



Makhenikha Engineers

MAKHENIKHA ENGINEERS COMPANY PROFILE



PROFESSIONAL ENGINEERING DESIGN

(All disciplines)

Bulk Material Handling
Building Services
Structures
CFD & FEA
Automation



3-D SCANNING

As-Built
Reverse Engineering



EQUIPMENT (supply & repairs)

Pumps
Motors
Electronics/Electrical
Lubricants

PRETORIA

14B Carla Close
Six Fountains, Pretoria
Gauteng, 0181

KATHU

33 Avenue
Rooisand, Kathu
Northern Cape, 8446

SECUNDA

1 Bekker Street
Trichadt, Secunda
Mpumalanga, 2300

RICHARDS BAY

34A Thrush Trail
Birdswood, Richards Bay
KwaZulu Natal, 3900

Tel: 082 959 9150

E-Mail: info@makhenikha.co.za

www.makhenikha.co.za



About Makhenikha Engineers

Makhenikha Engineers is a dynamic, independent multi-disciplinary Engineering, Construction and Management Consulting firm founded in 2019, specialising in Mechanical Engineering and Project Management services. The company is 100% owned and managed by a black South African emanating from engineering and manufacturing background with over 15 years hands-on experience in the industry. The company separates itself from the rest with its professionalism and qualified team to undertake projects.

Our Vision

To be a company of choice in the provision of engineering and project management professional services by giving our customers best advice and value-engineering solutions that comply with the applicable regulations.

Mission

Makhenikha Engineers is committed to satisfying customer's needs through the provision of innovative value-engineering solutions on time, within budget and applicable regulations.

Core Values

- Professionalism
- Integrity
- Quality
- Customer focus

Quality Management System

Makhenikha Engineers has in place a Quality Management System that complies with the requirements of ISO 9001:2015(E). The company's Quality Policy is available on request as well as the Quality Manual. The company is working towards attaining the ISO 9001:2015(E) certification.

Our Engineering design work is based on credible and recognised standards and codes such as SANS, ISO, BS or other, depending on the client and nature of project.

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Professional Services Offered

Makhenikha Engineers offers the following professional services to its customer's:

- Engineering Design (All Disciplines)
- Bulk Material Handling
- Building Services
- Structures
- CFD & FEA
- Automation
- Non-Destructive Testing (NDT) Services
- Other built environment services in partnership with associates

All designs will be signed-off by a ECSA registered professional

Building Services

- HVAC
- Fire Protection
- Wet Services
- Electrical
- Structural
- Civil





Reverse Engineering (3-D Scanning)

Makhenikha Engineers uses the latest 3D scanning technologies which can be used on-site to take extensive, accurate measurements of a structure in a short time – reducing downtime and improving safety. This data can then enable us to design wear parts, develop repair strategies and repair parts off-site, as well as support with reverse engineering and documentation of components and structures. The following services are offered:

- 3D Scanning
 - Collecting data
 - Acquiring accurate physical objects dimension & geometry
- As-Built Documentation
 - 3D & 2D As-built drawings
 - Verify plant drawings (As-built) and update
- Reverse Engineering
 - Generate 3D solid models from existing components
 - Redesign
 - Generate 2D manufacturing drawings

Non-Destructive Testing (NDT)

Makhenikha Engineers provide Non-Destructive Testing (NDT) Services, Structural and Mechanical Inspections. Engineering solutions to a diversified and demanding customer base of leading corporations in the Southern African Region.

The methods mentioned below, have unique properties that make specific defect detection possible. We always make sure we use the correct inspection method to achieve the best testing results.

- Magnetic Particle Inspection (MPI)
- Penetrant Testing (PT)
- Ultrasonic Testing (UT)
- Radiographic Testing (RT)
- Wall Thickness Testing (WT)
- Hardness Testing (HT)
- Visual Inspection (VI)



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Solar PV Plants

- Erection and assembling of pylons
- Installation and wiring of solar panels during construction
- Cleaning and replacement of damaged solar panels
- Design and fabrication of pylons
- Solar inverters & Ground mounting



Roof solar panels & Water heater

- Design and installation of roof solar panels
- Replacement and cleaning of solar panels
- Design and installation of roof solar water heaters





Electrical Engineering

Makhenikha Engineers provides Electrical Engineering services with compliance to client requirements, national standards and regulations with regards the following disciplines: Consultation / Design Engineering / Project Management / Construction

- Switchgear replacement and upgrade projects
- Electrical Maintenance and Protection Services
- Commissioning and testing of Electrical equipment
- Load Analysis and grading using Latest Technology Available and Client Preference
- Motor Control Centre (MCC) and Electrical Distribution Boards (AC and DC) Hazardous Locations Management
- Electrical Infrastructure Audits
- Substation Automation (IEC 61850)
- Energy Management and Optimization
- HVAC system maintenance
- Cathodic Protection

Process, Control & Instrumentation

Makhenikha Engineers provides the following Control and Instrumentation services:

- P&ID and MFD Reverse Engineering (As-Building)
- Technology Selection
- Software Engineering and Design
- Control Loop Designs
- Field Instrumentation
- Distributed Control Systems [DCS's]
- Supervisory Control and Data Acquisitions [SCADA]
- Programmable Logic Controllers [PLC's]
- Emergency Shutdown Devices [ESD] / Safety Instrumented Systems [SIS]
- Human Machine Interfaces [HMI]
- Burner Management Systems [BMS]



Industrial Electronics/Electrical Repair & Supply

In house industrial electronics/electrical and automated systems design, repair and maintenance of electrical/electronic equipment's. We cover every concept or idea pragmatically.

VSD/VFD and Industrial UPS repair & Supply

- Control systems repair
- Interphase (HMI) repair
- Power stack repair (IGBT and Caps replacement)
- Supply electronics components and sensors from:
 - Siemens
 - Schneider
 - ABB
 - Mitsubishi
 - IFM technologies



Electrical Brakes Repair & Supply

Electrical brakes such as Calliper Brakes, Power Off Brakes, Centrifugal Brakes and Shaft Mounted Brakes



Flame Proof Motors Repair & Supply

Special processes are followed when repairing equipment's that are used in explosive areas. We have developed separate procedures that are followed during the repair process with quality checks to ensure quality and safety of the repaired equipment. Special wire and special vanish are used in the repair process.





Rotatory Equipment Repair & Supply

- Stator rewind
- Armature winding
- AC Motor repair
- DC Motor repair





Pumps Repair & Supply

- Submersible pumps repair
- Centrifugal pumps repair
- Multistage pumps repair



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