



KHUTSMO

MINING AND ENGINEERING

COMPANY REGISTRATION NUMBER: 2019/482238/07



KHUTSMO GROUP SOLUTIONS (Pty) Ltd

COMPANY PROFILE



KHUTSMO

ENGINEERING STABILITY, ENABLING GROWTH

Khutsmo Group Solutions (Pty) Ltd. is a 100% Black-owned, Level 1 B-BBEE company that is redefining mining and geotechnical engineering across Africa. Founded in 2019 by Abram M. Ditshego, Khutsmo is a trusted partner to leading mining houses. We deliver solutions that stabilise the ground, optimise production, and secure sustainable growth.

We achieve this by integrating global research, advanced geotechnical practices, and smart mining technologies to ensure outcomes that are safe, cost-effective, and future-ready. Our core expertise includes:

- Geotechnical Engineering Consultancy: Geotechnical, Rock Engineering and Strata Control.
- Specialist Rope Access: Rockwall protection and slope stabilisation solutions.
- Advanced Monitoring: Geotechnical instrumentation and real-time data monitoring.
- High-Precision InSAR Monitoring: Integrated, scalable deformation intelligence for confident geotechnical decisions.

Proven Performance

Our track record is built on technical precision and an uncompromising commitment to safety.

- Scale and Safety: 50,000 m² of barring and drape mesh installation at Tharisa Minerals and Harmony Kalgold – completed without a single Lost Time Injury (LTI).
- Compliance Certainty: Supported blue-chip clients in critical DMPR Section 54 risk audit upliftments, securing approval at first presentation to restore operations swiftly.
- Optimised Design: Delivered complex numerical modelling using Itasca FLAC3D® and 3DEC®.
- Continental Footprint: Expanded operational reach with pioneering projects in Niger and Sierra Leone.

Our strength lies in bringing together industry-qualified engineers and technical specialists who collaborate as one Khutsmo team. As strategic long-term partners, we deliver safe, reliable, and measurable impact while advancing transformation, empowerment, and shared success across Africa's mining industry.





VISION

INNOVATING MINING, SUSTAINING FUTURES

Khutsmo's vision is to be a globally recognised leader in mining and geotechnical solutions, setting benchmarks in operational excellence, digital innovation, and sustainability.

Our goal is clear—to integrate geotechnical engineering expertise with emerging technologies that optimise performance while building a mining sector that is smarter, safer, and more sustainable for future generations.

MISSION

LEADING WITH EXPERTISE, PARTNERING FOR PROGRESS

Khutsmo's mission is to lead Africa's mining sector through:

- World-class advisory services built on technical excellence and global best practice.
- Strategic partnerships with industry experts, academia, and international suppliers to co-create leading solutions.
- R&D-driven innovation that embeds safety, compliance, and efficiency into every project.

More than a service provider, we are partners in progress — committed to transparency, integrity, and shared prosperity. Every project we deliver strengthens operations while creating lasting value for clients, communities, and the environment.





OUR VALUES

BUILDING TRUST, DRIVING INNOVATION

Our values shape every decision and partnership, ensuring solutions that are technically advanced, socially responsible, and future ready.

- **Precision and Accountability:** We combine geotechnical expertise with structured project planning to deliver outcomes that are predictable, measurable, and resilient, minimising risk, optimising resources, and protecting client objectives.
- **Innovation Through Partnership:** We view innovation as a shared journey, co-creating with clients, academia, and global suppliers to embed agility and future-proof operations.
- **Sustainability and Community Impact:** We invest in local talent through partnerships with universities and TVET colleges, while infusing practices that reduce environmental impact and strengthen community resilience.
- **Integrity and Long-Term Value:** Our work is grounded in transparency, ethics, and shared prosperity. Every project is designed to create immediate operational impact while securing lasting value for clients, employees, and host communities.

THE KHUTSMO ADVANTAGE

SAFE, SUSTAINABLE, SMARTER MINING

Khutsmo redefines mining excellence with solutions built on trust, precision, and accountability. Guided by safety and sustainability, we help clients unlock efficiency, ensure compliance, and achieve long-term growth.

