

SUSTAINABILITY

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 Catalogue
of products

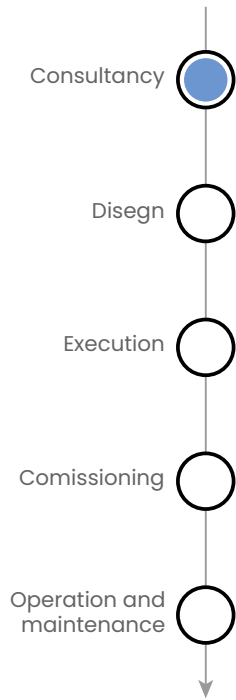
SUSTAINABLE MOBILITY

Discover
our
products

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1 Transport infrastructure planning and mobility solutions



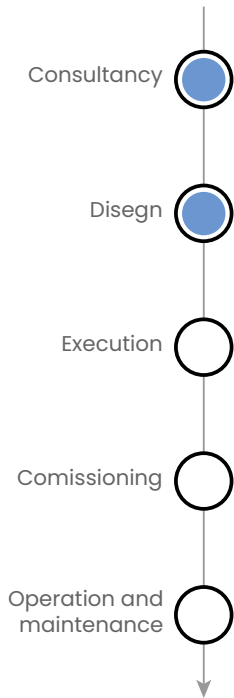
Within the planning of transport infrastructures and mobility solutions, we carry out **strategic infrastructure plans for all modes of transport and at a national level, as well as the most modern strategies and studies for sustainable mobility.**

Among them:

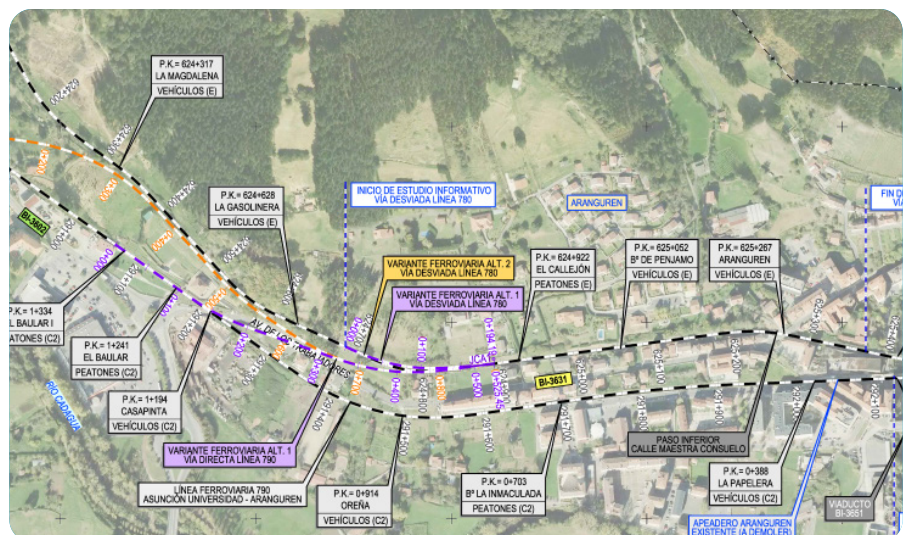
- Transport and Logistics Plans: we establish the definition frameworks to organise actions in the corresponding sector or as a whole. The programmes specify the time horizons for investment and prioritise the planned actions.
- Sustainable Urban Mobility Plan: we promote the most sustainable forms of travel (walking, cycling and public transport) within the municipal area.
- Water planning studies: we provide mechanisms to enable efficient and effective use of water resources and equitable access to water.
- Airport Master Plan: we define the long-term demand and determine infrastructure needs and the actions to be carried out for the development of the airport, in order to harmonise the airport with its surroundings, integrating the infrastructure into it.
- Obstacle Limiting Surface surveys, which detect obstacles that may pose a risk to aircraft operations at airports or radio installations.
- Port planning: development of the different infrastructures, services and operations necessary for the correct functioning of ports, maritime and/or river transport.



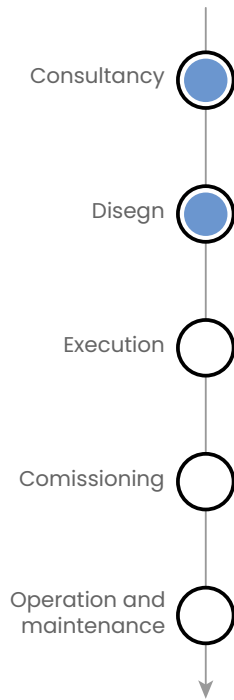
2 Informative, functional, intermodality, feasibility and pre-project studies



1. Information gathering (cartography, geotechnics, environment, supply and demand, etc).
2. Diagnosis of the problem: The initial situation is analysed and in different time horizons, detecting the shortcomings in the transport system. Simulations can be carried out to detect capacity saturation or inappropriate modal split.
3. Proposal and characterisation of alternatives.
4. Determination of the optimal alternative: by multi-criteria methodology, using functional, environmental, territorial and economic criteria.
5. Technical definition of the chosen alternative.
6. Economic viability.
7. The Informative Studies also include support activities for the Public Information processes and the resolution of allegations presented, until the Environmental Impact Statement is obtained and the study is finally approved.

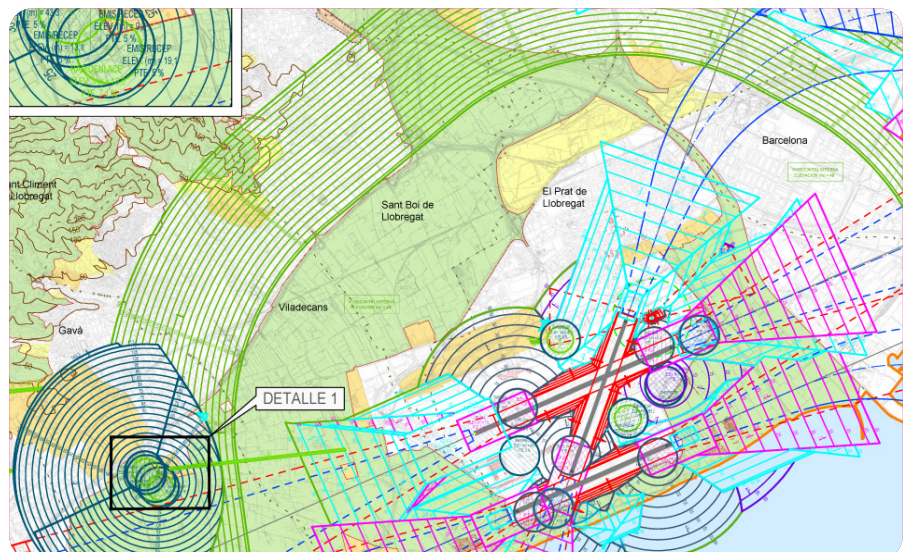


3 Spatial and urban planning



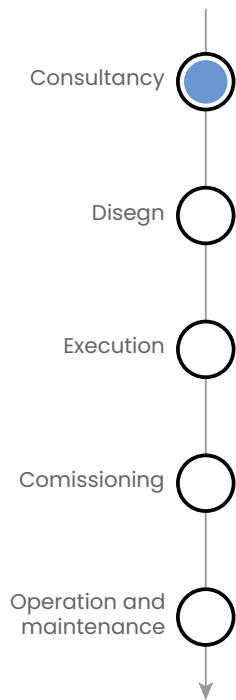
Promotion and boost of urban developments in their different phases and consideration of the associated work (legal advice, purchase/expropriation, support in dealing with the urban and environmental authority, preparation and processing of urbanisation projects, etc.).Among the main works, the following could be mentioned:

1. Drafting or modification of urban planning: special transport infrastructure plans, specific modifications of general plans associated with transport infrastructure and development plans.
2. Planning management: drafting of action plans.
3. Implementation of planning: drafting of urbanisation projects.
4. Urban planning consultancy: analysis and reports on land requirements for growth and sectorial affections, assessment and study of port and airport effects on urban planning, and preparation of various urban and territorial planning documents.



