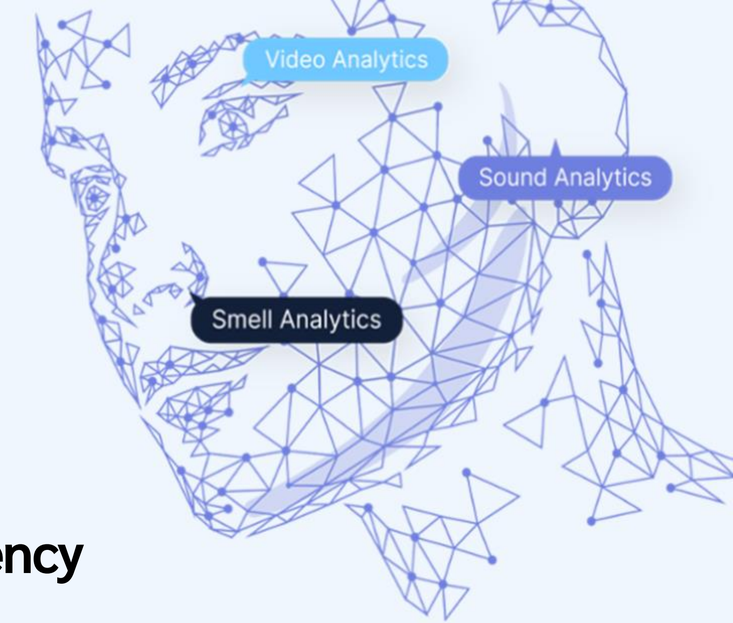
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Preventive Maintenance

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Table Of Contents



1 Maintenance Challenges

2 Multi-Sensory AI

3 Applications

4 Autonomous Response

5 Cost Efficiency

6 Sustainability

7 Proven & Patented

8 About iOmniscient

Click a number and go to the page

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Maintenance Challenges



Traditional AI requires vast labeled datasets, but equipment failures occur too rarely to collect sufficient data.

iOmniscient’s AI learns from very small datasets to predict maintenance needs accurately.

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Multi-Sensory AI

Combines video, sound, and smell analysis to detect anomalies such as overheating, unusual noise, or abnormal odors.



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Applications

iOmniscient’s AI technology is applied across diverse industrial environments to ensure early detection and prevention of potential failures.

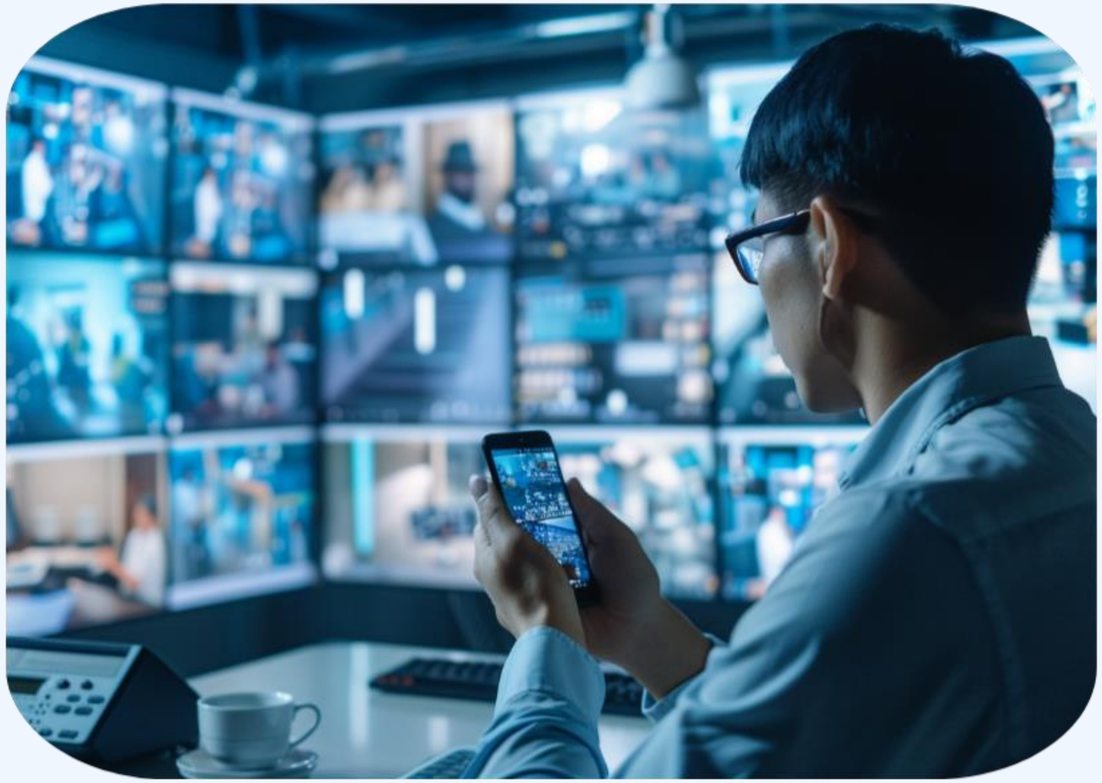
- Detects overheating pumps, bearings, and other critical components.
- Identifies foreign objects or debris on conveyor belts and escalator steps.
- Recognizes burning smells, rodent activity, or other early warning signs in electrical systems.
- Analyzes unusual sounds and vibrations to predict maintenance needs before breakdowns occur.
- Prevents costly downtime through proactive anomaly detection and rapid response.



