DAVID MADANGA

ENGINEERING RELIABILITY

Engineering Reliability Through Practical Asset Management Solutions

CORPORATE PROFILE & CAPABILITY STATEMENT

2026 EDITION

Reliability Engineering • Asset Management • Maintenance Strategy

Corporate Profile & Capability Statement

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DAVID MADANGA CONSULTANTS (PTY) LTD

Registration No. 2026/624942/07
B-BBEE Level 1 Contributor | 135% Procurement Recognition
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This publication contains proprietary consulting methodologies and capability information. Project examples describe experience delivered by the Principal Consultant and partner consulting team across previous professional engagements.

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A publication structured around the Reliability ABC™ philosophy.

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BOOK A

ASSESSMENT

Understand before you improve.

We Believe Reliability Is an Engineering Responsibility

Our philosophy

The world depends on physical assets. Every tonne mined, every product manufactured and every community served depends on engineering systems performing safely, predictably and sustainably.

At David Madanga Consultants, we believe reliability is not simply a maintenance objective. It is an engineering responsibility - one that demands disciplined thinking, technical excellence and the courage to challenge assumptions.

We reject maintenance activities that exist without technical purpose. We reject engineering decisions based solely on tradition rather than evidence. Instead, we believe every maintenance task should have a reason, every engineering decision should create value, and every improvement should strengthen the organisation.

ENGINEERING PHILOSOPHY

Think first. Engineer second. Maintain third.

Who We Are

Specialist reliability engineering consultancy

David Madanga Consultants (Pty) Ltd is a specialist Reliability Engineering and Asset Management consultancy dedicated to improving the performance, reliability and sustainability of physical assets across asset-intensive industries.

Reliability Engineering	RCM, FMEA/FMECA, RCA, defect elimination
Asset Management	Criticality, lifecycle, asset care and ISO 55000 alignment
Maintenance Strategy	Task selection, optimisation, job plans and work management
Capability Development	Coaching, facilitation and Reliability ABC™ training

Purpose, Vision & Values

What guides our decisions.

VISION

To become a leading African specialist reliability engineering consultancy recognised for practical methodologies, technical depth and sustainable client capability.

MISSION

To maximise the value of physical assets through structured reliability engineering, asset management and maintenance strategy solutions.

- **Safety**
- **Integrity**
- **Technical Excellence**
- **Continuous Improvement**
- **Collaboration**
- **Knowledge Transfer**

“

Reliability is not luck. It is engineered.

Every recurring failure is an opportunity to improve engineering understanding.

The Challenges We Solve

Common symptoms of weak reliability systems.

01 Unplanned downtime

Recurring failures disrupt production and inflate cost.

02 Reactive maintenance

Teams spend capacity on urgent work instead of eliminating defects.

03 Weak maintenance strategies

Tasks accumulate without clear technical justification.

04 Poor work management

Planning, scheduling, feedback and data quality break down.

05 Knowledge loss

Critical engineering knowledge remains in individuals rather than systems.

06 Data without insight

Organisations collect information without converting it into engineering decisions.

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BOOK B

BASELINE

Create engineering standards that deliver consistent performance.

10

Reliability ABC™

Our signature operating philosophy.

A structured framework that connects engineering analysis, standardised maintenance practices and sustained performance management.

A

ASSESSMENT

Understand the current state

Criticality • Failure Data • Risk • Capability

B

BASELINE

Engineer the standard

FMEA/FMECA • RCM • Strategy • Job Plans

C

CONTROL

Sustain and improve

KPIs • Work Management • RCA • Continuous Improvement

Project Delivery Methodology

A disciplined path from discovery to sustained performance.

01 **Discover** — Business objectives, stakeholders, data

02 **Analyse** — Criticality, performance, failures, risks

03 **Design** — FMEA/FMECA, RCM, strategy, tasks

04 **Implement** — Workshops, CMMS, job plans, coaching

05 **Sustain** — KPIs, governance, RCA, continuous improvement

Engineering Services

Focused disciplines. Integrated outcomes.

Reliability Engineering	Maturity assessments, defect elimination, reliability improvement, KPIs
Asset Management	Criticality, lifecycle thinking, asset care and performance management
Maintenance Strategy	FMEA/FMECA, RCM, task optimisation, job plans and BOM requirements
Work Management	Planning, scheduling, execution, feedback and optimisation
Failure Analysis	RCA, Ishikawa, 5-Why, validation and corrective action tracking
SAP PM Advisory	Asset structures, maintenance plans, task lists and work management alignment
Reliability Training	Reliability ABC™, FMEA, RCM, RCA and planning capability development

Maintenance Strategy Development

Engineering maintenance rather than scheduling maintenance.