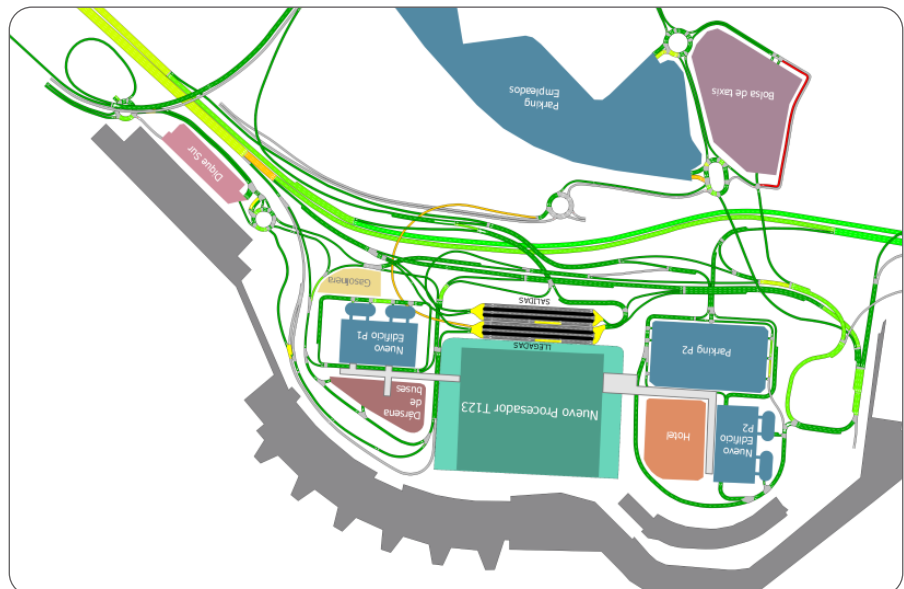
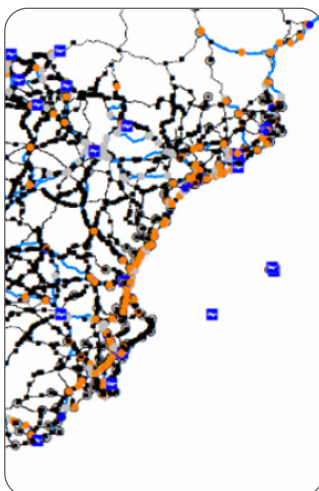
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Transport demand and supply modelling

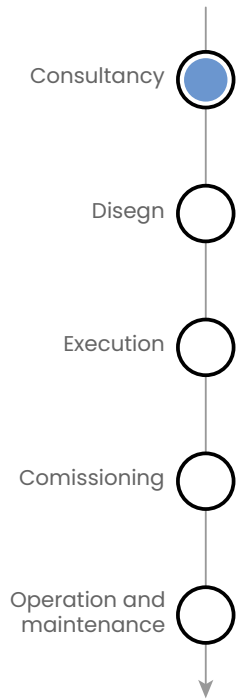


We assess the impact of changes in the transport network on travel demand and transport supply by analysing the extent to which existing or planned infrastructure is able to accommodate the estimated traffic.

1. Multimodal macroscopic studies.
2. Characterisation of transport supply: operation of rail infrastructure.
3. Accessibility study and traffic modelling.
4. Pedestrian modelling.



5 Strategic and corporate consulting



We offer a full or partial strategic refocusing and a complete strategic plan, including:

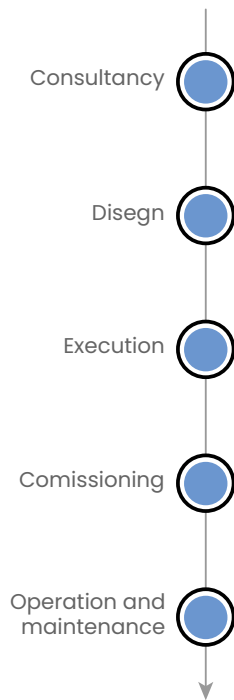
- Review of the company’s mission, vision and values.
- Diagnosis of the current situation (as-is analysis).
- Setting strategic objectives.
- Strategy development.
- Organisational restructuring.
- Definition of resources, investment, indicators, etc.
- Training and capacity building.
- Implementation planning and execution.

These changes may affect the business plan, international strategy plan, change management plan, digitalisation strategy, innovation strategy, re-engineering of operational or business processes and others.



6

Economic and legal consultancy



Aplicable a cuatro áreas de conocimiento principales:

1. Transport economics

- Advice on the definition, implementation and management of public policies and regulations applicable to the different modes of transport.
- Regulatory development of mechanisms to open up competition and private sector participation in regulated markets.
- Analysis of the contribution of the activity generated by a policy, programme of actions or action, in economic terms, on a given area of influence.
- Studies for the estimation of transport operating costs and definition of standard transport costs.
- Definition of pricing policies and appropriate pricing framework for infrastructure and services for different transport modes.
- Assistance to the competent bodies in the definition and establishment, management, review and control of subsidies and public aid for transport.
- Economic and social cost-benefit analyses (CBAs).

2. Economic and financial consultancy and modelling

Among them, we carry out the strategic design of management models and integration of concession contract structures as well as their design, advice and support, integration of the legal, technical and economic-financial structure, design of the management model and characterisation of stakeholders, analysis and mitigation of risks, and evaluation of investments and corporate operations.

3. Legal consultancy

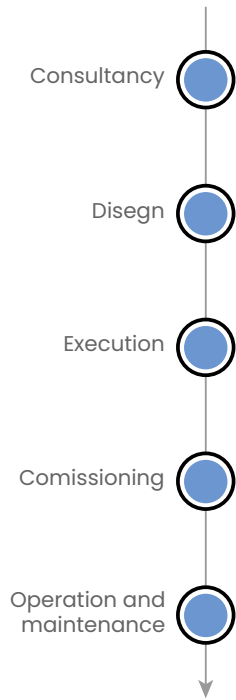
We provide the necessary legal advice to different clients at any stage of projects in the field of mobility and digital transformation. This includes the drafting of contracts, tender specifications, legal consultation reports, drafting of legal reports and analysis of regulations on various legal issues that have arisen in different projects. Also, technical assistance in the management of legal-administrative proceedings and files; support in tendering and public procurement processes for public sector entities, international arbitration processes and conflict resolution between parties, international contract management processes and the development of regulations.

4. Commercial and marketing studies

We analyse the commercial optimisation of infrastructures, defining through strategic plans the actions to be implemented in order to achieve the objectives set. This includes commercial and marketing studies for infrastructure, equipment and services. The studies or business plans incorporate the planning and design of the activities to be carried out, oriented both towards the work of new farms and the redesign of existing ones.



