iOmniscient

iQ-Preventive Maintenance
: Conveyor Belt Maintenance

iQ-Sound detects anomalous machinery noise before extensive damage



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Conveyor Belt Operations



CONSISTENT OPERATING SOUND

Anomalous noise signals trouble

Hundreds of moving parts make noise during operation, but the normal pattern is consistent.

iQ-Sound detects changes and alerts operators before damage spreads across the equipment.

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The Maintenance Challenge

Wear, unexpected breakdowns and production losses can raise total cost

CONTINUOUS OPERATION



WEAR AND TEAR

Hundreds of parts

Components wear at different rates across extended conveyor systems.

Unplanned repair

Breakdowns can make repairs expensive and damage raw materials or product on the belt.

Production loss

Unexpected stops can cause consequential damage and lost output.

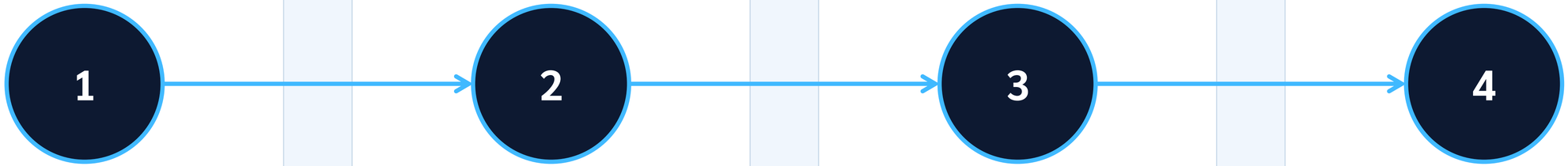
Cost visibility

CIO and IT teams may not see maintenance spend within operating expenses.

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iQ-Sound Response

Microphones detect deviations from the conveyor's normal sound



Listen

Embedded or stand-alone microphones capture machinery sound.

Learn

Train on normal equipment sound using very small datasets.

Detect

Separate anomalous conveyor noise from nearby equipment to limit false alarms.

Act

Alert operators and the nearest responsible person; shutdown can prevent wider damage.

NORMAL SOUND BASELINE

PREVENTIVE ACTION

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Cost and Response

Earlier intervention can limit repair cost and product loss

HIGH ROI

Avoid wider damage

Early shutdown reduces repair costs and production loss.

iQ-SOUND

ELIMINATING FALSE ALARMS

The iOmniscient system is smart enough to distinguish between noises generated by the conveyor belt and other extraneous sounds from neighboring equipment

AUTONOMOUS RESPONSE

Finds the nearest responsible person and advises them of the problem.

MAINTENANCE VISIBILITY

IT leaders can contribute to lower maintenance costs even when spend sits in operating expenses.

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Rapid Deployment

Small training datasets and patented, computing-light algorithms

PATENT



Internationally patented

The core technology is internationally patented.

AI

Training on normal sound needs very small datasets.

FAST LEARNING

Shorter implementation time supports large quantities of diverse equipment.

Human-like response

Multi-sensory video, sound and smell analytics enable human-like system response.

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Sustainable Systems

Intel-based AI with lower power demand



All iOmniscient products run exclusively on Intel-based computing hardware. Advanced AI goes beyond Deep Learning.

INTEL-BASED COMPUTING

NO 3RD-PARTY GPUs

16× LOWER POWER

16× LOWER CARBON FOOTPRINT

Power use falls by a factor of 16,
resulting in a 16-fold reduction in carbon footprint.
The program helps customers implement Sustainable Systems.

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About iOmniscient

Partnership

All iOmniscient Products run exclusively on Intel based computing hardware using OpenVINO™

- The use of Advanced AI technology that goes beyond Deep Learning enables iOmniscient to run its systems without the need for 3rd party GPUs.
- This reduces the power required by a factor of 16 – resulting in a 16-fold reduction in the carbon footprint.
- This is just one part of a multi-faceted program to help customers to implement Sustainable Systems.

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About iOmniscient

- iOmniscient is an **Ethical AI** company.
- It offers **multi-sensory (video-sound-smell) Artificial Intelligence based analytics for Autonomous Systems.**
- It focuses on ensuring **Outcomes** for its customers.
- With **over 2 decades of experience,** iOmniscient systems have been demonstrated to be **robust,** operating with high accuracy and few false alarms specially in **complex and crowded** environments.
- By design, its systems **reduce the cost of infrastructure** required:
  - they can use existing cameras
  - they require fewer cameras with lower resolution
  - they require 90% less storage and network bandwidth
  - they are computing light and require no GPUs
  - they allow autonomous operations requiring fewer personnel to operate
- iOmniscient has implemented projects in **70 countries.**
- With over **70 international patents** many of its capabilities are unique and unavailable from any other source.





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