

Custom Solutions

INDUSTRIAL AUTONOMY

WITH AI & ML



Mining Industries
Solutions Portfolio



About SMHcoders

SMHcoders is a UAE-based software solutions company specializing in Artificial Intelligence (AI) and Machine Learning (ML), serving diverse industrial segments. With expertise in predictive analytics, computer vision, chatbot development and AI/ML integrations, we help industries achieve smarter decisions, optimized operations and sustainable growth.

Challenges in the Mining Industry

Equipment downtime and high maintenance costs for haul trucks, conveyors, drills

- Safety challenges in underground and remote operations
- Environmental impact (dust, water use, emissions) under ESG scrutiny
- High energy consumption in ore processing and ventilation
- Complex operations with scattered data from multiple sites



Mining Industries

Services

O1 AlChatbot
Development

Natural Language
Processing

Predictive Modelling

Computer Vision

03

AI Development
Services

06 Web Development

Mobile App
Development

Chat GPT
Integrations

Solutions



IoT-Enabled
Predictive
Maintenance for
Mining
Equipment



Autonomous Conveyor Monitoring and Control System



Ventilation on Demand (VoD) Using IoT Sensors



Environmental Monitoring and Compliance Automation



Worker Safety and Real-Time Location Tracking



AI-Optimized Fleet Management System



Energy
Optimization for
Pumps,
Compressors,
and Mills



Slope and Ground Stability Monitoring



Smart Inventory and Spare Parts Management



Automated Dust and Air Quality Control



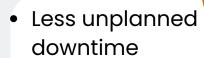
Digital Twin for Mine-Wide Operational Planning



Circular Water Management System

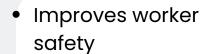


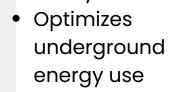
Key Benefits



- Longer equipment life
- Lower maintenance costs

- Prevents major failures
- Increases belt uptime and throughput
- Reduces manual inspections





• Extends ventilation asset life

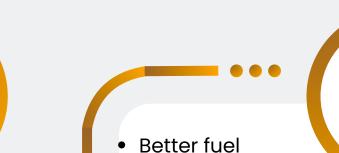




- Ensures compliance
- Lowers risk of fines or reputational harm
- Improves ESG reporting



- Improves safety and accountability
- Speeds emergency response
- Automates incident documentation



- economy and cycle time
- Higher fleet utilization
- Less idle time and emissions



- Lowers energy use and costs
- Reduces equipment wear
- Supports sustainability with less CO₂



- Prevents landslides and collapses
- Protects lives and infrastructure
- Enables riskbased interventions



downtime from

- stockouts • Lowers carrying costs
- Improves procurement efficiency





- Protects worker health
- Ensures air quality compliance
- Reduces community impact



- Increases visibility
- Improves planning and risk assessment
- Supports continuous improvement



- Cuts external water use
- Enhances sustainability and compliance
- Supports circular economy, zero discharge