7 Environment, climate change and energy



1. Environment

We ensure a balance between the conservation of natural resources and the needs of socio-economic development, using the most advanced methodologies and techniques.

- Strategic Environmental Assessment.
- Environmental Impact Assessment.
- Environmental analysis to identify, prevent and interpret environmental impacts at an early stage.
- Environmental monitoring of projects.
- Assessment of ground and aeronautical noise pollution.
- Consultancy.
- Data analysis and development using Geographic Information Systems (GIS).
- Environmental management systems.
- Specific environmental studies: fauna, flora, impact on the Red Natura 2000, among others.

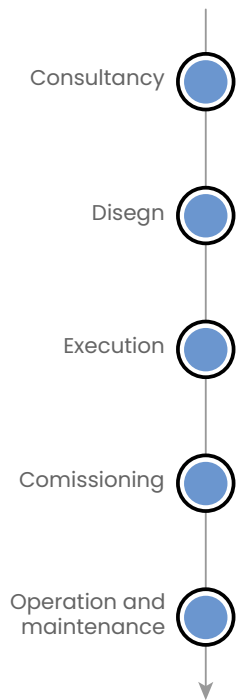
2. Climate Change

We seek new sustainable technologies to mitigate, adapt and quantify the impacts of human activity on climate effects.

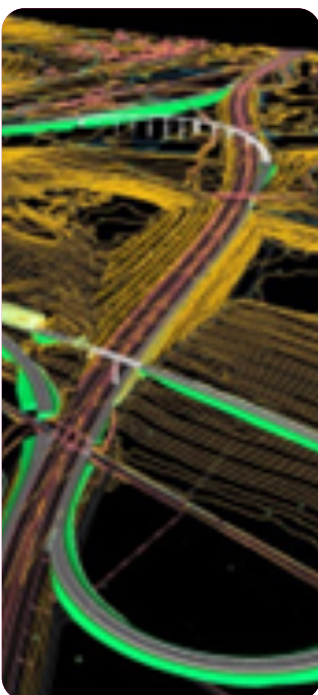
- Studies on the implementation of renewable energies and energy efficiency measures.
- Energy efficiency audits and energy certifications.
- Studies of air pollution and greenhouse gas emissions.
- Climate, sustainability, energy efficiency and resilience strategies and action plans.
- Emissions reporting and certification (CDP, ISO 14064).
- Emission absorption analysis.
- Climate change adaptation studies, and analysis of infrastructure resilience and climate water management.
- Climate change risk analysis.



8 BIM Strategy

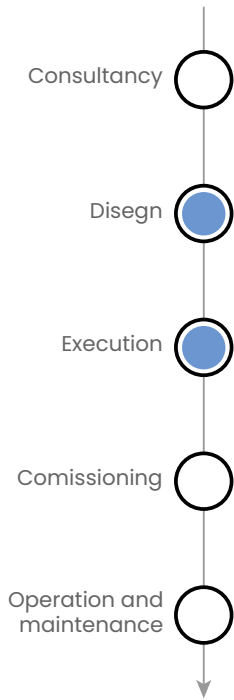


- **BIM audit.** BIM Model Verification Procedure, based on international standards (ISO 21500, ISO 16739, ISO 29481 and ISO 12006-3).
- **Digitalisation of infrastructures.** Creation of a digital model from plans or field data for the centralisation of all infrastructure, works or maintenance information.
- **BIM management.** Planning, implementation, maintenance and validation of the BIM methodology in a contract.
- **Provision of BIM services outsourced.** Advice, supervision, implementation, documentary control, coordination and management in the application of BIM methodology.
- **Constructive Simulation in BIM.** It allows the construction of an infrastructure to be virtually undertaken prior to its actual execution, identifying problems and facilitating decision-making,
- **BIM implementation.** We help companies implement BIM at a strategic level with a focus on people, process and technology. We rely on standardisation and automation of recurring tasks.
- **BIM training.** Implementation of BIM training programmes at strategic, production and support levels. We are an accredited training centre of Building Smart International.
- **BIM immersion rooms.** We advise on the implementation of BIM workrooms in which a BIM workspace with an immersive effect is proposed.
- **BIM virtual reality.** We develop virtual reality applications from BIM models.



9

Infrastructure projects: roads, airports and ports



ROADS

- Layout Project: part of the Construction Project that contains the geometric aspects, together with the definition of the assets and rights affected.
- Construction Project: develops the adopted solution with the degree of definition necessary for its correct execution.

Types of projects: New route, road duplication, upgrading, local improvements and specific actions.

AIRPORTS

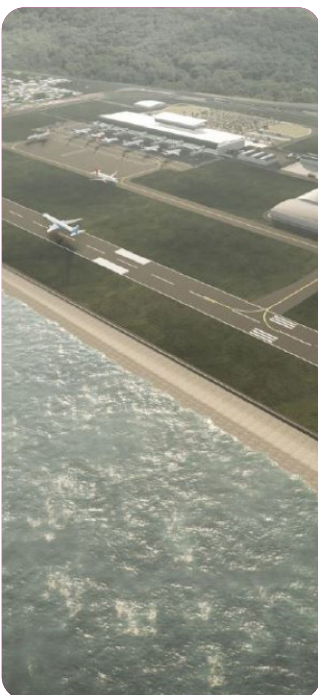
- Airport pavement resurfacing and rehabilitation projects: include the evaluation of the bearing capacity of the existing pavement based on the results of a geotechnical campaign. Using specific software, we determine the pavement rehabilitation actions so that the design fleet can operate for a standard period of 20 years.
- Airport movement area construction projects: runway design, aircraft parking aprons, taxiways and service roads. Fields that make it possible to define them are: geometric design, layout and geometric levelling and earthworks, drainage, pavements, horizontal and vertical signalling, operational safety, work development plan and site phasing.
- Renovation projects of meteorological installations in airports: assembly and installation of new meteorological equipment in aeronautical meteorological field stations (EMAs), new equipment in the airport meteorological office (EMAE) and new equipment in the Control Tower, new piping and design of the new communications network of the integrated meteorological system (SIM).

PORTS

We collaborate with Port Authorities by providing technical assistance services during the execution of works in all modes of transport, carrying out comprehensive actions. The need to adapt ports to market requirements and to the new dimensions of ships implies strategic actions to be developed.

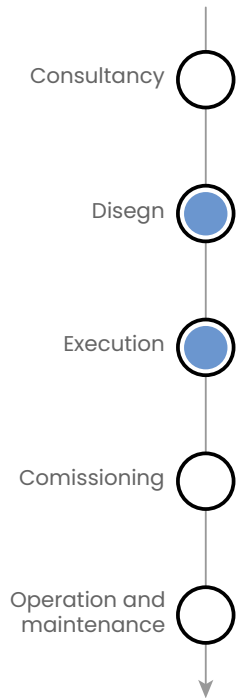
The main areas of action are:

- Ports: construction, reinforcement of foundations and paving of quays.
- Railways: Railway accesses and classification and loading/unloading yards, preparation of railway network inventories, advice on safety and interoperability certification and maintenance.
- Roads: Road accesses, internal road reorganisation, etc.
- Facilities: Video surveillance, access control and perimeter protection.



10

Rail infrastructure and track projects



1. Basic Project: serves as the starting document for the subsequent development of the Construction Project and to define the phases in which the works will be carried out.
2. Construction Project: drafting of a set of documents that define the works to be carried out.

