dedicated to providing comprehensive and efficient engineering solutions

CONSULTING ENGINEERS

- Power systems +
- Power distribution +
- Integrated building systems +
- Project management +
- Renewable energy +
Plantech (Pty) Ltd is a consulting engineering firm established in 1982 by Hein Schuld, James Theron and Peet Olivier. Since the company started operations their activities have expanded throughout South Africa, Lesotho, Nigeria, Mauritius and India. The head office which is situated in Pretoria employs more than 20 engineers, technicians and support personnel.

With a strong work ethic and dedication to exceptional client service and professionalism, extensive electrical, electronic and mechanical engineering knowledge and experience is applied to delivering optimum and viable solutions ensuring that clients’ projects are completed on time, within budget and of the best quality possible.

Plantech has a documented quality control system as well as having ISO 9001:2015 certification.

Plantech is a member of the Consulting Engineers of South Africa (CESA) as well as the Green Building Council of South Africa (GBCSA).

Plantech is a Qualifying Small Enterprise with a 51% Black Ownership and 20% Black Women Ownership as per the Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of the B-BBEE Act no 53 of 2003 as Amended by Act No 46 of 2013. Plantech is thus a Level 2 B-BBEE Contributor.

**MISSION STATEMENT**

A professional consulting engineering company that strives to design and execute electrical and mechanical engineering systems that are safe, reliable and efficient for the benefit of customers and end-users.

**VISION**

Plantech’s vision is to be acknowledged for our personal service through the direct involvement of our highly qualified and specialist engineers on all projects.

**VALUES**

Our core values define how we treat our clients, frame how we work with our colleagues and employees and are an integral part of our ongoing success. By setting standards whereby individual and team performances are measured and rewarded our values are firmly embedded in the way we operate.
Through the use of state of the art technology, expert staff, and precise planning, we deliver and execute professional consulting engineering services and design projects with desired results.

Our Values

**Professionalism** To be professional in all our interactions ensuring strict adherence to courtesy, honesty and responsibility when dealing with clients and employees alike.

**Leadership** To have the courage to lead from the front and shape the future of our employees and our clients.

**Accountability** To adhere to a code of ethics, standards of practice, and policies/procedures that govern the conduct of professional engineering activities.

**Knowledgeable** To ensure that we are knowledgeable in the different engineering disciplines and have a clear understanding of what our clients require.

**Trustworthy** To ensure that we as people and a company is trusted in the marketplace - one that stands for reliability and sets a standard for it, inspiring our employees to maintain an environment of trustworthiness.

**Excellence** Demonstrating high levels of knowledge and skill in all aspects of the engineering profession. To promote a culture of excellence throughout our company through the use of state of the art tools, consistent and effective training and the quality of results we give to our clients.

**Commitment** Commitment to us means that we are dedicated to the growth and success of our clients, partners and shareholders as well as ensuring professional fulfillment for all our employees. Commitment comes to life through being passionate about solving complex business problems. We are intensely focused on serving our clients and helping them achieve their business objectives.

**Honesty** To act with honesty and integrity without compromising the truth in everything we do.
Our engineers pride themselves in being able to provide services and solutions for our clients.

Plantech offers consulting engineering services in the fields of electrical, mechanical and electronic engineering disciplines.

By being personally involved and totally committed, the best service is rendered to Clients.

A comprehensive project and engineering service is provided in order to assist our Clients in achieving overall optimum systems solutions.

+ SERVICES OVERVIEW
Our involvement can include all stages of the listed project aspects or be tailored to the client’s needs depending on specific requirements. The project stages are as following:

- Client briefing and determination of requirements.
- Literature surveys and relevant project research.
- Detailed technical analysis and software simulation, where necessary.
- Confirmatory on-site field measurements in the case of radio path and coverage studies.
- Detailed cost estimates on proposed configurations.
- Reporting and determination of final systems design.
- Tender documentation and specifications.
- Tender adjudication and assistance with appointment of contractor.
- Technical and financial project management.
- Final systems handover and end-user training.
- Assistance with systems maintenance functions.
- Assistance with software optimization and configuration.

+ POWER SYSTEMS SERVICES
Provision of Power Systems services which include master planning of networks, power system modelling; load flow and fault studies; substation designs; power line and feeder cable system designs; electrical reticulation projects; generator, pump station and telemetry systems; self-built consultancy services for renewable energy projects and electrical railway infrastructure services.
MASTER PLANNING
Master planning of national and municipal networks which involves the logging and evaluation of data and studying and research of existing electrical systems in order to determine a comprehensive system master plan for all present and future electrical supply requirements. Load flow studies is done using the latest sophisticated computer programmes.

