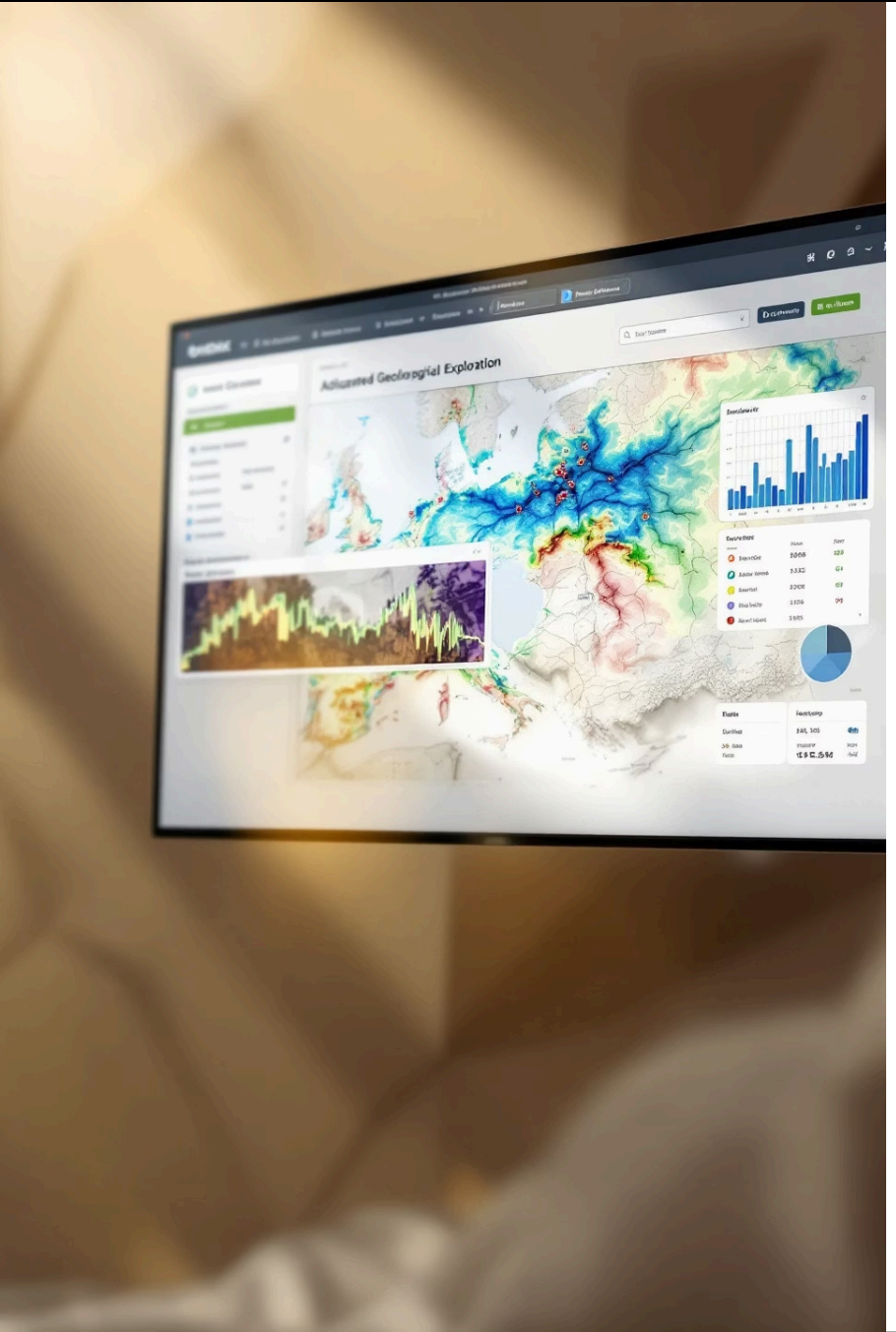


neuro.mine – Technical Brief for Investors

neuro.mine is a remote-first platform for identifying early-stage mineral projects with high geological potential. Using publicly available spectral data, subsurface gas anomaly analysis, and structural interpretation, we offer a reproducible way to prioritize exploration efforts before any drilling or expensive fieldwork. This brief outlines the methodology, validation, and investment opportunity for scaling the platform.