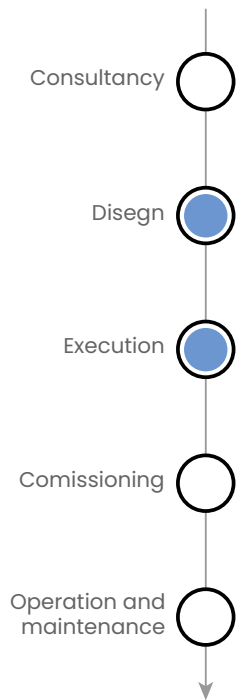
Rail projects may also include:

- Development of the railway infrastructure: construction of the railway platform, earthworks, structures, tunnels, subways...
- Track assembly.
- Track renewal: replacement of superstructure elements that are nearing the end of their useful life together with the new adjustment of the layout in plan and elevation.



11

Studies and projects CMS/ERTMS and telecommunications



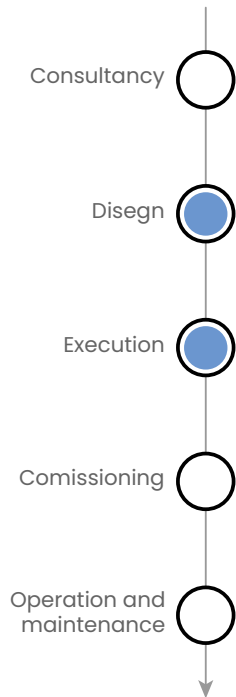
Drafting of technical documentation relating to the Control Command and Signalling System (CMS), including ERTMS, and telecommunications systems. The main tasks to be carried out are:

- Drafting of regulations and strategic plans.
- Preliminary studies, basic and construction projects of Signalling Systems, ATP/ERTMS Systems and Auxiliary Detection Systems.
- Preliminary studies, basic and construction projects for fixed and mobile telecommunications, video-surveillance, access control and anti-intrusion.
- Specific technical studies of the ERTMS system:
 - Technical documentation of client's requirements, tender documents, and testing and validation strategy.
 - Technical documentation for ERTMS compliance monitoring and monitoring of interoperability.
 - Specific technical studies on specific ERTMS functional issues, e.g., study of the impact of the evolution of ERTMS specifications on currently equipped networks.
 - Studies to analyse the impact of ERTMS on rail capacity.



12

Energy and LAC projects

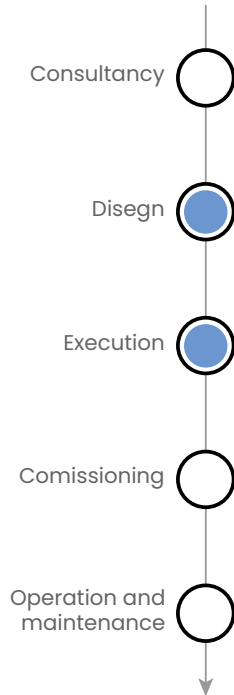


- Overhead Contact Line (OCL): consisting of the cables above the vehicles supplying power. It includes catenary, support elements, OCL equipment and protection, power supply and cut-off elements.
- HV lines, overhead or underground, of any voltage and configuration.
- Power supply to any type of installation, traction or non-traction, and voltage: substations and CTs, LV, MV and HV networks, etc.
- Power generation from photovoltaic panels.
- Measurement of electrical energy.
- Traction substations, DC and AC (with traction transformers or SFCs).
- Sizing studies for new railway electrification.
- Power or capacity studies.
- Energy remote control: equipment that allows the collection of information from the electrification equipment, together with the equipment that receives this information.



13

Building projects and facilities



1. Multimodal transport terminals, rail, airport, port

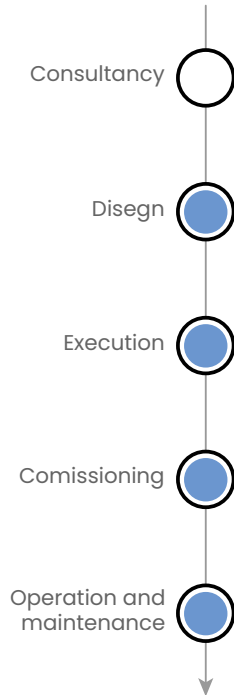
- In the airport area we include the airfield with its buildings such as control towers.
- In the railway sector, platforms, canopies, subways and overpasses, assembly and maintenance bases, emergency platforms, traffic control centres, office buildings, workshops, storage buildings.

2. Projects for ministries or public bodies

- Railway building: Functional design, preliminary design, construction project.
- Airport construction: Drafting of the construction project.
- Non-railway and non-airport buildings: from new construction to refurbishment, renovation and redeployment.
- Projects for the legalisation and adaptation of installations to current regulations.
- Smart Station. Technological transformation of stations
- Interoperability and accessibility.
- Wayfinding Strategy and User Experience: Process design, spatial planning and architecture.
- Control Centre Buildings.



14 Studies and Special Projects



1. **Ventilation studies:** Determine the need to design a ventilation system in tunnels to ensure evacuation in the event of an incident.
 - Geotechnical studies: execution, monitoring and supervision of geological-geotechnical campaigns.
 - Geological-geotechnical study: study to provide the necessary data on the interference between the projected work and the ground.

2. **Tunnel studies:** tunnel geotechnical works, definition of free section, support and lining calculations, design of emergency galleries, risk analysis, subsidence analysis, auscultation design, study of safety measures.

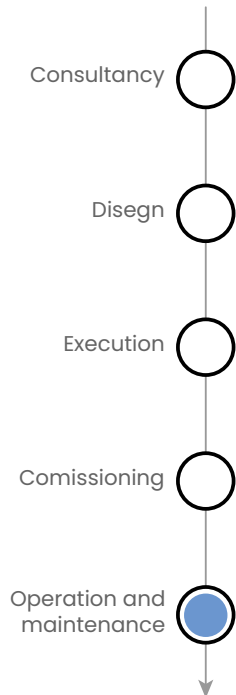
3. **Tunnel aerodynamics studies:** analysis of the pressure differences experienced by passengers when passing and/or crossing trains inside a tunnel.

4. **Structural studies:** Design and calculation of the structures required for the implementation of the layout of a civil work or building of any type. Earthworks design: solutions to the problems of interaction of an infrastructure with the environment by means of earthworks.



15

Assessment, inspection and design of existing infrastructure structures



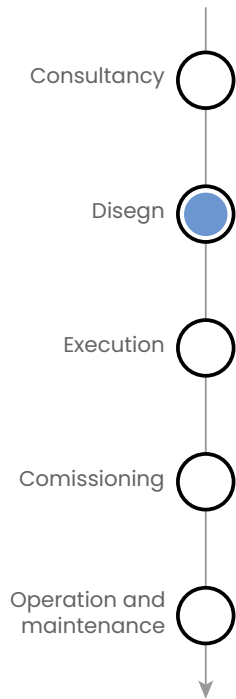
We undertake the evaluation, inspection and design of existing infrastructure structures by reviewing the existing documentation on the structure, inspecting the elements of the asset, taking samples for the analysis of the quality of the materials or the ground, laboratory tests on these samples, structural analysis through calculation and load tests, among others.

Regular inspections are: inventories, basic inspections, main inspections and special inspections.

Since 2015, we have been regularly using drones for the inspection of structures, and in particular bridges and viaducts, allowing us to obtain accurate data from critical points that were previously difficult to access and to detect structural failures in buildings and constructions more efficiently.



