ACTOM INDUSTRY

ENGINEERING PROJECTS & CONTRACTS CORPORATE PROFILE





ACTOM, offering a winning and balanced combination of manufacturing, service, repairs, maintenance, projects and distribution of electro-mechanical equipment through its 33 outlets throughout Sub-Saharan Africa.

ENGINEERING PROJECTS & CONTRACTS
A division of ACTOM (Pty) Ltd



Group History

ACTOM (Pty) Ltd is a level 1 B-BBEE Contributor with 59.65% Black Ownership and 35.63% Black Women Ownership. It is the largest manufacturer, solution provider, repairer, maintainer and distributor of electro-mechanical equipment in Africa, offering a winning and balanced combination of manufacturing, service, repairs, maintenance, projects and distribution through its 33 outlets throughout Sub-Saharan Africa.

ACTOM is also a major local supplier of electrical equipment, services and balance of plant to the renewable energy projects.

It also holds numerous technology, distribution and value added reseller agreements with various partners, both locally and internationally.

Group Structure

POWER: JOHN THOMPSON



ENGINEERING PROJECTS & CONTRACTS HIGH VOLTAGE EQUIPMENT





MEDIUM VOLTAGE SWITCHGEAR



POWER TRANSFORMERS



- DISTRIBUTION TRANSFORMERS



I H MARTHINUSEN





MARTHINUSEN & COUTTS



ACTOM TURBO MACHINES





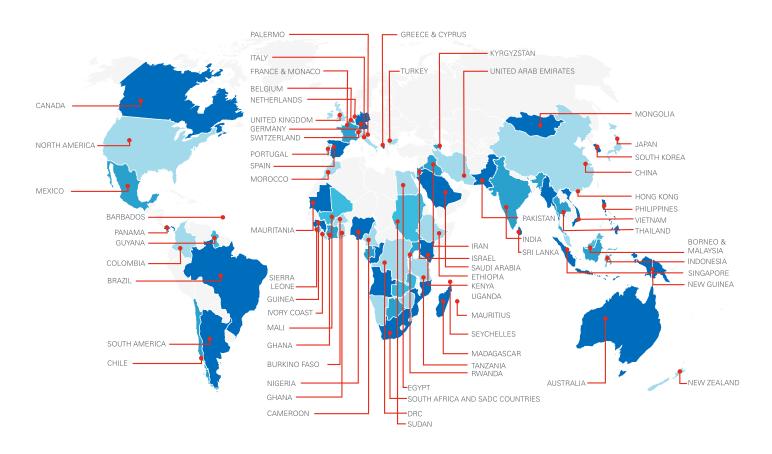
ELECTRICAL EQUIPMENT



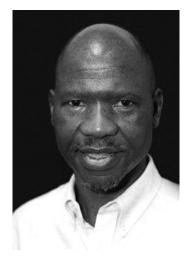
ACTOM SMART TECHNOLOGIES



Global Footprint



Management Team









Andries Mthethwa Chairman

Mervyn Naidoo Group CEO

Sybrand Nel EPC Divisional CEO

Janna Kapp ACTOM Industry General Manager

ACTOM Industry Overview

ACTOM Industry is the ACTOM group's Mine Winder Hoist Expert with modern power electronic drive, control and switchgear technology, providing turnkey solutions worldwide for most specialised industrial rotating drive and power applications in mining, metals, paper and process industries.

Our business has enhanced the consolidated technologies and

expertise of Metropolitan Vickers, BTH, English Electric, AEI, GEC, GEC Alsthom, Cegelec and AEG, the founding companies of the Group, and remain amongst the world leaders in Mining and Metal industries.

Applications for our systems, ranging from basic standard drives to sophisticated custom-built AC and DC variable speed control, can

be found in mine winder hoists, mills, pumps, fans, compressors and process plants across a broad spectrum of industry. We manage projects from design to commissioning, inspect and maintain, provide emergency support, do repairs and provide various condition assessment services.







