

# GeoVision Miner – AI-Powered Geoscience Platform for African Mining

## Problem: Inefficiencies in Mineral Exploration and Mine Planning

- **Fragmented & Siloed Data:** Geological and operational data in mining are scattered across surveys, maps, and legacy systems, making analysis and decision-making difficult. Over half of geoscience professionals cite unmanaged historical data as a major challenge, and a quarter say they lack sufficient information for data-driven decisions. This fragmentation leads to missed insights and redundant efforts.
- **Low Exploration Success Rates:** Traditional mineral exploration is akin to searching for a needle in a haystack. Projects rely on manual methods and educated guesses, resulting in long timelines and prohibitive costs with little to show for it. The industry's discovery success rate is below **0.5%** – meaning fewer than 1 in 200 exploration projects finds a viable deposit. Between 2011 and 2020, 15,000 exploration projects yielded only 45 major discoveries (~0.3% success), highlighting the dismal odds. This low success wastes hundreds of millions of dollars in drilling with no guarantee of results.
- **Lack of Advanced Tech & AI Tools:** The mining sector has been slow to adopt modern digital tools in exploration and planning. Most companies still rely on human judgment and 2D maps instead of leveraging AI/ML, leaving a vast analytical gap. **Mineral exploration remains largely a trial-and-error process**, rather than the data-driven science it could be. This skills and technology gap means valuable patterns in geodata go undetected. The result is lower productivity and an inability to predict deposits or optimize mine plans effectively. There is a clear need for an AI-driven approach to augment human expertise and improve the efficiency and accuracy of exploration.

## Solution: GeoVision's Unified AI Geoscience Platform

GeoVision Miner is an integrated **AI-powered mineral prospecting, and mine planning platform** designed to tackle these challenges head-on. Our solution combines advanced machine learning with centralized data management to **transform mineral exploration from guesswork into a predictive science**. GeoVision ingests and fuses data from geological maps, remote sensing, drill samples, and plant design parameters into a single system. The platform's AI algorithms analyse this unified dataset to **identify high-potential mineral targets** and generate 3D predictive maps, significantly improving the odds of discovery (AI-driven targeting has shown dramatically higher success rates in trials). Once a deposit is identified, GeoVision seamlessly transitions to **mine planning and processing plant design**, ensuring that exploration data directly informs efficient mine development. The platform is built **offline-first** – it can operate at remote African sites with limited connectivity and later sync to the cloud – a critical feature where internet access is spotty. GeoVision also integrates **ESG compliance tools**: users can model environmental impacts, optimize energy use, and automatically generate regulatory reports, embedding sustainability into each project phase. By combining AI-driven insights, end-to-end project

integration, and an emphasis on sustainability, GeoVision Miner offers a transformative solution to de-risk exploration and accelerate mine development.

## Market Opportunity: African Mining & Global Demand

*Modern African mining operations, ripe for digital transformation and advanced technology integration.*

Africa's mining sector is vast and growing, presenting a significant market for GeoVision. Sub-Saharan Africa's mining industry was valued at over **\$108 billion in 2023** and contributes around 10% of GDP on average in the most resource-rich countries. The continent holds an outsized share of the world's mineral wealth – **30% of global mineral reserves** – including **70% of cobalt**, 60% of manganese, 25% of bauxite, and significant copper and gold. Yet Africa remains **under-explored**: it accounted for only ~10% of global exploration spending in 2024, a fraction of its potential. This imbalance highlights a major opportunity to unlock value with better tools – African projects yield the highest mineral discovery returns per dollar spent globally. Meanwhile, global demand for minerals is soaring. The clean energy transition and EV boom are projected to **triple the demand for critical battery minerals by 2040** and increase sixfold by 2050. Worldwide, an estimated **\$15 trillion in new mineral resources** must be discovered and mined by mid-century to meet demand for cobalt, lithium, nickel, and copper. This supply pressure is driving miners to seek more efficient exploration methods. The addressable market for digital mining solutions is large and growing: the Middle East & Africa “**connected mining**” (smart mining tech) market was about **\$1 billion in 2024** and is forecast to grow ~10.5% annually through 2030. Globally, the trend toward digital and AI in mining is accelerating, with major miners investing in data analytics and automation. Importantly, recent industry deals underscore the value of mining tech – for example, Seequent (a geoscience software company) was acquired for **~\$1.05 billion** in 2021, highlighting investor confidence in this space. GeoVision's initial focus is Africa (a fast-emerging market with numerous exploration projects and need for modernization), but our solution addresses a **global** pain point. With Africa as a launchpad, we can expand to other regions facing similar exploration challenges. The combination of Africa's untapped mineral potential and worldwide demand for smarter exploration creates a robust market opportunity for GeoVision Miner.