Typical inputs

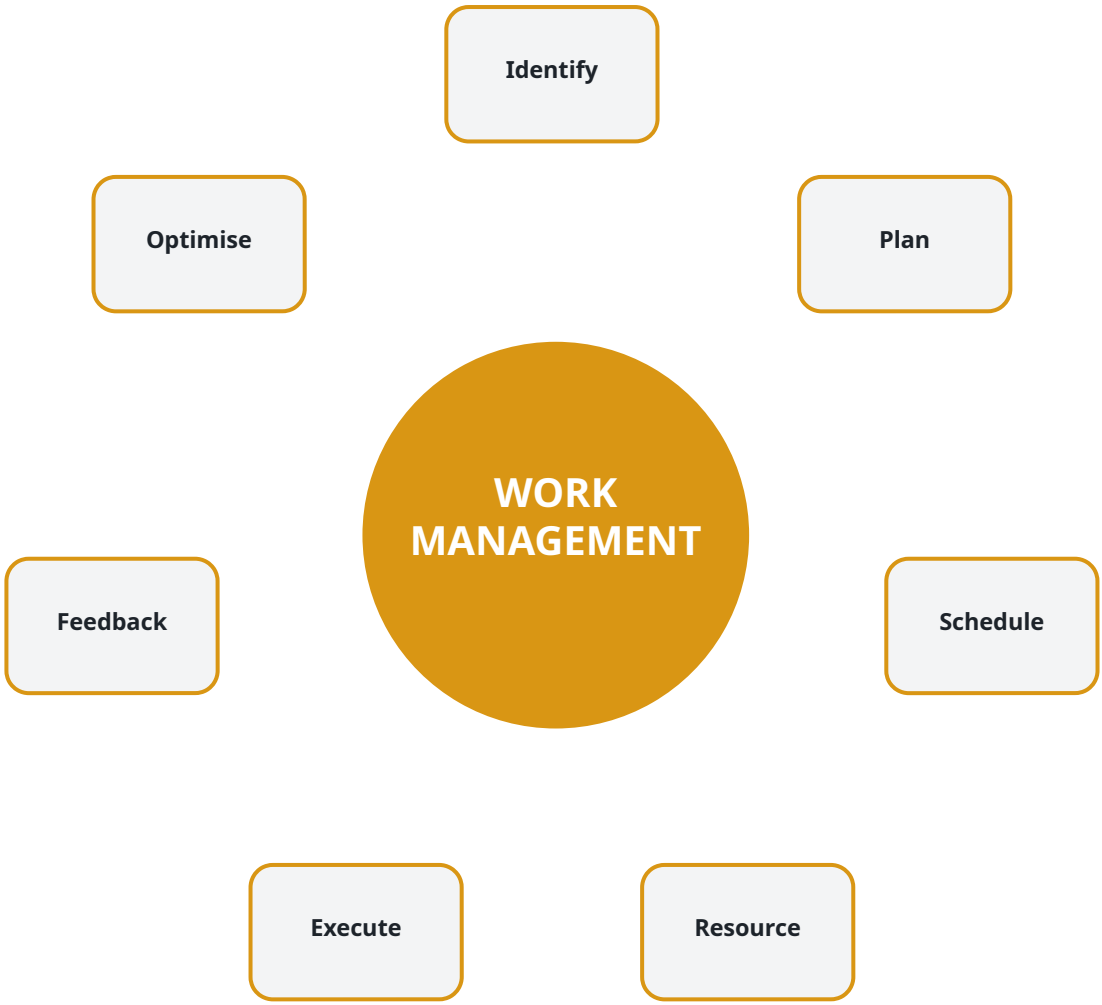
- OEM manuals and standards
- Failure and downtime history
- Asset criticality
- Experienced SMEs and artisans
- Performance KPIs

Typical outputs

- Effective maintenance tasks
- Frequencies and triggers
- Labour, tools and materials
- Job plans / work instructions
- Implementation requirements

Maintenance Work Management Cycle

Turning engineered strategy into disciplined execution.



Solutions Built Around Client Problems

We start with the business outcome - not the tool.

Reduce Unplanned Downtime	Criticality + failure analysis + strategy optimisation
Eliminate Repeat Failures	RCA + defect elimination + action validation
Improve Maintenance Effectiveness	FMEA/FMECA + RCM + PM optimisation
Strengthen Planning & Scheduling	Work management process + roles + KPIs
Improve Asset Information	SAP PM / CMMS structures + master data alignment
Develop Reliability Capability	Training + coaching + practical knowledge transfer

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BOOK C

CONTROL

Sustain performance through people, governance and evidence.

