

Vyomchara

MINING INTELLIGENCE PLATFORM

STRATEGIC NATIONAL IMPACT

₹300 Cr Import Substitution

Potential Annual Savings for Indian Mining Sector

Establishing a **Unified Intelligence Layer** to enhance operational efficiency, safety compliance, and resource optimization across public and private mining assets.



INCUBATED AT
TEXMiN IIT Dhanbad

Harsh Raj
IIT Kanpur

Somu Prajapati
IIT Kanpur

Sahil Dhull
IIT Kanpur

STRATEGIC GROWTH TRAJECTORY



50+

MINES VALIDATED

Foundation Period: 2023-2025

VALIDATION



₹2.4 Cr

DEPLOYED CAPITAL

Source: Equity + Grants

CAPITAL



DoT & DST

STRATEGIC PARTNERS

Ministry Projects Secured

BACKING



TRL-9

SYSTEM CERTIFIED

Operational Deployment Ready

READINESS

⚠ CRITICAL GAP ANALYSIS

Systemic Barriers to Digital Transformation

Interconnected challenges creating a ₹1,200 Cr+ digital deadlock.

TOTAL SYSTEM IMPACT

₹1,200 Cr+

Annual Efficiency Loss

DATA SOURCE

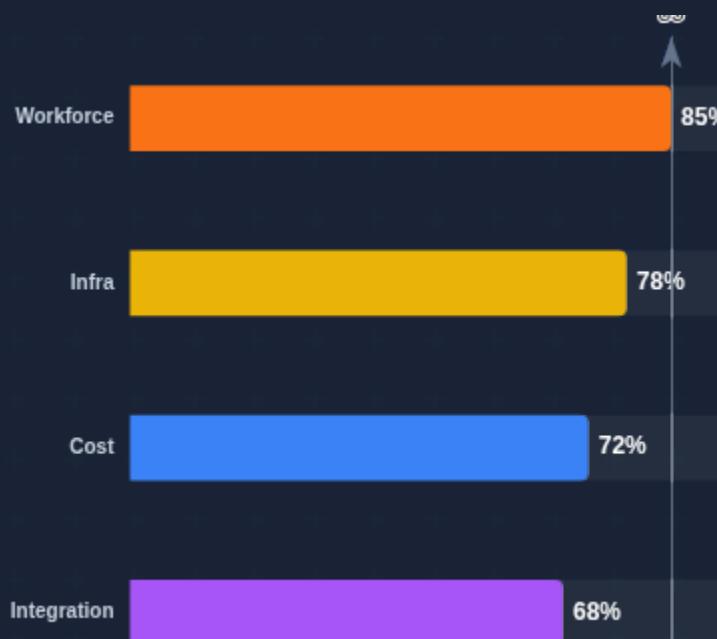
50+ Mine Assessments



2023-2025 Study Period

Barrier Cascade Effect

Primary Obstacles (Survey Data)



Workforce Resistance

85% IMPACT FACTOR

Fear of displacement and transparency creates friction. Bottom-up adoption fails without buy-in.

Job Security Fears

Transparency



Infrastructure Gap

78% IMPACT FACTOR

Remote locations lack connectivity for cloud solutions. Foreign tech fails in low-bandwidth zones.

Low Connectivity

Hardware



Cost

Cost Prohibitive

72% IMPACT FACTOR

Global solutions (Hexagon, Dassault) demand **5-10x CAPEX** vs domestic budgets.



High CAPEX

Import Cost

Integration Issues

68% IMPACT FACTOR

Fragmented legacy systems create data silos, preventing unified intelligence and insights.

