BET Fluides Edeis and employees of architecture firm Brunet Saunier. It should also be noted that pre-synthesis work is also carried out with Navisworks software.



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*Residence  
Lucien Cornil  
in Marseille  
- France*

*Sommières High  
School - France*



*Renovation  
and extension  
of the Lariboisière  
hospital in Paris  
- France*

# Building

**In BELGIUM, the future is already here and projects we are currently working on, such as the revitalisation of the site of the former fire station in Namur, reflect the major trends of tomorrow's urban planning: positive energy buildings, eco-neighbourhoods mixing commercial activities and housing units, green metropolis, urban agriculture, urban big data.**

By 2022, this former site of more than one hectare will give way to a new district mixing 134 housing units, services, a local food store (800 m<sup>2</sup>), a municipal library (2,000 m<sup>2</sup>), a restaurant (300 m<sup>2</sup>), a park (3,500 m<sup>2</sup>) open to the public and underground parking on two levels (430 spaces).

Roofs will feature gardens and vegetable gardens whose production will be used and sold at the nearby Al'Ferme local market.

In addition to being part of a sustainable development approach (shared cars, large bicycle parking, thermal and photovoltaic solar panels, A class EPB, rainwater harvesting, park biodiversity, urban agriculture), the project is exemplary in terms of gender integration in the public space (lighting, flooring, comfortable furniture, public toilets accessible via the park, drinking water fountain).

In the framework of the mixed contract (for works and concession) launched by the Régie Foncière of the City of Namur and won by SA Cœur de Ville, TPF is responsible for carrying out studies on technical building services relating to the library, housing units, museum (casco) and car parks.

**In PORTUGAL, TPF has been a major player in the hospital sector for several years. The extension and modernisation of CUF hospitals in Torres Vedras and Sintra are currently ongoing and the best examples of our involvement.**

The site of the hospital centre of Torres Vedras has two components, namely the construction of an extension of 3,100 m<sup>2</sup> and the modernisation of some buildings.

As for the Sintra Hospital Centre, it will expand its area by 9,500 m<sup>2</sup>, with the construction of a new 3-storey building and modernisation of the existing 2-storey building.

The company José de Mello Saude is one of the major players in the private hospital sector in Portugal. They have entrusted us with the management and supervision of the construction works, project management assistance in the preliminary design phase, the preparation of the tender documents for the selection of the contractor, the development of the consultation file and the evaluation of bids. Work will be spread over periods of 13 and 15 months respectively.

**In SPAIN this year, TPF successfully completed the detailed design of the La Sagrera multimodal station in Barcelona.**

The new station has been designed to accommodate 100 million passengers per year and to become a complete intermodal interchange structure where both local, metropolitan, regional and long-distance rail services converge. Its dimensions are impressive: 217,000 m<sup>2</sup> for the building, including 44,000 m<sup>2</sup> of parking. Our mission focused on architecture, civil engineering works and MEP systems.

**Finally, let's end this European overview with POLAND and UKRAINE.**

In Warsaw, TPF is helping to build a new state-of-the-art medical simulation centre on the main campus of the Warsaw Medical University (Warszawski Uniwersytet Medyczny-WUM). This ambitious project represents an investment of approximately 25 million euros and will cover a floor area of 15,500 m<sup>2</sup>.

This new centre will be used for research and training of doctors, nurses and paramedics and will contribute to the future improvement of medical care in Poland. The work of our team paid off as the first phase of the project was successfully completed by obtaining the building permit. The project is now in the design phase and work is scheduled for fall 2019.



*Hospital CFU  
of Sintra  
- Portugal*



*Revitalization  
of the site  
of the former  
fire station in  
Namur  
- Belgium*



*Medical  
Simulation  
Centre in  
Warsaw  
- Poland*

# Building

In Ukraine, in the city centre of Lviv, TPF is working on the project of reconstruction and extension of a 5-storey residential building where materials used for the facades are particularly innovative for the region: altogether 22 apartments and underground parking with 24 spaces on two levels.

**In Africa, MOROCCO is proudly contributing to the success of TPF. Activity in the luxury hotel sector has been particularly strong. We participate in the rehabilitation and extension of the Jamaï Palace in Fès, one of the most prestigious historical hotels of the Kingdom, erected in 1879.**

This project is quite substantial, representing an investment of about 56 million euros. The hotel features 31 suites and 60 rooms. The goal of the project owner, in this case the ONCF, is to match the very high standard of the Mamounia hotel in Marrakech. TPF was asked to carry out studies and follow-up of the works for the stability, architecture and decoration lots.

**In the industrial sector in Kenitra, TPF has just completed its project management assistance mission in connection with the construction of the new production plant of the French automotive group PSA Peugeot -Citroën.**

The plant is built on an area of approximately 65,000m<sup>2</sup>, including various automotive production plants and all facilities necessary for its proper operation.

