

Airport

Infrastructures



coba
GROUP

ENGINEERING AND ENVIRONMENTAL CONSULTANTS

PRESENTATION

COBA is a multinational and multidisciplinary group of Engineering and Environmental Consultants, founded in 1962.

The Group provides engineering consultancy services ranging from basic and planning studies, technical, environmental and economic feasibility studies, design and construction design as well as project management and works supervision, to operation follow-up and behaviour monitoring.

The Group has offices/subsidiaries in three continents and experience in sixty countries and encompasses several companies in accordance with functional specializations or geographical areas.

The competences acquired along the last six decades, together with the state-of-the-art employee expertise, the stability of its permanent staff and the comprehensive international experience allow to find out the best solutions for the full satisfaction of public and private Clients' needs and expectations.

During its existence, the Group has participated together with public authorities or private developers, in the feasibility of multidimensional projects, some of them being structuring projects and with major impacts on the improvement of peoples' life conditions in the several countries where it worked.

At present, the Group has a wide number of competences and technical areas that allow the composition of multidisciplinary teams who share knowledge and experiences in the execution of projects.

FIELDS OF ACTIVITY

HYDRAULIC UNDERTAKINGS

Concrete, Earth-fill and Rock-fill Dams. Weirs and Reservoirs Water Conveyance Systems. Hydraulic Structures.

POWER GENERATION AND TRANSMISSION

Hydroelectric Power Plants. Photovoltaic power plants and wind farms. Small Hydropower Plants. Power Plants Rehabilitation and Modernization. Substations High Voltage Transmission Lines. Cooling Water Systems for Thermoelectric Plants.

WATER SUPPLY AND WASTEWATER SYSTEMS

Catchment, Transport and Distribution of Potable Water. Water Treatment Plants. Drainage Systems. Wastewater Treatment Stations. Pumping Stations.

AGRICULTURES AND RURAL DEVELOPMENT

Irrigation and Drainage Systems. Rural Roads. Production Systems. Mapping and Basic Information.

TRANSPORTATION INFRASTRUCTURES

Roads and highways. Railways. Passenger and Freight Railway Stations. Metro and Light Rail. Airports. Bridges and other engineering structures.

ENVIRONMENT

Environmental Impact Assessment. Environmental Management, Monitoring and Auditing. Pollution Control. Landscaping. Land Management. Recovery of Degraded Areas. Waste Landfills.

GEOTECHNICAL STRUCTURES

Tunnels and Caverns. Slopes in Fill and Cut Section. Special Foundations Breakwaters. Embankment Works.

MARITIME AND FLUVIAL WORKS

Wharfs. River Training. Quay Rehabilitation. Flood and Flow Control.

MINING INDUSTRY

Environmental Studies. Design of Tailings Dams and Related Structures. Safety Assessment of Tailings Dams. Design Review of Tailings Dam Closure. Operations Maintenance and Monitoring Manual for Tailings Dams. Risk Analysis. Mine Closure Plan. Training.

BUILDINGS

Residential and Services Buildings. Industrial Buildings. Steel and Mixed Industrial Structures. Rehabilitation and Restoration of Ancient Buildings.

CARTOGRAPHY AND CADASTRE

Geographic Information Systems (GIS). Digital Cartography. Thematic Cartography. Thematic Cadastres. Land Acquisition.

SAFETY CONTROL AND REHABILITATION

Expertise, Monitoring. Inspection and Reinforcement of Dams and Transportation Infrastructures. Works Instrumentation. Project Maintenance and Operation.

PROJECT MANAGEMENT AND CONSTRUCTION SUPERVISION

Project Management. Cost Management. Site Supervision. Quality Assurance/Quality Control.

AIRPORTS STUDIES

Initially focused on the study and design of hydraulic projects, COBA has, over the years, extended and diversified its activities, having started to develop airport designs and consultancy in the 1980's.

During this decade, technical assistance was provided for several airport projects in Angola and studies for the Funchal airport expansion were carried out for one of the Enterprises that submitted proposals for the expansion works.

This activity was intensified in the 90's, as an important project for the rehabilitation and expansion of the aircraft apron of the Luanda 4 de Fevereiro Airport and for the construction of a new taxiway serving the secondary runway was carried out. At the end of the 1990's, by invitation of the Angolan airports Authority, an inspection of several aerodromes was performed, in order to evaluate the required work for their rehabilitation and enlargement. Unfortunately, due to the then current war situation, these studies had no continuity.