16 Project monitoring



A set of reviews of the documents that are generated in the development of a project, from the preliminary documents to the final result of a construction project. The final product is the monitoring report for each of the different phases, which analyses the fulfilment of the project objectives under review.

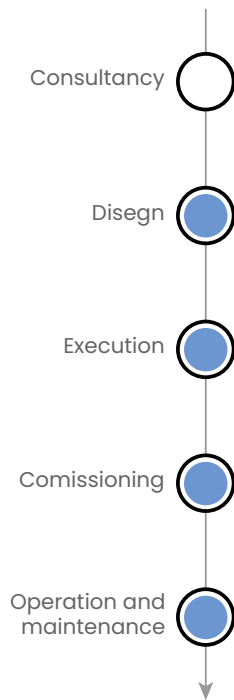
We develop our own procedure defining the systematic way of carrying out the supervision of construction projects prepared by other design consultants. The procedure is based on the verification of:

- Formal aspects of the document: format and presentation of the project.
- Internal coherence of the project.
- Technical content of the project.



17

Project Management Office (PMO)



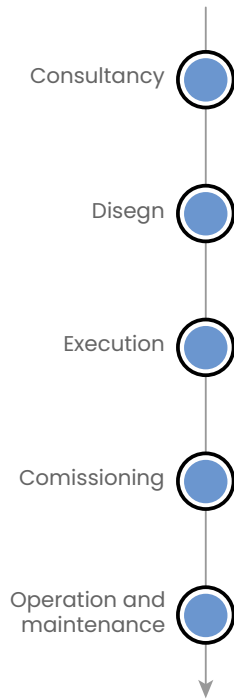
The objective of a Project Management Office (PMO) is the comprehensive management and direction of a transport project, consisting of several construction projects in accordance with the country's current legislation. **We advise the Client and the Project Managers**, by means of a work team that carries out the tasks of:

- Management of high-level communications between senior management (client) and site managers.
- Management of interactions, interferences, gaps and overlaps between the different areas of the projects under its responsibility.
- Review of the scope of the different contracts included in its portfolio or programme of projects.
- You will be able to incorporate the scope of Construction Management services.
- Determination and definition of control methodologies for the programming of the works, monitoring of compliance with milestones.
- Overall budget control (certifications, new prices, etc.).
- Overall management supervision and quality control.
- Standardisation of document management and communications.
- Administration of contracts with the client, partners and sub-contractors. Monitoring and validation of the integrated process and changes.
- Standardisation and analysis of risk management.
- Procurement management.
- Monitoring of health and safety requirements.
- Monitoring of environmental management.
- Overall financial management of contracts.
- Complaints management. Advice on conflict resolution.
- Identification and presentation of Lessons Learned.
- Evaluation of final client's satisfaction.



18

Track technology and supplies

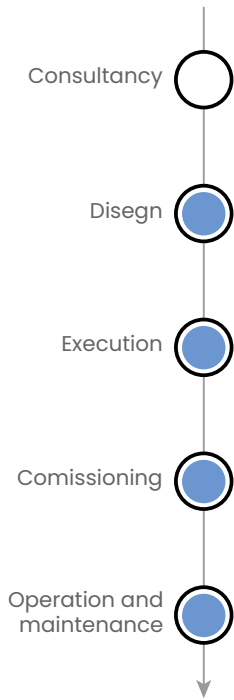


- LAV Maintenance Plan (Infrastructure and Track): Description of the technical and functional conditions to be carried out in the maintenance work in order to keep all equipment in perfect working order, guaranteeing the requirements of safety, reliability and availability.
- Interoperability studies: inventories of the railway infrastructure on a line are drawn up and developed, verifying and certifying that they comply with the TSIs.
- Single studies: specific solutions are provided to problems posed by the customer in various areas of the track superstructure subsystem.
- Drafting or updating of railway regulations or technical documentation for the design, assembly and maintenance of superstructure.
- Drafting of TS of the track's materials.
- Superstructure instrumentation: Implementation and monitoring study of track superstructure, for the characterisation of its behaviour and subsequent development of solutions.
- Calculation of buffer stops.
- Track inspections and auscultations.
- Gauge Studies.
- Noise and vibration studies.
- Technical assistance for the control of supplies and quality of railway track superstructure materials.



19

Commissioning of aeronautical infrastructures and systems

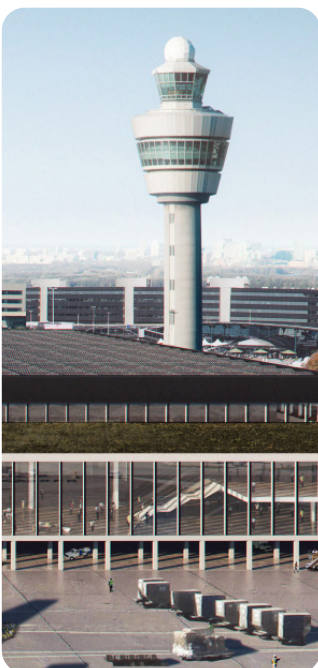


Airport infrastructures include those on the landside (mainly terminal area) and those on the airside. Air navigation systems include the different types of **ground-based aeronautical communications, navigation** (conventional radio aids), **aeronautical surveillance and air traffic control and management system (CNS-ATM systems)**, as well as **satellite systems** (GNSS and SBAS) used for positioning and navigation, orbiting in outer space around the Earth. (CNS-ATM systems), as well as satellite systems (GNSS and SBAS) used for positioning and navigation, orbiting in outer space around the Earth, used in aviation.

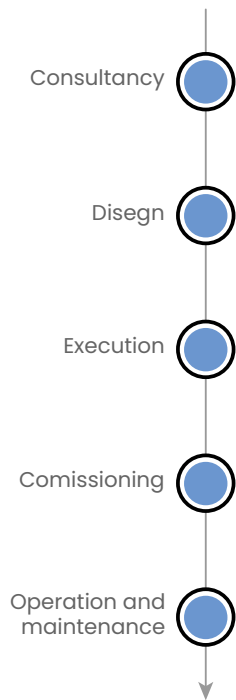
We guarantee that, on the day a new infrastructure is put into operation, all the necessary equipment, systems and procedures work correctly and the human resources required for its correct operation and maintenance are contracted and suitably trained to carry out their function, which is known as ORAT (Operational Readiness, Activation and Transfer).

For **CNS-ATM systems**, we include performance studies, determination of functional needs, requirements specification, testing and operational transition of these systems.

We also consider work related to landfills for drone operation, either in drone-only space or in coexistence with manned air traffic.



20 Gauge switching tracks



We offer a comprehensive product that covers the entire life cycle: consultancy, design, execution (technical assistance and support to the D.O; qualitative and quantitative control of the materials used in the execution of the work; control of Measurements to carry out the Work Certification; Geometric Control of the execution of the Work), commissioning and interoperability; modified projects, operation, maintenance and manoeuvrability.

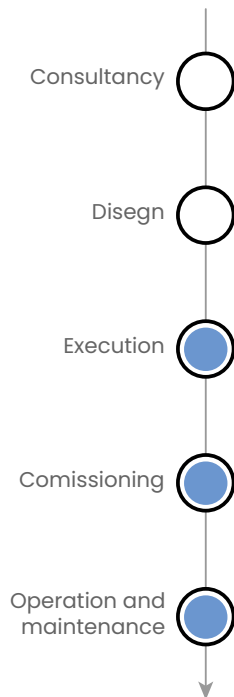
We have a **team of experts** who are in charge of carrying out:

- Technical Assistance, Supervision and manoeuvrability of all types of width changer 24/7.
- Commissioning of the new gauge changeover facilities.
- Elaboration and execution of maintenance plans adapted to each typology.
- Implementation and monitoring of maintenance by CMMS.
- Carrying out corrections, improvements and upgrades
- Legionella treatment and control.
- Daily control of train crossings, taking into account possible incidents.
- Warehouse management for each installation.
- Management of waste generated with the operation of the installations and maintenance tasks.



