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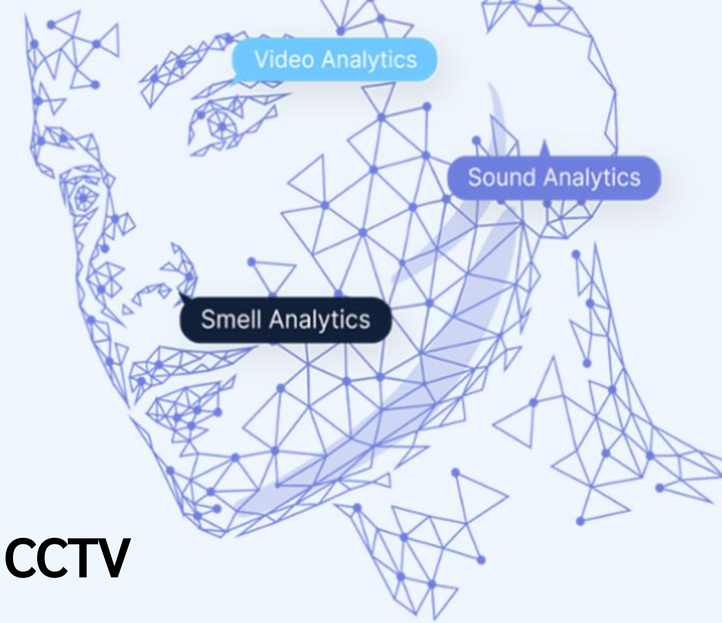
e-Nose

Real-time smell analytics
for chemical and odour detection



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Smell Analytics

Continuous monitoring of airborne chemicals and odours



Identify and measure

e-Nose continuously identifies complex chemical and odour mixtures and measures their intensity in real time.

Choose targets

Users define target substances and alert thresholds. The system can learn new chemicals relevant to the site.

Sample difficult spaces

Draw air from manholes, small sampling ports and other hard-to-access locations.

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Detection Workflow

Air sampling, threshold alerts and verified response



Sample and recognise

Draw air from the monitored area. Six sensors and software identify the chemical or odour pattern.

Compare and alert

Check the defined threshold and alert staff within seconds via control room, phone, SMS or email. Keep a permanent event record.

Verify and respond

Trigger CCTV and send clips to authorised staff, or activate lights and alarms. Video and Sound Analytics add context to the incident.

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Sensor Design and Detection Range

A six-sensor array supports continuous operation

Six-sensor recognition

Patented software combines six sensor responses to distinguish complex mixtures and many thousands of odour patterns.

Serviceable hardware

Self-regenerating sensors support long operation without degradation. The modular design allows individual sensor replacement. The casing is robust, weatherproof and camouflaged.

Range depends on conditions

Detection range depends on chemical concentration and wind direction. Sewage odours have been detected several kilometres away.



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Safety Applications

Detection of hazardous gases, early fire signs, drugs and explosives



Gas and chemical leaks

Detect flammable or poisonous gases and chemicals at plants, refineries and factories.

Early fire indication

Detect the smell of smouldering plastic insulation on electrical wires.

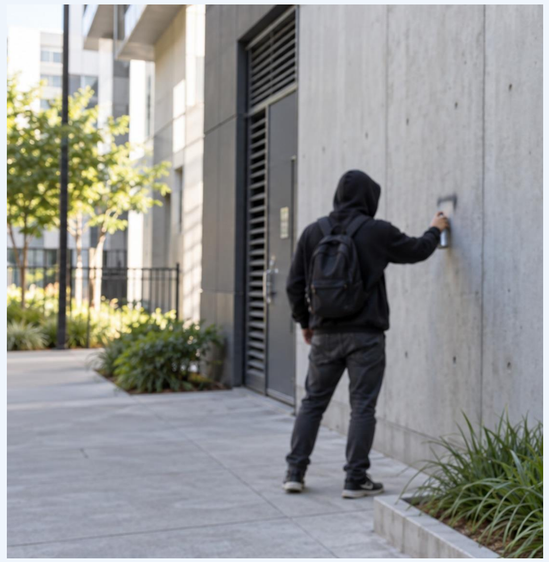
Drugs and explosives

Train the system for certain drugs and explosives, with continuous operation and no animal handler required.

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Graffiti and CCTV

Chemical alerts support prompt, visually verified response

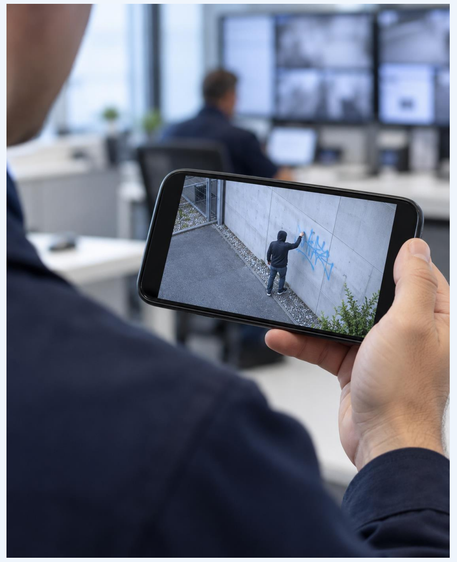


1. Detect spray paint

e-Nose detects airborne paint chemicals and alerts operators promptly.
Spray paint has been detected at 50m.
Actual range varies with concentration and wind.

2. Check and respond

CCTV can provide visual confirmation and send a clip to authorised staff. Alerts may trigger lights or alarms. Prompt action can deter further vandalism and reduce cleaning costs.



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Quality and Environment

Food quality control, pollution measurement and odour monitoring



Food and dairy

Detect a bad raw-milk batch before it contaminates other milk in processing.

Pollution measurement

Measure pollution levels to support waste management and control.

Odour monitoring

Measure and report odours from waste and sewage sites near residential areas.

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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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