The Kenitra production site will start in 2019 with a production capacity of 15 vehicles per hour at first, moving on thereafter to 30 units.

**But the exceptional event of the year is the inauguration of the Moroccan TGV Al-Boraq, the first high-speed line of Africa.**

The realisation of this project required the redevelopment and construction of several new stations, including the one in Kenitra, which was of interest to us.

The new station covers an overall surface of 13,000 m<sup>2</sup>, with a dedicated site that includes a car park with a capacity of 200 spaces on the basement level, and includes on the ground floor a series of shops, restaurants, entertainment areas and a reception area for travellers.

TPF has worked on this project as a full service contractor, incorporating the latest technologies in energy and environment.

**In ALGERIA, real estate developer SARL ENADRA ESSAHIHA LIL AKKAR EURL KHALIDJ EL MOURDJANE appointed us for the development of its new 18,000m<sup>2</sup> hotel project in Boumerdès.**

The 4\* hotel will have a capacity of 240 rooms. Among the activities and tasks assigned to us is the preparation of all technical documentation, including the architectural file, contractors shortlist file and related technical follow-up.

**Finally, in Latin America, TPF is continuing to develop its Building activity, particularly in BRAZIL and CHILE, mainly in the hospital sector.**

**In February 2018, our teams were awarded the detailed design for the technical systems of Linares Hospital in Chile.**

This new healthcare centre, located in the Maule region, will have an area of 87,330 m<sup>2</sup> and a capacity of 329 beds, 18 operating theatres and 27 examination rooms. It will bring together all specialties necessary for delivering extremely complex medical services, including an emergency department, an open ambulatory care unit, diagnostic and rehabilitation units, as well as logistical and administrative support areas.



*Housing project  
in Lviv  
- Ukraine*



*Rehabilitation  
and extension  
of the Jamaï  
Palace in Fès  
- Morocco*



*Moroccan  
Al Boraq HSL  
- Morocco*

*Hotel project  
in Boumerdès  
- Algeria*

*New production  
plant of the French  
automotive group  
PSA Peugeot -  
Citroën in Kenitra  
- Morocco*



*Linares Hospital  
- Cbile*



# Building

**In BRAZIL, TPF is particularly proud to have been asked to manage the PROEXMAES II program for the extension and improvement of specialized health care. This important program was launched by the Ceará Government and is co-financed by the Inter-American Development Bank (IDB) for 123 million USD and by local institutions for 55.5 million USD.**

It is divided into several components: consulting services, training of teams, health infrastructure reform, acquisition of hospital equipment, establishment of hospital units (including the new Jaguaribe Valley Regional Hospital) and investments in modernising its management systems.

Its objective is to improve the health status of the population of Ceará by improving the accessibility and the quality of services, as well as the performance of the health system: decrease of the annual rate of hospitalisation for diabetics aged between 30 and 59 years and reduced waiting times for CT-scans and laboratory tests.

*New Regional  
Hospital of  
the Jaguaribe  
Valley  
- Brazil*



# Transport Infrastructures

**The transport sector has changed significantly in recent years. At the technological level, BIM, Big Data and clean energy technologies are now part of our daily lives. The implementation of sustainable, environmentally friendly and forward-looking transport projects continues to grow.**

This year, TPF has been working on projects involving Bus Rapid Transit (BRT), metro and tramway lines in several countries around the world.

**While road, rail, air and sea infrastructures have also kept us extremely active, a decrease in the road sector has nonetheless been observed this year. The transport sector is still extremely important for TPF since it alone accounts for 40% of its turnover.**

**Our 1,800 employees active in this sector have assisted our clients in the development of many projects. Some have been completed, others are ongoing or are just starting. Let's take a retrospective look at the services provided in Africa, Latin America, Asia and Europe.**

**In Africa and more particularly in ALGERIA, the group has always played a key role in the management of major infrastructure projects, whether they are road, rail, urban or maritime infrastructure. 2018 was no exception and has seen outstanding performance.**

In the urban transport sector, we are participating in the Algiers metro line 1 construction project. The work we are supervising is progressing well.

In the railway sector, our teams collaborate on several railway line projects such as those of Annaba-Ramdane Djamel, Relizane-Tiaret-Tissemsilt, Oued Tlalat-Tlemcene, Saida-Tiaret or the Eastern Mining Line and, in addition, we also design the electrification systems for several existing and future national railway lines.

In the road sector, we can mention the rehabilitation of the Kherrata and Oued-Ouchaih tunnels. TPF is responsible for the design of rehabilitation and upgrading works, including civil engineering works and systems.

Finally, 2018 was also an opportunity to work in the field of marine engineering. TPF is currently overseeing the expansion of Djen Djen port.

**On the South American continent, TPF is present in almost all countries. We can be considered as the leader in road engineering, while also participating in the development of many other railway, airport, maritime and public transport infrastructure projects.**

In BRAZIL, we can mention our involvement in the Light Rail Transit Project (LRT) in the city of Teresina.