Integration

Data Silos

Legacy Systems

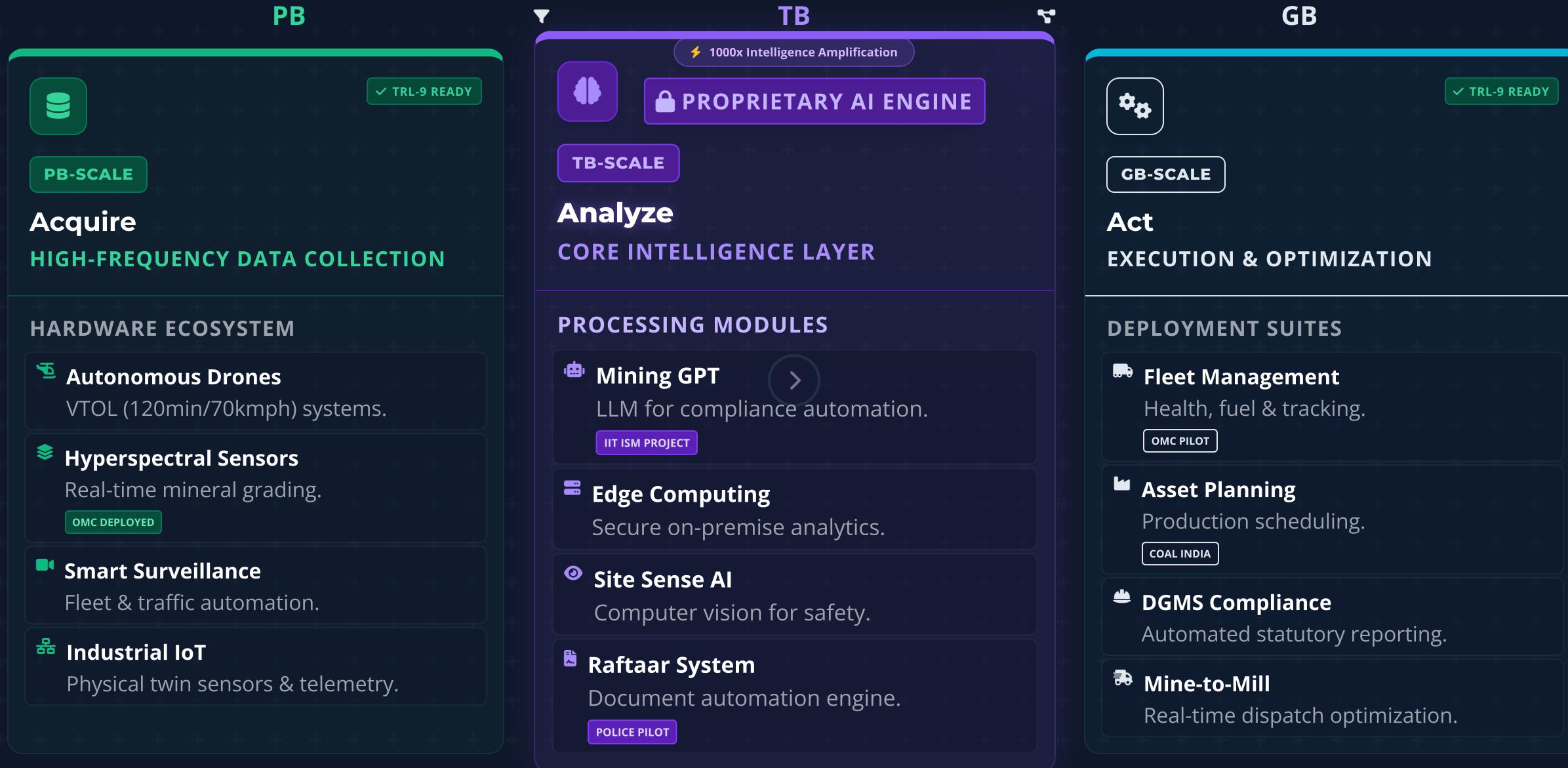


Integrated Mining 4.0 Platform Architecture

End-to-end proprietary stack (TRL-9 Certified) delivering actionable intelligence at scale.

SYSTEM CERTIFICATION

TRL-9 Operational



Quantitative Market Analysis

✓ GROUND VALIDATION
50+ Mine Assessments



MARKET OPPORTUNITY

SOFTWARE TAM



3-YEAR TARGET (SOM)
₹180 Cr

IMMEDIATE OPPORTUNITY
Low-cost entry model

GROWTH TRAJECTORY

↗ 18.5% CAGR



VALIDATION TO SCALE PATHWAY

50+ Validations → 5 Pilots → Deployments

CUSTOMER MIX

Segmented Revenue Potential

Public Sector

60%

GOVERNMENT CHANNEL



Private Sector

30%



International

10%



TOTAL PIPELINE
₹65 Cr+

Market Leadership: Quantitative Moat Analysis



BENCHMARKING SOURCE
2025 Industry Analysis

CAPABILITIES ASSESSMENT

Vyomchara (Leader)

Foreign Competitors



LOCALIZATION GAP
+70 Points

COST OPTIMIZATION JOURNEY



Foreign Competitors

₹100L



- ✓ Indigenous IP
- ✓ Local Ops

- ✓ No Licensing
- ✓ Govt Backed



Vyomchara (Optimized)

₹10L

TOTAL ADVANTAGE

10x

MASSIVE SAVINGS

STRATEGIC MOATS

Barriers to Entry



TEXMiN Ecosystem

EXCLUSIVE

1 of 4 National TTRPs

Only Mining-Focused Tech Translation Hub in India. Access to IIT Dhanbad test beds.



