Test Facility Engineering
We are a multi-sector engineering group that renders planning, design, construction and operational services in the transportation, building, automotive, energy and environment industries. We have a portfolio of projects developed in more than 20 countries during the last 30 years.

As a group that is committed to progress, we are interested in contributing to the improvement of the countries where we operate. Our philosophy is based on the fact that design and construction are inseparable, and that the application of a deep knowledge of each of them is fundamental to the success of any project.
GPO offers engineering and architecture services during all the developing stages of a project: planning, design, construction and operation.

Both the national and international growth of the company, together with the change in our clients’ needs, which widens every day, has led us to broaden the reach of our services and meet new challenges. As a result, we have classified our activity areas into five markets: Transportation, Building, Automotive, Energy and Water.

Each sector has its own strategies and objectives, although all of them are interrelated to offer a comprehensive service which allows working in all disciplines and geographical areas and provides exceptional solutions to complex problems. We optimize investments, while making our public and private clients’ investment processes as efficient as possible.
## Project Stages

### Planning
- Technical Audits
- Due Diligence
- Feasibility Studies
- Risk Management
- Strategic Planning
- Programme Management
- Consultant Selection
- Cost Management
- Planning Management

### Design
- Preliminary Design
- Detailed Design Audits

### Construction
- Construction Management (GIC)
- Project Monitoring
- Quality Control
- Risk Management
- Commissioning
- Management Control
- Availability Concession Control
- Delivery and Guarantee Period

### Operation
- Facilities Management
- Operation Stage
- Inspection & Control
- Preservation
- Technical Reports

## Services for each Stage of the Project

### Planning
- Feasibility Studies
- Territorial Plans
- Functional Studies
- Environmental Impact Assessment
- Operational Studies
- Conceptual Designs
- Strategic Planning
- Transportation System Planning
- Urban Planning
- Needs Assessment and Traffic Studies
- Feasibility and Profitability
- Technical, Environmental and Energy Audits
- Geological - Geotechnical - Environmental Studies
- Land Acquisition & Resettlement

### Design
- Procurement & Tendering
- ToR Drafting
- License Management

### Construction
- Technical Assistance
- As-built Projects
- Construction Management
- Works Supervision
- Health and Safety Coordination
- Environmental Management
- Project Monitoring
- Private Consulting
- Institutional Consulting
- Analysis of Regulations
- Concession System
- Concession Contests

### Operation
- Audits
- Infrastructure Management
- Maintenance

### Project Stages
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- Transportation System Planning
- Urban Planning
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- Maintenance

## Services
GPO’s Test Facility Engineering (TFE) Department is specialized in offering engineering and project management services for test facility design and construction in the automotive and motorcycle industry, large engines, official certification centers and universities.

Our services include: master planning, feasibility studies, technical audits, benchmarking, detailed design, bidding process, construction supervision and project management, among others. We design engine and vehicle test benches, NVH and EMC chambers, fatigue & safety tests rings, e-motor and battery test beds, etc.
Engineering and project management services for the design and construction of testing facilities of:

- Combustion engines (automotive, gen-sets and marine applications)
- Electric motors and hybrid powertrains
- Conventional and special vehicles
- Transmissions and powerpacks
- Components and systems

SERVICES

R&D + Quality Control + End of Line + Certification

- Concept Studies
- Technical Audits
- Benchmarking
- Feasibility and Financial Studies
- Master Plan
- Preliminary and Detailed Design
- Executive Project
- Procurement Services
- Licences and Permits
- Project Management on site
- Technical Assistance during the construction
Projects of Special Laboratories & Proving Grounds
Methodology

The methodology used by TFE Department in GPO fits the needs of our clients at every stage of the test facility creation process and then delivers the value and proven experience taken from the concept and design of the facility until the implementation takes place.

