



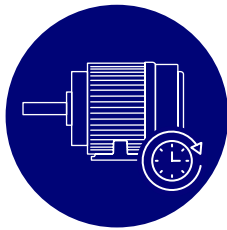
Case Study: Wireless Condition Monitoring Deployment at Arizona Mining Operation



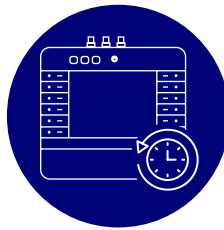
Overview

A large mining operation in Asarco, Arizona partnered with Machinery & Reliability Institute (MRI) to modernize its reliability program using wireless IIoT technology.

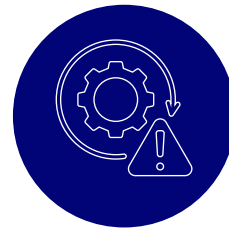
The initiative was part of the company's broader condition monitoring and innovation strategy for its critical assets, focused on:



**Improving
Equipment Uptime**



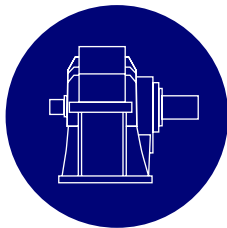
**Reducing
Manual Data Collection**



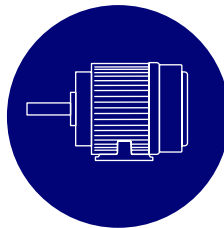
**Enabling
Earlier Fault Detection**

Solution

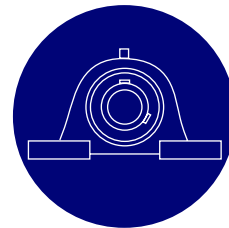
MRI deployed CTC Connect wireless vibration monitoring hardware along the main conveyor feeding the SAG mills, targeting equipment including:



Gearboxes



Electric Motors



Pillow Block Bearings



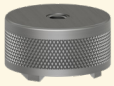
Hardware Deployed

MRI deployed the following CTC hardware in the mining operation:



WS300 Series ConnectSens™ Wireless Sensors

- » Dynamic triaxial vibration and temperature monitoring
- » IP67 rated and well suited for long-term reliability in harsh mining environments



MH214-3A Mounting Magnets

- » Enables fast, secure installation on rotating equipment
- » Eliminates the need for drilling or permanent modification



ACCESS2000 Series Long-Range Wireless Gateway

- » Centralized data aggregation and transmission
- » Scalable architecture for expanding sensor networks

Sensors were strategically installed at critical measurement points along the conveyor system to capture early indicators of :



Bearing Wear



Imbalance



Misalignment



Gear Defects

The Connect wireless architecture allowed rapid deployment with minimal infrastructure requirements and coverage of previously inaccessible or unsafe locations.

