FULLER®

ONLINE RELIABILITY SERVICES

FOR BELT CONVEYORS

MONITORING AND EXPERTISE TO IMPROVE BELT CONVEYOR PERFORMANCE AND AVOID UNPLANNED DOWNTIME

Belt conveyors act as essential arteries in the cement plant, transporting various materials along the production line. These materials can be abrasive, dusty, or wet, and they might expose the conveyor to thermal or chemical degradation. Loads may vary. Belts and frames may wear or become damaged. The material might spill – or stick to the belt. These factors (and more) pose many challenges to efficient, reliable belt conveyor operation.

Our Online Reliability Service for belt conveyors enables early identification of potential issues before they escalate. Multiple sensors installed on your conveyor transmit real-time data to our Global Remote Service Centre, where specialists continuously monitor the equipment for process abnormalities, component failures, and other operational deviations. By applying early-warning analysis techniques, including Rule Based methods, Condition Based monitoring, Artificial Intelligence and Machine Learning (AI/ML), and custom-created models, we identify when equipment failures may occur and recommend the appropriate corrective actions to optimize your conveyor's performance.

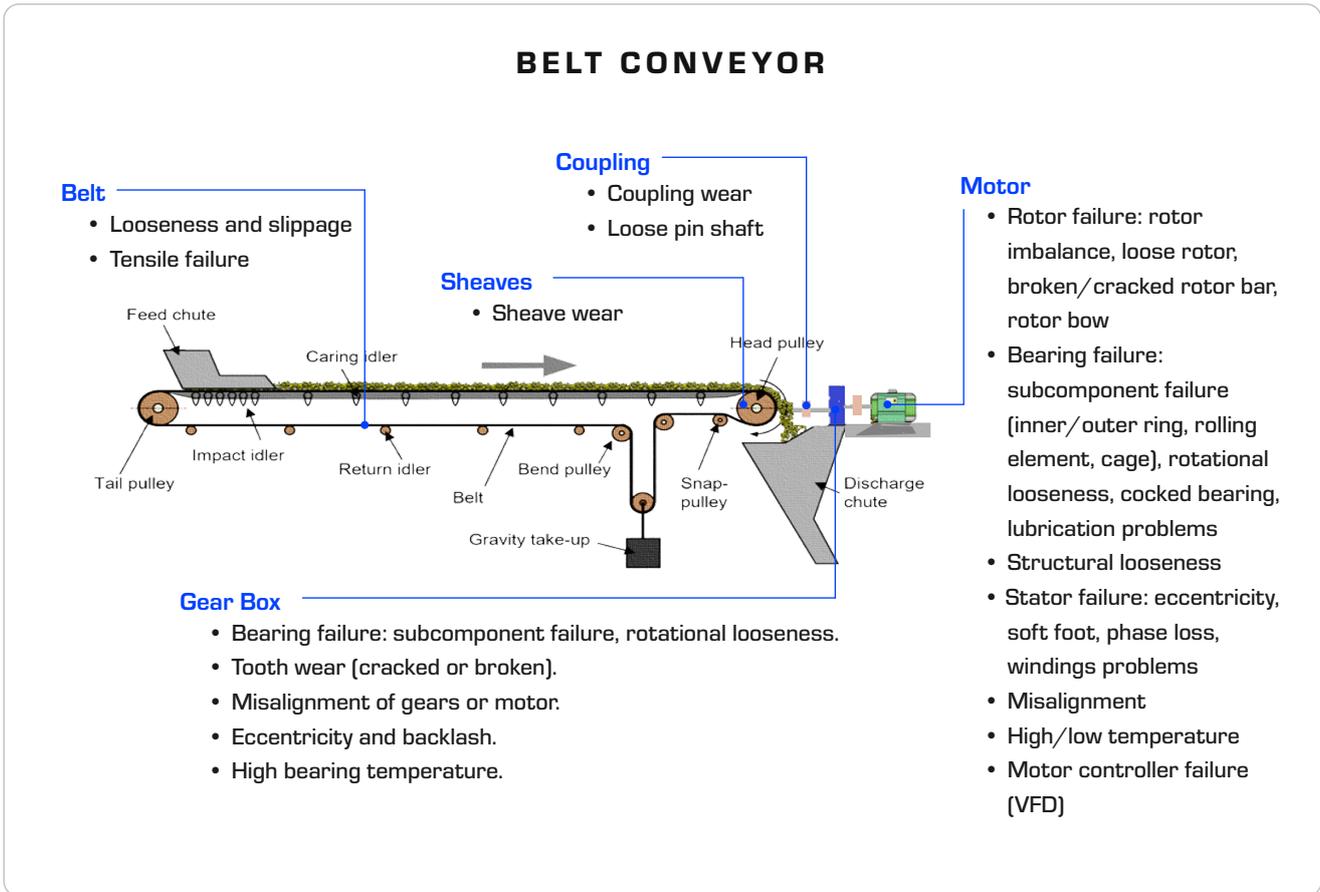## KEY BENEFITS

01
Increase uptime and output.

02
Lower labor costs by transforming unplanned shutdowns into planned ones.

03
Extend equipment lifespan with improved preventive maintenance.

