

Ezekiel Nyoni

Engineering & Maintenance Management | Mechanical Engineering | Project Management

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Nationality: Zimbabwean | Languages: English (Professional), Shona (Native)

Professional Summary

Results-driven Engineering and Maintenance Management professional with over 10 years of experience spanning mining, manufacturing, and academia. Specialises in preventative maintenance systems, plant reliability and availability, maintenance standards development, and mechanical engineering design. Proven track record leading engineering and maintenance teams, developing SOPs and maintenance standards, managing capital and operational budgets, and improving plant availability across phosphate, magnetite, and hard-rock mining operations. With a strong academic foundation (BEng and MEng Mechanical Engineering) and a track record in research, teaching, and project leadership (PMP Certified). Recognized for strong interpersonal, communication, and negotiation skills, and for building and motivating high-performing teams in demanding, high-pressure environments.

Core Competencies

- Engineering Management
 - Maintenance Standards Development
 - Preventative & Predictive Maintenance
 - Plant Reliability & Availability
 - Project and Production Management
 - Mechanical Engineering Design
 - Waste Management & Sustainable Engineering
 - Finite Element Analysis (FEA)
 - CAD and CAE
 - Research and Development
 - Team Leadership & People Management
 - Water Reticulation System
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Technical Skills

- MS Office Suite
 - CAD/CAM: Autodesk Inventor, Autodesk Nastran, Autodesk CFD, Fusion 360, SolidWorks, ANSYS
 - Project Management Software: MS Project
 - Programming Languages: MATLAB (Intermediate), Python (Intermediate)
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Professional Experience

Maintenance Standards Engineer – *(Expat Contract)*

Power Resources International – Rukaragata Mine (Rwanda)

August 2026 – Current

- Develop, implement, and monitor maintenance standards and preventative maintenance procedures (SOPs) for fixed infrastructure, the gravity concentration processing plant, earthmoving mobile equipment, and light vehicles
- Support achievement of maintenance targets to deliver optimum plant reliability and availability
- Lead and monitor a robust preventative maintenance system, ensuring plant and equipment conform to all legal and statutory requirements

- Contribute to preparation of capital, operational, and project maintenance budgets and support their implementation
- Perform diagnostic procedures and troubleshoot issues on both fixed and mobile machinery
- Forecast, order, and manage spare parts inventory for maintenance jobs, special projects, and stock replenishment
- Support mineral processing plant and drying plant maintenance standards
- Contribute to water reticulation system maintenance.

Engineering Manager

Dorowa Minerals Limited (Zimbabwe) — Phosphate and Magnetite Mining and Processing Company

November 2024 – July 2026

- Directed overall engineering and maintenance operations, leading the team on people management while driving plant reliability, availability, and performance against maintenance targets.
- Built and ran a preventive maintenance program — developing SOPs and schedules across fixed infrastructure, processing plant, mobile earthmoving equipment, and light vehicles (mechanical, electrical, civil) — to keep plant and equipment legally compliant.
- Supervised daily workshop operations across mechanical, electrical, fabrication/boilershop, and earthmoving/vehicle workshops, including diagnostics and troubleshooting on fixed and mobile machinery.
- Prepared and implemented capital, operational, and project budgets, and forecast/managed spare parts inventory for routine jobs, special projects, and stock replenishment.
- Managed maintenance of the mineral processing and drying plants, plus site water supply — installing and maintaining abstraction-point pumps, dewatering pumps, and pipelines serving the power plant, mine, and community.
- Led engineering projects supporting operations, including refurbishments, plant expansion, repairs, and fabrication work.

Mechanical Engineering Specialist

Allied Engineering (Zimbabwe) — Fabrication and Machining, Gear Cutting, Plant Installation and Maintenance, Structural Engineering

December 2023 – May 2024

- Managed engineering projects and sourced out new contracts
- Managed contracts and oversaw production and quality control on mechanical assemblies
- Designed and assembled modifications to mechanical components and projects
- Developed and oversaw maintenance plans for all rebuild projects
- Drafted and analysed budgets

Projects Engineer / Manager

GOA Direga Projects (South Africa and Zimbabwe) — Mining Equipment Supplies and Engineering Services

October 2021 – November 2023

- Managed engineering projects and contracts, and sourced out new contracts
- Supervised production and quality control on mechanical assemblies for rebuild projects
- Designed and assembled modifications on mobile equipment rebuilds
- Developed and managed maintenance plans for all rebuild projects
- Drafted and analysed budgets

- Mine machines rebuild projects: LHDs (Sandvik EJC115, EJC 777, LH 208, LH205); Face Drill Rigs (Sandvik DD210, DS411); Bolter (Sandvik DS211); Fernel Utility Vehicles