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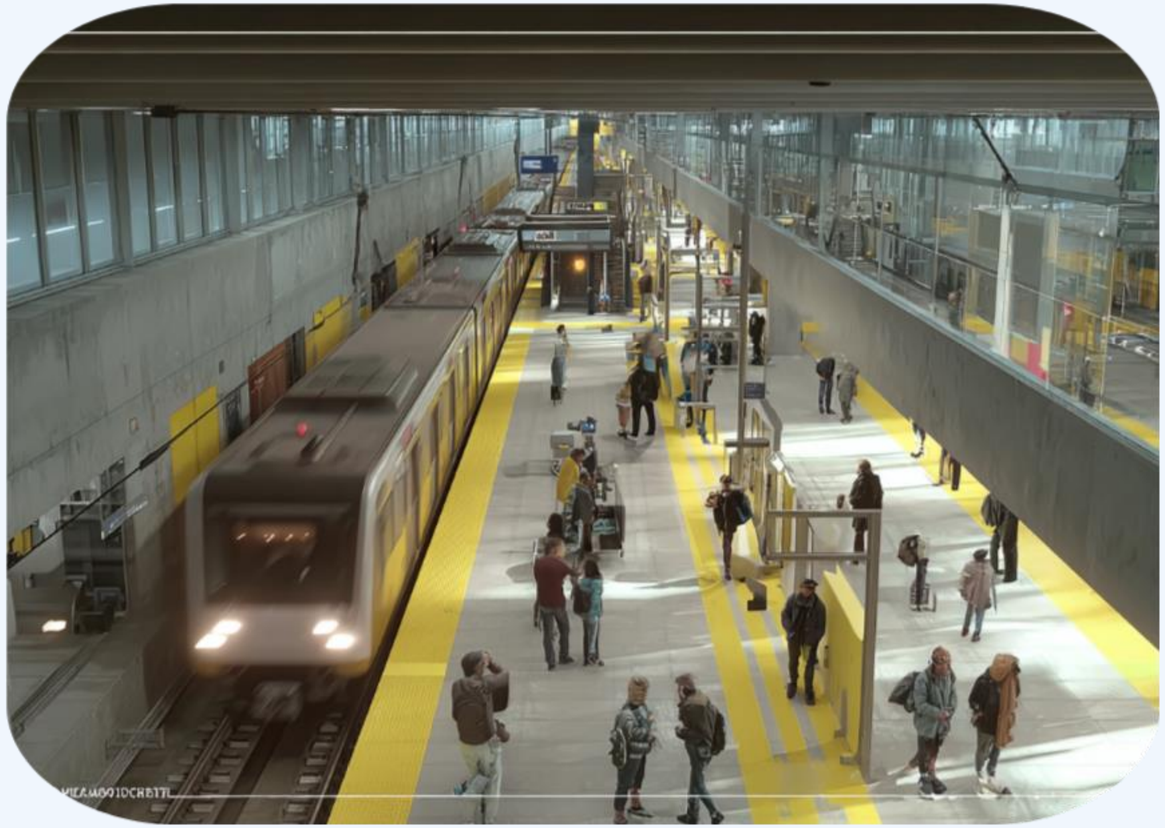
Autonomous Response

