



PRASTIGH

DESIGNED WITH QUALITY



PRASTIGH ENGINEERS AND CONSULTANTS PVT. LTD.

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Welcome to Prastigh

Prastigh delivers wide range of services, knowledge and insight to Clients across Design and Engineering sector.

Prastigh is a multicultural organization engaged in the Engineering Consultancy works pertaining to Process, Instrumentation, Piping, Pipeline, Civil and Electrical disciplines which has got routes in India and Middle East.

Prastigh was incorporated as a private limited firm in 2014 at Thrissur, Kerala, India by a multi-disciplinary team of professionals with international experience. It is owned and managed by engineers with vast experience in the design field. We have executed projects for Piping, Pipelines, Instrumentation, Civil and Electrical.

Our Strength

- Our unsurpassed experience and knowledge, both of the technical subject matter and management of the engineering process, enabling us to independently manage work packages, delivering the results right first time, and on time.
- The flexibility and dynamism to react to changing customer requirements and to meet demanding time-scales when required.

Our Network

- Engineering offices located at Thrissur in India and Muscat in Sultanate of Oman.
- Procurement Assistance from a reputed organization in Kerala.
- Global Network for technology.
- Strategic Alliance with reputed partners to meet peak resource requirements

Our Strategy

- Achieve timely Project Delivery by standardizing the Design
- Customer flexibility to suite requirements
- High competitiveness with integrity

Our Business Areas

Prastigh offers its clients a full range of engineering consultancy services during design, construction, testing and operation of its plants. Prastigh's staff includes international consultants in the various engineering disciplines comprising civil, mechanical and electrical engineers, economists, environmental experts, etc.

Recently, the firm has become increasingly specialized in so-called "fast-track" projects, requiring a very short time from conception of the idea to operation of the plant.

OUR FEASIBILITY, CONCEPT AND FEED SERVICES INCLUDE THE FOLLOWING:

- Preliminary engineering & feasibility studies
- Concept development & alternatives evaluation
- Site identification & evaluation
- Project & scope definition review
- Uncertainty & risk evaluations
- Weight & cost estimating & schedule development
- Identification & investigation of long lead items
- Hazard & operability studies / hazard identification

OIL & GAS

Prastigh provides our clients with top technological and scientific solutions, applying high safety and environmental standards for the upstream, midstream, and downstream sectors of the oil and gas industry.

- Process plant engineering solutions in "oil and gas" fields
- Design and detailed engineering for piping and pipeline systems
- Design and detailed engineering for instrument, control and automation
- Preparation and support for As-Built
- 2D & 3D drafting

PROCESS ENGINEERING

Our process and facilities work covers the complete range of activities from business case development through to front-end and detailed engineering. Our specialist process engineering team comprises renowned expertise in advanced simulation and analysis (eg HYSIM, HYSYS, PRO II). In addition, we can undertake analyses of all types of refining, petrochemical, production and separation plants, all to international standards.

In the oil and gas sector, our project portfolio in process engineering includes all aspects of onshore and offshore oil and gas gathering and separation, compression and pumping, flare and blow-down, LNG gasification, refineries and terminals, and increasingly, biofuels.

CONTROL & AUTOMATION

An effective control system application requires the appropriate instrumentation to measure and control the process variables, as well as ensure the safety of the resources on site. Choosing the correct equipment for the specific application requires the expertise of resources familiar with both the technology and the processing requirements. With its unique hybrid of automation and

process knowledge engineering expertise, our instrumentation team has the technical insight and application expertise required to meet the challenge of even the most demanding of instrumentation applications.

From concept design and application studies, to start up and hand over, PRASTIGH's engineering team is able to offer solutions to new infrastructure projects as well as the upgrading and modernization of existing facilities.

- Modeling and Analysis
- Engineering Tool Standards Development and Database Administration (SmartPlant Instrumentation / AVEVA Instrumentation)
- Process Control Optimization
- Specification and Selection
- Control Valve Sizing and Application
- Metering and Measurement Systems
- Analytic Applications
- Installation Details
- Loop Drawings

PIPING & PIPELINES

Detailed Design of Piping/Pipelines including pig trap systems as per standards. Design of all types of manifolds – Oil Gathering, Gas lift, Water Injection (Remote & Station manifolds). Alignment sheets, Station Approach Drawings, Route Map Drawings and MTO for pipeline projects. Mechanical Pipeline / Piping project drawings like PFS, PEFS, Plot plan, GAs, Piping plan, Isometrics and MTOs & Selection of piping / pipeline material, grade and preparation of material identification diagrams. Designing Water Injection flowline with HDPE liner, Rotolining spool sections, FBE spool sections, RTP flowlines etc.