- **Partnerships That Power Performance:** Strategic collaborations with academia, OEM innovators, and specialist suppliers — including QualiRock and Canadian manufacturers — give clients access to advanced technologies, practical insights, and rapid problem-solving capacity unmatched in the sector. This collaborative ecosystem ensures minimal downtime and maximum resilience.
- **Measurable Impact, Guaranteed Process:** From highwall stabilisation to shaft integrity studies, we deliver large-scale, incident-free projects through our proven three-step process: Consultation, Design, and Execution.
- **Smart Technology, Stronger Mines:** We apply geotechnical modelling, advanced instrumentation, and automation to optimise design, reduce costs, and improve decision-making — turning global best practice into practical advantages for African mines.



SHEQ

THE STANDARD THAT SHAPES EVERY PROJECT

Safety, Health, Environment, and Quality are the non-negotiable foundations of every project. We align with the Mine Health & Safety Act, client protocols, and global benchmarks to ensure operations are not just compliant, but resilient and future ready.

- **Safety Without Compromise:** Zero harm is our benchmark. Every task, from rope access to underground audits, is engineered to eliminate risk and embed a culture of safety.
- **Health That Sustains Performance:** Workforce resilience drives productivity. We implement wellness and occupational health programmes that protect employees and sustain long-term productivity.
- **Environmental Responsibility:** Sustainability is integrated into every project. Through responsible practices, we minimise footprints, safeguard ecosystems, and align production with ecological stewardship.
- **Quality That Endures:** Quality is measurable — and we make it visible. Rigorous monitoring and continuous improvement ensure outcomes meet the highest technical and regulatory standards.





OUR SERVICES

GEOTECHNICAL EXPERTISE IN ACTION

We deliver specialist solutions that turn complex ground and operational risks into measurable advantages, ensuring resilient performance and regulatory certainty.

Geotechnical Engineering and Risk Solutions

Through applied engineering and advanced modelling, we keep mines stable, compliant, and productive:

- **Rock Engineering and Strata Control:** DMPR-compliant ground management and geotechnical engineering. Design and assessments for open-pit and underground mines.
- **Support Design and Risk Auditing:** Reinforcement systems and DMPR-compliance audits.
- **Numerical Modelling:** FLAC3D®, 3DEC®, and Rocscience simulations for design certainty.
- **Geotechnical Databases and Statutory Documents:** Structured data capture, review and compliance-ready documentation.

Specialist Rope Access and Safety Systems

Our abseiling division provides safety-critical services in high-risk, high-angle, and hard-to-reach environments, reducing downtime and cost while ensuring compliance with global best practice:

- **Rockfall Protection and Slope Stabilisation:** Mitigating geohazards using advanced techniques. Highwall barring, drape mesh installation, prism installation and construction of mobile catch fences.
- **Rope-Assisted Geotechnical Assessments:** Enabling precision work in complex terrains.
- **Maintenance in hard-to-reach environments:** Conducting essential upkeep and repairs in challenging or complex terrains.



Advanced Instrumentation and Mining Products

Khutsmo maintains a reliable supply chain of monitoring instruments and high-quality electrical and mechanical components, enhancing mine safety, reliability, and productivity:

- Strata monitoring devices. Detecting movement from 3mm. Features include LED/audible alerts and RF-enabled real-time data tracking for control rooms and smart devices; compact, dustproof, and fail-safe.
- Cost-effective early warning devices. Detecting movement (1–20mm displacement). Highly visible, with a blast-proof variant for high-risk zones.
- Extensometers Miniaturised, DSP-enabled rods providing unrivalled precision in deformation measurement for proactive risk management.





Digital Innovation: The SkyGeo Partnership



In a strategic move to integrate emerging technologies with world-class engineering, Khutsmo has partnered with SkyGeo. This collaboration enhances our service offering by combining Khutsmo's deep mining expertise with SkyGeo's advanced satellite deformation analytics.

Early Warning Through InSAR Technology

This partnership introduces satellite-based Interferometric Synthetic Aperture Radar (InSAR) to our toolkit. This geodetic estimation technique measures millimetre-scale displacements across the Earth's surface, regardless of weather conditions or time of day.

By stacking multiple Synthetic Aperture Radar (SAR) images and utilising proprietary algorithms (PSI and SBAS), we provide:

- **Millimetre Precision:** Detecting even the slightest displacements to predict potential failures before they occur.
- **Wide-Area Surveillance:** Continuous monitoring of vast landscapes, including open pits, waste rock dumps, and infrastructure corridors.
- **Proactive Risk Alerts:** An Early Warning Service (EWS) that triggers notifications when displacement rates surpass site-specific thresholds (Low Risk to Critical).