POWER FACTOR CORRECTION
Design of power factor correction systems in order to ensure that the reactive current and the corresponding reactive power drawn by consumers will be compensated by the means of PFC capacitors.

HV SUBSTATION DESIGNS
Provision of HV substation designs, including specialised indoor substations to clients.

CABLE FEEDER SYSTEM DESIGNS
Design of HV and MV power line and cable feeder systems.

TOWNSHIP ELECTRICAL RETICULATION
Design of HV and LV electrical networks for township residential housing.

EMERGENCY POWER INSTALLATIONS
Design of standby generator systems for large consumers as well as overseeing the installation of battery systems and uninterrupted power supplies.

PUMP STATIONS AND TELEMETRY SYSTEMS
Design of telemetry systems for pump stations to allow for remote monitoring of pump systems.

RENEWABLE ENERGY PROJECTS
Design of electricity grid connections, electrical balance-of-plant and offers self-built consultant services for renewable energy projects.

RAILWAY INFRASTRUCTURE
Offering electrical railway infrastructure services which covers turnkey technology infrastructure and maintenance support for the rail industry to ensure efficient and sustainable rail operations.
Our electrical, electronic and mechanical engineering service is practical and systematic in its approach.

**POWER LINES**
Design, management and commissioning of self-supporting monolithic concrete and steel poles to lattice steel towers. Some of these power lines have been constructed in extreme topographical and climatic conditions with single spans of over a kilometre long, altitudes of up to 2400m above sea level, winds of up to 300km/h, in high density areas as well as snow and ice conditions.

**POWER DISTRIBUTION**
For many years Plantech has been involved in numerous power distribution projects including high-voltage overhead power lines and have extensive experience in high-voltage underground power cables. Offering technically sound and economically viable solutions being proactively at the forefront by ensuring provision of the most up-to-date technologies and proposing new solutions where applicable to clients.

**CABLES**
In collaboration with industry leaders in manufacturing, application of high-voltage underground cable solutions for XLPE and oil-filled cables with a cross-sectional area of up to 1000mm².
over 35 years experience in
the power distribution
industry

ELECTRICAL RETICULATION
Other services offered are MV and LV electrical distribution systems for residential and industrial township development projects. Included in the offering are township master planning, utility approvals, electrical system design and project management.

PROCESS CONTROL
Design of power distribution and control interlocking for industrial processes and pump installations including motor control centres.

LIGHTING PROTECTION AND EARTHING
Design, supply and installation of lightning protection and earthing systems, complying with the relevant codes of practice and specifications. Also included in this service offering is soil resistivity surveys and earth testing; lightning and surge / overvoltage protection – all types of systems; specialised earthing systems and supply of lightning protection materials and products including surge arresters and safety equipment.

RAIL SERVICES
Railway infrastructure services include design of overhead track equipment (OHTÉ), traction substations as well as specialised railway network studies and simulations.
Application of certified computer modelling determines optimum building designs

INTEGRATED BUILDING SYSTEMS
Integrated building designs and solutions include electrical, mechanical and electronic services. This entails either corporate, commercial, institutional, or residential developments. The latest available technologies are considered with a focus on energy efficiency, flexibility and maintainability ensuring that clients’ investments deliver attractive returns over the long term.

BUILDING SERVICES
Whether it is a corporate, commercial, institutional or residential development, we ensure that the latest available technologies are consulted for integrated building systems, these include the electrical, mechanical and electronic parts. Focusing on energy efficiency, flexibility and maintainability ensures that clients investments deliver attractive returns over the long term.