Govt. Commercial Rights

DoT & DST Backed

Full IP rights secured for deployment across public sector mines (Coal India, NMDC).



Bottom-Up Strategy

85% ADOPTION

Workforce First

Solving worker pain points first ensures rapid adoption vs top-down mandates.

Overall Localization Score

95/100

Business Model & Scaling Economics

Revenue Flywheel

Land & Expand

① Pilots (Entry)

Low-friction validation
₹10-20L / Site

② Deployments

Full stack implementation
₹1-5 Cr / Client

③ Enterprise Scale

Network-wide rollout
₹10 Cr+ / Network

④ Regional Scale

Standardized platform
Dominance

5-YEAR TAM
₹100 Cr+



Scaling Trajectory

Exponential



Revenue Streams

Pipeline: ₹65 Cr+

OMC Fleet

₹10 Cr+

Full stack deployment across mines
Pipeline Active Pilot

Coal India

Regional Scale

Jharkhand/Orissa asset planning
Expansion

Minex Replace

₹50 Cr

Import substitution (500 mines)
Opportunity

Avg Contract Value

₹2.5 cr



Per Enterprise Client

Strategic Pathway: Pilot Validation → Deployment → Enterprise Scale

Gross Margin

65 %



SaaS-Grade Economics

CAC Payback

8 Months



Efficient GTM

BHAR - 777023

Elite Team & Quarterly Roadmap

**Harsh Raj**

STRATEGY / BD / OPS LEADER

FOUNDER & MD

BT + MT IITK CIVIL | Mineral AI research, flight simulations & autonomous systems expert.

**Somu Prajapati**

TECH BUSINESS POLYMATH

CO-FOUNDER & CTO

IITK CSE | Multimillion-dollar HF engineering, large scale distributed systems.

**Sahil Dhull****HEAD OF AI**

IITK CSE | **\$20M Startup** Deep LLM & agentic pipelines.



SV VETERAN

STRATEGIC EXECUTION ROADMAP 2025

Q1

OMC Pilot LIVE

Fleet Management Deployed. Real-time tracking 100% operational. Data residency achieved. First invoice.

Q2

Coal India Asset Mgmt

100+ vehicles Jharkhand expansion. Legacy ERP integration. **22% Fuel Savings** demonstrated.

Q3

Ministry of Mines Showcase

TEXMiN tech demonstration. **Dubai & UAE exhibitions**. Egypt partnership. Global validation initiated.

Q4

Regional Scale Deployment

Target 10 mines multi-state rollout. **₹50 Cr Minex** replacement scale-up.