In CHILE, TPF proceeded with the technical inspection of civil engineering works (infrastructures and systems) of lines 1, 2, 3, 4, 4A and 5 of the Santiago de Chile metro. And in parallel, to the technical inspection of the maintenance work of the signalling systems of 117 automatic level crossings.

In the area of port infrastructure, we have provided due diligence technical support to a private company for the implementation of a FSRU (Floating Storage and Regasification Unit) Terminal project.

In COLOMBIA, our teams looked after three BRT projects in Bogota and an impressive number of airport projects.

TPF has won a new contract to carry out the design and supervision of the works for the improvement and expansion of the Nuquí Airport.

At the same time, we have continued our supervision of the works on 6 airports, i.e. José María Córdova International Airport (Rionegro), Olaya Herrera Airport (Medellín), El Caraño Airport (Quibó), Los Garzones Airport (Montería), Antonio Roldán Airport (Carepa) and Las Brujas Airport (Corozal), and have been providing Independent Checking Engineer services for the upgrading of the Ernesto Cortissoz Airport in Barranquilla.

Finally, in PERU, TPF is actively involved in several ambitious projects. To only mention a few: the lines 2, 3 and 4 of the Lima Metro, a LRT and BRT project in Arequipa (Trunk Corridor 1 of the Integrated Transport System) and the "Cercanías Sur" commuter rail project.





*Metro of  
Algiers - Algeria*

*Oued Tlelat-  
Tlemcene  
railway line  
- Algeria*



*Santiago de  
Cbile Metro  
- Cbile*

*New control  
tower at Olaya  
Herrera Airport  
- Medellin  
- Colombia*



**In South Asia, our activity this year was particularly strong in INDIA. TPF is one of the largest engineering consulting companies specialising in transport infrastructure. The Group can be optimistic about its growth prospects in this market.**

In the road segment, TPF has further strengthened its position with the award of several major assignments, such as the supervision of the Construction of Access Controlled Nagpur - Mumbai Super Communication Expressway. This important 8-lane expressway, one of the most relevant projects in the country, is 700 km in length and runs east-west across the state of Maharashtra. TPF, besides providing consulting services during the design phase of the expressway, has been selected to supervise the construction of two sections.

TPF entered the road maintenance market with one significant TOT (Toll Operate Transfer) contract. During 2018 and 2019, TPF will structure around 1,500 km of existing roads that will be operated and maintained by private concessionaire companies in the future. For that purpose, TPF will use cutting-edge equipment in order to assess the current condition of the roads and evaluate the rehabilitation and maintenance costs.

Our experience in the field of Intelligent Transportation Systems (ITS) has allowed us to win a very important contract to carry out the supervision of the ITS Installation project on Delhi's Eastern Peripheral Expressway.

Finally, in the urban transport segment, it is worth mentioning that a BRT Terminal opened in Bhakti-Shakti Chowk, Nigdi. TPF served as the Project Management Consultant on the project.

**TPF also has a strong presence in the Southeast Asia region.**

In the PHILIPPINES, we oversee the supervision of the extension, operation and maintenance of Manila's LRT Line 1 and we participate in several road projects including in East Timor.

In VIETNAM, we have started providing advice to the local government related to the construction of Line 3 of the Hanoi Metro, and our work on the BRT project in Da Nang has shown good progress.

In LAOS, this year was special for TPF since we have won our first contract in the Transport sector. The project involves the construction of 20 km of BRT system, with buses powered by electric energy.

**Finally, in Europe, the Group continues to expand its operations in several countries.**

**In POLAND, just like in India, activity in the transport infrastructure sector is showing a strong growth. An outstanding dynamic is now in place and is a fantastic sign that our best years are yet to come.**

TPF has been involved in key road infrastructure projects, such as the design and supervision of the construction of a section of the S-61 expressway (which is part of the Via Baltica Trans-European transport corridor), and the supervision of the extension of a section of the national road No. 8 Warsaw - Bialystok or the design and construction supervision of the S-19 Lublin - Rzeszow expressway ("Via Carpatia" international corridor).

Furthermore, TPF has provided services related to other transport areas, including urban transport. A good example of this is the modernization of the Line 447 of the suburban railway line that serves the Warsaw metropolitan area.

**Let's look at the topics which generated a lot of interest in SPAIN this year. These include the development of high-speed rail, urban mobility, the safety of road tunnels and the development of logistics platforms.**

In particular, the Group maintained its leading position in the development of the high-speed rail network by winning the design of a new 90-kilometer high-speed rail section of the Cantabrian-Mediterranean Corridor. This line will be intended for the transport of goods and passengers.

Metro and tramway projects have also been popular. This year, TPF had the opportunity to work on metro networks in major urban areas such as Madrid, Barcelona and Malaga and on some LRT projects, such as the Zaragoza Tramway and the Sant Martí-Besós Tramway, which extends from Sant Andria de Besos to Badalona.