Market Context

85%

Failure Rate

Junior exploration projects that fail to progress beyond Phase I

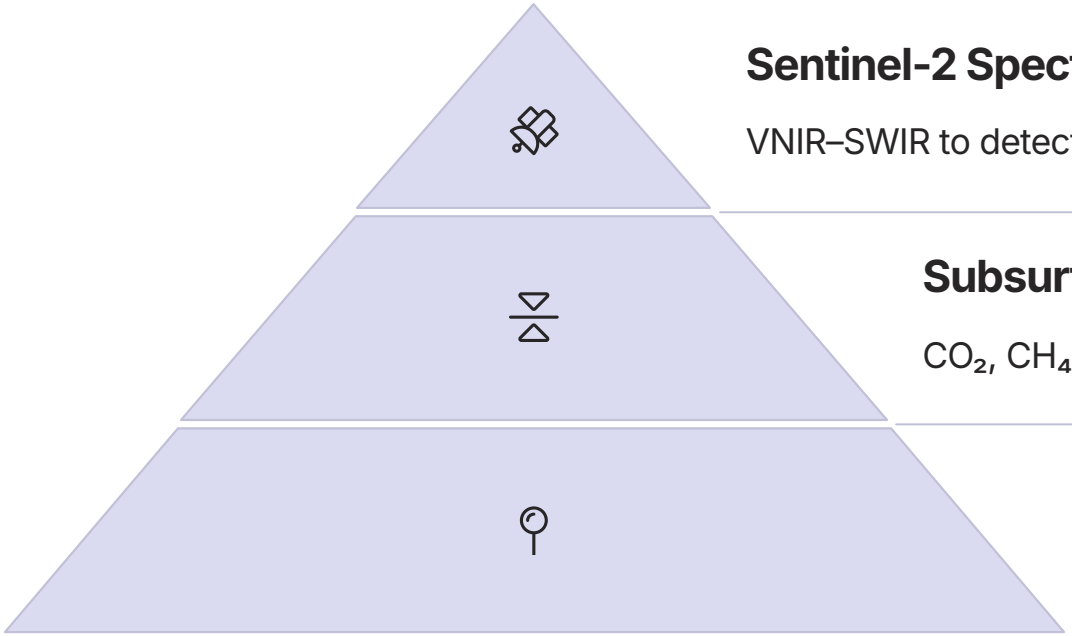
↑

Rising Demand

Global demand for critical minerals is rising sharply

Exploration remains high-risk and capital-intensive. Over 85% of junior exploration projects fail to progress beyond Phase I. Most early-stage projects are presented without sufficient technical evidence, making it difficult for investors to evaluate geological risk objectively. At the same time, global demand for critical minerals is rising sharply, driven by electrification and supply chain security concerns.

Technical Methodology



Sentinel-2 Spectral Analysis

VNIR–SWIR to detect alteration minerals

Subsurface Gas Anomalies

CO_2, CH_4, and He emissions correlation

Structural Interpretation

Mapping faults and fluid pathways

Our platform integrates three layers of independent data to assess prospectivity across land packages:

- Sentinel-2 Spectral Analysis (VNIR–SWIR): used to detect alteration minerals like kaolinite, muscovite, chlorite, and hematite.
- Subsurface Gas Anomalies: CO_2, CH_4, and He emissions correlated with hydrothermal activity and mineralized structures.
- Structural Interpretation: Faults and fluid pathways are mapped from DEM derivatives and remote sensing imagery.

Case Study Evidence

Zambia – IOCG-Type Project

Helium anomalies (>3 ppm) overlapped with hematite-rich zones and Proterozoic structures. Interpreted as previously overlooked IOCG-style corridor.