Proven Standards + Custom Solutions

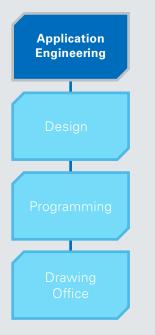


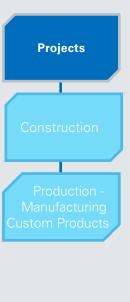
ACTOM Industry – Structure

ACTOM Industry employ a team of qualified and experienced Sales Engineers, Application Design Engineers, Project Managers, Construction Staff, Commissioning and Engineering Support Staff, Winder and Rope Inspectors, Electronics & Mechanic Repair

Technicians, Specialised Fire Detection Systems Technicians and Sale Representatives taking care of our customer need.

We have full in-house capability deliver turn key Drive, Control and associated Power and Switchgear projects. We perform full or partial upgrades, assist with legacy motor refurbishment as well as switchgear replacement. Our products and installations are backed with maintenance, condition assessment inspection, breakdown support, repairs and spares.











Products & Services

ACTOM Industry's product portfolio includes a full range of medium voltage switchgear, low voltage power distribution switchgear, motor control centres, transformers, drives, DC circuit breakers, motors, encoders, controls and diagnostic software packages for all AC and DC drive applications.

We have the complete local inhouse capability to calculate duties, design, manufacture, install,

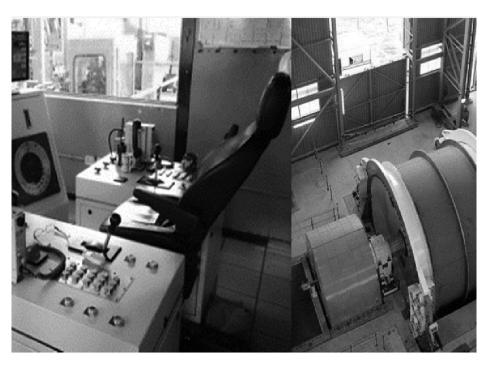
commission, project manage and render proactive maintenance and emergency support for our present installed base across the African continent.

Our experienced application engineers will advise on a selection of the most techno-economically suitable products and solutions for each unique application.

- Winder Hoist Expertise
- Switchgear, DC Circuit Breakers and MCCs
- Protection
- Transformers
- AC/DC Drives
- PLC/IPC controls
- HMI/CADA/Data logging
- Instrumentation
- Motors and MG-Sets
- Technology partnership with leading brand manufacturers
- Products to IEC and SANS specification
- Proven products and systems
- Access to our founding group Legacy equipment OEM data
- Customisation to client needs
- Turnkey Projects
- Maintenance and inspections
- Repairs
- Breakdown support
- Spares and components







Switchgear & DCCB

Medium and low voltage switchgear as well as DCCB (DC circuit breakers) compliant with the latest IEC and SANS standards and customised to client specific requirements, can be provided as

part of new drive installations or as replacement during partial switchgear upgrade and replacement projects. Our engineers will take responsibility for FAT & SAT (Factory and Site Acceptance Test) to prove the integrity and correct functioning of the power circuit, controls and protection. We also offer MV cable jointing and termination, protection and grading as well as substation automation services on switchgear projects.









We offer:

- MV Switchgear
- LV Switchgear
- Motor Control Centres
- DC Circuit Breakers
- Protection upgrade
- Substation automation
- Products to IEC and SANS specification
- Customisation to client needs
- Factory and Site acceptance
- MV cable jointing / termination
- Turnkey Switchgear projects

Motors & MG Sets

Se lection, supply and installation of suitable AC or DC motors can be offered to operate in conjunction with our drives and controls.

ACTOM Industry can offer both standard and custom-built replacement motors and generators as well as repairs, refurbishment, insulation upgrade or replacement parts for most legacy motors and generators manufactured by the founding companies of the Group.

We also offer condition assessment support for these machines..







- New AC/DC Motors
- Replicate replacement for Legacy Rotating Machines
- Partial or Full Refurbishment and Insulation upgrade on Legacy Rotating Machines
- Installation of Rotating Machines
- Inspection and Testing Services
- Replacement parts for Legacy Rotating Machines
- Parts Manufactured by OEM

Drives & Controls

ACTOM Industry's drives and control solutions were developed and refined over many years to serve each unique application. Our engineers will advise on a selection of the most techno-economically suitable AC or DC drive and control solution for your application.