## Product: Key Features and Innovation

GeoVision Miner's platform is built with innovative technology and user-centric design, offering a suite of features that drive efficiency from exploration through production planning:

- **AI-Assisted Mineral Prospecting & Predictive Mapping:** GeoVision's algorithms analyse vast multi-layered datasets – geological surveys, geochemical data, satellite imagery, GIS layers – to pinpoint probable mineralization zones. By training on historical discovery data and known ore deposit signatures, the AI can **predict exploration targets with far greater accuracy** than traditional methods. For example, similar AI-driven targeting platforms have sifted through huge geological datasets to discover new mineral prospects that were previously overlooked. This predictive mapping reduces the reliance on pure luck and can **boost discovery success rates dramatically**, focusing drilling on the most promising sites. The AI continuously improves as more data is collected, creating a

self-reinforcing discovery engine. Moreover, by integrating subsurface data and machine learning, GeoVision helps **minimize wasted drilling and environmental disturbance**, optimizing exploration efficiency.

- **Integrated Mine Planning & Plant Design:** Unlike point solutions, GeoVision covers the full project lifecycle. Once a potential deposit is identified, the same platform guides **3D mine design, pit optimization, and mineral processing plant layout**. Geological models flow directly into mine planning modules, ensuring that mine development is based on the most accurate, up-to-date data. This unified approach breaks down silos between exploration teams, mining engineers, and metallurgists. **Data centralization** and cross-functional design tools mean companies can go from discovery to a feasible mine plan much faster, saving time and cost. (Integrated mining software like K-MINE demonstrate the efficiency gains of combining exploration, planning, and operations tools in one system.) GeoVision will allow users to evaluate different mine scenarios (open pit vs. underground, for instance) and design processing plants tailored to the deposit's characteristics, all within an interactive, AI-assisted environment.
- **Data Platform & Offline-First Capability:** At its core, GeoVision is a robust geospatial data platform. It aggregates and manages all project data – drilling logs, geophysical surveys, geochemical analyses, resource models, etc. – in one place, eliminating the fragmented spreadsheets and incompatible file formats that plague the industry. Powerful visualization and analytics dashboards let geologists and engineers derive insights from the unified data (for example, generating real-time 3D models of ore bodies and grade distribution). Crucially, GeoVision is built as an “**offline-first**” application: field geologists can use it on tablets or rugged laptops in remote sites with little or no internet. The software runs locally to capture field data and perform analyses on-site, then synchronises with the cloud when connectivity is available. This design is critical in Africa and other regions where mine sites often have limited connectivity. By ensuring the platform works anywhere, we empower teams on the ground to access AI insights in real time, improving decision-making even in the bush. All data is encrypted and stored securely, with permission controls to share information across teams or with partners as needed.
- **ESG and Compliance Tools:** GeoVision Miner embeds Environmental, Social, and Governance (ESG) considerations into the project workflow, helping mining companies meet sustainability goals and regulatory requirements. The platform can model environmental impacts of proposed mine plans – for instance, estimating land disturbance, water usage, or carbon emissions for various scenarios. It provides modules for **environmental planning**, such as tailings storage design and rehabilitation scheduling, to minimize ecological footprint. AI-driven analytics also help **optimize energy usage and reduce waste**, which not only lowers costs but lessens environmental impact. GeoVision automatically tracks key ESG metrics (e.g. energy consumption, GHG emissions, community impact indicators) and can generate compliance reports aligned with local mining regulations and international standards. By integrating these tools, the platform turns ESG from an afterthought into a core part of project design – a crucial innovation as miners face increasing scrutiny to operate responsibly. This gives our customers a head start in meeting ESG obligations and demonstrates their commitment to sustainable mining, which can be a competitive advantage in securing licenses and community support.

