





## INTRODUCTION

*In 2015, Mafaesa Holdings (Pty) Ltd - an 100% Black owned, multi-disciplinary engineering company..*

*Mafaesa Holdings provides specialised Mechanical and Industrial engineering solutions that seamlessly integrate with all components impacting on the operations of each client's organisation. Mafaesa Holding's objective is to unlock long-term value and provide engineering solutions that offer a real return-on-investment.*

*Mafaesa Holdings is proficient in combining the principles of industrial engineering with decades of practical experience. These factors are assimilated with global best-practices and the latest technology, to create world-class, customised client solutions to both the public and private sector clients operating in the Oil & Gas, Chemical, Electrical Power and Industrial & Mining industries.*

*By assessing risk implications, the total cost of ownership, time and production constraints, Mafaesa Holdings provides focused engineering, procurement and construction management expertise to deliver cost-effective, sustainable solutions, which are technically sound and aligned with the client's expectations.*

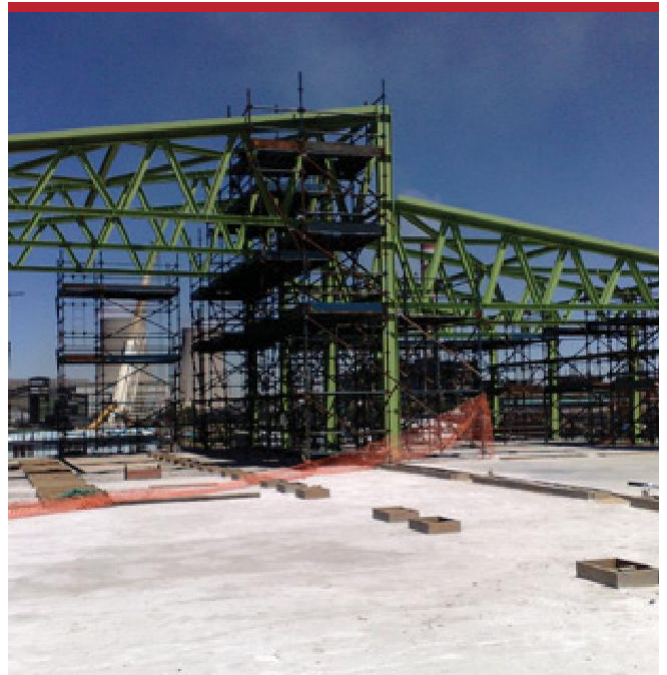


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## MAFAESA HOLDINGS VALUE PROPOSITION

Mafaesa Holdings is committed to three key strategies to create long-term value for its clients:

- **Partnerships:** To foster long term partnerships with clients in order to form a unique understanding of their requirements.
- **Project teams:** To adapt services through the use of project-specific teams with industry expertise that result in highly competent and proficient services.
- **Integration:** Value is created through the integration of capital cost, technical considerations, risk factors, life-cycle costs, sustainability and other operational issues, which all impact on the long-term outcome of a project.



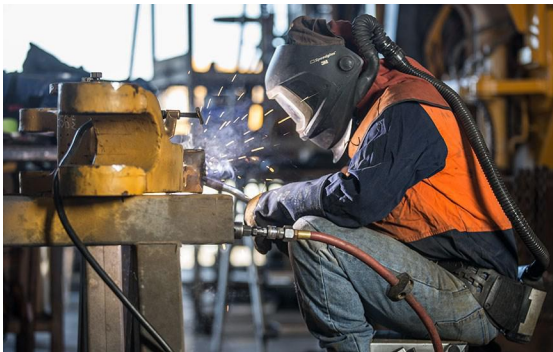


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## PEOPLE & PROFESSIONAL ASSOCIATIONS

Mafaesa Holdings key professional employees have the level of expertise and a combination of the skills, which are necessary to find unique solutions to every technical challenge. These individuals are supported by engineers, technologists, technicians, draughtsman, construction technicians as well as project support and administrative personnel.

Ongoing professional development of Mafaesa Holdings employees ensures that the company remains at the cutting edge of the latest technological developments in the Mechanical and Industrial Engineering discipline.



Mafaesa Holdings remains at the forefront of world-class engineering best practices and is proud to be a respected and actively involved member of several South African associations within the engineering fraternity.