04
Reduce premium costs and services by having the right spares on site at the right time.

BELT CONVEYOR

Belt
- Looseness and slippage
- Tensile failure

Coupling
- Coupling wear
- Loose pin shaft

Motor
- Rotor failure: rotor imbalance, loose rotor, broken/cracked rotor bar, rotor bow
- Bearing failure: subcomponent failure (inner/outer ring, rolling element, cage), rotational looseness, cocked bearing, lubrication problems
- Structural looseness
- Stator failure: eccentricity, soft foot, phase loss, windings problems
- Misalignment
- High/low temperature
- Motor controller failure (VFD)

Sheaves
- Sheave wear

Feed chute
Caring idler
Head pulley
Impact idler
Return idler
Bend pulley
Belt
Snap-pulley
Discharge chute
Tail pulley
Gravity take-up

Gear Box
- Bearing failure: subcomponent failure, rotational looseness.
- Tooth wear (cracked or broken).
- Misalignment of gears or motor.
- Eccentricity and backlash.
- High bearing temperature.

The OEM expert advantage

Many providers offer to monitor your equipment, but do they truly understand your belt conveyor? We have decades of experience installing, troubleshooting, maintaining, and optimising belt conveyors. We have integrated that OEM experience and insight into our ORS. So, while others tell you what to worry about, we tell you how to solve recurring problems and enhance reliability. This includes extensive root cause analysis to prevent minor issues from escalating into major problems.

