Conveyor Health Monitoring

Aura IQ revolutionises conveyor health monitoring - using real-time data to enhance asset management, improve reliability and introduce exciting new predictive capabilities.

HOW **IT WORKS**

Aura IQ is a low cost, highly reliable solution for monitoring, measuring and detecting conveyor roller health - with no power required at the point of measurement.

Aura IQ transmits a series of short, laser pulses along a single fibre optic cable retrofitted along the length of a conveyor. Acoustic disturbances from the conveyor system cause microscopic changes in the backscattered laser light that is then categorised into known parameters. Data is simultaneously gathered from every metre of the conveyor and processed by Aura IQ to pre-emptively alert operators, either on or off-site (in operational hubs or control rooms), to potential failures before they happen. This includes:

- Detecting a broken ball or a cracked cage in a ball race

- Observing and tracking idler bearings as they progressively wear, and

- Predicting potential bearing seizures and prioritising roller replacements at the next maintenance shut down.

AURA IQ **CLOUD AND IOT NETWORK**

The Aura IQ Cloud and Internet of Things (IoT) Network solution provides a means to wirelessly connect one or more Aura IQ Edge Servers to a central cloud reporting and analytics platform. This enables alerts and reports from conveyor assets - located anywhere in the world - to be accessible on any Internet enabled device in near real-time, with no specialist software or equipment.

CONVEYOR HEALTH MONITORING **AND INTELLIGENCE PLATFORM**

Providing deeper insights to maintenance technicians, site personnel, regional operational hubs and global headquarters, conveyors are automatically connected to the cloud via an Industrial Grade Wireless IoT Gateway, enabling daily asset reliability reports from every conveyor, at every site around the world. Key features include:

- **Active Status** – Quickly identify the status of all conveyors and other IoT monitored assets at each site location

- **Daily Reports** – Review daily reports for each conveyor which highlight idlers which are at risk of failure

- **Detailed Heatmaps** – Access detailed heatmaps which illustrate key failure indicators on a linestand-by-linestand basis, and

- **Individual Linestand Analysis** – Drill down into the detail of an individual linestand to review the key fault indicators over time.
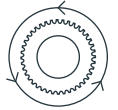
WHY **AURA IQ?**
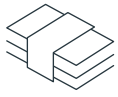
DELIVERS SUBSTANTIAL COST SAVINGS
- ° Rapid ROI and substantial cost savings
- ° Enhances labour efficiency
- ° Maximises usable life of parts

INCREASED EFFICIENCY
- ° Optimises performance
- ° Continuous monitoring
- ° Smart reporting
- ° Enables timed roller change outs

RANGE OF APPLICATIONS
- ° Works on all conveyor types
- ° All lengths and terrains
- ° New sites and retrofit
- ° Both surface and underground

REDUCES UNPLANNED DOWNTIME
- ° Anticipates issues before they occur
- ° Automates maintenance requests
- ° Eliminates potential failure

IMPROVES HEALTH AND SAFETY
- ° Reduces exposure to health and hygiene hazards
- ° Eliminates manual inspections
- ° Reduces manual maintenance
- ° Instrinsically safe

RELIABLE SOLUTION
- ° Highly sensitive detection
- ° Proven technology
- ° OPEX vs CAPEX model
- ° Global technical support

AT **A GLANCE**

- ° Transforms business performance
- ° Smart, reliable step change to a conventional labour-intensive approach
- ° Mitigates risk and enhances occupational health, hygiene and safety management
- ° Rapid installation
- ° Award winning technology

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INNOVATION FOR METS AWARD

INNOVATION
THROUGH COLLABORATION

Aura IQ has been developed as part of a transformational technical and commercial partnership with Mining3 - a leading research organisation which is directed by its global mining industry members to develop and deliver transformational technology to improve productivity, sustainability and safety.

Aura IQ harnesses the power of FFT's award winning fibre optic detection and sensing technology platform (FFT™ Aura Ai-2), and is combined with development partner, Mining3's advanced signal processing algorithms and predictive analytics, to acoustically monitor and assess conveyor health via the cloud-based analysis, reporting and alerts.

mining3
TRANSFORMING MINING

More information
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FUTURE FIBRE TECHNOLOGIES