*Lima Metro -  
Line 2 - Peru*



*BRT Terminal  
in Nigdi - India*

*Hanoi Metro  
- Vietnam*



*Wyszów -  
Poreba section  
of National  
Road 8 - Poland*

Moreover, TPF keeps playing an active role in the development of the Spanish road network, with new contract awards. In this area, our engineers and consultants focus on improving the operation, maintenance and safety systems of tunnels while reducing costs. The use of innovative risk assessment techniques and specific simulation software has enabled TPF to optimise the investment required to adapt several old tunnels on the national road network in order to bring them into compliance with the current regulations governing road tunnel operation. Our assessment work has led to substantial savings in terms of both new investments and operation and maintenance costs, without reducing the minimum safety requirements of the EU legislation in force.

In the more specific and less known field of logistics, our years of experience have allowed us to work on several projects. During the year, we have carried out a number of relevant logistics assignments, such as an assessment of the logistics sector in the region of Valencia, a rail intermodal transportation study for two of the most important ports in Spain (the Port of Algeciras and the Port of Valencia) and the planning and design of the Logistics Centre of Vicálvaro (the largest land intermodal terminal in Spain).

Finally, in Tenerife, in the field of mobility, TPF has developed a new solution based on the use of mobile phone data to obtain the travel matrices that will be used for the calibration of demand models.

**In PORTUGAL, the group's activity was mainly focused on rail and road.**

Regarding the railway sector, TPF has conducted during 2018 the design of the Mangualde - Guarda - Vilar Formoso - Northern Transverse Axis railway line. With a length of 124 km, the line will help improve railway connectivity with the rest of Europe and enhance freight transport efficiency in the country.

As to the road sector, TPF has been supervising the rehabilitation of the Baixo Alentejo motorway within the framework of a concession contract during the year. The assignment covers 710 km (including the construction of 13 km).

**In FRANCE, consultancy and building engineering remain our favourite areas even though our activity in the transport infrastructure sector continues to progress.**

For the year 2018, two major urban transport projects can be highlighted: a BRT in Dijon and the Marseille Metro.

**In BELGIUM, two projects are particularly important to us.**

In February 2018, we were awarded a contract to provide services within the framework of the Brussels South Charleroi Airport expansion project. TPF is responsible for the structural design of the building, the car park and accesses.

In addition, TPF continues to work on the design of the northward extension of the Brussels Metro network, involving the construction of an underground stretch with a length of 4.5 km and 7 new stations.



*Logistics  
Network of  
the Valencian  
Community  
- Spain*

*Baixo Alentejo  
Highway  
- Portugal*



*Mangualde -  
Guarda railway  
line - Portugal*



*Bus Rapid  
Transit  
system  
- France*

*Metro North  
Brussels  
- Belgium*



# Water - Environment- Energy

Once again this year, the TPF Group has leveraged its expertise in the fields of water, environment and energy to support its clients in international projects around the world.

Global warming is an indisputable reality and its effects on natural resources, ecosystems and society are strikingly obvious.

Adaptation to climate change has become an urgent necessity in recent years. TPF is aware of this and considers it essential, especially in the areas of water resource management and flood risk of major river basins.

Activities carried out in 2018 by our 800 employees of the Water - Environment- Energy Expertise Centre mainly concern the supply of drinking water, the installation of sewage treatment plants, the hydrological and hydraulic modelling of basins, the development of hydroelectric power stations, the management of flooding risks, the desalination of seawater, and the resettlement of populations sometimes victims of a disaster such as the rupture of a dam, or affected by a wind farm construction project.

In CAMEROON, TPF concluded a new contract this year with the United Nations Industrial Development Organization (UNIDO) as part of the hydropower scheme in Manjo.

This project is designed for the rural electrification of an isolated region where electricity supply is particularly limited. The installed power has not yet been defined, but it should stay within the range of 1 MW to 2 MW.

TPF was asked to produce the Detailed Project Report.

In KENYA, we participate in the Ndanu Falls hydropower development project, an investment estimated at 30-40 million euros.

At the request of REIKE Ltd, our teams are currently carrying out the feasibility studies of two small hydropower schemes, with installed powers of 10 MW and 8 MW. Both will be located in the river Yala, near the town of Kisumu, next to lake Victoria.

In the field of flood control, TPF operates in MOZAMBIQUE and SPAIN. And as such, we will mention two particularly interesting projects.

In response to the devastating flood which occurred in 2013 in the Lower Zambezi, the worst since 2000, the Government of Mozambique decided to take up a flood management strategy that would reduce flood exposure and vulnerability in the most affected areas.

A key component of this strategy will be to use hydrological and hydraulic models to reliably map flood risks, to investigate flood mitigation measures and to improve flood forecasting.

The creation and calibration of this model has been recently awarded to TPF, a 7-month deadline having been foreseen for results to be produced.

In Spain, TPF has won two contracts with the Ministry of Agriculture, Fisheries, Food and Environment to draw up flood management plans for the Miño-Sil and Ebro river basins.

