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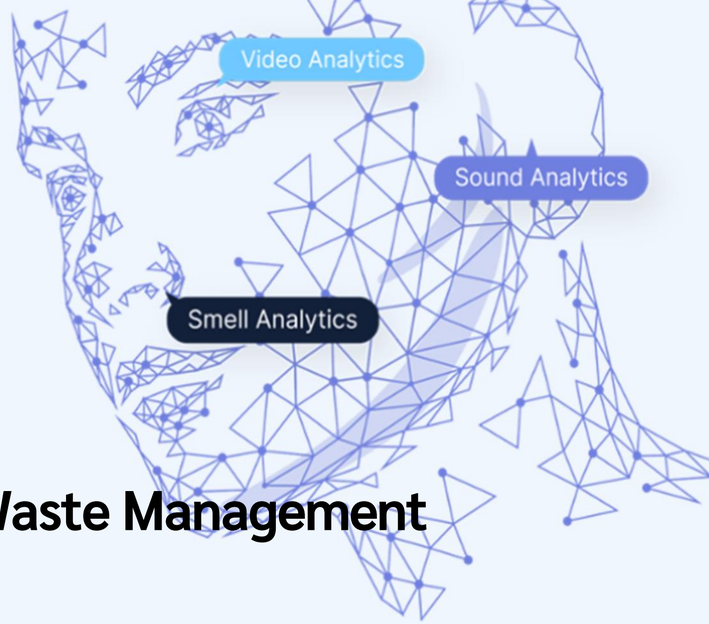
iQ-SMART UTILITIES

Safety and security across distributed infrastructure



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Overview of Smart Utilities

iOmniscient delivers intelligent AI solutions across essential utility sectors









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Safety

Common capabilities for all Utilities

PROTECT THE CREW Keep personnel safe, detect hazards early and respond to incidents.

Personnel Safety

PPE detection · Helmets and fluorescent jackets
Driver match · Worker training and certification

Hazard Detection

Smell detection for chemical hazards · Gas leaks
Smoke and fire · Compressor/heavy-equipment noise

Accident & Spill Detection

Slips and falls · Falls from height
Oil and chemical spills

Emergency Response

Evacuation management across utility sites

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Operational Efficiency & Security

Common capabilities for all Utilities

OPERATIONAL EFFICIENCY Understand time spent in different locations

Access Management

Database-less access management for workers from multiple sub-contractors

Workforce Mobility

Universal fraud-proof access management for staff visiting multiple facilities

Site Security

Attendance management
Intrusion detection and identification of intruders

SECURITY / ACCESS CONTROL / ATTENDANCE / INTRUSION DETECTION

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Multi-Sensory Hazards

Video, sound and smell reveal different risks



VIDEO

Detect smoke, fire, oil
or chemical spills and falls.

SOUND

Control compressor
and heavy-equipment noise.

SMELL

Use the iOmniscient e-Nose to
detect chemical hazards and gas leaks.

INTUITIVE AI
No Deep Learning
No GPUs, Fast Deployment

COMPREHENSIVE
Autonomous Multi-Sensory
Analytics (video, sound & smell)

SAFETY
Privacy
Protection

AUTONOMOUS RESPONSE
Reduced requirement
for a control room

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Electricity

Alert on intrusion and electrical malfunction

Raise immediate alarms and audio warning for accidental or purposeful intrusion.

Detect sudden sparking and other malfunction using video, sound and smell.

Detect overheating of equipment or contacts.



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Water and Waste Management

Detect treatment hazards and nuisance smells



Water purification facilities can suffer from chemical hazards such as over-chlorination

Waste Management facilities can exude foul smells and noxious gases which can distress neighbours.

iOmniscient’s e-Nose can detect an infinite number of smells and enable the organization to take timely mitigating action.



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Gas Networks

Monitor long pipelines and buried assets





Use video and smell to detect gas leaks.

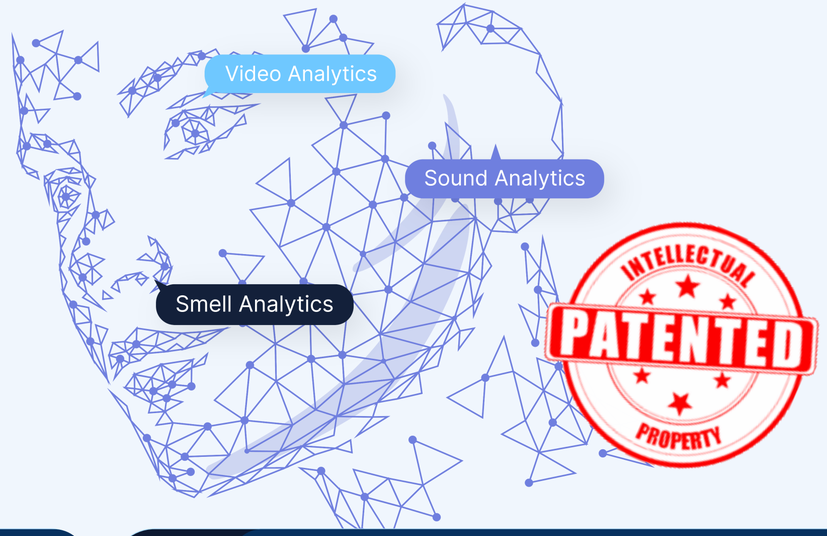
Use drones to search for leaks along long stretches of pipeline in remote areas.

For underground pipes detect if other agencies are attempting to dig in areas where a gas pipe is buried.

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Responsive Infrastructure

Advanced Multi-Sensory Analytics – Video, Sound, Smell



01 COST EFFECTIVE

Uses existing
CCTV infrastructure

No GPUs
16×↓ carbon footprint

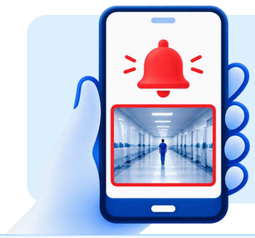
Fewer cameras
Lower-resolution cameras

90% less
Storage and network bandwidth

02 AUTONOMOUS RESPONSE

Detect › **Find** › **Respond**

When there is an event,
the system can find the appropriate responder and tell them where to go and what to do.



They do not require a large control room environment – **a smart phone becomes the control room.**

03 PRIVACY PROTECTION

All systems are privacy protected.

All iOmniscient systems protect privacy so that no operator can recognize any person. The system can still raise alerts for safety, security and operational efficiency.

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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.

www.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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