The initial decade of the 21-century coincided with the launch by ANA - Aeroportos de Portugal, SA, of an enlargement program of the national airports. COBA was heavily involved in this project having performed studies for the operational area of the airports of Lisbon, Porto, Faro and Ponta Delgada.

For the Porto airport, COBA developed the final design for the expansion of the main apron and access taxiways. For the Lisbon, Humberto Delgado Airport, in Lisbon, COA designed the second phase of the construction of the central apron and of the new taxiways accessing the main runway. For faro airport the project developed was the reinforcement of the parallel taxiway.

The projects of the airports of Porto and Lisbon had a special interest for COBA, given its multidisciplinary nature. These projects comprised not only aeronautical pavement works, but also important drainage works and reinforced concrete structures. The case of Lisbon airport was paradigmatic, since it includes the underpass under the new taxiway, so as to allow the access of service vehicles to the central apron. This underpass considered the critical load of a Boeing 747-400, with the maximum weight at take-off of 350 tons. It was the first structure of this kind in Portugal

Also to the Humberto Delgado airport, in Lisbon, COBA developed final design of the new Cargo Facilities, integrating the new Cargo Terminal buildings, facilities networks, equipment, parking an and vehicle accesses.

The project executed directly for ANA, Aeroportos de Portugal to the João Paulo II airport at Ponta Delgada, consisted of the reconstruction and expansion of the main apron and the creation of a new taxiway accessing the runway.

Another study in the airport field of notable interest is the elaboration of the Masterplan of the Civil component of the Beja Airport, attached to the facilities of the existing Air Base number 11. This Masterplan was followed by the construction design of the civil apron and its access taxiway, the widening of the taxiways between the runways and the landside parking and road accesses, as well as the remodeling and extension of access roads the clue.

In the same decade, COBA has developed numerous studies in the field of airport infrastructures, with an increase in the international activity, of which we highlight the Preliminary Study, Detailed Design, Technical Assistance to the Owner and Supervision of the Construction works of the Gove Airfield, in Angola; the Basic Design for the renovation of the Nacala International Airport, in Mozambique, and the Detailed Design and Technical Assistance to the construction of the second runway, associated infrastructures and extension of the existing runway in the Oran Airport, in Algeria. In the Gove and Nacala studies COBA led a multidisciplinary team that designed all the airport components, from pavements to buildings and equipment

Currently, COBA continues to carry out studies in the field of airport infrastructures, including, among the most recent studies, the Preliminary Design and Base Project of Mtwara International Airport in Tanzania (comprising all components of the airport), and the detailed design of the reinforcement of the main runway, access taxiways and aprons of the Huari Boumediene Airport in Algiers, including their adaptation for use by Airbus 380 aircraft, the preliminary study of the rehabilitation of the runway at Horta Airport and the detailed design for the rehabilitation of the November parking apron at João Paulo II airport.

In addition to studies and projects of airports COBA also developed studies of heliports, both in Portugal and abroad, namely the heliports of Baltar / Paredes, Portalegre, Sana Royal Hotel in Luanda and Calambuloca.

COBA has also carried out inspection and technical assistance of airport works and pavement characterization studies in the national airport network.



MONTIJO AIRPORT - Portugal

AIRSIDE AND LANDSIDE INFRASTRUCTURES

Client: VINCI GRANDS PROJETS (Owner: ANA – Aeroportos de Portugal, S.A.)
Basic Design: 2019 / 2021

The project includes the construction of Landside and Airside infrastructures, including the runway, taxiways, and apron areas, as well as roads, parking lots, water supply and drainage networks, lighting systems, public lighting, and land reclamation over the Tagus River.



Foto: www.ana.pt

Initial Phase (2022): 7.8 million passengers and 46,000 aircraft movements per year.
Full Expansion (2062): 17.4 million passengers and 85,000 aircraft movements per year.

