IQ-Roads

a comprehensive system for managing roads

iOmniscient

iOmniscient

Table Of Contents

Click a number and go to the page

iOmniscient

Traffic Monitoring

Multi-directional counting (e.g. including vehicles that turn left or right)

Comprehensive accumulation of data across multiple cameras

Congestion Management

Understand average traffic speed

Sudden slow down of traffic

iOmniscient

Traffic Incident Management

Detection of ...

- The intrusion of bikes and pedestrians onto main roads
- Accidents
- Fallen debris despite obscuration
- Vehicles going in the wrong direction
- Near misses

iOmniscient

Law Enforcement

What Outcomes can be achieved?

- Improve Safety for drivers and pedestrians.
- Generate revenues.

APPLICATIONS

High Accuracy Speed Detection at a location?

- With in built radar, the iOmniscient Speed camera can detect speeds of up to 250 kph with an accuracy of + or – 5%.

High Accuracy Speed Detection over a long distance?

- Drivers can slow down when they know there is speed camera present and then speed up again.
- This system will determine the time taken to cover a long distance to determine the driver's average speed.

iOmniscient

Law Enforcement

License Plate Recognition to detect stolen vehicles and compliance with registration/ insurance laws

- Using inexpensive cameras, the system can recognize plates from 130 countries
- Plates can be recognized with an accuracy of 99.8% even at speeds of 250 kph
- Plates can be speedily matched against databases of stolen vehicles or unregistered cars.

Red Light Violation Detection

- Captures the plates of vehicles that pass through a junction after the light turns red.

Private Vehicles in the bus lane

- Detect unauthorized vehicles in lanes reserved for buses and taxis.

iOmniscient

Adaptive Traffic Optimization

What Outcomes can it generate?

- Optimized Traffic Management
  - 30% reduction in travel time
  - 25% reduction in stops
  - 15% reduction in fuel consumption
  - 15% reduction in emissions.

What data sources can it use?

- Intelligent CCTV based understanding of the traffic flows
- Crowd sourced mobile phone data
- Drone based analytics to understand congestion and its causes.
- Traditional analog based inputs from Induction loops.
- Understanding of pedestrian traffic as well as vehicular traffic at junctions.

iOmniscient

Adaptive Traffic Optimization

Traffic Simulation Studies

- Comprehensive analysis of historic traffic data.

Real Time Adaptive Traffic Optimization

- Real time optimization based on multiple data sources
- Autonomous over-ride for emergency and other priority vehicles
- Data analytics for traffic planning

Low Cost Traffic Light Controllers

- AI enabled traffic light controller to ensure fail safe operation
- Option for phone based manual override during emergencies

iOmniscient

Environment Management

APPLICATIONS

- Detect rising Floods in real time
- Detect Smoke and Fire despite obscuration
- Understand Pollution levels at road level – important for cyclists and pedestrians
- Detect garbage being dumped and determine who did it
- Detect Graffiti and determine who did it.

Floods

Smoke and Fire

iOmniscient

Kerbside Parking

- Determining if there are vacant parking spots and making drivers aware of the same.
- Determining how long vehicles park.

iOmniscient

Pedestrian Safety

- Determine size of crowds at traffic junctions
- Detect if pedestrians are crossing very slowly and thus potentially conflicting with vehicular traffic
- Detect jaywalking
- Detect slips and falls at crossings

iOmniscient

Infrastructure & Asset Management

Protection of tunnels
from over-height vehicles

Protection of bridges
from terrorist attacks

Detection of damage
to signs and roadside furniture

©2025 iOmniscient Corporation

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.

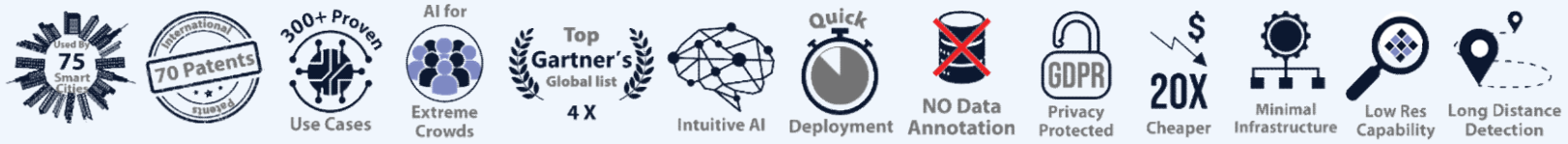
www.iomni.ai

enquiries@iomni.ai

©2025 iOmniscient Corporation

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.



iOmniscient