21

Traffic control

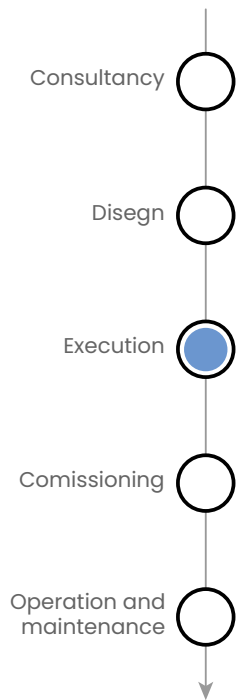


- Application of the regulation in force in the defined area, and its revision by means of notices of circulation and supplementary documents.
- Traffic regulation and management in the “danger zone for the works”.
- Control and supervision of driving personnel and personnel in ground operations occupying the “danger zone for the work”.
- Informative studies related to railway traffic or operation processes to be determined by Adif - Alta Velocidad for the area affected.
- Command operation from PLO, CTC or CRC interlocks.
- To perform the role of Operational Test Manager and editing of the corresponding Test Consignments.
- Training and information on the regulations applicable for the purposes of approval and control of the personnel involved in the circulation processes.
- Supervision of mechanical operations on final turnouts.
- Identification of needs and management of safety flanges, derail chocks and signalling regulated by the regulations in force.
- Management, support and accompaniment work, with traffic staff, for the transfer of material and manoeuvres Adif - Alta Velocidad.
- Management, control and monitoring of security installations.
- General control of turnout locking devices, derail chocks and signalling in the NOTT.
- Development and presentation of singular studies related to the processes of circulation, conditioning of loads for transfers to works, handling of facilities at the discretion of Adif - Alta Velocidad.
- Accompaniments and transfers of trains between different construction areas; movements of material within a maintenance base.
- Training and information actions on NAV 5-2-0.1 “Regulations for the Operation of Trains and Works in the Construction Phase”.
- Two days of training, theoretical-practical examination, documentation and all the necessary means for the issuing of the qualification, except for the transfer of premises, which will be provided by Adif-Alta Velocidad.
- Support to ADIF-Alta Velocidad and Adif in the management of rolling stock.
- Technical assistance for the control and monitoring of traction resources, including economic and regulatory monitoring.
- Technical advice on safety and capacity issues to the different parties responsible for the execution of the works, through constant dialogue with the different Line Managers.
- Technical and logistical support in the service contracts prior to the operation of the sections, in accordance with the instructions of the person in charge.



22

Technical assistance and monitoring of road infrastructure works



Our objectives include: roads (earthworks, road surfaces, viaducts, tunnels), airports (works in the movement area, works in the passenger terminal, works in the power station, works in the car park and urbanisation) and ports (construction, reinforcement of foundations and paving of quays, railway accesses and marshalling yards or for loading/unloading; advice on safety and interoperability certification; maintenance; road accesses and internal road redevelopment).

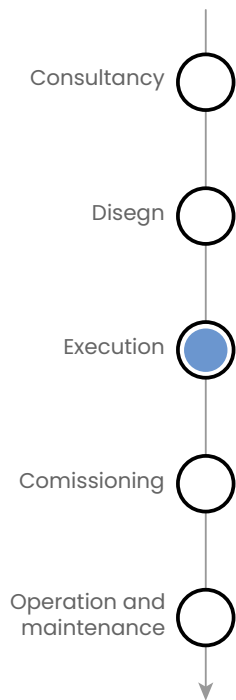
The activities involved in carrying out **Technical Assistance** consist of the following:

- Project Review.
- Implementation and revision of the A.T. and Construction Quality Plans.
- Qualitative control (quality of the work).
- Quantitative and measurement control.
- Budgetary control.
- Geometric control.
- Control of the programming of the work.
- Monitoring of health and safety and environmental requirements.
- Monitoring of Operational Safety requirements (airport works)
- Technical Office.
- Management tasks (quality, purchasing, travel, economic-financial, client relations).



23

Technical assistance and monitoring of railway infrastructure and track works



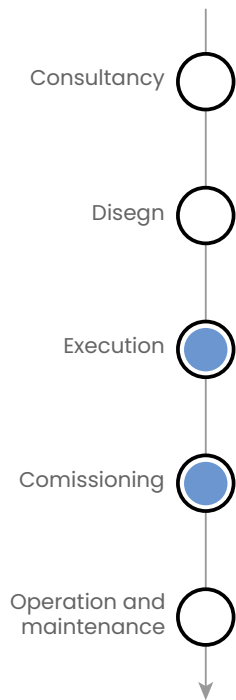
Supervision and control of the correct execution of works on high-speed lines, conventional network, metro and tramways. **Activities of technical assistance and control of railway infrastructure works and track assembly:**

- Project review.
- Document verifying readiness.
- Realisation and revision of the technical and construction assistance quality plan.
- Qualitative and geometrical control of the execution (quality of the work).
- Quantitative control of the execution: verification of measurements, conformity of valued reports, economic and budgetary progress of the work.
- Programming control (technical progress).
- Technical office (revision and control of plans, supervision of technical solutions, control of technical documentation, collection of evidence).
- Monitoring of health and safety and environmental requirements
- Preparation of monitoring and control reports, periodical and/or specific reports.
- Elaboration of modified, liquidation and as-built projects.
- Preparation of the documentation required for the completion of the works and commissioning.
- Management tasks (quality, purchasing, travel, economics, client relations).



24

Technical assistance and control of CMS and telecommunication works



Actions to ensure the correct execution of the installations of Signalling and ERTMS Train Protection Systems, CTC/CRC control and operation posts, Auxiliary Detection Systems, Fixed and Mobile Telecommunications, Video Surveillance Systems, Access Control and Anti-intrusion, Passenger Information Systems.

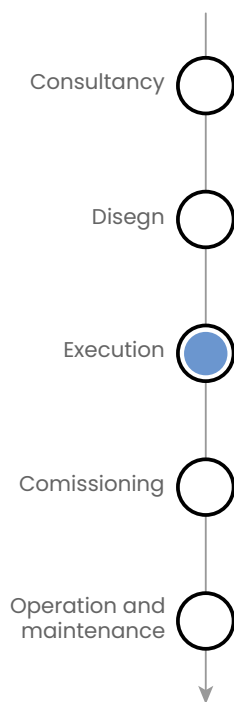
The **main tasks** to be carried out are:

- Analysis, study and review of both the construction project and the bid of the successful bidder for the works.
- Act of verification of the works.
- Drafting and updating of the TA Work Supervision and Control Plan.
- Qualitative and geometric control of the actions, through tests on materials, equipment and installations.
- Control of the programming of the work.
- Quantitative and budgetary control.
- Collaboration for the maintenance of Health and Safety and Environmental Monitoring conditions.
- Editing of reports associated with monitoring and control, periodic/specific reports. Documentary management, archiving and registration of the documentation associated with TA.
- Review of the Project and/or As Built Documentation and completion of the works and their commissioning, handover to maintenance and termination of the contract.