Experience That Informs Our Practice

Representative projects delivered across previous professional engagements.

The following case studies reflect work performed by our Principal Consultant and partner consulting team before and alongside the establishment of David Madanga Consultants. They demonstrate the practical experience underpinning our methods.

Exxaro Grootegeluk

Richards Bay Minerals - Rio Tinto

Anglo American - Sishen

Exxaro Belfast Coal

Sappi Saiccor

Hauni / Körber

CASE STUDY

Exxaro Grootegeluk

Asset Criticality, FMEA/RCM & PRT Optimisation

CHALLENGE

A large-scale asset strategy review required maintenance tactics to be validated and standardised across mining fixed plant and associated equipment.

ENGINEERING APPROACH

- Asset Criticality Assessment updates
- FMEA/RCM tactic validation
- Maintenance task rationalisation
- PRT / job-card development and implementation handover

VALUE DELIVERED

Structured asset strategy

Improved maintenance standardisation

Implementation-ready job plans

Knowledge transfer

CASE STUDY

Richards Bay Minerals - Rio Tinto

Defect Elimination & Asset Tactics Development

CHALLENGE

Recurring equipment issues required structured failure analysis and sustainable maintenance responses across fixed and mobile mining equipment.

ENGINEERING APPROACH

- Defect elimination facilitation
- Root Cause / Ishikawa analysis
- Maintenance tactics development
- Lifecycle costing models for mobile equipment

VALUE DELIVERED

Improved failure understanding

Structured corrective actions

Optimised asset tactics

Better engineering decisions

CASE STUDY

Anglo American - Sishen

Asset Tactics Development

CHALLENGE

Maintenance strategies were required for mining equipment together with supporting procedures, safety considerations and spares requirements.

ENGINEERING APPROACH

- Maintenance tactic development
- Maintenance procedures
- Safety protocol development
- Critical spares establishment

VALUE DELIVERED

Consistent maintenance standards

Improved task definition

Improved planning inputs

Stronger execution controls

CASE STUDY

Exxaro Belfast Coal

Operational Readiness

CHALLENGE

A new processing operation required asset care plans, maintenance processes and workforce readiness before operational handover.

ENGINEERING APPROACH

- Asset care plan development
- Maintenance and production process development
- Personnel training
- Readiness test runs

VALUE DELIVERED

Improved startup readiness

Reduced implementation risk

Workforce capability

Sustainable operating processes

Our Consulting Team

Specialist reliability engineers with complementary strengths.

LIZILE XULU
Managing Director & Principal Reliability Consultant

Lovemore Funyura

Senior Reliability Consultant

Mlungisi Msane

Electrical Engineer | GCC (Factories)

Maqhawe Msane

Industrial Engineer | SAP PM

Sello

Electrical Reliability Consultant

Partner consultants are engaged according to project scope and specialist requirements.

Principal Consultant

Lizile Xulu | Industrial Engineer | Reliability Specialist

Industrial Engineer specialising in Reliability Engineering, Asset Management and Maintenance Strategy Development, with extensive experience across mining, manufacturing and heavy industry.

- **National Diploma: Industrial Engineering**
- **Certified Six Sigma Master Black Belt**
- **Certified Six Sigma Coach**
- **ISO 55000 Level 3**
- **Maintenance Planning & Scheduling**
- **Asset Care Plan Development**
- **Root Cause Analysis**
- **AVEVA Insight / TrakSYS**

Corporate Credentials

A compliant foundation for client engagement.

CIPC	**Private company | In Business**	2026/624942/07
SARS	**Income Tax Registered**	Tax registration confirmed
B-BBEE	**Level 1 Contributor**	135% procurement recognition
Ownership	**100% Black Owned**	Exempted Micro Enterprise
Location	**Richards Bay, KwaZulu-Natal**	Local industrial and mining market proximity

Governance & Quality Commitment

Engineering you can trust.

1 **Safety**

Protect people, assets and environment through disciplined work practices.

2 **Quality**

Apply structured methodologies, peer review and clear document control.

3 **Integrity**

Provide independent, evidence-based engineering advice.

4 **Knowledge Transfer**

Build client capability rather than long-term dependency.

5 **Continuous Improvement**

Measure performance, learn from outcomes and refine systems.

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Begin the Conversation

Every organisation faces unique reliability challenges. The most effective solutions begin with understanding your assets, your people and your objectives.

Engineering Reliable Assets.
Developing Reliable People.
Building Reliable Organisations.

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