Head of Department / Lecturer, Mechanical Engineering Department

Midlands State University (Zimbabwe)

Head of Department: August 2020 – May 2022

Lecturer (Full-time): May 2019 – May 2022

Lecturer (Part-time): June 2022 – Current

- Administration, quality control, and project management
- Teaching and learning supervision, lecturing, and research
- Budgeting, procurement, and stakeholder engagement
- Degree programme development
- Modules taught: Fluid Mechanics; Heat and Mass Transfer; Computational Fluid Dynamics and Numerical Thermoflow; Hydraulic and Pneumatic Machines; Stress Analysis and Finite Element Methods; Technological Entrepreneurship

Assistant Project Manager

University of Johannesburg (South Africa) — Process, Energy and Environment Technology Station (UJ PEETS)

November 2018 – April 2019

- Project planning and project management, and procurement
- Research and maintenance planning
- Budgeting and business model development
- Quality management and research idea commercialisation
- Projects portfolio: Waste to Energy (design and construction of biogas digesters and bioenergy systems); E-Mobility (design and assembly of e-bikes for agricultural produce delivery); Agriculture (design and construction of greenhouses and hydroponic systems)
- Innovation projects entailed product design, ensuring compliance of products and manufacturing processes, developing business models for entrepreneurs, and developing maintenance plans for their products

Lecturer / Assistant Lecturer / Teaching Assistant

University of Johannesburg (South Africa) — Mechanical Engineering Science

Lecturer: February 2018 – November 2018

Assistant Lecturer: August 2017 – November 2017

Teaching Assistant / Senior Tutor: July 2014 – July 2017

- Lecturing across undergraduate mechanical engineering modules
- Modules taught: Introduction to Engineering Design I and II; Strength of Materials; Mechanics of Machines

Education

Master of Engineering in Mechanical Engineering — University of Johannesburg, South Africa (2015)

Dissertation: *Laser-Power Interaction Effect on the Evolving Properties of Laser Metal-Deposited (3D Printed) Titanium for Bio-implants*

Bachelor's Degree in Mechanical Engineering — University of Johannesburg, South Africa (2013)

Mini-Dissertation: *Investigation of Cost-Effective Binders for Wet and Dry Coal Aggregates*

Design Project: *Design of a Portable Biomass Shredding Machine*

Achievements & Awards

- Enel Open Power Africa 2020–2022 Cohorts Top Achiever
 - Open Power Africa 2020 Cohort
 - SEIFSA 2019 Corporate Social Investment Award – Schneider Electric, UJ PEETS (Project Leader and Team Member), RSA
 - 2019 NSTF-Lewis Foundation Green Economy Award – UJ PEETS (Team Member and Assistant Projects Manager), RSA
 - Golden Key Achievers Membership – M Eng Top Achiever (2016)
 - CoCreateMyCity-SA Netherlands and South Africa Cohort, 2015–2016
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Professional Memberships

- Southern African Asset Management Association (SAAMA) – Member
 - Project Management Institute (PMI) – PMP Certified Member
 - Society for Maintenance & Reliability Professionals - Member
 - Institute of Business Advisors Southern Africa (IBASA) – Member
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Research Interests

- Product Design and Development (Mechanical and Mining), with a special interest in FEA, CFD, and DEM
- Engineering and Asset Management
- 3D Printing and Laser Additive Manufacturing
- Circular Economy Engineering and Green Environment Technologies
- Functionally Graded Materials
- Waste and Renewable Energy Management and Energy Transitions

Publications

Scholarly Publications

1. Nyoni, E. and Akinlabi, E. T., "Process parameter interaction effect on the evolving properties of laser metal deposited titanium for biomedical applications," *43rd International Conference on Metallurgical Coatings and Thin Solid Films Journal*, Volume 620, Pages 94–102, December 2016.
2. Nyoni, E., Akinlabi, E. T., and Madyira, D., "Design and Performance Analysis of Vegetable Seed Oil Expellers: A Review," *Proceedings of the Eleventh South African Conference on Computational and Applied Mechanics (SACAM 2018)*, Vanderbijlpark, South Africa, Pages 616–626, 17–19 September 2018.
3. Nyoni, E., Masebinu, S., Rasmeni, Z., and Madyira, D., "Integration of technology in communities to enhance circular economy ideologies through waste to energy activities – A PEETS approach," *9th International Conference on Appropriate Technology*, November 2020.

Opinion Publications — Blog writing: ezekielnyoni.wordpress.com

References

Available on request.