Preparation of the Material Take off (MTO) for different projects (Piping/Pipeline/Flow line), 'As-Built' documentation and drawings. Piping and its components modeling and analysis in CAESAR-II. Pipe Support Designing. Configuration setup for piping stress analysis. Familiar with piping codes and standards such as ASME, API and NEMA. Support Modeling Implementing Lean Concepts in Piping Design Procedures.

Power

Access to low-cost, reliable power is a key driver to progress and eliminating energy poverty around the world. Prastigh has been assisting clients in identifying and developing clean energy projects. We have grown from strength to strength over the years, and are now an expert in identifying and engineering cost-effective energy solutions for private and public sector clients. Our technical expertise comprises the following areas:

- Hydropower (storage, pumped storage, run-of-river)
- Wind power (wind farms on-shore and off-shore, wind-hydro and wind-diesel combinations)
- Solar power
- Transmission lines and substations
- Energy efficiency, energy audits, strategic energy planning

Whether you are looking at a greenfield project for supplying power to the national grid or an isolated off-grid hydropower development to supply power to a remote mine site, our team has the experience and proven track record to help you achieve your goals in a cost-effective and sustainable manner.

Hydropower

Prastigh has been in the hydropower business for over 85 years with extensive experience in large and small hydroelectric projects throughout the world. Our experience includes water storage, run-of-river, and pumped storage projects. We provide a one-stop shop for hydropower development, including resource identification and evaluation, financial services, environmental impact assessments, permitting, project management, site investigations, detailed engineering design, site supervision, staffing and training, commissioning, and asset management. The improvement of existing facilities and replacement or upgrade of aging or low efficient equipment are also key elements of our hydropower practice. Prastigh offers innovative, dedicated, and cost-effective solutions to our clients worldwide, and this has placed us at the forefront of hydropower development.

Storage Hydropower

The value of hydropower with water (energy) storage capabilities is becoming more and more valuable as the world continues its move toward a greener economy, with less reliance on fossil fuels and more reliance on renewable energy technologies. The majority of these renewable technologies provide an intermittent energy supply, and hence the need to store energy becomes increasingly important, with storage and pumped storage hydro as some of the most viable and environmentally responsible solutions. We offer all the engineering and environmental services required to complete the full scope of storage hydro facilities, including extensive reservoir and dam design experience with all major dam types, including:

- Concrete faced rockfill dams
- Roller compacted concrete dams
- Asphalt core rockfill dams
- Mass gravity and stepped spillway dams
- Earth embankment dams
- Rockfill masonry concrete dams
- Membrane dams
- Multi-arch concrete dams

Pumped Storage

A pumped storage plant uses two reservoirs, one located at a much higher elevation than the other. During periods of low demand for electricity, such as nights and weekends, energy is stored by reversing the turbines and pumping water from the lower to the upper reservoir. The stored water can later be released to turn the turbines and generate electricity as it flows back into the lower reservoir. Prastigh's team has the experience and dedication to help you identify opportunities and realize your pumped storage hydro goals in a cost-effective and sustainable manner. Our recent pumped storage experience includes projects and concepts such as:

- Traditional fresh water pumped storage hydro, with new upper and lower reservoirs
- Fresh water pumped storage hydro using existing lower reservoirs or lakes and new upper reservoirs
- Combined inter basin water transfer and pumped storage hydro
- Saltwater pumped storage hydro

Run-of-River

Run-of-river hydro projects use the natural flow and elevation drop of a river to generate electricity. There are no major storage facilities or flooded areas, and run-of-river developments have one of the lowest overall carbon footprints of any renewable energy technology. We pioneered the development of run-of-river hydropower facilities and these developments are one

of the most cost-effective renewable energy sources. Our innovative approach to sustainable hydropower development has placed us in the forefront of run-of-river hydro development. Our water basin planning capability allows the consideration of multiple water uses and coordinated operations of multiple hydroelectric run-of-river facilities. We offer a full range of services from project identification, including the use of GIS integrated assessment tools, to permitting, detailed design, and construction supervision.

Wind Power

Wind power has established itself as an economically viable, mature technology and a reliable form of renewable energy. The costs per unit power installed are among the lowest of all power sources. The technology has advanced to the point that 2 MW wind turbines are normative and 5 to 10 MW turbines are being designed for offshore wind farms.

Prastigh leads wind energy projects from conception to completion, evaluating wind energy resources and carrying out all permitting, modeling, geotechnical and interconnection studies, and financial analyses. Furthermore, we can manage construction and supervise commissioning. We offer due diligence reviews for all aspects of the project design and perform evaluations of the wind power plant once operational.