## Traction (Planned Milestones)

GeoVision Miner is currently in **pre-beta development**. We have completed the core AI algorithms in a prototype environment and are now building out the user interface and integration features. As a very early-stage startup, we **do not yet have paying customers or revenue** – our focus is on product development and validation. This seed funding will enable us to reach key milestones over the next two quarters. **Within 6 months, our goal is to launch a Beta version** of the platform and onboard initial pilot users. We are targeting 2-3 major mining companies (or advanced exploration firms) to participate in pilot programs using the GeoVision platform on their exploration projects. These pilots (slated to begin as early as Q4 2025) will allow us to gather user feedback, prove the technology's value in real field conditions, and build case studies. By the end of the 6-month period, we expect to have: (1) a functional beta product in use at pilot sites, (2) at least one partnership with a geology/mining data provider to enrich our platform's datasets, and (3) letters of intent from a few large mining firms to convert to paying customers upon a successful pilot. This planned traction will position us strongly for a wider commercial launch and a potential Series A raise after demonstrating product-market fit. *(Note: As of now, there is no historical traction to report – this investment is about enabling the **first** wave of traction.)*

## Business Model: SaaS Subscription with Tiered Offerings

GeoVision Miner will generate revenue as a B2B **Software-as-a-Service** platform. Our business model is built on recurring subscriptions and scalable enterprise contracts:

- **SaaS Subscription Licenses:** Mining and exploration companies will pay an annual or monthly subscription fee to access the GeoVision platform. We plan to offer per-seat licenses for geologists/engineers or site-based licenses for project deployments. This recurring revenue model aligns with how companies budget for software (OpEx vs CapEx) and provides us with predictability.
- **Tiered Plans (Basic to Enterprise):** We will have tiered offerings to cater to different customer segments. For example, a **Standard plan** (lower-cost) might target mid-tier or junior exploration firms, providing core prospecting and mapping features for a limited number of users or projects. A **Professional/Enterprise plan** (premium pricing) will offer the full suite – advanced AI analytics, unlimited projects, custom model tuning, and dedicated support – suited for large mining corporations and consulting firms. This tier may also include on-premise deployment options or private cloud instances for enterprises that require data control. The tiered approach allows us to capture smaller clients early (land-and-expand) while monetizing big clients at a higher value.
- **Enterprise Partnerships & Services:** For our largest customers, we anticipate custom enterprise agreements. These could involve volume licenses across multiple operations, API access to integrate GeoVision data with the client's internal systems, or white-label solutions. Enterprise deals would be high-value (in the six-figure per year range) and may include professional services such as training, custom feature development, or data migration assistance. While our primary revenue is software subscription fees, we can also generate secondary revenue through **data partnerships** (e.g., if we resell premium satellite or geological data within our platform on a usage basis) and **consulting services** to help

customers implement AI-driven workflows. Over time, as the user base grows, we could consider a usage-based pricing component (for example, charging for processing exceptionally large datasets or running intensive AI simulations) to align price with value delivered.

- **Scaling Revenue Model:** Our model is inherently scalable – once the platform is built, adding new customers has low marginal cost. Gross margins are expected to be high (70%+ typical for SaaS). We plan to drive growth initially through direct sales to enterprise customers (to secure anchor clients), and later through channel partners or mining consultancies to reach a broader market. With tiered SaaS pricing, if we capture even a small fraction of the African mining companies and later expand globally, we can rapidly grow Annual Recurring Revenue. For instance, 10 large enterprise clients at ~\$100k/year each would yield \$1M ARR; as we expand, capturing 50 clients (a mix of tiers) could reach ~\$5M ARR, reflecting the significant upside as we scale.

## Go-to-Market Roadmap (Next 6 Months)

We have a clear 6-month go-to-market plan to build our product and acquire initial customers, aligned with the use of the seed funds. Key milestones include:

1. **Month 1 – Team Assembly & Prototype Completion:** Finalize the hiring of core team members (ML engineer, full-stack developer, and business development lead) to accelerate development. Complete the working prototype of the AI prospecting engine and internal testing on historical datasets. Begin outreach to data partners (geological survey agencies, satellite imagery providers) to secure access to critical data feeds.
2. **Month 2 – Alpha Release & Feedback:** Launch an **alpha version** of GeoVision Miner for limited internal and expert review. We will engage friendly geologists and mining advisors to test functionality and provide feedback. Simultaneously, start refining the user interface/experience for ease of use in the field (including offline mode testing). By end of Month 2, incorporate feedback to fix bugs and improve the AI model's accuracy.
3. **Month 3 – Pilot Partnerships & Data Integration:** Secure at least one **pilot project agreement** with a major exploration or mining firm. Our goal is to have a flagship pilot customer (e.g., a top-10 mining company or a large African mining conglomerate) agree to test GeoVision on one of their exploration targets. In parallel, integrate external datasets (e.g., regional geological maps, remote sensing data) through partnerships – for example, linking with a government geological survey database or a satellite data provider. This month will also focus on ensuring our platform meets enterprise security and compliance requirements, as required by big corporate clients.
4. **Month 4 – Beta Launch with Pilot Users:** Release the **Beta version** of GeoVision Miner to the pilot customer(s). Onboard their exploration team onto the platform, providing training and support. They will start using GeoVision on a real project – uploading their proprietary data, running AI target predictions, and generating initial mine planning scenarios. We will closely monitor usage and results, and maintain a tight feedback loop with these users. Internally, we will continue to harden the software (improving scalability and offline synchronization) and address any issues that arise in the pilot deployment. A successful Beta launch at this stage will be a pivotal validation.