The aim of the assignments is to carry out a preliminary flood risk assessment of the basins and develop flood hazard maps and flood risk maps, in compliance with the requirements of Directive 2007/60/EC.

The services include the design of river restoration works and green infrastructure, and the preparation of an inventory of the protection systems already in place.

Moreover, we will perform a geomorphologic study and two-dimensional hydrological and hydraulic models of 425 km in the Miño-Sil River Basin and 2 km in the Ebro River Basin.

In addition, characterization of more than 2,000 cross drainage structures will be undertaken.

The work will be performed over a period of 24 months.

In the field of water and sanitation, our activity in BRAZIL and MEXICO was particularly strong.

In Brazil, TPF won a tender promoted by the Water and Sanitation Company of Bahia (EMBASA) to design the expansion of the sanitary sewage system of the municipalities of Camaçari and Dias D'Ávila and the implementation of a new wastewater treatment plant (WWTP Norte), located in the Metropolitan Region of Salvador (RMS).



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*Development of  
a hydroelectric  
plant in Manjo  
- Cameroon*

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*Hydroelectric  
development of  
Ndamu Falls  
- Kenya*



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*Lower Zambezi  
Basin, Beira  
- Mozambique*

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*Ebro Basin  
- Spain*



In addition to the specific objectives expected of a project of this nature, such as the expansion of water supply and improvement of local sanitary conditions, this work will also have a positive impact on sustainable energy generation. The new WWTP will supply part of its energy demand through the use of sludge and biogas capture resulting from sewage treatment. This ambitious project is expected to benefit a total of 335,896 inhabitants by 2030.

**In the state of Pernambuco, TPF is also involved in the implementation of the Sustainable Rural Development Program of Pernambuco (ProRural). This program aims to ensure the social participation and management in ongoing sanitation works in the State, in its different performance stages, in 200 rural locations.**

TPF performed the services considering the diversity of rural populations, seeking the inclusion of all communities to access sanitation structures, with participation strategies appropriate to the singularities of each territory.

**In recent years, Brazil has not been spared by water problems. In the face of threats of scarcity in major urban centres and recurring droughts, it is essential to sustainably improve urban water management.**

In view of the complexity of this scenario, the National Water Agency (ANA) signed a contract with TPF for the ATLAS Brasil - Urban Water Supply update in August, which aims to update the data and analyses carried out for ATLAS Brasil - Urban Water Supply (2010), with broader scope in terms of water security, systematic monitoring of the supply situation, and interdependence of water sources in large urban agglomerations.

The study will cover all 5,570 municipalities in Brazil, with an urban population of about 174.2 million inhabitants, and its objective is to plan the water supply according to current and projected demands for the years 2025, 2035 and 2050.

**Providing daily water to Mexico City, one of the largest cities in the world, is also a challenge. It is within the framework of the rehabilitation plan for its pipelines and the construction of new infrastructures that TPF has secured a contract with SACMEX (Mexico City's Water Utility) to**

**conduct the detailed design of new water pipelines for the Lomas de Chapultepec neighbourhood in Mexico City.**

The purpose of the contract is to design new infrastructure that will improve drinking water supply conditions in some neighbourhoods of the Miguel Hidalgo borough. First of all, our company will undertake a detailed topographic survey and a geotechnical investigation of the project site. We will also analyse alternative solutions and will perform the detailed design of the new networks and related facilities, as well as the environmental impact assessment of the project. The new pipeline system will have a length of 50 km.

**In PORTUGAL, TPF looked after the Alviela Aqueduct project intended for the water supply of the municipalities of Lisbon.**

TPF carried out the study for EPAL - Empresa Portuguesa de Águas Livres, SA., in order to choose the best solution to refurbish reach 3 (Ota - Pimenta) of the Alviela Aqueduct.

This aqueduct is the oldest infrastructure still in use by EPAL and, given its age (more than 100 years), it suffers from several problems concerning its structural stability, operation reliability, water quality preservation and operators security at work.

TPF is already carrying out the construction design, using BIM modelling. Such solution will allow for the total replacement of the existing system between Ota and Pimenta.

**In the province of Alentejo, TPF also used BIM (Revit, Civil3D Software) for the design of the Portel water supply system construction.**

The Project aims to improve the system reliability and energy consumption, increase the groundwater abstractions component and the system reserve storage.

The three-dimensional models created for Águas do Vale do Tejo, SA will support not only construction, but also the subsequent operation and management of the facility.

