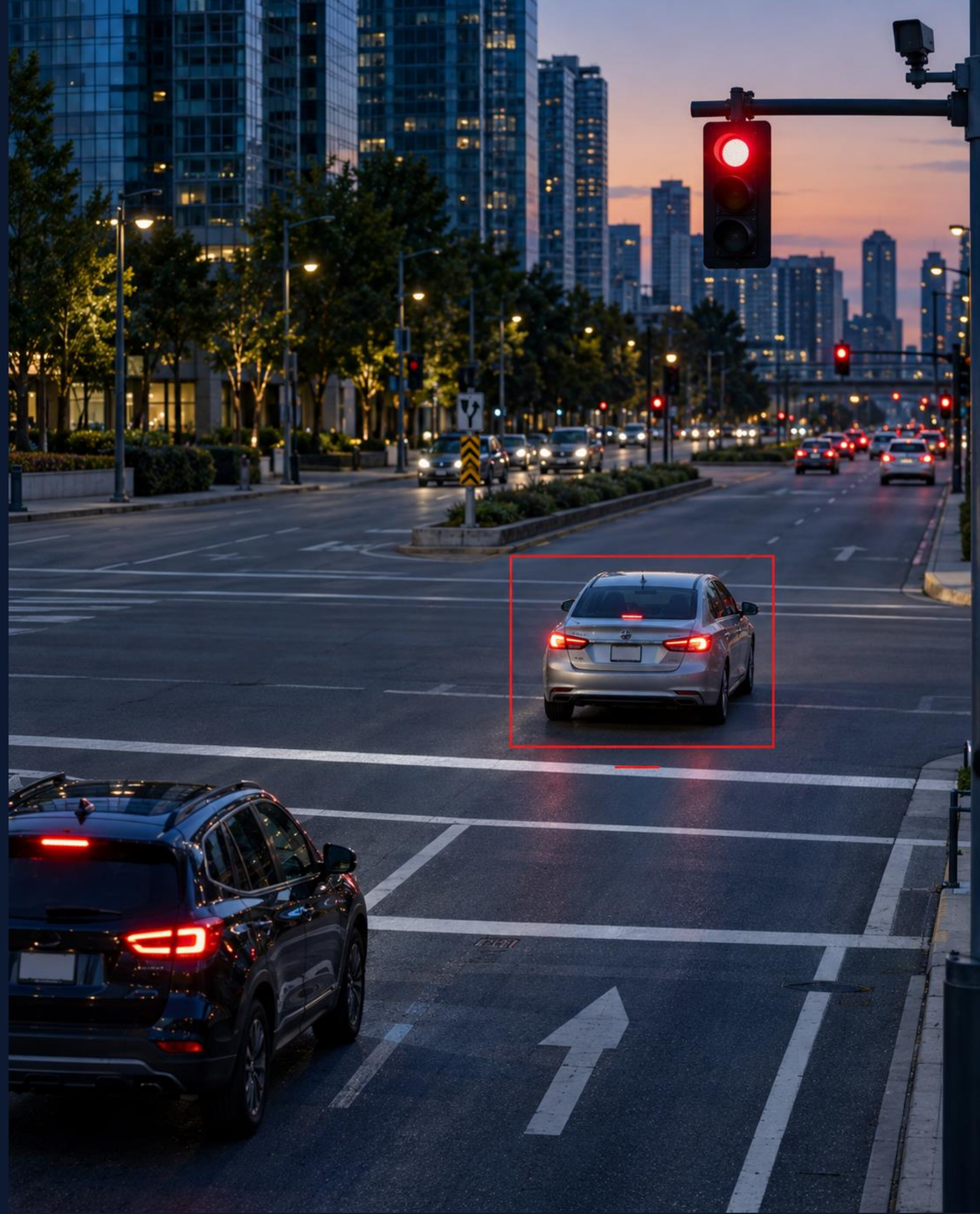
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iQ-RLVD

(Red-Light Violation Detection)

(Data Sheet)

Automated red-light violation detection
and evidentiary video



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Red-Light Violation Detection

A sequence from traffic signal to plate recognition

Synchronize

Cameras synchronize with traffic signals to support high accuracy.