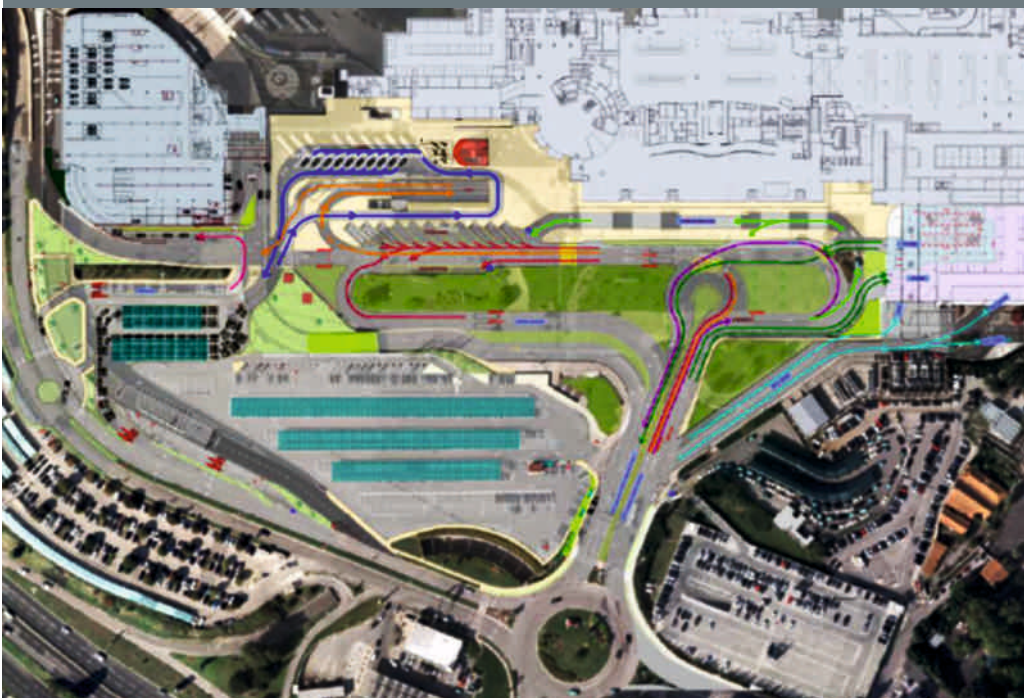
Runway: Total length of 2,400 m.

Data extracted from the Non-Technical Summary (NTS) of the Environmental Impact Assessment (EIA) for Montijo Airport, prepared for ANA – Aeroportos de Portugal.

HUMBERTO DELGADO INTERNATIONAL AIRPORT - Lisbon/PORTUGAL

Upgrading of the Arrival Curbside

Client: ANA – Aeroportos de Portugal, S.A.
Preliminary Study (2024), Detailed Design (2024 / ongoing) and Technical Assistance during Construction



The planned interventions aim primarily to ensure adequate performance in response to current demands, the estimated increase in demand, and the proposed solutions for airport expansion.

These modifications will impact:

- Roadway alignment
- Vehicle access control (barriers)
- New public transport stop areas, including ride-hailing services (TVDE) and taxis
- Reorganization of circulation within the "P2" parking facility
- Separation of traffic flows for different vehicle types:
 - Urban buses
 - Tourist coaches
 - Taxis
 - Ride-hailing services (TVDE)
 - Private vehicles
 - Rental cars (Rent-a-Car)

FRANCISCO SÁ CARNEIRO INTERNATIONAL AIRPORT - Porto/Portugal

EXTENSION OF THE OPERATIONAL AREA

Client/Owner: ANA - Aeroportos de Portugal, S.A

Review of the Final and Basic Designs, Technical Assistance to the Owner; Design Reviews: 2006/2011



Extension of the operational area of the Sá Carneiro Airport through the construction of a new apron with a capacity for 12 mean and long course airplanes, which nearly doubles the capacity of the existing apron, and the construction of a new taxiway F to access the track, with a length of approximately 1 100 m.

These new structures have been designed according to the International Civil Aviation Organization (ICAO) standards associated with infrastructures for airports of the new F4 category, which make them fit to receive the future "New Large Aircrafts" (NLA).

The works comprised: a great volume of demolition works, earthworks, pavements (rigid and flexible aeronautical pavements and road pavements), drainage (including hydrocarbonates separating devices), airway daily signalling and infrastructures for lighting signalling, communications, power supply and apron lighting.

BEJA INTERNATIONAL AIRPORT - Portugal

CIVIL AIR TERMINAL

Client/Owner: EDAB – Empresa de Desenvolvimento do Aeroporto de Beja

Master Plan and Environmental Impact Study; Preliminary Design; Final Design and Environmental Impact Study; Technical Assistance and Environmental Monitoring during Construction: 2002/2008



The Beja Airport is located southwest of Air Base nº. 11 of the Portuguese Air Force, whose functions were widened to include civil use. For this purpose, COBA conducted studies from the Master Plan phase, up to the Preliminary Design and Final Design, Environmental Impact Studies and the Environmental Monitoring during construction.