**In FRANCE, TPF continued its technical assistance, near Albi city, to the construction of a**





*ProRural  
Sustainable  
Rural  
Development  
Program  
- Brazil*

*Updating data  
provided by Atlas  
Brazil - Urban  
Water Supply  
(2010) - Brazil*

*Lomas de Chapultepec  
district in Mexico City  
- Mexico*



*Aqueduct  
of Alviela  
- Portugal*



*Design of the  
construction project  
for the Portel water  
supply system  
- Portugal*



**drinking water treatment plant, which will supply 4 municipalities. With a treatment capacity of 28,000 cubic meters per day and a total construction cost of € 14.8 million, the plant should be commissioned in 2020.**

The project covers an area of 4,000m<sup>2</sup> and includes the construction of two treated water reservoirs of 1,500m<sup>3</sup> each. The water treatment system is composed of: acidification, coagulation, flocculation, settling, sand filtration, disinfection and equilibration. Special attention was also paid to the plant's energy optimization: photovoltaic panels, speed variator, heat pump and Canadian well for ventilation and heating, solar water heaters and rainwater recovery for watering.

**In SPAIN, our experts in hydraulic works are working on the rehabilitation project for the Casaquemada wastewater treatment plant.**

The WWTP has a design capacity of 505,750 population equivalent and handles an average daily flow of 86,700m<sup>3</sup>. It serves the municipal districts of San Fernando de Henares, Coslada, Ajalvir, Daganzo de Arriba and Paracuellos de Jarama.

The purpose of the project is to renovate the WWTP in compliance with current regulations which impose more restrictive effluent discharge requirements for nitrogen and phosphorus. The plant is being upgraded by means of an Integrated Fixed Film Activated Sludge process (IFAS).

**In ROMANIA, we can mention the extension and modernization of water and wastewater networks in Bucharest.**

TPF delivered the Terms of References (ToR) for the future works contracts for the rehabilitation of road infrastructure, including final topographical and geotechnical studies for the 19 sites included in the project. Our team also prepared the technical documentation for various approvals and permits and ensured the technical assistance from the Designer.

**In the field of seawater desalination, TPF also offers strong expertise. In addition to our participation in the project to build the seawater desalination plant in Dakar, TPF won a new contract in TUNISIA with the National Water Distribution**

**Utility (SONEDE) as part of the construction of a Desalination Plant in Zarat.**

TPF is responsible for preparation of tender documents for the works contracts, detailed design review, and supervision of the construction of a reverse-osmosis seawater desalination plant, with a permeate capacity of 50,000m<sup>3</sup>/d (expandable to 100,000m<sup>3</sup>/d), and its connection to the existing network. The desalination plant features a seawater intake pipeline (1,800 mm in diameter), a seawater pumping system with a capacity of 5,000 m<sup>3</sup>/h (expandable to 10,000m<sup>3</sup>/h), a brine outfall pipe (1,400mm in diameter), a tank consisting of two chambers, each with a storage capacity of 10,000m<sup>3</sup>, and a pumping system for product water.

**Finally, in the field of renewable energies, we can mention our first mission for EchoEnergia, the wind energy specialist in Brazil.**

Our task is to develop a Resettlement Action Plan (RAP) for the 144 families affected by the implementation of the wind farm of Ventos de São Clemente, in the state of Pernambuco. Our responsibilities also include: the socio-economic registration of affected families, the elaboration of appraisal property reports of rural properties, the socio-organizational registration of the affected communities, the development of rural property bank available in the region and the property valuation of the affected properties.

*Construction  
of a drinking  
water  
production  
plant,  
Albi - France*



*Rehabilitation  
of the Casaque-  
mada wastewater  
treatment  
plant - Spain*



*Modernisation  
of water and  
wastewater  
networks in  
Bucharest  
- Romania*



*Project  
to build  
a reverse osmosis  
seawater  
desalination  
plant in Zarut  
- Tunisia*



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# Consolidated Accounts 2018

