



Gas Sensor



Smoke Sensor



Dust Monitor

TEST MINE - WIRELESS SENSOR INTEGRATION

Technical Detail:

- The system uses a Private 5G network to connect underground access points and IoT edge servers, enabling real-time data from sensors and safety devices. It features the M3SH FleetPRO for vehicle detection, wearable trackers for workers, and environmental sensors for monitoring gases, particulates, smoke, and noise.
- Installed throughout the mine, the system processes data locally and integrates with SCADA for centralized monitoring. Its modular design allows easy expansion, and it complies with SANS and IEC safety standards.

Benefit:

- This project implemented a 4IR Connected Mine solution focused on underground infrastructure, communication, and environmental monitoring. The deployment of a Private 5G network improved safety, efficiency, and real-time communication, reducing reliance on cabling.
- It enabled real-time tracking of workers and vehicles, enhanced situational awareness, and integrated safety systems to prevent accidents. Advanced sensors provided early hazard detection, supporting predictive maintenance, data-driven decisions, and safer mining operations.