The airplanes flying from/to this terminal shall use the Airbase runway.

The Civil Air Terminal design included the corresponding Operational Areas (Air Side) and the Urban Infrastructures (Ground Side).

The Air Side design included an apron for high-capacity aircrafts and a taxiway connecting this apron to the main runway of the Air Base.

The project involved the civil construction works (earthworks, paving and drainage) and the ground lighting and its control from the Air Base.

The Ground Side design included the overall earthworks and road lines, landscape integration, power distribution to the transformer stations, outside lighting, telecommunications infrastructures and gas network.

HUMBERTO DELGADO INTERNATIONAL AIRPORT - Lisbon/PORTUGAL

PLATFORMS AND NEW ACCESS ROADS

Client: Consórcio Alves Ribeiro, S.A. / Tomás Ribeiro, S.A.
Final Design and Technical Assistance: 2002 - 2003

The studies and designs pertaining to the platforms and taxiways are divided into 4 lots:



Lot 1 - Extension of the Lisbon Airport operational area, by constructing a new parking apron including 2 taxilanes with capacity for 14 medium/long course airplanes and constructing a new taxiway (M4 taxiway) for access to track 03, about 950 m long.

Lot 2 - Construction of a new access road to the central parking apron (new platform plus existing F and J platforms) from the existing surrounding road, with an underpass under the new M4 taxiway.

Lot 3 - Underpass to the M4 taxiway (bridge and associated retaining structures).

Lot 4 - Pavement rehabilitation and reshaping, drainage and electricity infrastructures for track 03's angular intersection approaches.

HUMBERTO DELGADO INTERNATIONAL AIRPORT - Lisbon/PORTUGAL

NEW CARGO COMPLEX

Client/Owner: ANA – Aeroportos de Portugal, SA.
Designs, Bill of Quantities, Cost estimations: 2006/2007



The New Cargo Complex of the Lisbon International Airport is located on an area adjacent to the main runway.

The studies involved the following infrastructures:

- **Buildings to support Cargo**, CTT, PORTWAY, GROUNDFORCE Ground/Air and Air/Ground Control Station, including structures and foundations, water, sewerage and drainage networks, electrical installations, telecommunications and electronics, mechanical installations and safety.
- **Road project** including: three street lines, two roundabouts, a main road, a peripheral way and three parking areas within an integrated and homogeneous platform. The new roads are key infrastructures for the traffic, both within the new Cargo Complex and for the linking to the city road network, through the Av. Santos e Castro.
- **Water, sewerage and drainage networks**
- **Electrical infrastructures, telecommunications/electronics and safety**
- **Landscaping and outside land management**
- **Bills of quantities and cost estimates**

HORTA AIRPORT - Azores/Portugal

INTEGRAL REHABILITATION OF RUNWAY 10-28

Client: ANA – Aeroportos de Portugal, SA.
Preliminary Study: 2018/ongoing



The Horta Airport, located on the Island of Faial, was inaugurated in 1971 and expanded in 1991. Rehabilitation works were undertaken in 2002.

The airport's runway designated 10-28 is 1595 m long and 45 m wide. Currently, this runway's pavement presents a significant degree of deterioration, which requires an integral rehabilitation.

As a result of a public tender, COBA S.A. was awarded in May 2018 the preliminary study for Rehabilitation of Runway 10-28 of the Horta Airport,

which will include the planimetric and altimetric definition of the runway, definition of its pavement, including the determination of the runway's PCN, drainage study, daylight markings and reconstruction of the existing lighting. The study is expected to have a duration of 125 days.

The study also includes the topographic survey of the runway area and the characterization of the current pavement of the runway through the execution of load tests with heavy weight deflectometer, site survey and testing of materials.

JOÃO PAULO II INTERNATIONAL AIRPORT - Azores/Portugal

EXTENSION OF PLATFORM AND NEW ACCESS ROAD

Client/Owner: ANA – Aeroportos de Portugal, SA
Basic Design and Final Design: 2007/2008



The project consisted of:

- Extension of Platform W and Taxiways D and E;
- Extension of operational area: new apron for 10 medium/long distance aircrafts, duplicating approximately capacity of the existing platform (from 160 m to 474 m);
- New taxiway for the runway approach (625 m long);
- Project includes preparatory works, earthworks, pavement, drainage, affected services, fire networks and infrastructures for water supply and gas supply.