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<b>CONSOLIDATED BALANCE SHEET / ASSETS</b>	<b>2018</b>	<b>2017</b>
	<b>€</b>	<b>€</b>
<b>TOTAL FIXED ASSETS</b>	<b>44,699,780.77</b>	<b>40,117,550.45</b>
<b>I. FORMATION EXPENSES</b>	<b>6,243,741.43</b>	<b>6,422,550.32</b>
<b>II. INTANGIBLE ASSETS</b>	<b>1,169,744.79</b>	<b>1,707,589.99</b>
<b>III. GOODWILL</b>	<b>17,495,580.15</b>	<b>14,304,250.87</b>
<b>IV. TANGIBLE ASSETS</b>	<b>7,755,285.87</b>	<b>8,476,777.36</b>
A. Land and buildings	2,027,239.05	2,393,242.57
B. Plant, machinery and equipment	2,752,143.31	2,838,595.31
C. Furniture and vehicles	2,356,369.29	2,736,359.71
D. Leasing and other similar rights		12,256.05
E. Other tangible assets	506,793.96	496,323.72
F. Fixed assets in progress	112,740.26	
<b>V. FINANCIAL ASSETS</b>	<b>12,035,428.53</b>	<b>9,206,381.91</b>
A. Companies consolidated by the equity method		
1. Participating interests		
2. Amounts receivable		
B. Other companies		
1. Shares	7,788,214.47	4,878,504.68
2. Amounts receivable	4,247,214.06	4,327,877.23
<b>TOTAL CURRENT ASSETS</b>	<b>242,027,199.64</b>	<b>275,421,237.60</b>
<b>VI. AMOUNTS RECEIVABLE AFTER ONE YEAR</b>	<b>1,538,670.31</b>	<b>2,988,990.48</b>
A. Trade debtors		1,574,693.24
B. Other amounts receivable	1,538,670.31	1,414,297.24
<b>VII. STOCKS AND CONTRACTS IN PROGRESS</b>	<b>46,266,694.46</b>	<b>53,329,738.28</b>
A. Stocks	1,133,071.09	708,969.61
1. Raw materials and consumables	73,918.48	73,918.48
2. Goods in process	201,498.36	58,069.01
3. Finished goods	312,282.14	312,282.14
4. Goods purchased for resale	49,825.67	26,362.44
5. Real property acquired or constructed for resale		
6. Advance payments	495,546.44	238,337.54
B. Contracts in progress	45,133,623.37	52,620,768.67
<b>VIII. AMOUNTS RECEIVABLE WITHIN ONE YEAR</b>	<b>156,665,781.64</b>	<b>180,138,798.36</b>
A. Trade debtors	121,843,390.99	127,462,006.06
B. Other amounts receivable	34,822,390.65	52,676,792.30
<b>IX. INVESTMENTS</b>	<b>9,900,607.79</b>	<b>9,325,488.82</b>
A. Owned shares	108.32	104.83
B. Other amounts receivable	9,900,499.47	9,325,383.99
<b>X. CASH AT BANK AND IN HAND</b>	<b>16,650,116.65</b>	<b>18,523,012.49</b>
<b>XI. DEFERRED CHARGES AND ACCRUED INCOME</b>	<b>11,005,328.79</b>	<b>11,115,209.17</b>
<b>TOTAL ASSETS</b>	<b>286,726,980.41</b>	<b>315,538,788.05</b>

CONSOLIDATED BALANCE SHEET / LIABILITIES	2018	2017
	€	€
<b>EQUITIES</b>	<b>52,863,649.57</b>	<b>58,522,004.71</b>
I. CAPITAL	18,327,188.00	18,327,188.00
II. SHARE PREMIUM ACCOUNT		
III. REVALUATION RESERVES	356,542.84	356,542.84
IV. RESERVES	39,663,458.35	40,899,917.97
V. BADWILL	1,817,575.61	2,375,131.97
VI. CUMULATIVE TRANSLATION ADJUSTMENTS	-7,301,170.49	-3,436,831.33
VII. GRANTS	55.26	55.26
VIII. THIRD PARTIES INTERESTS	15,249,891.88	16,125,210.20
<b>TOTAL GROUP AND THIRD PARTIES EQUITIES</b>	<b>68,113,541.46</b>	<b>74,647,214.91</b>
<b>IX. PROVISIONS AND DEFERRED TAXES</b>	<b>3,741,981.57</b>	<b>7,786,921.99</b>
A. Provisions for liabilities and charges	1,238,968.50	4,714,378.50
B. Tax provision	137,297.30	133,747.96
C. Important repairs and important maintenance	125,842.30	932,559.28
D. Other risks and charges	2,264,842.97	2,031,087.32
E. Deferred taxes	-24,969.50	-24,851.07
<b>TOTAL DEBTS</b>	<b>214,871,457.23</b>	<b>233,104,651.22</b>
<b>X. AMOUNTS PAYABLE AFTER ONE YEAR</b>	<b>38,608,689.59</b>	<b>55,840,009.06</b>
A. A. Financial debts	35,422,681.61	52,618,486.94
1. Subordinated loans		115,099.39
2. Unsubordinated debentures		
3. Leasing and other similar obligations	42,320.06	94,039.23
4. Credit institutions	21,081,590.04	34,107,443.25
5. Other loans	14,298,771.51	18,301,905.07
B. Trade debts	17,307.28	33,045.23
1. Suppliers	17,307.28	33,045.23
2. Other trade debts		
C. Amounts received for orders	14,600.19	
D. Other amounts payable	3,154,100.51	3,188,476.89
<b>XI. AMOUNTS PAYABLE WITHIN ONE YEAR</b>	<b>174,274,433.07</b>	<b>174,978,240.67</b>
A. Current portion of amounts payable after one year	43,075,438.59	33,349,751.29
B. Financial debts	48,697,149.80	49,961,593.28
1. Credit institutions	46,516,404.80	47,472,531.32
2. Other loans	2,180,745.00	2,489,061.96
C. Trade debts	37,157,248.44	39,204,913.17
1. Suppliers	37,157,248.44	39,204,913.17
2. Other trade debts		
D. Advances received on contracts in progress	2,571,949.40	2,710,582.50
E. Taxes, remuneration and social security	32,704,800.08	42,649,052.86
1. Taxes	19,520,819.62	25,463,789.03
2. Remuneration and social security	13,183,980.46	17,185,263.83
F. Other amounts payable	10,067,846.76	7,102,347.57
<b>XII. ACCRUED CHARGES AND DEFERRED INCOME</b>	<b>1,988,334.57</b>	<b>2,286,401.49</b>
<b>TOTAL LIABILITIES</b>	<b>286,726,980.26</b>	<b>315,538,788.12</b>