Engineering Expertise Meets Data Science

Unlike standalone data providers, Khutsmo and SkyGeo embed satellite monitoring directly into geotechnical workflows. This ensures that raw data is always interpreted, validated, and applied through sound engineering judgment.

Core Applications

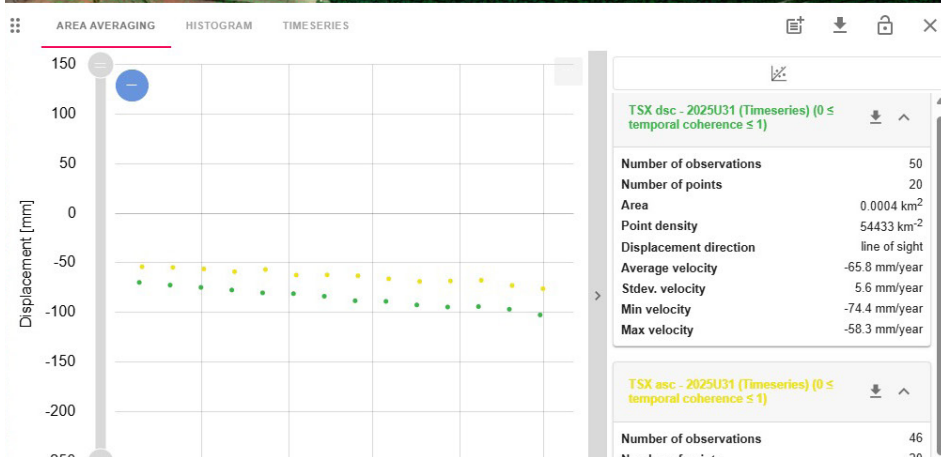
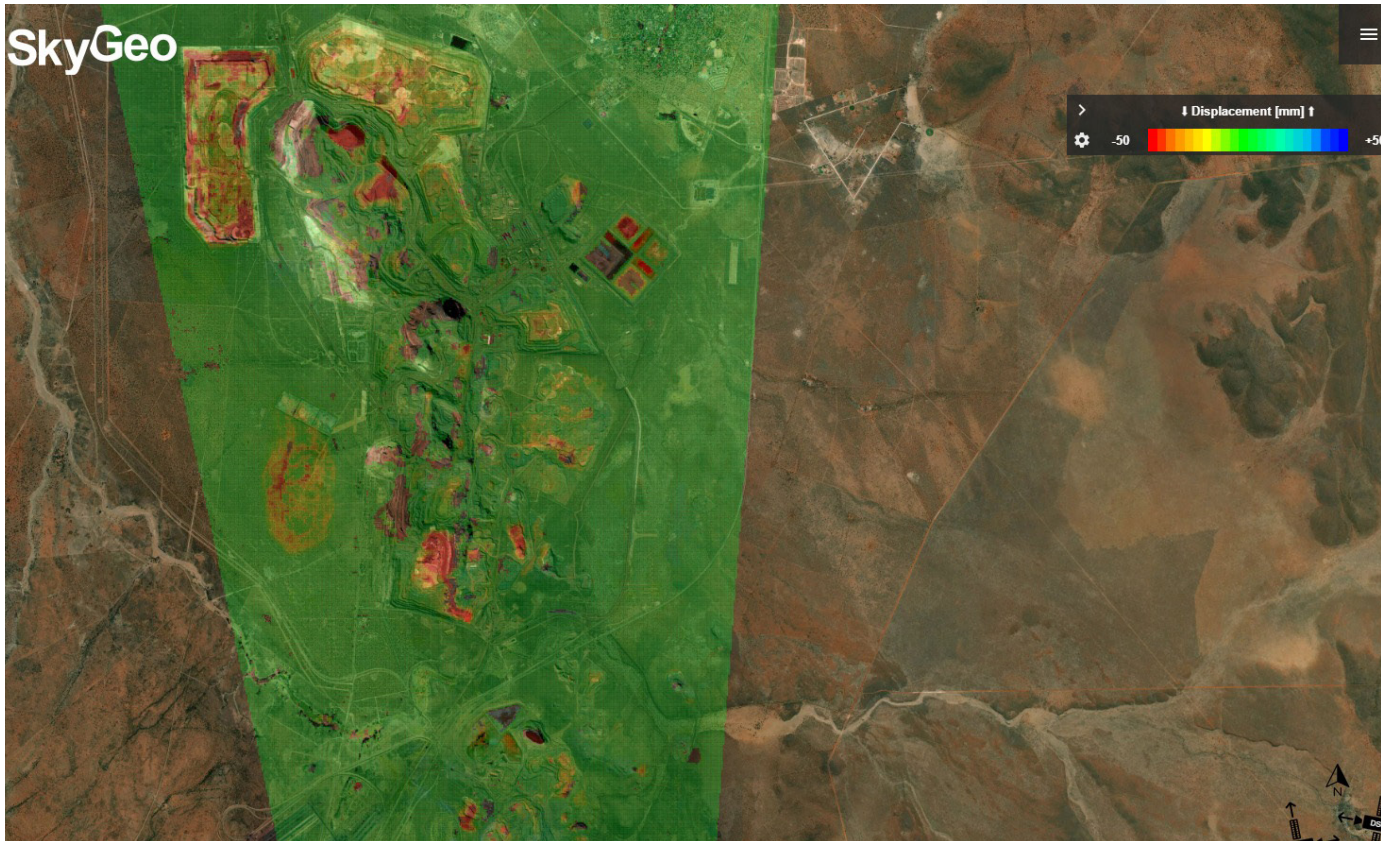
The combined capability of Khutsmo and SkyGeo supports critical mining operations, including:

- **Tailings Storage Facility (TSF) Monitoring:** Ensuring the long-term stability of tailings through continuous deformation analysis.
- **Open-Pit Slope Stability:** Identifying emerging "hotspots" and unknown risk zones across the entire mining footprint.
- **Underground Subsidence:** Assessing surface deformation and structural impacts with high temporal frequency.
- **Infrastructure Integrity:** Monitoring haul roads, rail lines, and pipelines for settlement or movement.



The Advantage of Integrated Monitoring

Satellite analytics enhance, rather than replace, traditional ground-based instrumentation. By providing visibility across the entire mining footprint, Khutsmo identifies trends and risks that ground-based sensors might miss. This data-driven model improves safety, secures operational continuity, and provides mine management with a holistic view of geotechnical health.





OUR CLIENTS

TRUSTED BY INDUSTRY LEADERS

We are proud to be the partner of choice for leading mining houses across South Africa and Africa. Our portfolio spans platinum, chrome, gold, fluorspar, and other critical mineral operations.

Our clients include:

- African Rainbow Minerals (ARM) t/a Bokoni Platinum Mines
- Alexkor SOC Ltd.
- Amatshe Gold (Pty) Ltd.
- Bauba A Hlabirwa Mining Investments (Pty) Ltd.
- CAPM Gold Mine
- Clover Alloys
- Groundwork Consulting
- Impala Platinum Mines Rustenburg Operations
- Kalahari Goldridge Mining Company Ltd. t/a Harmony Gold Mine
- Kumba Iron Ore – Sishen and Kolomela Mines
- MAT Bianca Investments (Pty) Ltd.
- MLB Consulting (Pty) Ltd.
- Modikwa Platinum Mine
- Mzansi Energy
- Nokeng Fluorspar Mine (RF) (Pty) Ltd.
- PRYSM Resources (Pty) Ltd.
- Samancor Western Chrome Mines
- Sefateng Chrome Mine
- Siyanda Bakgatla Platinum Mine
- SMT Lethabo Mining (Pty) Ltd.
- Tharisa Minerals (Pty) Ltd.
- Valterra Platinum (Pty) Ltd (Anglo American)
- Vedanta Zinc International
- Zizwe Kookfontein Mine

For verification purposes, we can provide direct references from senior managers at these operations. Contact details are available upon request.





WHERE SAFETY MEETS SCALE

KHUTSMO'S SIGNATURE PROJECTS

Since 2019, Khutsmo has completed over 105 incident-free geotechnical engineering projects across Africa, helping leading mining houses manage risks, maintain continuity, and achieve critical safety milestones.