While we strive to extend the support and repair of our previous generation drive and control products, we specialise in partial upgrade options for seamless changeover from analogue to digital and from MG-Sets to power electronic drives. Depending on your equipment condition, we are also able to retain previous generation converters and MGSets to be operated with our latest technology. Design of our advanced Winder Control Systems, Regulator Controllers, Converters, Firing

Circuits, Safety Circuit, Brake Control, ESDP (Electronic Speed Distance Protection) and associated circuitry are customised to interface with your system.

Our products and installations are fully backed by local emergency support in South Africa and equipped with connectivity for remote support by our engineers.



We offer:

- Winder Hoist Expertise
- AC/DC Drives
- PLC/IPC Controls
- HMI/SCADA/Data logging instrumentation
- Advise on most technoeconomical solutions
- Customisation to client needs
- Specialise in partial upgrade options
- Analogue to digital
- MG-Set drives & control
- Integrate with previous generation converters
- Technology partnership with leading brand manufacturers
- Equipped with connectivity for remote support
- Local emergency support in SA

Fire Detection Services

Fire detection systems in mines are required to operate safely without incident or nuisance alarms in explosive atmospheres created by coal dust, methane and diesel fumes. Our fire detection products, certified to SANS 1515, are primarily used in mines for the

early detection of fire to prevent the traumatic loss of lives and the very costly loss of production and equipment caused by mine fires and explosions. We have a team dedicated to the manufacture, sale and repair of various fire detection products.







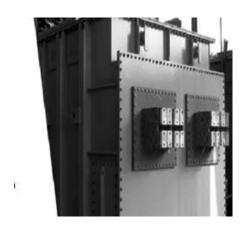
- Systems for use in Explosive Atmospheres (SANS1515)
- Particle smoke detectors
- Carbon monoxide detectors
- Air flow sensors
- Methane detectors
- Repairs
- Discard radio active waste
- On-site support

Transformers

We offer "Oil immersed" and "Cast Resin" (Dry type) transformers, built and selected to suit each unique application and fully compliant with the latest IEC and SANS standards. Our team will select, supply and install suitably matched medium voltage and low voltage transformers for distribution and electronic drive applications. Each transformer is guaranteed to handle

the arduous environmental and power conditions in remote mining and industrial locations.

Replacement "Cast Resin" coils and transformer components can be provided as strategic spares and in the unlikely event of a failure, we can assist with emergency repairs and coil replacement at our or customer sites.



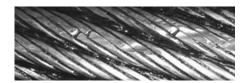
We offer:

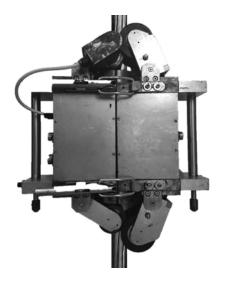
- MV & LV Transformers
- Distribution Transformers
- Specialised Transformers for drive application
- Oil or dry type transformers
- Supply only or turnkey projects
- Proven products/brands
- Replacement coils manufactured by OEM
- On-site repairs

Winder Services

In addition to our engineering project services, a dedicated Winder Inspection Department undertakes regular independent, pre-planned technical audits and testing of all mechanical and electrical devices on many winder installations in Southern Africa, with particular emphasis on verifying safe and correct operation, physical condition and spares backing for the equipment.

ACTOM Industry is fully equippedto perform "Level 1"
Technical Audits, Dynamic Brake
Tests and Magnetic Rope Tests on all designs and makes of Winders,
Hoists, Winches, Chairlifts and related Equipment.





- Planned and unplanned safety inspections on :
 - Winders
 - Hoists
 - Winches
 - Chairlifts
- Winder audits
- Level 1 technical audits
- Dynamic brake testing
- Magnetic rope testing
- Test on all designs

Spares & Repairs

ACTOM Industry strives to extend equipment life of our previous generation drive, control and associated products through our inhouse support and repair facility.

Our Spares Department provides After-Sales Service and Spares including service exchange/

components. This is backed by a comprehensive library of instruction manuals and drawings of all

previously supplied equipment.