<b>CONSOLIDATED PROFIT AND LOSS ACCOUNT</b>	<b>2018</b>	<b>2017</b>
	<b>€</b>	<b>€</b>
<b>I. OPERATING INCOME</b>	<b>242,259,893.31</b>	<b>242,337,309.87</b>
A. Turnover	227,246,485.82	237,170,467.61
B. Increase; Decrease in stocks of finished goods, work and contracts in progress (+, -)	2,836,592.33	2,310,610.89
C. Own work capitalised		
D. Other operating income	3,595,627.05	2,594,252.56
E. Non-recurring operating income	8,581,188.11	261,978.82
<b>II. OPERATING CHARGES</b>	<b>223,873,581.73</b>	<b>225,452,817.03</b>
A. Raw materials, consumables and goods for resale	50,827,831.33	53,620,535.88
1. Purchases	50,851,294.56	53,261,330.78
2. Stocks: decrease (increase) (+, -)	-23,463.23	359,205.10
B. Services and other goods	53,998,644.57	50,986,433.73
C. Remuneration, social security costs and pensions	101,566,570.44	111,906,594.73
D. Depreciation of and other amounts written off establishment costs, intangible and tangible fixed assets	2,276,766.80	2,350,845.88
E. Amounts written off stocks, contracts in progress and trade debtors (+,-)	5,094,732.08	709,486.27
F. Provisions for liabilities and charges (+,-)	-530,647.95	24,164.29
G. Other operating charges	1,476,479.26	2,319,011.56
H. Operating charges carried to assets as restructuring costs (+,-)		
I. Amounts written off on positive consolidation differences		
J. Non-recurring operating charges	9,163,205.20	3,535,744.71
<b>III. OPERATING RESULT</b>	<b>18,386,311.58</b>	<b>16,884,492.84</b>
<b>IV. FINANCIAL INCOME</b>	<b>6,679,702.47</b>	<b>6,358,801.38</b>
A. Income from financial fixed assets	234,730.64	1,216,933.34
B. Income from current assets	560,794.09	809,079.04
C. Other financial income	6,037,986.63	1,964,969.16
D. Non-recurring financial income	-153,808.89	2,367,819.84
<b>V. FINANCIAL CHARGES</b>	<b>20,861,167.68</b>	<b>14,972,559.48</b>
A. Debt charges	4,606,651.58	5,014,790.16
B. Increase; Decrease in amounts written off current assets other than those mentioned under II.E. (+,-)	2,359,824.15	905,916.70
C. Other financial charges	11,329,180.46	5,542,461.58
D. Depreciation of goodwill	1,865,511.49	3,415,950.13
E. Non-recurring financial charges	700,000.00	93,440.91



<b>CONSOLIDATED PROFIT AND LOSS ACCOUNT</b>	<b>2018</b>	<b>2017</b>
	<b>€</b>	<b>€</b>
<b>IX. GAIN (LOSS) FOR THE PERIOD BEFORE TAXES</b>	<b>4,204,846.37</b>	<b>8,270,734.76</b>
<b>X. TRANSFERS TO AND FROM DEFERRED TAXES AND LATENT TAXATION LIABILITIES</b>	<b>-48,380.71</b>	<b>-1,570,594.86</b>
A. Transfers to deferred taxes and latent taxation liabilities	-24,994.82	4,940.79
B. Transfers from deferred taxes and latent taxation liabilities	23,385.89	1,575,535.65
<b>XI. INCOME TAXES</b>	<b>2,108,488.38</b>	<b>8,187,768.78</b>
A. Taxes	2,164,442.09	8,711,372.45
B. Adjustment of taxes and release of provision for taxes	55,953.71	523,603.67
<b>XII. GAIN (LOSS) OF THE PERIOD</b>	<b>2,144,738.70</b>	<b>1,653,560.82</b>
<b>XIII. SHARE IN THE RESULT OF THE COMPANIES ACCOUNTED FOR USING THE EQUITY METHOD</b>	<b>-1,710.43</b>	
A. Profits	-1,710.43	
B. Losses		
<b>XIV. CONSOLIDATED PROFIT</b>	<b>2,143,028.27</b>	<b>1,653,560.82</b>
<b>XV. RESULT OF THIRD PARTIES</b>	<b>729,488.16</b>	<b>1,632,208.12</b>
<b>XVI. RESULT OF THE GROUP</b>	<b>1,413,540.11</b>	<b>21,352.70</b>