JAN-MAR

APR-JUN

JUL-SEP

OCT-DEC

MARKET TRACTION FUNNEL

50+**VALIDATIONS**

8 States (JH, OD, CG)

5**ACTIVE PILOTS**

OMC, CIL, Police, Thermal

2**GOVT WINS**

DoT 5G & DST Strategic

₹65cr**TOTAL PIPELINE**

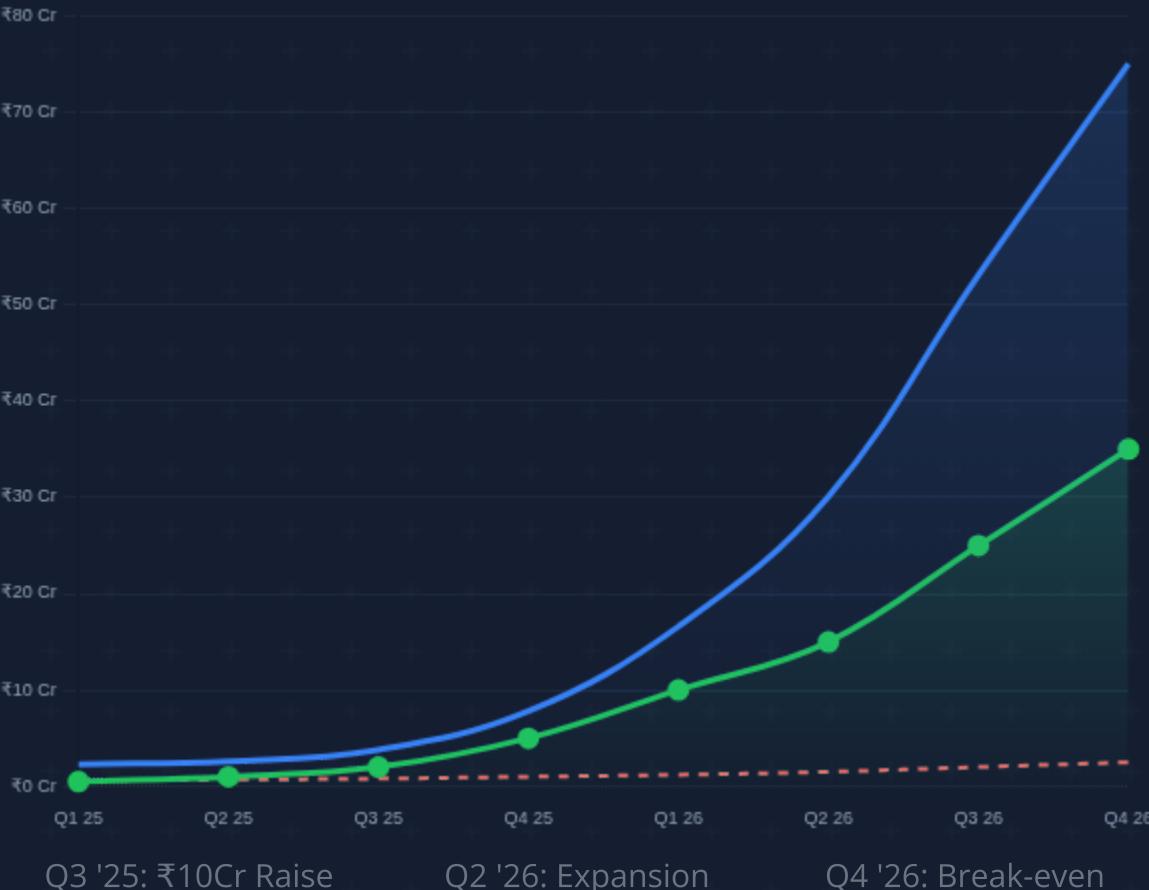
OMC, CIL, Minex, Dubai



Funding & Financial Projections

Growth Trajectory

Quarterly Projections FY25-26 (₹ Cr)



● Revenue ● Cash ● Expenses

SEED ROUND ASK

₹10 Cr

Equity + Grants Structure
To reach ₹75 Cr ARR by 2027

Use of Funds



Product (40%)	₹4.0 Cr
Pilots (30%)	₹3.0 Cr
Team (20%)	₹2.0 Cr
BD (10%)	₹1.0 Cr

Execution & Funding Gates

ACHIEVED

Validation

- ✓ 50+ Mines
- ✓ DoT/DST

IN PROGRESS

Strat. Pilots

- ⌚ OMC Fleet
- ⌚ Coal India

PLANNED

Deployment

- ⌚ Commercial
- ⌚ Full Stack

18 Month Runway

TARGET

Scale-Up

- 🌐 Regional
- 🕒 Minex Repl.