5. **Month 5 – Pilot Results & Iteration:** Work with pilot clients to analyse early results. For example, if GeoVision’s AI identifies new drill targets, assist the client in evaluating them (this could lead to actual exploration drilling by the client – a huge validation if those targets show mineralization). Collect quantitative metrics from the pilot: e.g., time saved in data analysis, number of targets identified, improvement in planning efficiency. Use these data points as preliminary **case studies**. Continue refining the product: any critical features the pilot users need, UX tweaks, or performance improvements will be addressed in this period. Meanwhile, ramp up marketing in preparation for a broader launch – this includes preparing a demo for industry conferences (like Mining Indaba or Africa Mining Summit) and gathering testimonials from pilot users.
6. **Month 6 – Market Launch & Sales Begin:** By the end of six months, incorporate lessons from the pilot into a polished **v1.0 product** ready for broader release. Officially launch GeoVision Miner, targeting press releases and presence at a key industry event to announce our platform. Begin active sales outreach beyond the pilot customers – our BD lead will pursue meetings with the next set of potential clients (leveraging the pilot success story as traction). Also, initiate the formal evaluation process with a few more large mining companies that expressed interest (we expect that demonstrating the pilot outcomes will convert earlier “interest” conversations into serious engagements). The end of Month 6 marks the transition from development-focused to growth-focused: we aim to have a pipeline of at least 5-10 potential customer engagements moving forward. **Key milestone:** at 6 months, we plan to have the first paying customer contract signed (assuming pilot conversion), which would be a major validation going into fundraising for the next round.

## Team: Domain Experts and Tech Innovators

GeoVision Miner is led by a passionate founding team with deep expertise in both mining and technology, uniquely positioning us to bring AI innovation to the mining sector:

- **Founder & CEO – Peter Karanja** A seasoned IT and Business management expert with 15+ years’ experience across Africa and global projects. Former exploration manager at Anglo American, he has a track record of gold and base metal discoveries in Zambia and DRC. He has firsthand knowledge of the industry’s data pain points and is responsible for GeoVision’s strategic vision and industry partnerships.
- **Co-founder & CTO – Ian Marcus Gakaria:** An AI/ML expert with a exposure to Cybersecurity in Data Science and a background at Strathmore University. He has led development of small-scale predictive analytics projects. He oversees GeoVision’s technology roadmap, including the design of our machine learning models and cloud platform architecture. Her experience in building robust, user-friendly software ensures the platform will meet enterprise standards.
- **Head of Product Development – Arthur Shawn Karanja:** An aeronautical engineer with a four (4) of experience in industrial and geospatial. He leads the engineering team in developing GeoVision’s core features, 3D visualization, and offline capabilities. His domain knowledge in geoscience software ensures our product truly addresses geologists’ needs.
- **Advisors:** We have on board advisors such as a **former COO of a major African mining company** for industry guidance, and a **professor of geoscience** who advises on the latest

exploration techniques and validation of our AI models. They provide valuable insights into our product development and go-to-market strategy.

- **Planned Hires:** With the new funding, we will expand our team further. High priority additions include an **AI/ML engineer** (to refine algorithms and handle data pipeline scaling), a **GIS data specialist** (to manage geospatial data integration and partnerships), and a **Business Development manager** (with mining sector experience to drive customer acquisition). We believe assembling a multidisciplinary team – combining mining domain veterans with top-notch tech talent – is key to our success. Our team’s complementary skills (in geology, AI, and enterprise software) give GeoVision a solid foundation to execute on this ambitious vision.