NACALA INTERNATIONAL AIRPORT - Mozambique

AIRFIELD UPGRADING

Client/Owner: Odebrecht / Aeroportos de Moçambique, E.P.
Basic Design and Specifications: 2009



The hired services consisted in the Studies for the Renovation of the Nacala International Airport.

This study consisted in the airport renovation to accommodate civil air traffic, open to medium and long course passenger and cargo airplanes for domestic and international flights (reference code ICAO 4E). In order to achieve this goal, it was necessary to make interventions in the movement area, road accesses, infrastruc-

tures and buildings. With regards to the movement area, there was an extension of the runway (length between 2.500 and 3.400 m), construction of a new runway (length of 240 m and width of 60 m), construction of a new taxiway with a width between 15 and 23 m, a new taxiway for direct access to the apron, 2 aprons for Boeing 747s and 2 aprons for Boeing 737-800s.

The following buildings were rehabilitated: Passenger, Cargo, Flight Control and Support Tower, Maintenance and Entrance Hall.

The Basic Design developed by COBA involved all specialties necessary for the rehabilitation and widening, namely Geotechnics, Structures, Hydraulics and Equipment.

4 DE FEVEREIRO INTERNATIONAL AIRPORT - Luanda/Angola

UPGRADING AND EXPANSION OF THE PARKING APRON

Client/Owner: ENANA – Empresa Nacional de Exploração de Aeroportos e Navegação Aérea
Preliminary Design, Final Design: 1994/1996



The project envisaged upgrading and expansion of the parking apron and taxiway of the Luanda International Airport and involved the following works:

- Upgrading of the existing parking apron (235 000 m²), which will be reserved for long-course aircrafts, for general aviation and maintenance of aircrafts. The area reserved for the long-course aeroplanes will have 9 parking positions, 7 for B707 aircrafts and 2 for wide-body aircrafts such as B 747 - 400;
- Extension of the parking apron (400 000 m²), which will be reserved for all medium-course aircrafts and will have 9 parking positions, 4 for B727 aircrafts and 5 for B737 aircrafts;
- Construction of a new taxiway (450 m x 23 m) which will link the new parking apron to that of the secondary taxiway;
- New drainage system for the parking apron to completely replace the existing system and to cover the extension of the parking apron;
- New parking apron and taxiway marking for aircraft guidance, according to the I.C.A.O. standards;
- New ducts systems for the parking apron and taxiway lighting, to replace the existing lighting equipment.

MTWARA

INTERNATIONAL AIRPORT - Tanzânia

Client: OSEL, Odebrecht Serviços no Exterior LDA

Preliminary Analysis of the Project, Basic Design, Detailed Design and Technical Support: 2014/2015



The Mtwara International Airport was designed to receive large and medium-sized airplanes that perform either national or international flights.

The study entailed the take-off runway with a length of 3000 m, the road accesses to the runways and parking areas, airport apron for six aeroplanes, instrument landing systems, aeronautic communications and the passenger terminal with 8700 m² and the total capacity for 1 million passengers/year, including the immigration, customs and security services, in order to ensure the control of the air traffic, meteorological service, customs service, security and police services. Moreover, the studies entailed the import and export cargo terminal with 1500 m² and airport services with 2600 m².

The Detailed Preliminary Design was developed between 2014 and 2015, with the approval of the Tanzania Airport Authority.

GOVE AIRFIELD - Angola

REHABILITATION

Cliente: Gabinete para a Administração da Bacia Hidrográfica do Rio Cunene (GABHIC)

Preliminary Study and Final Design, Technical Assistance and Construction Works Supervision: 2002/2012

Movement Area:

- Runway;
- Runway Shoulders;
- Runway Strip;
- Taxiways;
- Taxiways' Shoulders;
- Taxiways' strips;
- Cross-sections;
- Apron;
- Apron's Shoulders;
- U-Turn aprons;
- Pavement;
- Drainage;
- Visual Assistance to Navigation;
- Crossings;
- Access to the airfield.

Air Terminal Building:

- Drinking water and wastewater networks;
- Wastewater drainage and treatment systems;
- Electrical installations.

Supporting infrastructures:

- Construction of a small terminal;
- Construction of a car parking area with road access from the Gove - Huambo road



The Gove Airfield is located near the Gove Dam, in the Huambo Province.

