iOmniscient



iQ-RETAIL

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iOmniscient

Creating Safe & Smart Retail Spaces



iOmniscient combines video, sound and smell analytics for retail stores, shopping malls, mall parking, quick service restaurants and drive-in stores.

Its patented AI improves customer experience, staff productivity, safety, security, logistics and parking. It works in real time with existing infrastructure.



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Safety & Hazard Detection

- Detects water or other hazardous substances on floors, slip and trip hazards, and falls
- Measures cleanup time and checks that rubbish does not block safety exits
- Detects crowd congestion and supports evacuation management to account for every person
- Detects smoke, fire and gas using video and smell analytics
- Detects fever in crowds and rodents at night
- Provides autonomous incident response



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Security & Incident Response

- Detects aggressive behavior using video and sound across short and long distances
- Monitors intrusion at scheduled times
- Detects theft of high-value items
- Detects and autonomously tracks known shoplifters
- Helps locate lost children and older people with cognitive impairment



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Customer Experience & Behaviour Analytics

- Maps customer journeys and behavior, with optional facial recognition
- Analyzes traffic in user-defined zones and measures dwell times
- Estimates and counts visitors and monitors crowd flow
- Detects clustering, sudden crowds and unusual behavior
- Monitors queue lengths and estimates waiting times
- Analyzes staff productivity and service efficiency
- Uses demographics to improve customer experience and marketing returns
- Identifies VIP customers using optional facial recognition
- Measures foot traffic outside the store



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Adaptive Signage

- Estimates the age group and gender of multiple people approaching a display
- Analyzes large groups from a distance
- Determines the predominant demographics of the group
- Selects advertisements suited to the group's overall demographic profile



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Quick Drive-in Service

- Recognizes when a customer who has already placed an order arrives by vehicle
- Measures the speed of service delivery
- Supports quick service restaurants and drive-in stores



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Access, Logistics & Staff Operations



- Provides contactless access for staff, suppliers and their vehicles
- Monitors entry, restricted zones, wrong-way movement and sanitary-area entry counts
- Checks that pallets of goods are not left in loading docks
- Supports theft control in logistics and distribution
- Checks that staff wear appropriate personal protective equipment (PPE)
- Supports databaseless access management

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Parking Access & Customer Assistance



- Provides autonomous vehicle access and blocks blacklisted vehicles
- Recognizes multilingual plates from 130+ countries, including multiple plates on one vehicle
- Tracks vehicles anonymously across non-overlapping cameras and logs movement history
- Guides drivers to vacant spaces and helps them find their vehicles on return
- Monitors allocated parking time to detect overstays without payment
- Manages car parks and loading docks and optimizes traffic flow

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Parking Safety & Monitoring

- Detects entrance and exit queues and car park congestion, enabling rapid response
- Detects illegal parking outside designated spaces
- Detects accidents, speeding and travel in unauthorized directions
- Raises alerts for vehicles exceeding speed or height restrictions
- Detects fights, smoke and fire
- Detects unauthorized dumping of rubbish or shopping carts, graffiti and vandalism
- Uses sound to identify accidents or speeding vehicles, and smell to identify vehicle emissions



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Predictive Maintenance & Cleanliness

- Detects vandalism, graffiti, asset tampering and damage to mall facilities
- Identifies rubbish accumulation and monitors toilets and facilities for service needs
- Supports predictive and preventive maintenance of escalators to enable action before breakdowns occur



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Minimal Infrastructure & Deployment

- Operates in crowded scenes with up to 100 people in view
- Supports detection at distances of 25-30 metres
- Works with low-resolution cameras, including 2-megapixel cameras
- Requires no GPUs for real-time analytics
- Runs at the Edge, in a datacentre or in the cloud



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Cost Efficiency & Smart Compression

- Uses existing cameras and needs fewer cameras at lower resolution
- Requires no GPUs, with 90% less storage and network bandwidth and a 16-fold lower carbon footprint
- Smart Compression preserves video quality for transmission over low-bandwidth networks



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Patented Technologies

- Internationally patented technologies support retail operations
- Behavior analytics and dwell-time analysis in crowded scenes
- Reversible privacy protection
- Databaseless access management
- Autonomous response
- Smart Compression to reduce storage and network bandwidth
- Evacuation management



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Privacy & Management

- GDPR-compliant privacy protection uses encrypted redaction to protect individual anonymity.
- Operators cannot identify individuals in protected video. For serious incidents, an authorized person can use a key to reverse the redaction.
- Video Utility gives multiple stakeholders access to the same network for their own objectives while preserving confidentiality.
- Remote access, incident reports and dashboards support management oversight.



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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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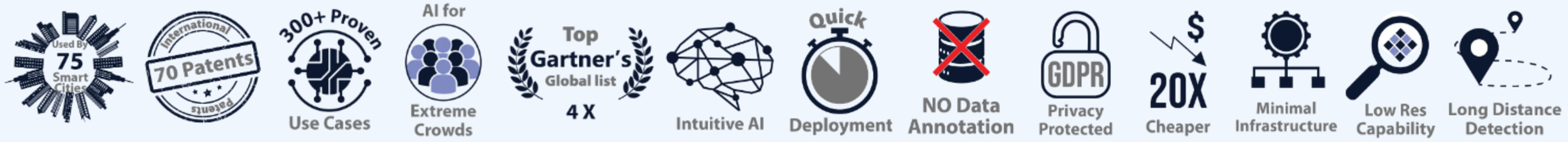
About iOmniscient

- 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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