25

Technical assistance for quality control, site management, maintenance and operation of energy supply and LAC works.



Assistance to the quality of Works (AQW) and Works Management (WM), maintenance of installations in service, and operation of installations in service.

The objective of the **AQWs and WMs** is to control the execution of the railway electrification works and the permanent monitoring of the different stages of the work to ensure its correct construction:

- Compilation of technical documentation of the platform, viaducts, tunnels, track and turnouts or escapes.
- Review/analysis of the construction project and the staking out notebooks drawn up by the contractor.
- Compilation of topographical information necessary to start the electrification works by carrying out the necessary verifications
- Follow-up of implementation control through the Inspection Point Programmes "IPP".
- Time control and economic monitoring of all phases of the construction project.
- Active presence in the tests necessary for the energisation of the line and in the validations for the commissioning of the line
- Preparation of monthly monitoring reports.
- On completion of assembly, compilation and preparation of the documentation required for commissioning and handover to maintenance.

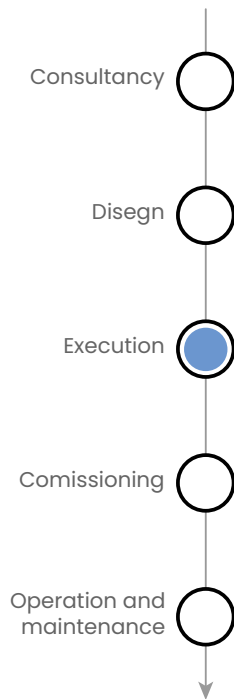
The aim of **maintenance services** is to ensure an optimal level of service and always accompanied by the lowest possible risk. We do:

- Review the design and development of the different maintenance procedures.
- Supervise or carry out maintenance, repair and overhaul work on equipment and installations.
- Lead the development of preventive or scheduled maintenance programmes.
- Supervise the qualification and level of training of maintenance personnel.
- Advise on the purchase of new equipment/spare parts.
- Oversee new orders for spare parts, tools and supplies.
- Control and secure an inventory of spare parts and supplies.



26

Project management, technical assistance and building works monitoring



We define the essential tasks and activities carried out by the Optional Management of Building Works, its components: Site Manager, Site Execution Manager, Health and Safety Coordinator, and other technicians.

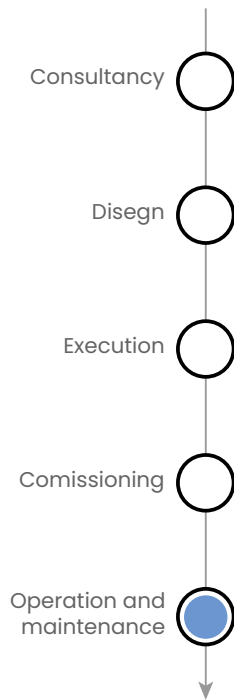
The activities involved in the performance of an Optional Management consist of:

- Scope management. Project review and analysis.
- Interpretation of the technical aspects of the project and those relating to its implementation,
- Cost management. Economic control of the work. Compliance with annual instalments, economic deviations, settlement of the work, etc.
- Time management. Request and approval of the Work Programme, analysis of the programming and planning of the different activities and work units.
- Quality management. Quality control of materials and analysis of the results of tests and trials.
- Environmental management. Monitoring and approval of the Environmental Action Programme and Waste Management Plan.
- Health and safety management. Developing and coordinating health and safety work, analysis, approval and monitoring of the Health and Safety Plan.
- Documentary management. Drafting of the building book, As-Built plans and final construction documentation. Energy certification.



27

Monitoring and control of the maintenance and conservation of linear infrastructures



The workings of this product can be divided into two:

1. **Standardisation of built projects.** They are the source for the creation of the database to be used in the management of maintenance.
2. **Maintenance and conservation of linear infrastructures:** We provide technical assistance services to various Road Demarcations as peripheral bodies of the General Directorate of Roads of the MITMA.

The scope of these services is broad and flexible, adapting to the needs of the client: support in the monitoring of the integral conservation of the conservation sectors into which the Road Demarcations are divided, support in the processing of expropriations, authorisations, complaints and patrimonial responsibility, support in the inspection of toll motorways; support in the drafting of sectorial reports and the drafting of conservation projects.

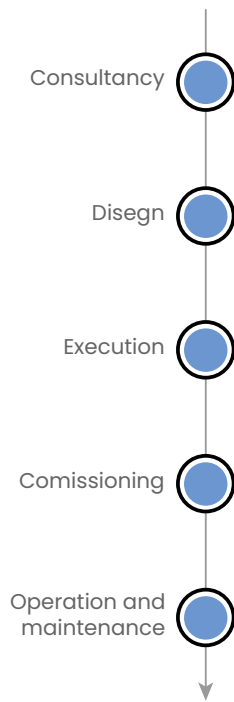


In **High Speed and Conventional High-Performance Network** lines, the monitoring of maintenance work is aimed at knowing the state of the assets, studying and analysing their evolution, detecting conflictive points, planning the intervention and corroborating the goodness of the results.



28

Operational security and RAM



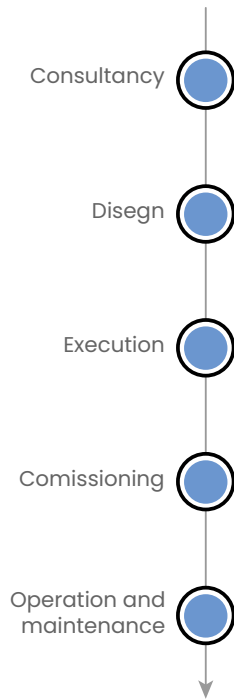
We guarantee the security of operations and changes to the system.

- In **rail and air navigation**, safety studies are carried out when a new component/equipment/system is developed, or when a change to the system is introduced. Security analyses and studies aim to identify threats or risks for management, monitoring and mitigation.
- **Independent Safety Assessments** (ISA or AsBo) in the railway environment analyse the regulatory adequacy of developed/modified systems. Ineco is accredited by ENAC for its performance in all Railway Subsystems.
- **Operational safety** is relevant to drone operation. This activity requires the development of methodologies for assessing the risk of collision with obstacles and other aircraft. In particular, for those operations that are unusual, in urban environments or beyond the pilot’s line of sight.
- In **airport** matters, in accordance with ICAO regulations, an airport certificate is required to be able to operate. As part of this certification, safety studies are required to ensure regulatory compliance and the impact of physical and operational changes.
- At **road safety**, we have technicians accredited as road safety auditors with experience in carrying out road safety audits and reports and in the supervision and analysis of audits carried out by external companies.
- **RAM Studies** pursue three different objectives: In the system specification phase, to set Reliability, Availability and Maintainability objectives; in a design phase, they are a valuable source of information for decision making; and at the end of the design, to determine the value of the RAM parameters achieved.



29

Physical safety (rail, aviation, road and port security)



The security project consists of the detailed definition of the installations, as well as the equipment necessary to adapt the infrastructures to the security standards set by the regulations. They include the solution and detailed definition of: security installations and the definition and design of security and baggage screening controls, and the determination of the necessary equipment.