Its rehabilitation, incorporated in the Hydropower Development's works, was centred on two types of intervention: the rehabilitation of the existing runway and its adaptation to meet the ICAO requirements and the interventions concerning the accesses, movement areas and airfield operation.

The rehabilitation also included the construction of an Air Terminal Building with an apron, drainage and wastewater treatment system and electrical facilities.

ORÃO ES SENIA INTERNATIONAL AIRPORT - ALGERIA

EXTENSION OF OPERATIONAL AREAS

Client: ZAGOPE/ Direction des Travaux Publics, Oran Wilaya
Detailed Design and Technical Assistance: 2006/2009



COBA's intervention in the Oran Es-Senia Airport included the final design and technical assistance of the Second Runway an Extension of existing Runway. The studies involved the extension of operational areas, including a 3000 m new runway, extension of existing runway in 650 m, two taxiways: one to link to the new runway to the taxiway and another to link t the extended runway, extension of apron area for cargo aircrafts (200 m x 140 m), slip roads and construction of aprons.

The project includes preparatory works, earth-works, pavement, drainage, affected services and lighting.

In addition to design activities, a team from COBA was on site in charge of control unit that includes a soil, aggregates and coated macadam laboratory.

Quality Control and Airports and Road Pavements Management

CONSULSTRADA is one of the companies included in the COBA Group. Established in 2003, its fields of activity embraces Planning, Design, Quality Control (during the execution of the works and for purposes of final characterization) and Management in the field of the road and airport pavements, including the execution of specialized “in situ” and laboratory tests.

For the development of its activity it relies on highly qualified and adequately equipped staff, disposes of its own facilities and possesses high performance and avant-garde technology testing equipment. It is likewise qualified to perform laboratorial tests for characterization of materials used in pavement construction - soils, aggregates, bitumen and coated macadam.

AUSCULTATION OF PAVEMENTS	VISUAL INSPECTIONS AND CIVIL ENGINEERING SPECIALTY'S	SUPERVISION OF CONSTRUCTION SITES	LABORATORY CONTROL AND “IN SITU” PROSPECTION	MANAGEMENT PAVEMENT SYSTEMS AND PROJECT
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AUSCULTATION OF PAVEMENTS EQUIPMENT