Our renewable energy team has developed particular expertise in the concept of wind-hydro, where we combine the modulation and storage capabilities of a water reservoir with a wind power plant. Coordinated operation of multiple wind projects can also result in reduced renewable source generation interruptions, and when integrated with hydropower and thermal power operations, can reduce fuel used. A wind-hydro storage solution can provide dispatchable power from clean sources.

Our engineers and environmental scientists are also experts in wind-diesel power systems. This option consists of a combination of diesel and wind power, and applies to those communities that have already invested in electricity generated from diesel. The ability to reduce fuel usage can be significant savings for a community or mine.

Solar Power

As Consultants, with vast experience and expertise in the field of Solar Power, we can advise you on the conceptualization, design, detail engineering, procurement and installation of Solar PV Plants. We can also help you during implementation of the project by providing procurement assistance and supervision during installation.

Our services include preparation of Project Report highlighting the main parameters of the Solar PV Plant based on requirements, economic viability and environmental impact if any. Our procurement assistance will help you choose from reputed manufactures to meet the Project Objectives, and will ensure compliance with Indian and international code requirements.

We design, procure, and install rooftop Solar Plants tailor made to your requirements. We carry out a requirements survey, decide on the Plant parameters, select equipment to meet the requirements and then do the installation suited to the particular site. Each plant is unique and custom built to satisfy the customer's individual requirements.

The Panels, Electronics Hardware and Installation Hardware are chosen to meet the Optimum Design parameters arrived at. We have a wide variety of choices in terms of manufacturers of Panels and Hardware.

We don't just install a system and leave it to you to figure out whether, you got what you expected. We get involved in the very beginning, in defining your requirements clearly. And we

ensure that you get what you expected, by output measurements and continuous monitoring over a period.

Transmission Lines and Substations

Prastigh offers a full range of engineering and environmental services associated with the design and permitting of transmission lines and substations from 10 kV to 500 kV. We also identify the most viable interconnection solutions for projects from 1 MW to over 1,000 MW and step-up transformers from 4 kV to 500 kV. We specialize in designing infrastructure to deal with some of the most challenging terrain on the planet. Services include:

- Route selection and optimization
- Voltage selection and optimization
- Interconnection studies
- Feasibility and detailed design
- Environmental studies and permitting

INFRASTRUCTURE

Infrastructure projects are the fundamental backbone of our communities. Prastigh provides specialized geotechnical and structural engineering and environmental services to a wide variety of infrastructure projects, including:

- Transportation infrastructure
- Storm water management and infrastructure
- Water-retaining structures
- Residue storage facilities
- Reinforced and pre-stressed concrete
- Earth-retaining structures
- Reinforced and plain masonry
- Structural steelwork
- Wind-sensitive structures

From initial feasibility and cost studies, to detailed design, specification and construction supervision, Prastigh provides the following services for infrastructure projects:

- Planning and feasibility studies
- Site and structural stability investigations
- Foundation and pile designs
- Cost engineering
- Forensic audits
- Seismic design
- Design structures
- Construction management
- Contract administration

Our Partner Services

QUALITY, HEALTH, SAFETY AND ENVIRONMENTAL SERVICES

Leading Service provider in the field of QHSE especially in Oil and Gas field. Supports all types of industries in getting ISO9001, ISO 14001 and OHSAS 18001 Certification. Also provides services in HACCP Certification and ISO 22000 Certification. Carry out QHSE Audits, Inspections and related training.

Our Core Values

Our Core Values are influenced by our past, nurtured by our present and will shape our future. They are a combination of what we have been, what we are and what we want to be:

Quality: Quality is the key to delivering value for money to our clients. Prastigh is committed in achieving customer satisfaction by making quality as our driving value in our work, services and in our interactions.

Commitment: The team is committed to delivering Engineering expertise safely, on time and within budget.

Reliability: Clean business practices, Integrity, Transparency and Enhancement of Customer satisfaction will remain the guiding fundamentals.

Consistency: To be consistent in our promise to achieve quality and timely delivery of projects with complete customer satisfaction.

Social Responsibility: Continuing commitment by business to behave ethically and contribute to economic development of society while improving the quality of life of people who need care and love.

“We make a living by what we get, but we make a life by what we give.”

– *Winston Churchill.*

Our Vision

- Provide services for the project in most efficient manner and maintain our core values.
- To grow continuously making clients satisfied in all aspects of work.
- As we move with this strong vision, we are committed to define ourselves through innovation.

We are committed to “GO GREEN”

The logo with which we would like to establish ourselves giving a clear message of our values and our commitment towards environment and society.

Prastigh is committed to develop new innovative technologies in the field of engineering design through our prestigious clients and Prastigh’s innovation center.