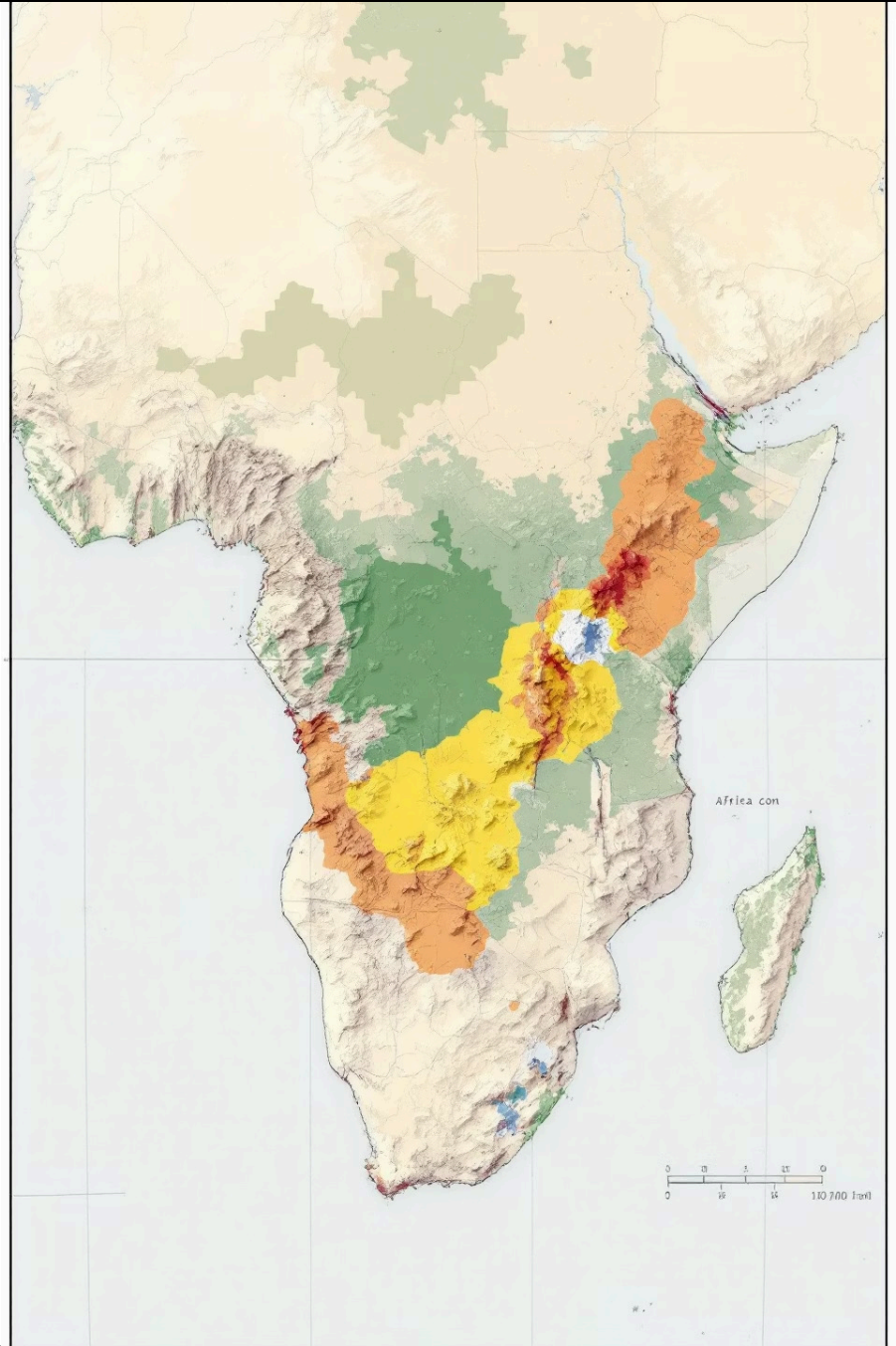
Zimbabwe – Shear-Hosted Gold

He anomalies and VNIR ferric signals followed greenstone-hosted shears. Outputs aligned with artisanal workings.

Tanzania – Orogenic Gold Extensions

CH_4 anomalies and fault zones matched known deposit trends and highlighted potential expansion areas.

We've applied our method to several regions across Sub-Saharan Africa with the following outcomes:



Vision & Competitive Edge

Scores projects based on geological indicators

Quantitative assessment of geological potential

Benchmarks projects against regional datasets

Comparative analysis for better decision-making

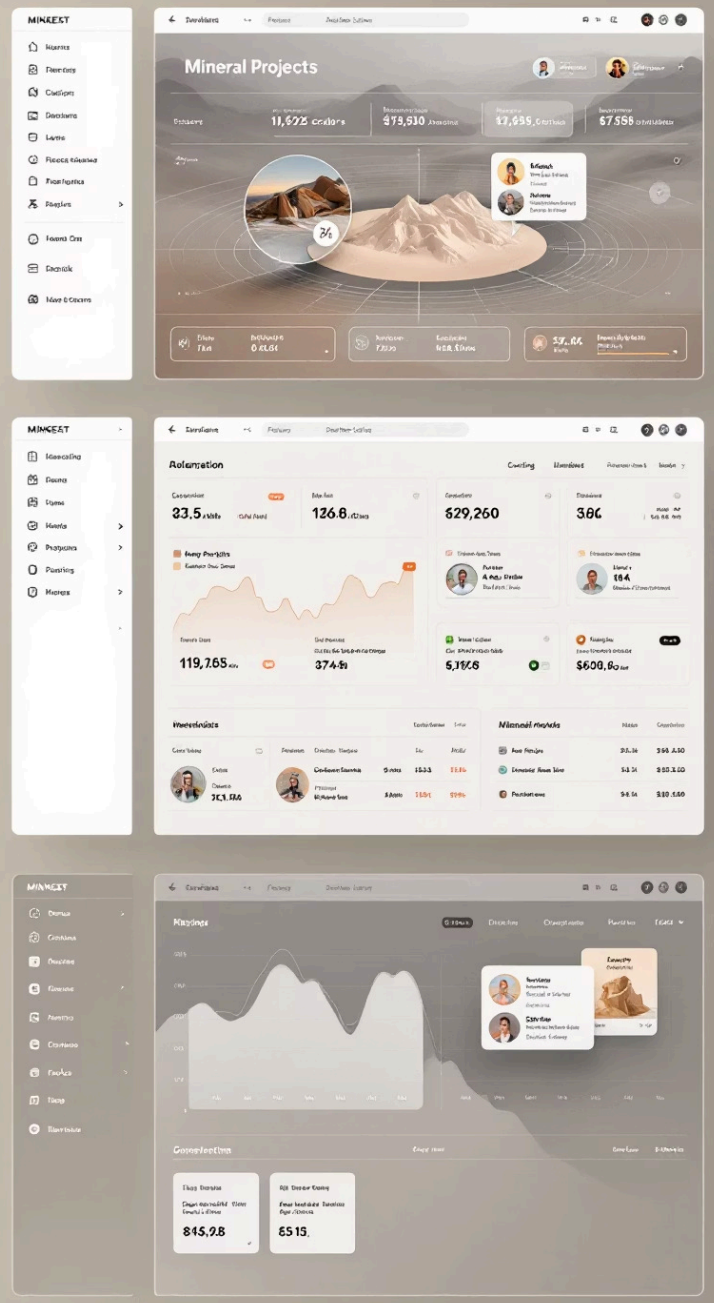
Provides dashboards for capital allocation