- When an issue occurs, the system instantly identifies the nearest appropriate person.
- Provides real-time guidance on where to go and what actions to take.
- The smartphone acts as a mobile command center with alert video and alerts.
- Enables fast, guided responses with minimal personnel.
- Supports autonomous, self-managing maintenance operations for maximum efficiency.



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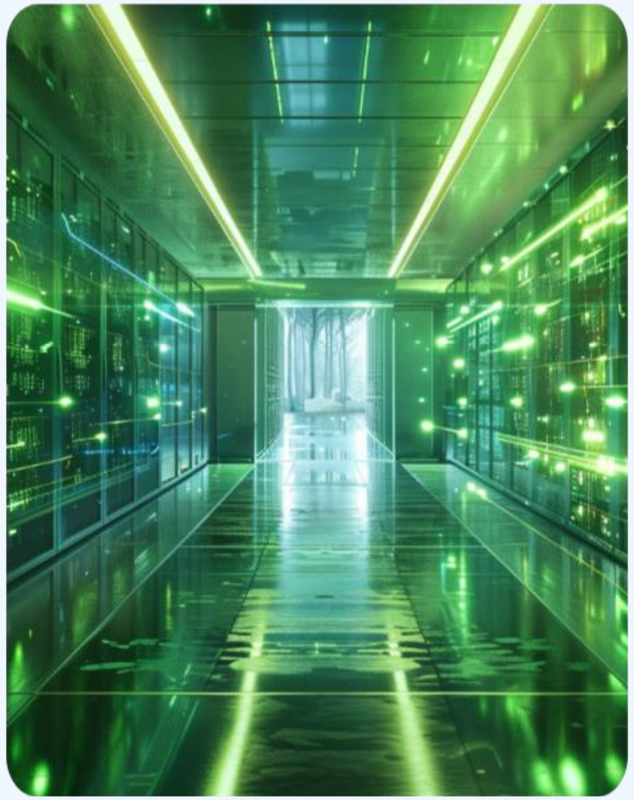
Cost Efficiency



- Uses existing CCTV infrastructure — no new cameras required.
- Requires fewer and lower-resolution cameras.
- Operates without GPUs, reducing power and hardware costs.
- Saves up to 90% in storage and bandwidth.
- Fast to deploy and simple to maintain.
- Significantly reduces both infrastructure and operational expenses.

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Sustainability



No GPUs required → 16× lower power consumption.

Reduces carbon footprint by up to 16×, supporting green operations.

Enables energy-efficient and eco-friendly AI deployment.

Helps organizations achieve sustainable and responsible AI implementation.



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Proven & Patented

- Deployed in **70+ countries** with **70+ international patents.**
- **Intel-based hardware exclusive,** ensuring maximum stability and performance.
- Demonstrated **high accuracy** and **low false alarms** even in complex environments.
- Recognized as an **Ethical AI company** focused on real-world outcomes.



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iOmniscient & intel

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.

www.iomni.ai

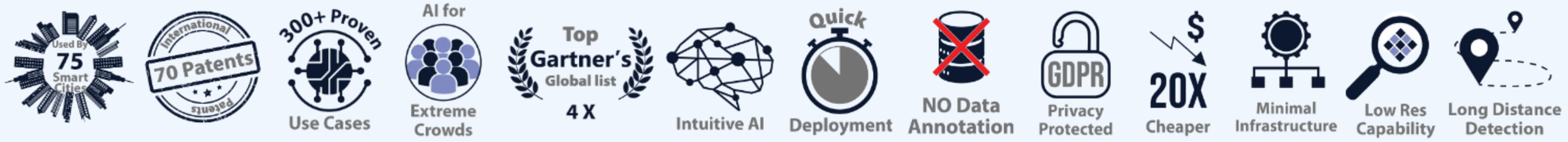
enquiries@iomni.ai

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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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