- **Vedanta Zinc International (2025-present):** Gamsberg Mine, for Rockwall Protection and Slope Stabilisation (Abseiling).
- **Sefateng Chrome Mine (2026-present):** for Rockwall Protection and Slope Stabilisation (Abseiling)
- **Expanding Partnerships | Recent Appointments (2023-present):** New projects with Eastplats Crocodile Mine, Harmony Kalgold Mine, Impala Bafokeng Resources (Pty) Ltd., Impala Platinum Rustenburg Operations, SMT Lethabo Mine, Valterra Platinum Dishaba Mine, Mzansi Energy, and Zizwe Kookfontein Mine extend our footprint across platinum, chrome, fluorspar, and gold operations in Africa.
- **Modikwa Platinum Mine | Underground Safety Benchmarks (2022-present):** Our pull-testing programme sets new standards for underground safety, equipping mine management with actionable insights to maintain production while safeguarding structural integrity and worker protection.
- **Impala Platinum | Removal of Compliance Barriers (2022-present):** Rigorous support audits enable the rapid upliftment of Section 54 sanctions, restoring operations and reinforcing our reputation for technical precision and compliance leadership.
- **Tharisa Minerals | Highwall Stabilisation at Scale (2022-2024):** Over 50,000m² of barring and drape mesh completed without a single LTI, showcasing abseiling expertise on an industrial scale.
- **Mototolo De Brochen & Modikwa Platinum Mine | Shaft Longevity Studies:** Advanced geotechnical analyses, including Itasca 3DEC® modelling, deliver insights that secure the long-term stability of the downcast ventilation shaft.
- **Harmony Kalgold Mine | Incident-Free Highwall Reinforcement:** Over 17,000m² of barring and 14,000m² of drape mesh completed without incident, demonstrating safe and efficient management of complex slope stabilisation.
- **Kumba Iron Ore | Sishen and Kolomela Mines:** Satellite-based Interferometric Synthetic Aperture Radar (InSAR) identifying emerging “hotspots” and unknown risk zones across the entire mining footprint.



STRATEGIC MINDS BEHIND EVERY SOLUTION

Leadership and technical excellence converge at Khutsmo. Our team combines board-level vision with frontline expertise, translating decades of mining and geotechnical experience into solutions that are safe, sustainable, and performance-driven. Every project benefits from leaders who balance innovation with accountability, ensuring our clients are prepared for both today's challenges and tomorrow's opportunities.

Abram Maditane Ditshego | Managing Director

A Legacy of Innovation Rooted in Rock Engineering

With nearly 30 years in mining engineering, Abram has shaped projects across chrome, coal, copper, gold, manganese, nickel, platinum, and more. Holding a Chamber of Mines Rock Engineering Certificate and serving as an active SANIRE member, he is recognised for transforming complex strata control, ground stability, and mining compliance challenges into practical, sustainable solutions that merge safety, efficiency, and long-term resilience. His entrepreneurial journey — from co-founding Trem Engineering in 2006 to launching Khutsmo Group Solutions (Pty) Ltd. in 2019 — reflects a vision rooted in both technical mastery and personal values.



Howard Pooe | Senior Project Manager

Redefining Operational Excellence Through Strategic Precision

A dual-qualified Mining and Industrial Engineer, Howard brings over 20 years of technical leadership to Khutsmo. Specialising in large-scale project execution and blasting engineering, he has a proven track record in navigating complex regulatory landscapes and securing DMRE Section 54 upliftment. Howard oversees multi-million rand budgets and greenfield operations, ensuring strict MHSA compliance and system optimisation. By bridging the gap between high-level engineering and frontline reality, he ensures every project is commercially viable, inherently safe, and precisely aligned with long-term client value.



Our Technical Network

Beyond our leadership, Khutsmo is powered by a network of industry-qualified engineers, consultants, and academic partners — from PhDs and MBAs to certified Rock Engineers and Strata Control specialists. This collaborative pool ensures we assemble the right expertise for each project, delivering solutions aligned with global mining standards.

CONTACT US

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COMPANY DETAILS

- Registered Name: Khutsmo Group Solutions (Pty) Ltd.
- Company Registration Number: K2019/482238/07
- VAT Registration Number: 4330295199
- Cascade 135% Procurement Recognition
- 100% Black-Owned
- B-BBEE Level 1



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