We offer:

- DC circuit breaker service and repairs
- Controller circuit board diagnostics and repairs
- Lilly setup and repairs
- Manufacture of Swartz relays
- Replacement parts and components for old and new generation products
- Support for GEM, Sigma and B&R controlled systems
- Comprehensive library of instruction manuals

Customer Base

- Anglo American Platinum
- Arcelor Mittal
- Columbus Stainless
- GE Power Conversion
- Goldfields
- Ivanhoe
- Royal Bafokeng Platinum
- Sibanye PGM Operations

- Anglo Gold Ashanti
- Bakubung Minerals
- Glencore
- Impala Platinum
- Harmony Gold
- Northam Platinum
- Sibanye Gold
- Siyanda Resources

Technology Partner & Solution Providers

- ACTOM MV Switchgear
- Beckhoff
- CBI Electric
- GE Power Conversion
- LHMarthinusen
- Marthinusen & Coutts
- Phoenix Contact
- Rockwell Automation
- Schneider Electric
- Sécheron
- Semi Conductor Solutions
- Trafo Power Solutions
- Trasfor
- Quartzelec
- Wago
- WEG Group

Project References

- 2007 Goldfields 4736kW Double Drum Rock Winder Replacement supervisory computer system
- 2007 Konkola Copper Mines 8206kW Electrical Rock Winder 11kV Feeder Panel for KDMP Surface Conveyor
- 2008 Anglo Gold Ashanti 6900kW Double Drum Rock Winder Speed / distance protection upgrade
- 2008 Anglo Gold Ashanti 6900kW Double Drum Rock Winder Speed / distance protection upgrade
- 2008 Anglo Gold Ashanti 14778kW BMR Man Winder Speed / distance protection upgrade
- 2008 Anglo Gold Ashanti 2132kW Single Drum Man Winder Speed / distance protection upgrade
- 2008 Harmony Gold 2600kW Double Drum Man/Mat Winder AC Servo Motor & Drive System
- 2009 Goldfields 12126kW Angled BMR Rock Winder Complete Electrical upgrade
- 2009 Konkola Copper Mines BMR Koepe Rock Winder Replacement Armature for DLC 156/62 DC Motor
- 2010 Lonmin Man Winder Motors Field Coil replacement
- 2010 Harmony Gold 3430kW DC Double Drum Rock Winder upgrade
- 2011 Goldfields 4500kW Double Drum Rock Winder Regulator, Control & Safety , SCADA & Software upgrade
- 2011 Anglo American Platinum 4400kW Double Drum Man/Mat Winder Replace Microcontrollers and HMI
- 2011 Northam Plat 4736kW RH Double Drum Man Winder Regulator, Control & Safety upgrade
- 2011 Northam Plat kW SAG & Ball Mill PC & SCADA upgrade
- 2012 Selebi-Phikwe Service Rock Winder DC Circuit breakers upgrade
- 2012 Lonmin 2110kW BMR Koepe (Tower) Rock Winder Replacement Static Speed/Distance Protection System
- 2012 Bafokeng Rasimone Platinum Mine Rock Winder Electrical Drive and Control System
- 2013 Anglo Gold Ashanti 2312kW RV Man Winder Converter upgrade
- 2013 Anglo American Platinum 4400kW Man Winder Ward Leonard replacement and PECe upgrade
- 2013 Goldfields 12126kW Angled BMR Rock Winder Replacement Sécheron DC Circuit Breaker
- 2013 Konkola Copper Mines 1500kW Service Rock Winder Cyclo Converter Drive and Control upgrade
- 2014 Sibanye 4475kW Double Drum Man/Mat Winder Convertor upgrade & replacement safety circuits
- 2014 Konkola Copper Mines BMR Rock Winder Encoder & Bell Signalling Interface
- 2014 Goldfields 6620kW Surface Rock Winder Electrical Converter & Regulation Equipment Transfer & upgrade
- 2014 Sibanye Man/Mat Winder Vacuum Circuit Breaker Switchboards
- 2014 Anglo American Platinum 4400kW Double Drum Man/Mat Winder Replacement LFDB Microcontrollers
- 2015 Sibanye BMR Rock Winder HT and LT Switchgear replacement
- 2015 Harmony Gold Double Drum Man Winder Electrical Drive & Control Equipment
- 2015 Harmony Gold Rock Winder MV Switchgear replacement
- 2015 Mopani two 13616kW Rock Winders Complete new electricals with AC VSI Drive & Control System
- 2015 Mopani two 6808kW Man Winders Complete new electricals with AC VSI Drive & Control System
- 2016 Sibanye 4500kW Double Drum Rock Winder Thyristor converter firing circuit and regulator upgrade
- 2016 Anglo Gold Ashanti 6900kW Surface Rock Winder Control, Scada, Electrical upgrade
- 2016 Goldfields 8400kW Angled BMR Man Winder Armature / Field Convertor upgrade