1. Concept
2. Preliminary Design
3. Definitive Design
4. Executive Design
5. Procurement
6. Start-up
7. Follow-through
8. Close-out

Consultancy
Basic Engineering
Advance Engineering
Technical Support
Project Management
Site Management

TFE Related Services
Proving Grounds

**Rae Bareilly**
Kanpur, India

- Service: Preliminary Design and Detailed Design
- Customer / Main Contractor: IDIADA Automotive Technology
- Final User: NATRIP*, Government of India

**Manesar**
Delhi, India

- Service: Preliminary Design and Detailed Design
- Customer / Main Contractor: IDIADA Automotive Technology
- Final User: NATRIP*, Government of India

*NATRIP: National Automotive Testing and R&D Infrastructure Project*
Chennai, India

Service: Preliminary Design and Detailed Design
Customer / Main Contractor: IDIADA Automotive Technology
Final User: NATRIP, Government of India

Pune, India

Service: Preliminary Design and Detailed Design
Customer / Main Contractor: IDIADA Automotive Technology
Final User: NATRIP, Government of India

Silchar, Dholchora,

Service: Preliminary Design and Detailed Design
Customer / Main Contractor: IDIADA Automotive Technology
Final User: NATRIP, Government of India

Indore, India

Service: Preliminary Design and Detailed Design
Customer / Main Contractor: IDIADA Automotive Technology
Final User: NATRIP, Government of India
Automobile Design Center
Chongqing, China
Service: Architecture Design for a tender
Customer / Main Contractor: Chongqing Changan Automobile CO, Ltd.

Automobile R&D Technical Center
Chongqing, China
GPO in consortium with IDIADA and AVL submitted a Master Plan of the new technical center for research and development of the automobile company CHANGAN. The technical proposed center occupies over 60 hectares, including laboratories, offices areas, common areas and space for test tracks. With a unique architectural concept, inspired by a crankshaft, GPO designed the nearly 320,000 m² of built up area, comprising the complex and including all the facilities required by CHANGAN.

Service: Master Plan for a tender
Customer / Main Contractor: Chongqing Changan Automobile CO, Ltd.

Automobile R&D Technical Center
Chongqing, China
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Service: Master Plan for a tender
Customer / Main Contractor: Chongqing Changan Automobile CO, Ltd.
GPO was hired by IDIADA to develop the engineering of a test track center specifically for the testing of engines at very low temperatures (over ice and treated snow). This center is located north of the Republic of China, in an area where temperatures don’t exceed -30 degrees at least three months out of the year. The center consists of an area of tracks on permanent soil, for testing ground handling, braking, ramps, off-road, and urban driving simulations, an area of tracks over ice in artificial lakes, and over 5,000 sq. m. of attached buildings.
GPO has specialized in engineering and project management services for the design and construction of Automobile Test Centers in different countries. These technical centers and proving grounds for vehicles have laboratories, test tracks and specialized facilities designed to test R&D, quality control, end of line and homologation, designed for the automotive industry, heavy-duty engines (naval, aeronautical, generators, etc.), Universities and R&D centers.

Test tracks for ADAS (Advanced Driving Assistance Systems)

South Korea

Service: Detailed Design
Customer / Main Contractor: IDIADA Automotive Technology
Final User: Confidential Customer

South Korea

Proving Ground and Technical Center

South Korea

Service: Preliminary Design
Customer / Main Contractor: IDIADA Automotive Technology
Final User: University - Research Center
IDIADA Proving Ground is located in Albornar (Tarragona, Spain) and has a total surface of more than 914 acres. The Proving Ground includes several testing tracks, fully equipped laboratories and facilities dedicated to the development of engineering, testing and certification of vehicles. GPO carried out the construction design and the project management for several facilities.

Service: Preliminary Design, Detailed Design and Construction Supervision of several tracks and facilities

Customer / Final User: IDIADA Automotive Technology
Vehicle Homologation Center (VHC)

Service: Feasibility and Financial Study and Preliminary Design
Customer / Main Contractor: World Bank
Final User: Colombia Ministry of Environment
Engine Test Cells for Durability
Araras, Brazil

Service: Detailed Design
Customer / Main Contractor: Apicom
Final User: Federal Mogul
Fiat Power Train Technologies (FPT) is part of Fiat holding, which includes all the activities related to transmission systems and propulsion sets and gives service to Fiat Auto, Iveco Engines and Fiat Research Centre.

FPT invested in Cordoba factory by introducing new lines of process for the production of larger diesel engines in order to supply both CNH (Case New Holland) and Iveco. For each end of line, it was required to implant an engine test bed, one of which was the object of this project. The HD Engine Test Bed was set up to measure the diesel engine emissions. It was constructed a new building to house it, as well as an outer platform to locate the new utilities (refrigeration and combustible equipments), from which the new engine test cells received their power demand.

Service: Detailed Design
Customer / Main Contractor: Apicom
Final User: FPT (Cordoba)