01

Red signal

Detect the change from an analog traffic-light signal or visually through the camera.

02

Crossing

Detect a vehicle entering the junction after the light turns red.

03

Plate

Automatically read the offending vehicle's number plate.

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One-Camera Option

Positioning can combine signal, vehicle and plate views

ONE CAMERA CAN COVER THE EVENT

If positioned appropriately, one camera can see the light, offending vehicle and number plate.

Plate reading is automatic, without manual transcription.

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High-Speed Recognition

Automatic number plate recognition across countries and scripts

200 km/h

The system detects a violation and reads the plate at speeds up to 200 km/h.

130 countries

Plate reading covers 130 countries and multiple scripts, including Arabic, Chinese and Thai.

Other uses

The same camera may also count vehicle types, find junction blockages and detect accidents within its field of view.

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Enforcement and Video Evidence

Record the whole incident to help establish what happened

Enforcement

- Automatically read number plates and issue in fringement notices, reducing manual transcrip tion and staffing requirements.
- Tests have shown consistently higher accuracy than manual number transcription.

Situation analysis

- Store event video for evidentiary purposes.
- Video of the incident can help establish fault after an accident.

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Patented Capabilities

OVER 70 INTERNATIONAL PATENTS

COMPRESS

Keep the plate in high resolution while recording other information at lower resolution.

This can reduce storage and network bandwidth requirements by over 90% for a 2 MP camera.

RESPOND

After an incident, automatically find the nearest appropriate responder, such as police or fire brigade.

PROTECT

Redact plate numbers from operators, then permit authorized reversal based on incident type.

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Deployment Architecture

Centralized, distributed or hybrid processing

Network available

- A centralized or hybrid architecture can be used where connectivity supports it.

Network constrained

- A distributed architecture is recommended when connectivity is poor.
- Detection can run at the edge; final plate digitization can occur centrally.

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iQ-Roads Portfolio

Red-light enforcement within wider traffic management

PORTFOLIO

IQ-RLVD is part of IQ-Roads, a comprehensive Intelligent Traffic Management System implemented in numerous countries as part of Smart City programs.

RECOGNITION

Intel classifies the software capability as a Market Ready Solution.

OEM

The software is also available on an OEM basis through Dell, Lenovo, Cisco, Siemens and Huawei.

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Hardware and Cameras

Select equipment for the junction and its operating conditions

System components

- Camera for signal and vehicle crossing; camera or view for the plate
- Edge and central computers; analog-to-digital listener when signal input is used
- Network connection from the camera to the central location

Compatibility and selection

- ONVIF-compliant cameras are supported, with some non-compliant integrations.
- Camera suitability depends on weather, traffic and night conditions.
- Intel computers with suitable capacity and Windows can host the open system; a ruggedized Super Edge device is recommended at the edge.

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Delivery and Licensing

Several commercial and deployment options are described

License

- Perpetual, subscription or rental terms are available.
- A shared-responsibility model is available with no ongoing software fee. Payment is a small percentage of fines imposed for violations.

Delivery

- iOmniscient can advise on cameras and placement.
- A turnkey solution can include cameras and computers.

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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

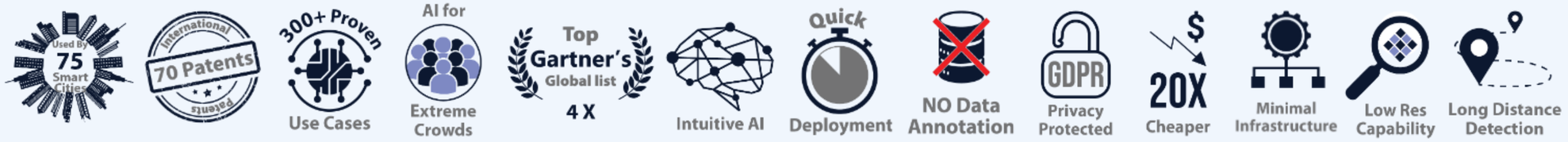
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About iOmniscient

- 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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