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CROWD FLOW

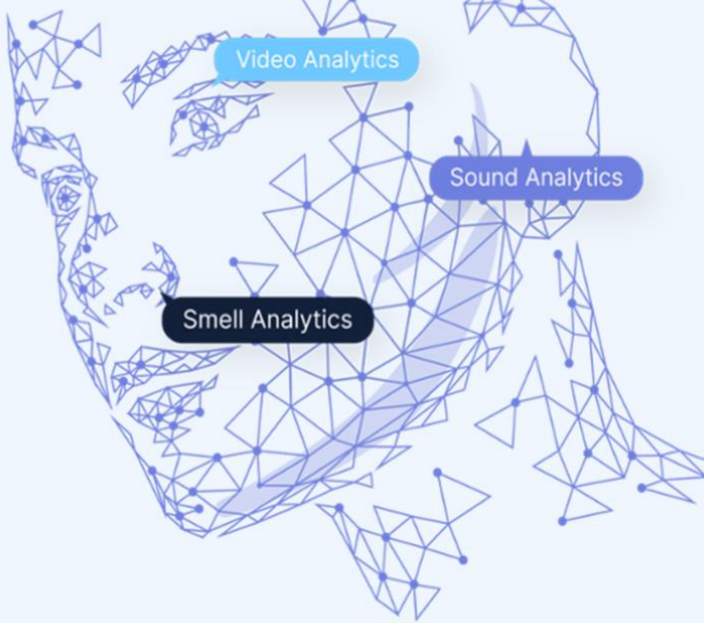
(Data Sheet)

Crowd direction, speed and sudden-change analytics



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Crowd Dynamics

Risk depends on movement and sudden change



WATCH THE CHANGE

Density, direction and speed matter
when people are moving or stationary.

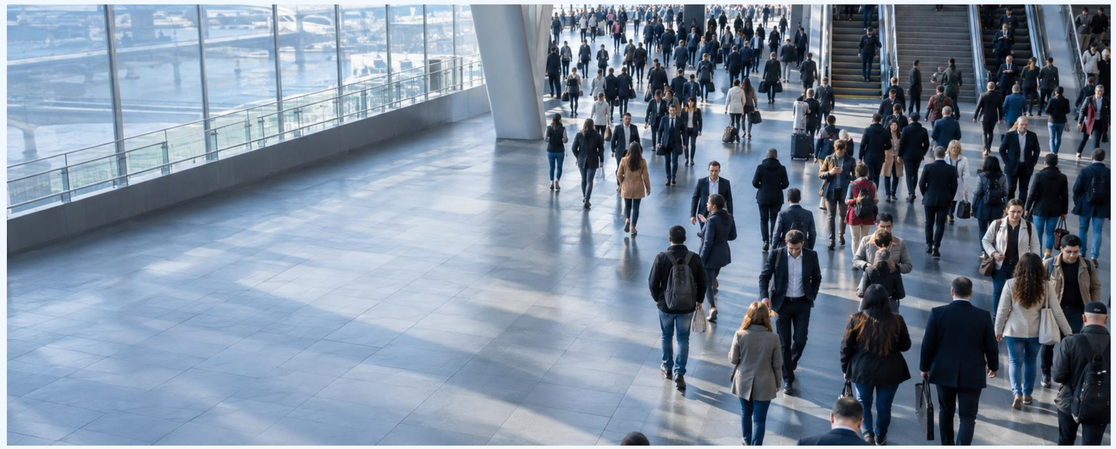
SUDDEN SHIFT

Sudden formation, dispersal or local direction change can precede unsafe conditions.

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Moving and Stationary Crowds

iQ-120 and iQ-125 cover different crowd states



iQ-120 MOVING CROWD

Understand direction, density and speed of people in motion.



iQ-125 MOVING + STATIONARY

Continue understanding an area even when some people stop moving.

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Crowd Density and Sudden Changes

Measure occupancy and abrupt crowd changes

DENSITY

Assess the percentage of area occupied or the number of people in an area.

FORMATION

Raise an alarm if a crowd forms or disperses suddenly.

AOI COUNT

Estimate the number of people in an Area of Interest.

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Direction and Speed

Configurable thresholds and local movement alarms



25%

Configurable speed threshold: 25%.

50%

Configurable speed threshold: 50%.

STOP

Configurable speed threshold: STOP.

DIRECTION

Raise an alarm when part of the crowd moves in an unspecified direction.

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Perspective and Areas of Interest

Configure a camera view and Areas of Interest



PERSPECTIVE

The system accounts for perspective when studying a crowd at a distance.

Initial learning time

5 seconds

AREAS OF INTEREST

Set multiple rectangular or polygonal AOIs,
IN/OUT directions and size filters for movement thresholds.

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Nuisance Alarm Minimization (NAMS)

Minimize nuisance alarms from environmental motion







LIGHT / SHADOW

Handle changing illumination.

LEAVES / TREES

Reduce nuisance alarms from vegetation.

MOVING WATER

Cope with water motion in the view.

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Alert Interpretation

The display highlights the area of concern



RED BOXES

Mark the crowd area requiring attention.

ARROWS

Show the direction of crowd movement.

OPERATOR VIEW

See where a local direction change occurred.

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Crowd Flow Applications

Flow awareness for events, transport and retail

EVENTS

Festivals, pilgrimages, exhibitions, contests and social events.

TRANSPORT + RETAIL

Airports, railway stations, bus terminals and shopping malls.

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Server Sizing Inputs

Stream and retention choices determine compute needs

CAMERAS

Number of cameras running iQ-Crowd Management or iQ-Infinity.

RESOLUTION

Camera options
: 1CIF, 1 MP or 2 MP.

RETENTION

Number of days recorded events must be stored.

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Example Server Requirements

Minimum requirements for ten 1×CIF Crowd Management video streams

2 CORES

Server core requirement
in the example.

8 GB DDR4

ECC memory; CPU at 2.2 GHz.

1 TB INTEL SSD

RAID 1 or 5;
64-bit Windows required.

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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

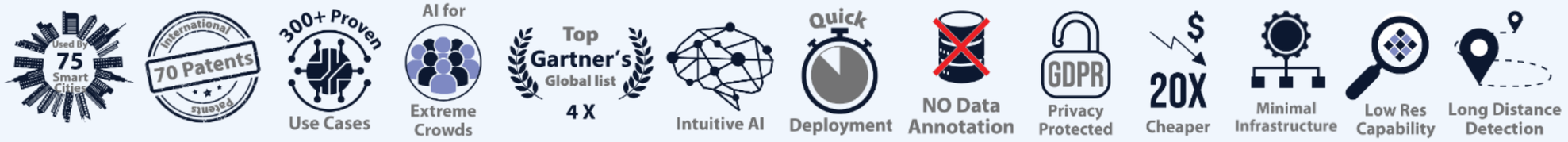
enquiries@iomni.ai

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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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