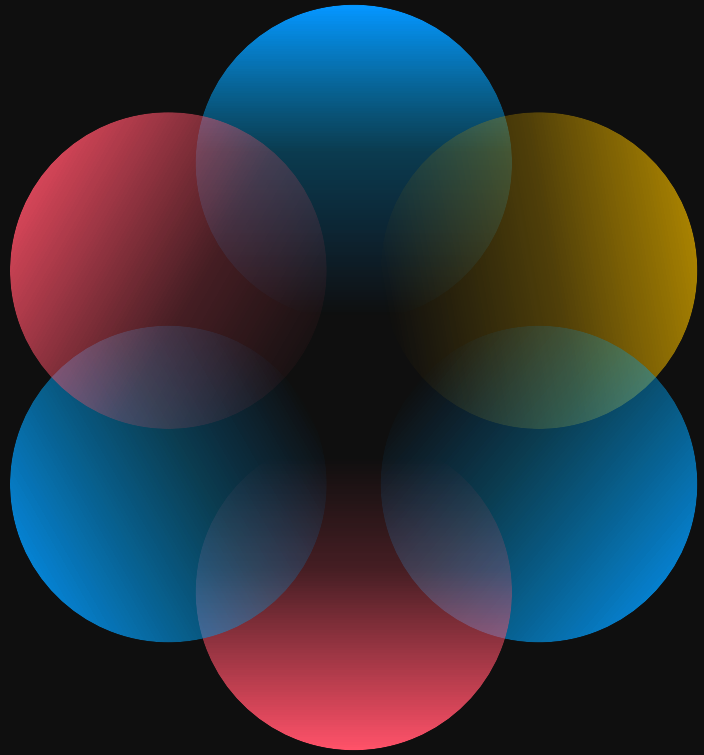
Solution brief
Airport



Bringing AI & computer vision to the Airport of the future

The impact of COVID-19 and security threats on the global aviation sector has been catastrophic, with airlines failing, airport revenues collapsing, and suppliers forced to lay off thousands of employees. As countries open their borders and air travel gains momentum, airport operators and airlines will be responsible for not only the safety and security of passengers and their staff, but also the new challenges associated with ensuring all COVID-19 testing protocols are implemented and maintained.

Maintaining a holistic view of operations and security across the airport will become crucial in facilitating a smooth journey for passengers, whilst managing and mitigating possible threats to airport operations. Computer vison deployed at the edge offers the greatest leverage to meet these challenges. This is about much more than automating processes. Computer vision is much more capable of raising the efficiency, flexibility, and safety of airport operations to an unprecedented level.

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Perimeter Fence

Intrusion Detection
PTZ Tracking
GIS Alerts

Airfield

Intrusion Detection
CP Line Violations
PPE Monitoring

Fuel Farm

Critical Area Intrusion
PTZ Tracking
Vehicle Entry Watchlist
GIS Alerts

Arrivals

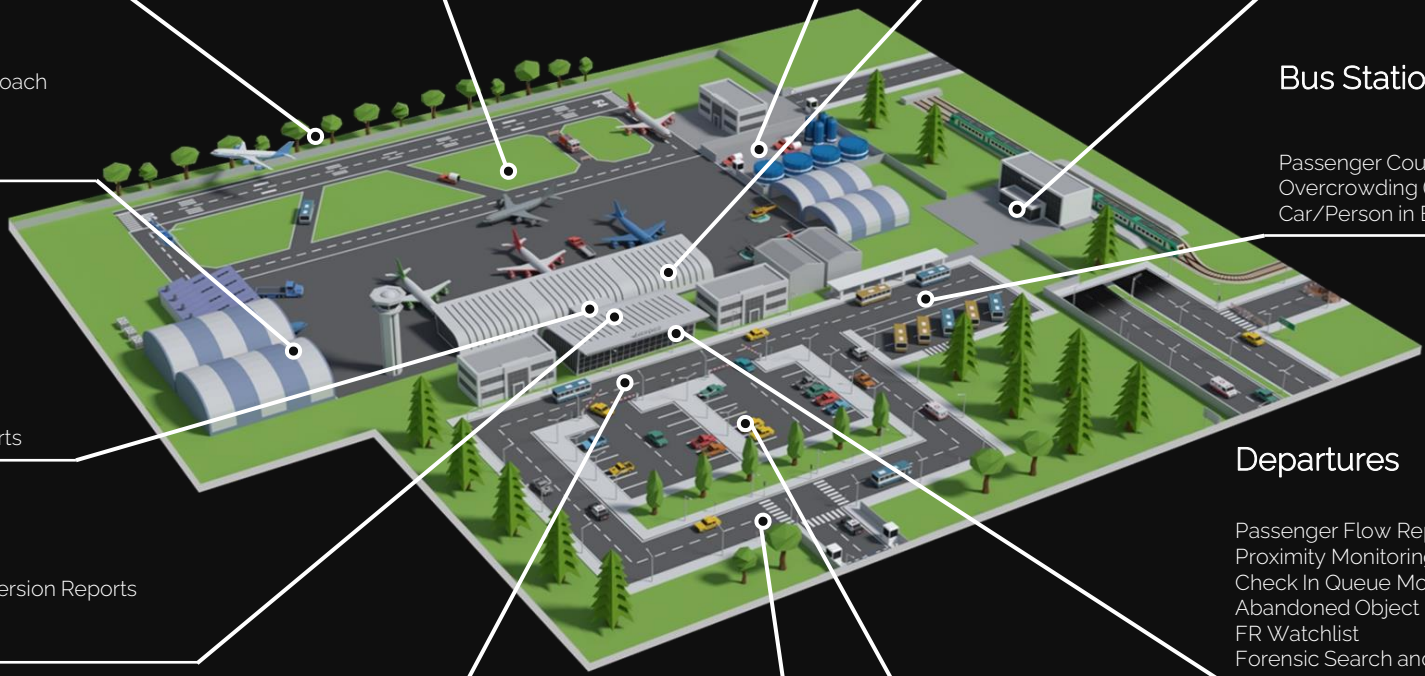
Anti-Backtrack
Passenger Counting
Forensic Search
Multi-Camera Tracking