## Financials & Use of Funds

We are seeking \$2M in seed funding which will provide approximately **18 months of runway** to finalize our product and gain initial market traction. The use of funds is carefully planned to maximize development progress and de-risk our go-to-market:

- **Product Development (50%) – \$1.0M:** The largest portion is allocated to R&D: hiring engineers and data scientists, building out the AI models, platform coding, and extensive testing. This ensures we can accelerate towards a robust Beta and Version 1.0 release. It also covers cloud infrastructure costs for data processing and storage during this period.
- **Data Acquisition & Partnerships (10%) – \$0.2M:** We plan to invest in obtaining high-quality geological and remote sensing data. This includes licensing fees for datasets (e.g., detailed geological maps, satellite imagery archives) and forming partnerships with geological surveys. Having rich data is fuel for our AI and will improve our platform’s accuracy and value.
- **Business Development & Marketing (20%) – \$0.4M:** We will build our sales pipeline and market presence. Funds will be used for hiring a BD lead, attending key industry conferences, traveling to meet major mining firms across Africa, and producing marketing materials/demos. Early-stage marketing is crucial to convert pilot projects into paying customers and to educate the market about AI in mining.
- **Operational Expenses (20%) – \$0.4M:** This covers general and administrative costs to keep the company running: office or coworking facilities, legal and accounting services, and other overhead. We run lean, but we account for necessary expenses to support the team (for example, insurance, communication, and basic admin staff as needed). It also provides a buffer for unforeseen costs or delays.

Currently, **GeoVision has no revenue** – we anticipate initial revenue post-beta launch once we begin converting pilot users to paid subscriptions (targeting within 6-8 months of funding). Our financial projections (conservative case) show us reaching about **\$1M ARR within 18-24 months** after launch, based on capturing a handful of enterprise clients in that timeframe. By year 3, we aim for ~\$5M ARR as we expand within Africa and start entering other regional markets. Given the high gross margins of our SaaS model, the seed investment will primarily fuel growth and product maturity, with a path to profitability as we scale the customer base. We plan for a **Series A raise in 12-18 months** (after demonstrating successful pilots and early customer traction) to accelerate global expansion. Our burn rate will be carefully managed to hit key milestones (beta,

first customers) with this seed round. The successful execution of our roadmap with this \$2M will significantly increase the company's valuation for the next round, as we would move from a pre-revenue startup to a company with a validated product, reference customers, and a recurring revenue stream.

## The Ask & Call to Action

- **Funding Request:** GeoVision Miner is raising **\$2 million** in seed funding to finalize product development and bring our AI-driven platform to market in the next 6 months. This investment will bridge us from our current prototype stage to a revenue-generating beta launch. We are offering equity in return for this capital, targeting a pre-money valuation of about **\$8 million** (approximately a ~\$10M post-money valuation). This means the \$2M round would represent 20% **ownership** in the company (subject to final terms). We are open to this round being led by a single venture investor or a syndicate, and we welcome strategic investors with domain expertise.
- **Use of Funds:** The seed capital will be deployed as outlined – primarily towards product development, team hiring (critical AI/ML and software talent), securing data partnerships, and executing pilot projects with major mining firms. The goal is to achieve a robust beta product and initial market validation within 6 months, setting the stage for scaling up. Investors in this round enable us to reach these value-inflection milestones.
- **Why Invest Now:** GeoVision Miner sits at the intersection of two powerful forces – the **surging demand for critical minerals** and the **digital transformation of the mining industry**. By investing now, you join us at an inflection point: no one in Africa (and few globally) offers an AI-centric, end-to-end exploration and mine planning platform. We have a first-mover advantage in a region rich in resources and hungry for innovation. Your funding will help establish GeoVision as the go-to solution for mining companies looking to boost discovery success, cut costs, and operate sustainably. The upside is significant: our business can scale globally, and successful early deployments will open opportunities for expansion and follow-on contracts across the mining world.
- **Investor Fit:** We seek partners who share our vision of a more efficient and responsible mining sector. This could be VCs focused on **deep tech, AI, or mining technology**, or corporate venture arms of large mining companies looking for strategic innovations. We are building not just a product, but a platform that can underpin the next generation of mining operations (aligned with ESG and efficiency goals). Early investors will have the chance to help shape this platform and capture substantial value as we grow in an industry ripe for disruption.
- **Call to Action: Join us in revolutionizing mineral exploration and mine development.** With GeoVision Miner, we could discover the mines of the future faster, cheaper, and greener. We invite you to partner with us on this journey. An investment in GeoVision is not only a financial stake in a high-growth SaaS venture, but also an investment in the sustainable development of critical resources. **Let us build the future of AI-powered mining together.** (For interested investors, we are ready to discuss further details, provide a demo of our prototype, and share our full business plan and financial model under NDA.)