In relation to **critical infrastructure protection**, we developed:

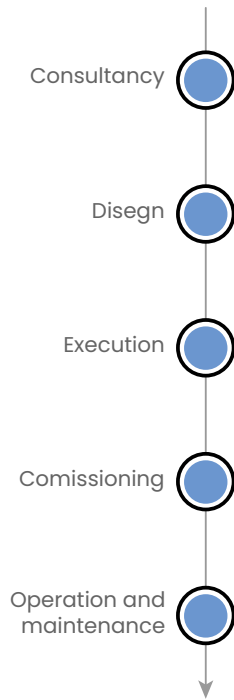
- Operator Security Plans: strategic documents of Critical Operators to ensure the security of the entire facility.
- Specific Protection Plans: operational documents detailing the specific measures adopted to guarantee the physical security of each of the critical infrastructures.

These documents have to be validated by the CNPIC (National Centre for Critical Infrastructure Protection).



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Rolling stock



The Rolling Stock (RS) product encompasses various activities covering the entire life cycle of a procurement process. They can be summarised as follows:

1. Technical assistance in RS procurement processes.

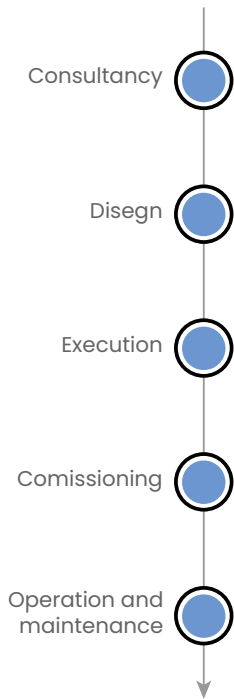
The objective is to support the railway operators in the procurement process by assisting in the preliminary analysis of the technical requirements of the RS, in the preparation of the tender documents and in the technical evaluation process of the bids.

2. Technical Assistance to the supervision and validation of the design, manufacture and commissioning of RS. Its main activities are as follows:

- Design Review: includes the definition of the project document approval list and the review/analysis of train design documentation.
- Design Validation: consists of the review/analysis of test and trial protocols.
- Manufacturing and validation testing: comprises the assurance/control of the manufacturing process, First Article Inspection (FAI's) and assistance to serial testing at origin and at the factory and on the track.
- Validation/reception of RS units.
- Participation of a multidisciplinary team with extensive knowledge of the different systems that make up the Rolling Stock.



31 Structuring, organisation and design of airspace



AIRSPACE DESIGN AND FLIGHT PROCEDURES

The process of defining the dimensions and characteristics of airspace, flight paths and the information required to fly those flight paths, which have been determined to be necessary to meet specific airspace requirements.

We are a company certified by the Spanish Aviation Safety Agency (AESA) as a provider of airspace design and flight procedure services.

PERFORMANCE OF AERONAUTICAL COMMUNICATIONS, NAVIGATION AND SURVEILLANCE SYSTEMS (CNS)

Radio simulation studies are used to assess the possible impact that certain obstacles may have on the operation of CNS systems. On the other hand, CNS coverage studies are carried out to ensure the proper functioning and adequate signal reception of all CNS systems supporting aircraft operations in the airspace under consideration.

MANAGEMENT AND OPTIMISATION OF DESIGNED AIRSPACE USE

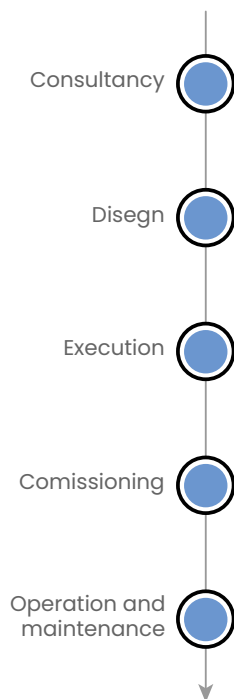
To ensure the feasibility of air traffic management, the following studies are carried out:

- **Capacity studies:** Consists of an operational analysis of the control sector (ATC) in which indicators are provided, including ATC workload and calculated capacity and runway capacity values in the case of airside airport operations.
- **Operational validation of ATM scenarios:** Aims to demonstrate qualitatively and/or quantitatively that the implementation of a defined ATM operational change will deliver the expected benefits.



32

Managements and specialised technical services outsourced to the client

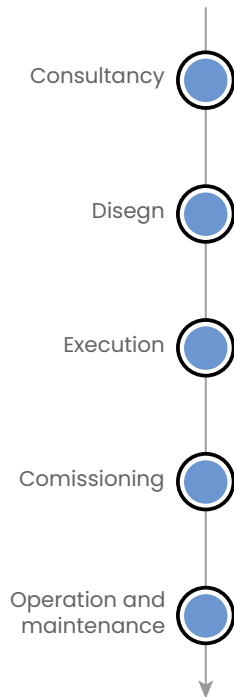


- **DAO (Enviormental Works Managemet):** we ensure the correct execution of the Environmental Monitoring Programme (EMP), the issuing of Technical Reports according to the environmental requirements of the work and compliance with the DNSH principle. It includes the Cultural and Archaeological Heritage Advisory Service.
- **DO (Works Management):** we ensure the correct development of the technical, aesthetic, economic and environmental aspects of the project. It includes project analysis, obtaining licences and permits, validation of certification, compliance with regulations and approval of the reception of the work.
- **DC (Contract Management):** we ensure the correct development of the execution of the Works, Supply or Services Contract.
- **DP (Project Management):** technical and economic monitoring of high-speed platform projects and the elimination of crossings between platforms, preparation of documentation for the press and graphic documentation, evaluation of global actions as Project Manager and support in the tendering of contracts.
- **SyS (Health and Safety):** we apply the general principles of prevention and safety, coordination of business activities, approval of the Health and Safety Plan and adoption of the necessary measures to establish permits for access to the site.
- **Risks-Interoperability:** we apply the Common Security Method (CSM), Interoperability and Commissioning of a System Change. Interoperability compliance will be supported in the design, construction and commissioning phase.



33

Technical support to management outsourced to the client



Monitoring of files, Real Estate Asset Management, Delineation, Topography, and consultancy and technical support tasks such as advice, follow-up, revision, updating, management and document processing.

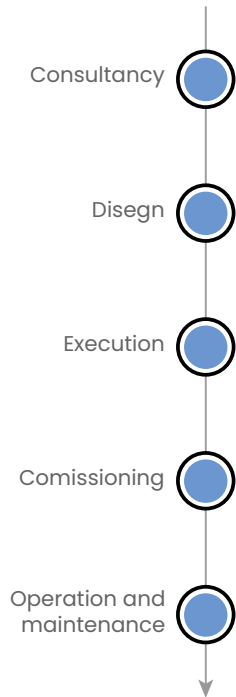
For the development of this work, the client establishes the scope of the services to be performed and the team that will carry them out, defining the number of people, qualifications, experience, time and dedication, applying the rates of the existing agreements for their economic valuation.

The technical coordinator will be the interlocutor with the client and will be responsible for the management of the resources within the project, distributing the work among the personnel responsible for the execution of the project, the person in charge of supervising the correct performance of the personnel assigned to the contract, and the person responsible for organising the holiday regime of the work team.



34

Administrative support outsourced to the client



Support tasks in the administrative management of contracts, tenders, projects, works or in operation and maintenance services. As well as administrative tasks in support of a client team, including secretarial tasks.

Mainly management, archiving and digitalisation of documentation and administrative management tasks in the processing of files, e.g., procurement, invoicing, complaints, etc., from the receipt or downloading of documentation, its coding and archiving, to its resolution.