Visual tools for investment prioritization

Enables data-based exploration matchmaking

Connecting promising projects with appropriate investors

neuro.mine is not just a tool. It's an investment in infrastructure for early-stage project evaluation. We aim to develop a global prospectivity engine that delivers these key capabilities.



Business Model & Scalability

Investors

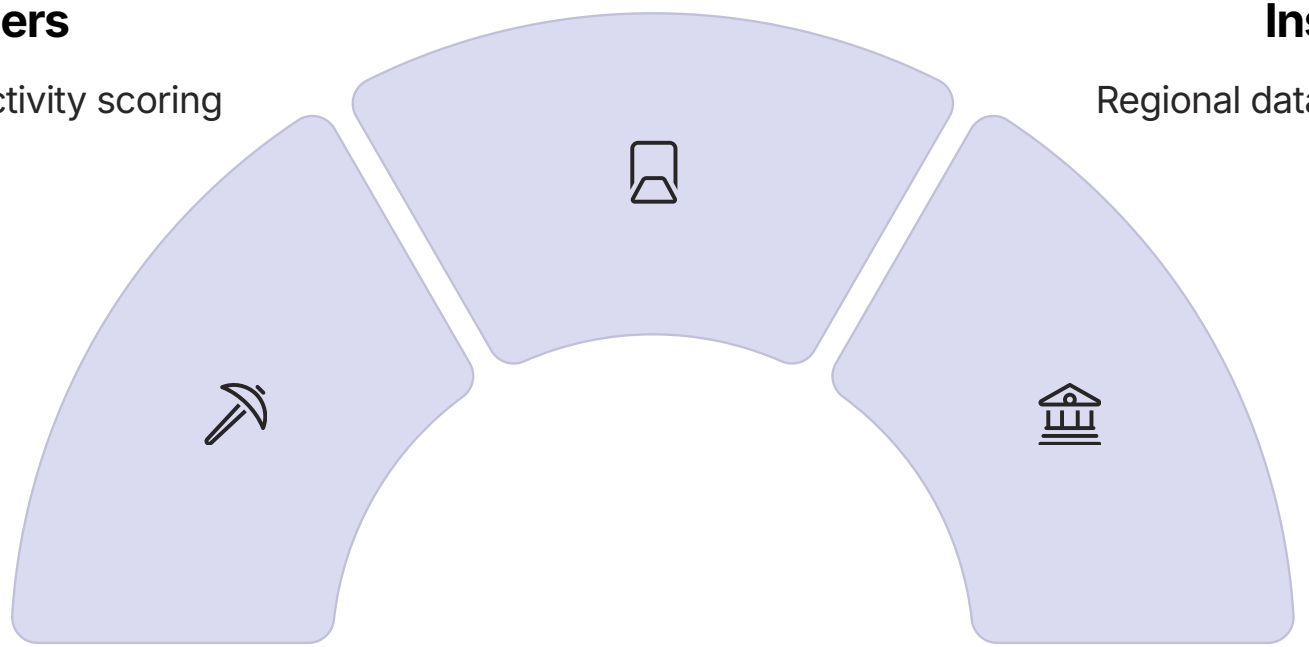
Project access, benchmarking, alerts

Junior Miners

Project scans, prospectivity scoring

Institutions

Regional datasets, analytics layers



The service is provided in exchange of commission on funding of the exploration projects.

Contact & Next Steps

Strategic Investment

We are seeking early strategic investors to expand neuro.mine's capabilities and reach.

Partnership Opportunities

Explore integration opportunities with your existing platforms and datasets.

Demo Access

Request access to a working demo and deeper methodology brief.

For access to a working demo, deeper methodology brief, or to explore integration opportunities:

Contact: info@neuro-mine.com