DEPLOYED CAPITAL

₹2.4 Cr

Validated Efficiency



MONTHLY BURN

₹0.55 Cr

Lean Operations



TOTAL PIPELINE

₹65 Cr+

Govt + Private



BREAK-EVEN

Q4 2026

Profitability Target



ROI Impact Dashboard & Case Studies

OMC Hyperspectral
ORISSA MINING CORP

BEFORE | AFTER

⌚ 2 hrs/sample | ⚡ Instant

Inv: ₹20L | Save: ₹50L+

250%	4.8mo	15%
ROI	PAYBACK	THRUPUT

Coal India Fleet
ASSET MGMT PILOT

FUEL EFF. | IMPACT

Baseline | ↑ 22% Gain

Inv: ₹15L | Save: ₹30L/Qtr

800%	1.5mo	8
ANN. ROI	PAYBACK	VEHICLES

Mining GPT
IIT ISM PROJECT

MANUAL | AI AUTO

4 hr/doc | 10 min/doc

Inv: ₹8L | Val: ₹25L/yr

312%	3.8mo	1.2k+
ROI	PAYBACK	DOCS

Police Raftaar
DHANBAD POLICE

PAPER FIR | DIGITAL

2 hrs | 30 min

Inv: ₹5L | Val: ₹12L/yr

240%	5mo	40%
ROI	PAYBACK	FASTER

Thermal Mapping
UNION MINISTRY

DONE

Jharia Coalfield
Fire Risk Identification | 12 km²

STRATEGIC OUTCOME
Policy Input for Union Minister

High	Critical
PRECISION	SAFETY DATA

Asset Planning
PLANNED Q1 2026

PLAN

SCALE | TARGET

Regional | 100+ Vehicles

Inv: ₹25L | Proj: ₹1.2Cr

480%	Exp.
PROJ. ROI	SCALE

NATIONAL SCALING POTENTIAL

Based on pilot multiplier

CURRENT ₹2.4 Cr 5 Deployments	REGIONAL ₹24 Cr 50 Mines	NATIONAL ₹240 Cr 500 Mines (5 Yr)
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Quantitative Impact Assessment | Q4 2025 Data

AGGREGATE IMPACT

Efficiency +22% | Cost -26% | Safety +30%

BHAR-777023

Strategic National Impact & Policy Alignment

Deploying indigenous deep-tech to accelerate India's mining modernization goals.

POLICY ALIGNMENT

ATMANIRBHAR BHARAT

Indigenous mining tech stack reducing foreign dependency.

DIGITAL INDIA

AI/IoT deployment transforming legacy mines into smart assets.

MAKE IN INDIA

5-10x cost advantage vs imported software suites.

SKILL INDIA

Upskilling mining workforce for Industry 4.0 roles.

NATIONAL IMPACT (2027)



PAN-INDIA ACCESS

OPERATION FOOTPRINT

JH OD CG WB
MP RJ KN TS

Vyomchara

TEXMiN

Technology Hub

GeM Portal

State Corps

NETWORK REACH

500+

Mines Accessible

GOVT BACKING

"A"

DoT

5G Winner

█

DST

TEXMiN

Commercialization Pathway

Govt → IP → Vyomchara

SUPPORT MECHANISM

DST / DoT → Grant Funding

TEXMiN → Incubation

Vyomchara → Go-to-Market IP
100% IP

Strategic Advisory: Ministry of Mines

TOTAL SECURED

₹2.4 Cr

100% IP Rights

DATA SOVEREIGNTY

National Layer

Encrypted Channels • Audit Trail



Enterprise HQ

Indian DCs • Private Network



Mine Site (Edge)

Zero Egress • Local Processing



0%

95

Foreign Dep.

Localization

No Hexagon/Dassault

Tech Architecture | Vyomchara

Acquire-Analyze-Act Pipeline • Proprietary AI & Hyperspectral Systems • MeitY/DGMS Compliant

BHAR-777023 • JAN 22, 2026

ACQUIRE

HARDWARE ECOSYSTEM

PB

PETABYTE SCALE

AUTONOMOUS DRONES

- Quad/Hexacopter
- VTOL Long-Range

120 min

Endurance

HYPERSPECTRAL

TRL-9

400-2500nm Range • OMC Deployed

99.2% GRADING ACCURACY

SMART SURVEILLANCE

AES-256

Real-time Fleet Tracking • DGMS Facial Rec.

ANALYZE

PROPRIETARY AI ENGINE

TB

TERABYTE SCALE

MINING GPT

175B Parameters

IP

Trained on 1200+ DGMS Compliance Docs

CORE AI MODELS

Hyperspectral CNN

99.2% Acc

Site Sense AI

Predictive

EDGE INFRA

<5ms Latency • Fog Computing

SECURE DEPLOYMENT ARCHITECTURE

Zero Trust Model

EDGE LAYER

Mine Site On-Premise

Zero Cloud Dependency •

NVIDIA GPUs

ENTERPRISE HQ

Private Cloud

Indian Data Centers • VPN

Tunnels

NATIONAL LAYER

Govt Cloud (MeghRaj)

Encrypted Reporting • Audit

Trail

ACT

OPERATIONAL INTELLIGENCE

GB

ACTIONABLE INSIGHTS

MINE OPS

22%

FUEL OPTIMIZATION

Mine-to-Mill Dispatch • Asset Planning

SAFETY & COMPLIANCE

Automated DGMS Reporting • Incident Alerts

LIVE

RAFTAAR SYSTEM

500+ Cases Managed (Dhanbad Police)

MHA / MeitY Aligned

ENCRYPTION

RSA-4096 • TLS 1.3

RESIDENCY

100% Data in India

CERT-In

STQC

IT Act 2000

DGMS