## ENGINEERING MANAGEMENT

*Increased competition requires shorter project lead times and a reduction in cost structures. Riskier business environments require better risk mitigation strategies.*

*Proper Engineering Management has become essential to ensure that project outcomes address those factors that may impact a project's development. Mafaesa Holdings uses Engineering Management to improve each client's position in the marketplace and to implement its total value proposition: Partnerships with clients, the creation of project- specific teams and integration of all potential project factors.*

*Engineering Management includes:*

- *Investigations and Reports*
- *Feasibility, Concept and Preliminary Design Studies*
- *Concept and Design Development, Basic Engineering (FEED)*
- *Management and Integration of Detail Engineering activities*
- *Bid Documentation and Bidding Process*
- *Construction Contract Administration*
- *Construction Contractor Management*

## **INDUSTRIAL CIVIL ENGINEERING**

*Industrial civil engineering requires unique solutions that may have to address vibration, chemical resistance, corrosion, handling of solid and liquid effluent, as well as other functional requirements. Projects often take place in high-risk environments requiring stringent safety, operational and quality control measures. Mafaesa Holdings knowledgeable project teams understand the requirements of the various plant and process infrastructure in the industrial and mining sectors, which allows them to implement those control measures to ensure that risks are assessed, managed and contained.*



*Mechanical Engineering Services include:*

- *Boilermaking & Welding Contractor*
- *Stainless Steel & Aluminium Fabrications*
- *Thermal insulation & Sheet metal works*
- *Pipe fitting*
- *Boiler maintenance, inspection & cleaning services*
- *General Industrial plant maintenance services*
- *Sand blasting & powder coating*



#### **Industrial Civil Engineering Services include:**

- Engineering, Design and Draughting
- Process Plant Infrastructure
- Process Plant Structures
- Bulk Fuel Storage Facilities and Infrastructure
- Effluent Water Systems
- Ash/Waste Disposal Infrastructure
- Materials Handling Structures
- Workshops and Warehouses
- Electrical and Control Buildings
- Administration Buildings

### **STRUCTURAL ENGINEERING**

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Mafaesa Holdings wealth of experience in structural analysis and design ensures versatility and efficiency in the use of steel, concrete, masonry and composite materials.

The Mafaesa Holdings design teams use a practical approach to ensure that engineering specifications result in ease of construction and cost control.

#### **Structural Engineering Services include:**

- Structural Analysis and Design
- Specialised Analysis, considering seismic, blast resistant and other dynamic loading conditions
- Engineering, Design and Draughting of structural steel, concrete and masonry
- Structural Audits and Assessments
- Foundation Engineering
- Concrete Technology
- Concrete Rehabilitation
- Corrosion Protection
- Building Structural Design and Specifications



### **WATER, SEWER & SERVICES ENGINEERING**

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Water is the lifeblood of society making sustainable water management an increasingly important consideration. Mafaesa Holdings has been involved in numerous projects to create sustainable engineering solutions in Water supply projects, Effluent handling systems, Mine service water supply, Storm Water



management and Pollution containment systems. Project lifecycles, operational factors and environmental factors are all integrated to provide sustainable solutions that ensure ease of operation.

*Water & Services Engineering Services include:*

- Pressure and Gravity pipelines
- Open Canals
- Pump Stations
- Weirs and Reservoirs
- Pollution Control Dams
- Industrial and Domestic sewers
- Storm water Management
- Water Demand and Network Analysis
- Water and Fire Water Supply and Distribution Systems

## **ROADS & TRANSPORT ENGINEERING**

New and existing road networks necessitate the correct balance between capital expenditure and maintenance interventions to optimise the economic lifespan of each road. Mafaesa Holdings weighs alternative designs against traffic projections and lifecycle costs to recommend appropriate pavement management strategies to ensure that its clients achieve the maximum return on their investment.

*Roads & Transport Engineering Services include:*

- Route Determination
- Geometric Design
- Pavement Design
- Road Rehabilitation
- Parking Areas
- Railways and Private sidings
- Traffic Engineering
- Pavement Management





## **OPERATING & MAINTENANCE SUPPORT**

Mafaesa Holdings is proficient in the Operating and Maintenance Support of Heavy Industrial Plant operations. Its expertise and experience includes: Engineering and design, preparation of construction drawings, Engineering and design for shutdown projects, Periodic structural inspections of existing plants and Structural inspections during plant shutdowns.

### **Operating & Maintenance Services include:**

- Rehabilitation and replacement of corroded steel structures
- Dam maintenance and statutory inspections
- Concrete rehabilitation/replacement
- Visual inspection of pipelines
- Road and services rehabilitation and maintenance
- Improved access to operating and maintenance valves and equipment
- Prioritisation and implementation of civil and structural maintenance
- Modifications to existing structures to improve means to remove equipment
- Extensions and modifications to process plant infrastructure
- Extensions and modifications to process plants
- Building modifications, extensions and upgrading

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