MECHANICAL SERVICES
Specialising in designing systems and services in buildings and industries for the optimisation in the use of energy. Sophisticated computer simulation programmes are used to evaluate energy saving methods and application of computer control systems are used in order to attain the energy saving targets.
Other mechanical services include Lifts and Escalator Installations; Fire-fighting Installations which cover automatic sprinkler; fire, pump and gas installations; hydrant and hose reels; Mechanical Handling Equipment such as coal handling; grain handling; ash removal; air-conditioning Installations which include centralised and packaged air conditioning systems for shopping centres; hospitals; office buildings; hotels; computer rooms; industrial applications; boardrooms and auditoriums; Ventilation and Evaporative Cooling Installations;
Provision of a variety of services to utility companies, municipalities, mining houses and the industrial sector

Refrigeration installations, Cold-storage and Freezer rooms which cover ammonia and ice storage systems; Extraction Installations which include dust, fume and kitchen extraction systems, fume cupboards; Hospital and Laboratory Services covering medical gases, vacuum, steam and boiler installations and specialised gases; Piping and Pump Stations which include domestic water and fire services as well as water purification and sewerage plants; Heating Installations covering hot water storage and heat pump systems.

**ELECTRONIC SERVICES**

Electronic Services cover Security Systems which include risk assessment, access control, intrusion detection, surveillance, alarms, response; Fire and Smoke Detection; Building Management Systems; Communication Systems; Process Control Systems; Load Control and Energy Management Systems; Telemetry and Telecontrol Systems; Radio and Data Communication Networks as well as Instrumentation and Automation Systems.

**GREEN BUILDINGS AND ALTERNATIVE ENERGY**

Green building expertise offered in support of Green Star certification. Certified computer modelling is applied to determine the optimum building design together with the application of solar, photovoltaic, heat pump, ice storage, energy recovery and alternative energy technologies to meet energy consumption and cost targets.

**EXPERTISE**

In-house design and engineering consultant expertise for standard and specialised building services covers heating, ventilation and air-conditioning (HVAC); refrigeration; electrical distribution; lighting design; building management systems (BMS); fire detection; security and other installations. Installations include offices, shopping centres, airports, laboratories, hospitals, universities and many more. Energy efficiency and green building principles receive top priority in all projects.
Plantech’s project managers manage property, transport, electrical and water projects for private and public sector clients.

**PROJECT MANAGEMENT**

Plantech offers project management expertise regarding understanding of the scope of the project and deliverables. Milestones are implemented to track project progress and accurate time estimations are adhered to. Generally the scope of our expertise includes: definition of actual requirements; scheduling and programming of design activities; programming, control and corrective action during construction; quality assurance; handing over and acceptance procedures; cost control and reporting as well as training and operation.

**MUNICIPAL PROJECTS**

Our project management engineers have experience directing large-scale municipal projects. Our engineers have the ability to complete multiphase projects, from plan development to oversight of costs, schedules, quality, information, team management and contracts. Project managers ensure that all projects meet or exceed design, quality, timeline and budget expectations.

**COMMERCIAL CLIENTS**

For our commercial clients we focus on smart solutions working with architects and other consultants to understand and define the project. A collaborative approach is a more efficient and timely way to deliver a final project that meets our clients’ objectives.

**ELECTRICAL INSTALLATIONS**

Our project managers plan electrical installations by determining specifications; selecting contractors; establishing installation schedules; planning shut-downs and installations; integrating requirements with architectural and mechanical designs; verifying code requirements; updating cost estimates. Further to this completion of electrical projects by supervising installations and resolving design issues.
FEASIBILITY STUDIES
Our engineers advise renewable project developers on grid connection and balance-of-plant collector networks by providing specialist input regarding cost estimates, alternative solution negotiations and project feasibility studies.

WIND POWER PROJECTS
The first large scale wind farm in South Africa became operational in 2014, and others are in planning and construction stages. We have been involved in a number of wind power projects within South Africa.

ESKOM SELF BUILT CONSULTANTS
Plantech is registered with ESKOM as a self built consultant. We are able to assist developers opting to construct portions of the grid connection infrastructure as self-built, with detailed substation and power line designs and obtaining the required approvals from ESKOM for the planned grid connection infrastructure.

SOLAR PV
Our engineers together with various property renewable energy project developers are involved in the solar photovoltaic (PV) electricity market which will contribute to the country’s renewable energy roll-out. These include commercial rooftops, solar farms and hybrid systems.

LANDFILL TO GAS
Landfill gas (LFG) to electricity has been identified as one of the renewable energy technologies that the South African government will focus on in order to generate more electricity from renewable resources and Plantech has been involved in various projects advising municipalities and other key players.
Our many clients include large property owners, namely Old Mutual, Sanlam, Vukile, Heartland, SANRAL, City Power, Government Departments of Health, Education and Public Works. Projects include retail shopping centres, hospitals, offices, townships, schools and industrial developments.