iOmniscient

iQ-Preventive Maintenance
: Pump Maintenance

Thermographic cameras warn
when bearings and pump components overheat



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Bearing Wear and Breakdown

Friction from worn bearings can overheat pump components



Repair cost

A burned-out pump may need many parts or the entire unit replaced.

Earlier bearing change

Finding the problem first can allow bearing replacement and quick return to service.

High ROI

Timely maintenance has high return because pump equipment is costly.



Thermographic Detection

HOT COMPONENTS

See overheating early

Thermographic cameras monitor pump components and identify abnormal heat.

Alerts may prompt a stop and repair or replacement before a calamitous breakdown.

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From Heat to Action

Temperature evidence informs a timely maintenance decision



COMPONENT HEAT

TIMELY REPAIR

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Maintenance Economics

Replacing bearings early can avoid a more expensive pump failure

HIGH ROI

Avoid full replacement

Early bearing changes can avoid a costly full pump replacement.

FAST RESTORATION

BEARINGS

Changing worn bearings can return the pump to operation quickly.

AUTONOMOUS RESPONSE

The system advises the nearest responsible person to take necessary action.

LOW FALSE ALARMS

It ignores unrelated hot people and sun-warmed metal objects in the camera view.

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Rapid Training

Small datasets, sometimes none, support deployment across equipment

PATENT



Internationally patented

The core technology is internationally patented.

AI

Very few deterioration images are needed; sometimes none.

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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