After all, your success is our success. Our OEM expert advisors support and coach your maintenance personnel to achieve excellence, delivering optimised maintenance planning and effective maintenance procedures.
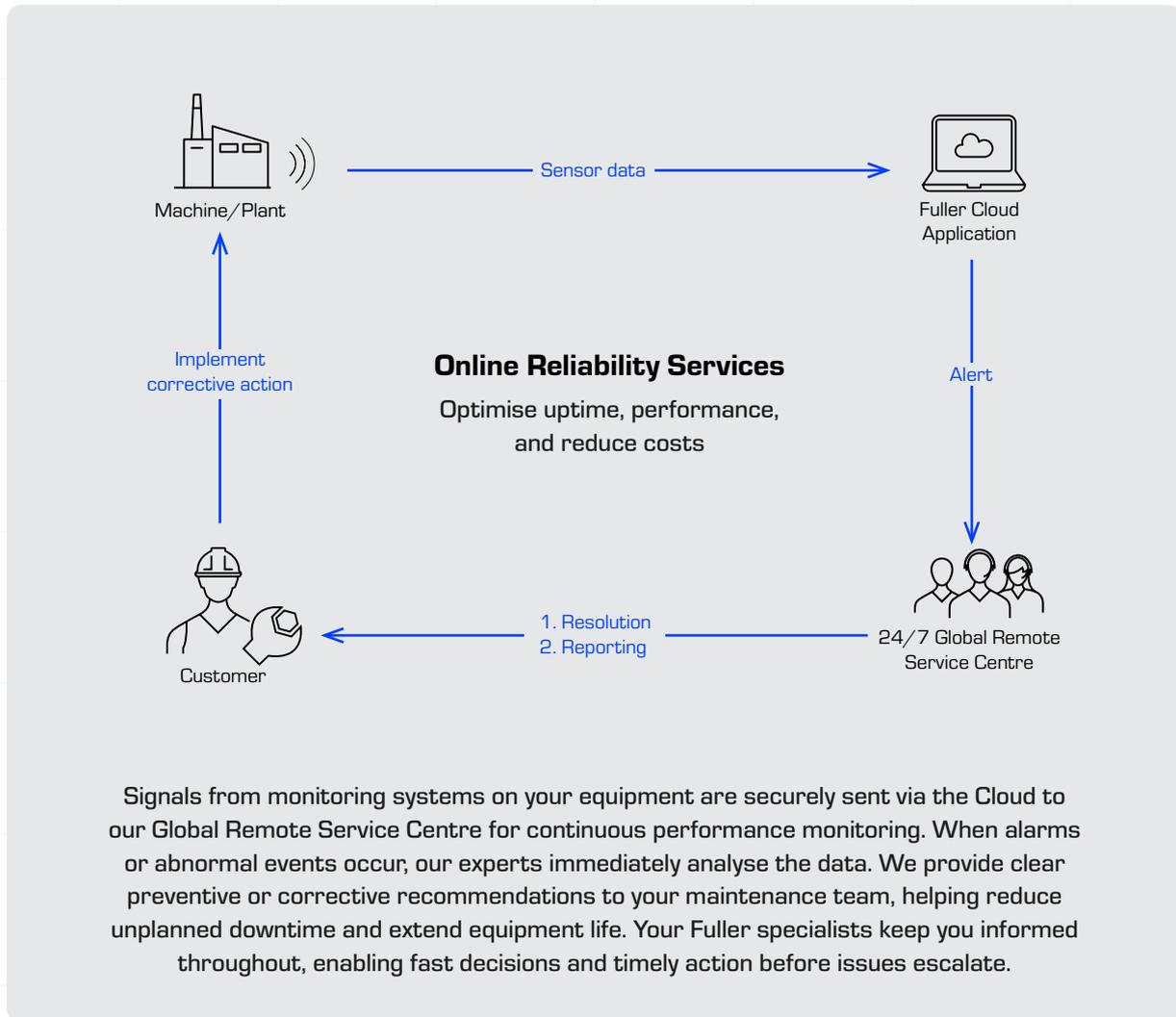
A comprehensive monitoring package

Our ORS use several monitoring systems, such as vibration, optics, image processing, electromagnetic, ultrasonic, and oil analysis. These detect a broad range of abnormal conditions and component failures on the belt, gearbox and bearings, couplings, motor, and sheaves. This monitoring delivers continuous insight into your belt conveyor's status.

Implementing ORS

A Fuller project manager will oversee the delivery of any hardware required to provide the service. Your maintenance team will usually be able to install the sensors themselves; however, we can offer installation as an optional extra. After the Health and Usage Monitoring System (HUMS) is installed, we will come to you and commission the systems. Once commissioning is complete, the project manager will hand over to a dedicated service account manager, whose job is to support your maintenance department as their go-to contact whenever assistance is needed. The service account manager will initiate and drive the service to deliver on your KPIs, ensuring that you receive optimal value.

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HOW DOES ORS WORK?

Machine/Plant

Sensor data →

Fuller Cloud Application

Implement corrective action ↑

↓ Alert

Online Reliability Services

Optimise uptime, performance, and reduce costs

Customer

← 1. Resolution
2. Reporting

24/7 Global Remote Service Centre

Signals from monitoring systems on your equipment are securely sent via the Cloud to our Global Remote Service Centre for continuous performance monitoring. When alarms or abnormal events occur, our experts immediately analyse the data. We provide clear preventive or corrective recommendations to your maintenance team, helping reduce unplanned downtime and extend equipment life. Your Fuller specialists keep you informed throughout, enabling fast decisions and timely action before issues escalate.

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TECHNOLOGIES

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