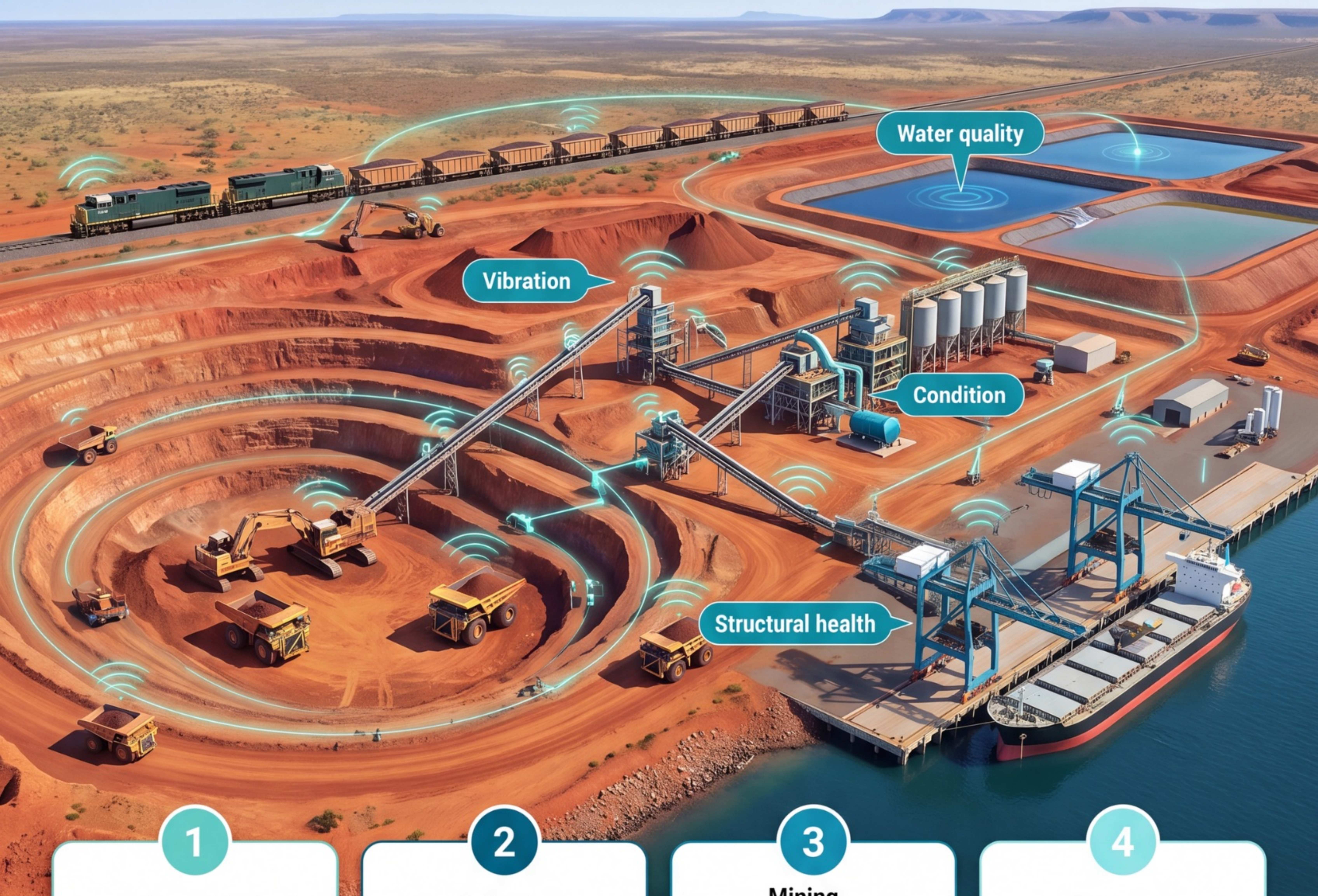


IOT IN MINING

Smarter Operations. Safer Sites. Reliable Assets.

IoT sensors and LoRaWAN connectivity deliver real-time data across your mine and port, helping you improve reliability, safety and ESG compliance.



1



Asset Monitoring & Predictive Maintenance

- Machine vibration and condition on motors, crushers and conveyors
- Bearing temperature on rotating equipment
- Lubrication and hydraulics monitoring
- Corrosion and fatigue structural health

2



Rail & Port Asset Management

- Track and bridge health monitoring
- Conveyor and stacker reclaimer performance
- Stockpile level monitoring
- Port lighting and energy
- Access and gate monitoring

3



Mining Accommodation & Facilities Management

- Smart electricity and water metering
- HVAC and air quality
- Water tank and bore monitoring
- Fire and safety systems
- Leak detection

4



Environmental Monitoring & ESG Reporting

- Dust and air quality, PM2.5 and PM10
- Water quality and tailings, pH, turbidity and seepage
- Noise and vibration
- Weather stations
- Energy and carbon reporting

How it works



IoT sensors collect data from remote assets such as crushers, pumps and boreholes



LoRaWAN gateway transmits long range across the site, up to 20km



Secure cloud processes and stores data



Actionable insights in dashboards integrated with SAP, Maximo and SCADA

Why LoRaWAN for mining

- ✓ Ultra-long range across vast pits and rail corridors
- ✓ Long battery life of 5 to 10 years
- ✓ Low cost and scalable with no SIM or data fees
- ✓ Ruggedised for extreme Pilbara heat and dust