iOmniscient

iQ-Rail

Protect people, tracks and rail operations



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Railway Intelligence

One integrated system connects security, customer service and site management, sharing event information quickly.



People

Protect passengers and staff from station and train hazards.

Assets

Maintain rail assets through monitoring.

Deployment

Operate in real time without expensive infrastructure.

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Platform Safety

Detect hazards in busy stations



Track and edge

Detect people entering the rail corridor at the end of or along the platform, or standing at the edge without a train.

Crowded platform

Find abandoned objects and overcrowding.

Falls

Detect slips and falls on the platform.

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Train Berthing and Platform Edge Safety

Automated detection and audible warnings



Train berthing

Detect trains stopping beyond or short of the intended position.

Yellow line detection

Detect people crossing the yellow line or entering the rail corridor at the end of or along the platform.

Automatic warnings

Issue an audible public-address warning. Enable or disable edge detection according to train presence, without manual operation.

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Platform Incidents

See the full station risk



Security

Recognize known criminals and track persons of interest in forensic mode.



Hazards

Detect smoke, fire and overflowing garbage bins.



Welfare

Detect platforms used by homeless people as refuge.



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Tunnel Safety

Restricted access and fire detection



Intrusion

Detect a person entering the tunnel.

Smoke and fire

Detect smoke and fire in the tunnel.

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Protect the Track

Find hazards before a train arrives



Intrusion and obstructions

Detect track intrusion, fallen rocks and fallen trees.

Track condition

Detect loose bolts at changeover points and cracks in the track.

Access control

Control personnel access and prevent misuse of access cards.

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Yards, Workshops and Assets

Secure spaces and maintain equipment



Stabling yards

Detect intrusion, graffiti and vandalism.

Workshops

Manage access and prevent access-control fraud.
Detect theft from stock rooms and analyze workflow.

Assets

Support preventive maintenance of escalators. Detect damage to ticket vending machines, graffiti and vandalism.

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Office and Asset Security

Protect staff areas, cash facilities and station equipment



Offices and cash

Monitor internal offices and cash exchange points, including booking offices. Protect cash an d cash transportation facilities.

High-value assets

Protect ticket vending machines, booking offices and rolling stock against vandalism and graffiti.

Station equipment

Protect advertising boards, concession vending machines, garbage bins and other station devices, furniture and products.

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Level Crossings

Detect risk in time to stop

On the track

Detect vehicles, objects and people at level crossings.

Approaching vehicles

Detect vehicles speeding toward the crossing.

Infrastructure

Interface with boom gates and signal lights.



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On Board and Fare Control

Passenger safety and ticketing





On board

Detect overcrowding, falls, graffiti and vandalism. Monitor door closure and recognize persons of interest in forensic mode.

Fare evasion

Detect people jumping turnstiles and damage to ticket vending machines.

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Stations and Interchanges

Manage the wider station



Car parks

Identify empty spaces and parking duration.
Detect loitering, illegal parking, fights and accidents.

Bus and taxi

Manage queues and drop-off zones;
count people for marketing.

Concourse

Detect slips, falls, overcrowding and known hooligans or criminals.

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Station Monitoring and Fraud Detection

Equipment operation and forensic tracking

ATM fraud

Detect fraudulent activity at ATMs in station public areas.

Ticket machine operation

Monitor whether ticket vending machines are operational.

Forensic tracking

Track persons of interest through concourses and interchanges in forensic mode.



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Marketing and Retail

Understand station demand





Digital marketing

Adapt ads to people approaching a digital display.

Retail

Understand queues and dwell time in retail environments.

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Patented Multi-Sensory System

Video, sound and smell analytics with autonomous response



VIDEO

License Plate Recognition (130 countries) – including Make and Model Detection.

SOUND

Identify accidents or speeding vehicles through sound analytics.

SMELL

Identify vehicles with poor emissions through smell analytics.

INTUITIVE AI
No Deep Learning
No GPUs, Fast Deployment

COMPREHENSIVE
Autonomous Multi-Sensory Analytics (video, sound & smell)

SAFETY
Privacy Protection

AUTONOMOUS RESPONSE
Reduced requirement for a control room

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Shared Video Infrastructure

One network, multiple uses





Smart Compression

Transmit video over a low-bandwidth network.



Multi-sensory Analytics

Use advanced multi-sensory video, sound and smell analytics.



Video Utility

Let multiple stakeholders access the same network for their own objectives.

Confidentiality is protected across stakeholders.

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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.

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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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