Digitalization in Mining

Unplanned downtime – caused by asset failures and accidents – is one of the most damaging factors for productivity and profitability of mining companies. But now, the industry is starting to recognize the value in digitalizing their operations to combat such events. Using vibration sensors mounted to production assets, on-site teams can collect real-time, continuous data on the status and condition of operational assets. These systems can even send alerts when vibrations indicate an increased probability of failure.

Using these insights, operational teams can schedule the right maintenance intervention at the right time, reducing maintenance spend, extending the useful life of operational assets & guaranteeing robust and resilient operations.
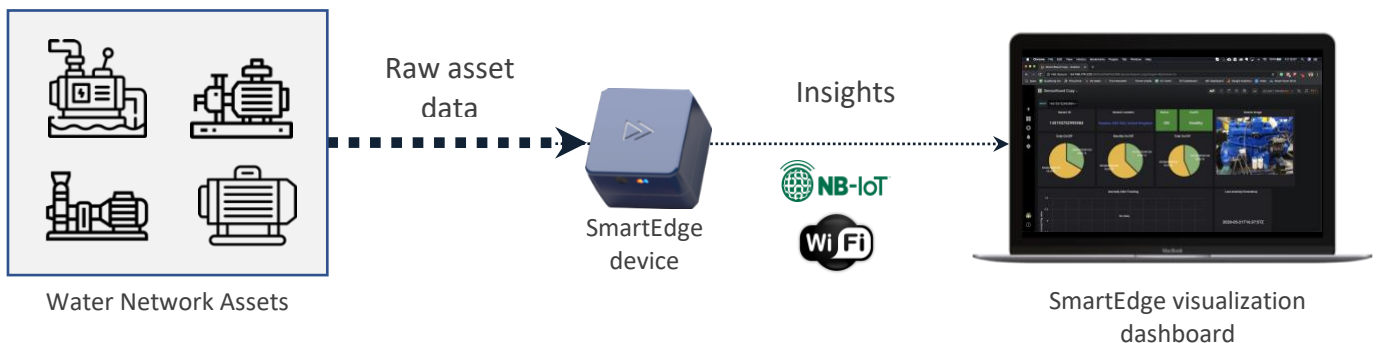
The challenge: preventing unplanned downtime while reducing HSE risks and maintenance spend.

Challenges to digitalization in mining

1. **Complex & expensive** – Current solutions are piecemeal and need to be sourced, integrated, and installed by specialists, incurring high costs due to the complexity of implementation.

2. **Data instead of insights** – Raw data collected from assets requires data scientists, guided by vibration analysts, to extract actionable insights. This means high latency between an event occurring and its detection, leading to failures.

3. **Multi-vendor induced complexity** – A large variety of asset types and manufacturers each offering their own monitoring solution, requiring multiple integrations with ERP/IT systems adding complexity in initial setup and operations.

Solution: Stoke SmartEdge™

1. **Simple & affordable** – Each SmartEdge device is an autonomous and self-contained monitoring system. This enables easy sourcing, installation and use for one low price.

2. **Actionable insights** – SmartEdge provides operational teams with actionable insights on developing failure modes and maintenance needs of operational asserts. This helps optimize maintenance service for reliability and cost.

3. **Ubiquitous monitoring** – SmartEdge easily installs on any asset type, regardless of vendor or age. It offers a single point of integration to simplify monitoring of your entire operation in one digital platform.

Water Network Assets — Raw asset data → SmartEdge device — Insights (NB-IoT, WiFi) → SmartEdge visualization dashboard

Customer Benefits

Using SmartEdge, companies can expect:

- **Immediate, real-time visibility on status** of all assets regardless of manufacturer or age
- **Increasing service continuity** through prevention of asset failures
- **Reduction of personnel OHS risks** thanks to remote visibility
- **Reduction of maintenance interventions and costs**

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