Falling Weight Deflectometer Evaluation of the Load Capacity of a pavement	LASER Profilometer Measurement of the Longitudinal Irregularity of a Pavement	"Grip-tester" Measurement of the longitudinal friction coefficient
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Other Projects		Design Phase	Country	Client	Conclusion
Airports Studies	JOÃO PAULO II AIRPORT (Azores)	Detailed Design, November Platform Rehabilitation	Portugal (Azores)	ANA - Aeroportos de Portugal, S.A.	2020
	MAPUTO, BEIRA, PEMBA, MOCIMBOA DA PRAIA, VILANCULOS AND NAMPULA AIRPORTS	Master Plan	Mozambique	ADPI – Aéroports de Paris Ingénierie	2020
	ALGIERS AIRDROME Reinforcement of the Main Runway and Annexes' Pavement	Detailed Design	Algeria	Grupo ETRHB - HADDAD	2019
	GRACIOSA ISLE AIRDROME (Azores) New Control Tower (3 floors; 350 m ²)-Extension and Widening of the Runway	Detailed Design and Technical Assistance	Portugal (Azores)	SATA Gestão de Aeródromos, S.A.	2015
	PICO ISLAND AIRPORT (Azores) Earthworks at the Head of Runway 09	Detailed Design and Technical Assistance	Portugal (Azores)	SATA Gestão de Aeródromos, S.A.	2012
	FARO INTERNATIONAL AIRPORT Rehabilitation of the taxiway's remaining areas and its conclusion	Detailed Design and Technical Assistance	Portugal	ANA - Aeroportos de Portugal, S.A.	2012
	FARO INTERNATIONAL AIRPORT Pavement Rehabilitation and Lighting of Runway “P” (parallel runway), including various civil construction works and electrical installations and ground lighting.	Detailed Design	Portugal	ANA - Aeroportos de Portugal, S.A.	2010
	CASTANHEIRA DE PÊRA MUNICIPAL AIRDROME	Characterization Studies	Portugal	Castanheira de Pêra municipality	2010
	“BAÍA DOS TIGRES” AIRDROME studies for planning of the air side and ground side, the general infrastructures and safety facilities	Master Plan	Angola	Ministério das Pescas (Angolan Ministry of Fishery)	2009
	NOVO AEROPORTO DO BARLAVENTO ALGARVIO	Master Plan	Portugal	Ria de Alvor (Lagos/Portimão) municipality	2009
	Characterisation study of the Airdromes for the integrated study of the transport sectors of Angola, Cape Verde, Guinea-Bissau and São Tomé e Príncipe	Characterization Studies		–	2009
	ÁGUEDA MUNICIPAL AIRDROME Study of the airdrome with complete characterization of the movement area and analysis of possible phased extension	Preliminary Study (Descriptive Memoir and Drawings)	Portugal	Águeda City Hall	2008
	PONTE DE SOR AIRDROME	Geologic and Geotécnic Studie	Portugal	Ponte de Sor City Hall	2007
	STUDY FOR THE IMPLANTATION OF AN AIRFIELD IN THE ÓBIDOS MUNICIPALITY	–	Portugal	–	2007
	OLLOMBO AIRPORT	Technical Assistance Design Review	Congo Republic	ESCOM	2007
	CABINDA, HUAMBO, KUITO-BIÉ AND LUBANGO AIRPORTS	Inspection Services	Angola	ENANA	1998
Heliport Studies	FUNCHAL INTERNATIONAL AIRPORT (Madeira) reinforced concrete structure extended to the sea (530m)	Basic Design. Alternative Solution	Portugal (Madeira)	Group of Contractors	1993
	4 DE FEVEREIRO AIRPORT, LUANDA KUITO – KUANA VALE AIRDROME M'BANZA CONGO, AIRPORT SOYO AIRDROME BIÉ AND LUENA AIRDROME	Within the Technical Assistance to TECNOPROJECTO, UEE e ENEP, UEE, Angola.	Angola	TECNOPROJECTO, UEE e ENEP, UEE	1987
	CRIME POLICE DEPARTMENT HELIPORT	Detailed Design	Portugal	FOCUS Group	2009
	CALOMBOLOCA HELIPORT Includes a landing and take-off runway, a parking apron for 2 helicopters, airfield ground lighting, maintenance hangar, staff facilities and supply facilities.	Detailed Design	Angola	ENE - Empresa Nacional de Electricidade, EP	2010
	SANA LUANDA ROYAL HOTEL HELIPORT	Basic Design and Detailed Design	Angola	SANAHOTELS	2010
	HELIPORT RUNWAY IN THE PORTALEGRE DISTRICT CENTRE OF RESCUE OPERATIONS	Preliminary Study and Detailed Design	Portugal	Portalegre City Hall	2010
	“HOTEL MADEIRA PALÁCIO” HELIPORT	Design	Portugal (Madeira)	LIGNUM - Investimentos Turísticos da Madeira, S.A.	2009
	“BALTAR / PAREDES” HELIPORT	Basic Design and Detailed Design	Portugal	Assoc. Humanitária dos Bombeiros V. de Baltar	2008
Project Review / Technical Assistance	HELIPORT MILITAR DO SOYO HELIPORT DO MORRO DA LUZ	Within the Technical Assistance to TECNOPROJECTO, UEE e ENEP, UEE, Angola.	Angola	TECNOPROJECTO, UEE e ENEP, UEE	1987
	RUBKONA AIRDROME	Preliminary Project Review	South Sudan	Swe.co	Em curso
	SANTA MARIA AIRPORT (Azores) Strengthening of apron's pavement, regravelling of the taxiway's pavement and connection to the platform	Preliminary Design, Detailed Design and Technical Assistance.	Portugal (Azores)	ANA - Aeroportos de Portugal, S.A.	2017
	FARO INTERNATIONAL AIRPORT Modification of the alignment of RETIL's take-off strips	Review of the Design	Portugal	ANA - Aeroportos de Portugal, S.A.	2013
General Characterization of Pavements	FARO INTERNATIONAL AIRPORT Approach Line to Taxiway 10 and Rehabilitation of former Platform	Review of the Detailed Design	Portugal	ANA - Aeroportos de Portugal, S.A.	2008
	JOÃO PAULO II AIRPORT, SANTA MARIA ISLAND AIRPORT AND FLORES ISLAND AIRPORT	General Characterization of Pavements	Portugal (Azores)	ANA - Aeroportos de Portugal, S.A.	2008



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