- 2016 Selebi-Phikwe 930kW Double Drum Twin Deck Service Winder Regulator, Control and Safety & SCADA
- 2016 Sibanye 2 x 8250kW ECBMR Rock Winder Field Converter, Regulator, Control, Safety, ESCORT & MCC upgrade
- 2016 Anglo Gold Ashanti 7389kW BMR Man Winder Convertor Firing System Regulator upgrade
- 2017 Sibanye 4500kW Double Drum Rock Winder Replace DC Circuit Breaker
- 2017 Goldfields 6063kW Angled BMR Rock Winder Vent Shaft Sheave Wheel Compensation
- 2017 Anglo Gold Ashanti 4259kW BMR Man Dual Purpose Winder PLC upgrade
- 2018 Sibanye 2000kW Sub Vertical Man/Material Winder Safety and Control upgrade
- 2018 Ivanhoe Mines DRC 2 \times 1750kW Koepe Rock Winder Electrical Drive & Control Installation
- 2018 Sibanye 8360kW BMR Rock Winder Escort Brake Control, Switchgear upgrade
- 2018 Anglo American Platinum 4086kW Double Drum Rock Winder Replacement Electrical Control
- ${\bf 2019}$ Goldfields 2 x 4200kW Angled BMR Man Winder Alternative Brake Control upgrade
- 2019 ArcelorMittal Blast furnace 8-panel 11kV ACTOM AMV12 Switchgear replacement
- 2019 Northam Plat 2 x 4226kW Double Drum Rock Winder Control & Regulator upgrade
- 2019 Sibanye 4715kW Dual Purpose Rock Winder Regulator & DC Circuit Breakers
- 2019 Anglo American Platinum 60000kW 11kV Intake Substation 45-panel Indoor MV Switchgear retrofit
- 2020 Harmony Gold 2 x 1865kW Double Drum Man Winder Escort Breaking Monitoring PLC & Static Speed/Distance Protection System upgrade
- ${\bf 2020}$ Goldfields 2 x 2400kW Man Winder Closed Loop Brake Control Electrical upgrade
- 2020 Sibanye 4715kW Dual-Purpose Winder Regulator & DC Circuit Breaker upgrade
- 2020 Sibanye Gold 3825kW Double Drum Man Winder Regulator and DC Circuit Breaker upgrade
- 2020 Northam Plat 4428kW Double Drum Dual-Purpose Winder Control, SCADA/PC and Regulator upgrade
- 2020 Sibanye 2 x 3170kW BMR Rock Winder Regulator, Converters, Control & Safety & SCADA and Breakers upgrade
- 2020 Sibanye S/V 2 x 1680kW Double Drum Man Winder Regulator, Convertor, Control & Safety & SCADA and Breaker upgrade
- 2021 Harmony 4259kW Double Drum Dual-Purpose Winder Closed Loop Brake Control Electrical upgrade
- 2021 Northam 5379kW Double Drum Rock Winder Control, SCADA/PC and Regulator upgrade
- 2021 Sibanye S/V 2 x 2540kW Double Drum Rock Winder Regulator, Convertor, Control & Safety & SCADA and Breaker upgrade
- 2021 Anglo American Platinum 4500kW Double Drum Rock Winder Ward Leonard replacement and complete electrical upgrade
- 2022 Sibanye 4550kW Double Drum Man Winder Regulator upgrade
- 2022 Sibanye 1 x 4938kW Double Drum Rock Winder Regulator Upgrade
- 2022 Sibanye S/V 2 x 1680kW Double Drum Man Winder 4-panel SBV Switchgear upgrade
- 2022 Harmony 2 x 7389kW ECMBR Man Winder 10-panel MV Protection upgrade
- 2022 Mopani two Man Winder and three Rock Winders Slack & Tight Rope System installation

Certification







Customer Support Lines

MINE WINDER HOIST Drives & Controls

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