Rail Links

Platform Monitoring
Track Intrusion
(See Rail Bundle)

Cargo

High Value Cargo Approach
Congestion Detection
Access Control
(See Logistics Bundle)



Bus Station & Transfers

Passenger Counting Reports
Overcrowding (Dispatch Bus)
Car/Person in Bus Area

Security Lanes

Queue Monitoring
Lane Bypass
Face Recognition
Time in Security Reports

Retail Units

Customer Counting
Passing Trade Conversion Reports
Heatmaps
(See Retail Bundle)

Departures

Passenger Flow Reports & Heatmaps
Proximity Monitoring
Check In Queue Monitoring
Abandoned Object Detection
FR Watchlist
Forensic Search and Tracking

Vehicle Forecourt

Double/Illegal Parking
Vehicle Counting Reports
Vehicle Overspeed
ANPR Vehicle Overstay
Abandoned Vehicle

Road Network

Vehicle Intrusion
Congestion Detection
Stopping on Restricted Route
Person in Roadway
ANPR Time in Area

Car Parking

Vehicle Counting
ANPR Vehicle Time in Parking
ANPR Watchlist
Bay Occupancy Estimate

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Key benefits of AI-based video analytics

Ipsotek VISuite extracts metadata from ONVIF video streams allowing you to improve response times, drive operational efficiencies, and generate new revenue streams. This intelligent capability produces alarms for specific behaviours and events, allows operators to perform forensic searches and generates dynamic dashboards.

Reduce Delays

- Respond to passengers in need faster with customizable solutions for 'lost children', 'person with reduced mobility' and more.
- Visualize passenger flow. See what effect changes like barriers and signage has on passenger movement.
- Proactively manage crowds and queues

Reduce Operating Costs

- Receive real-time updates and alerts on pain points i.e., areas which are prone to overcrowding
- Spot patterns and trends in reports to inform staff response.

Open New Business Models

- Leverage CCTV footage to understand passenger flow in retail areas.
- Deploy staff more efficiently to match usage statistics.

Improve Security Response Time

- Never miss an incident with automatic round-the-clock incident detection.
- Liberate your control room security staff to deploy staff more effectively.

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Enhanced Passenger Experience

Contactless Check-in

Contactless Bag Drop

Security Screening

Automated Retail Experience

Contactless boarding gates

Contactless – Efficient – Safe - Secure

ID Management integrated with Transactional processes

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Terminals

Major airports can require hundreds of cameras to cover all areas. With large crowds and a quickly changing landscape, making sure that incidents are responded to quickly is increasingly challenging.

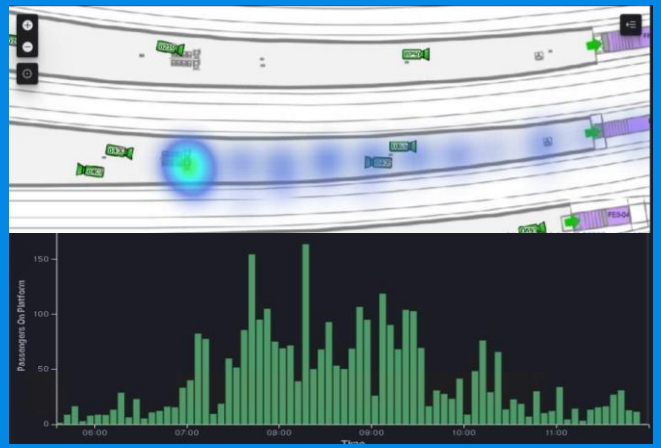
Ipsotek provides a range of solutions which can be made specific to all zones of the site. Automating the bulk of the control room's work means you can spend less time reviewing video and more time taking critical action to respond to incidents.

Avoid Incidents

Improve Security Response Time

Reduce Delays

Reduce Operating Costs



Understanding Passenger Flow

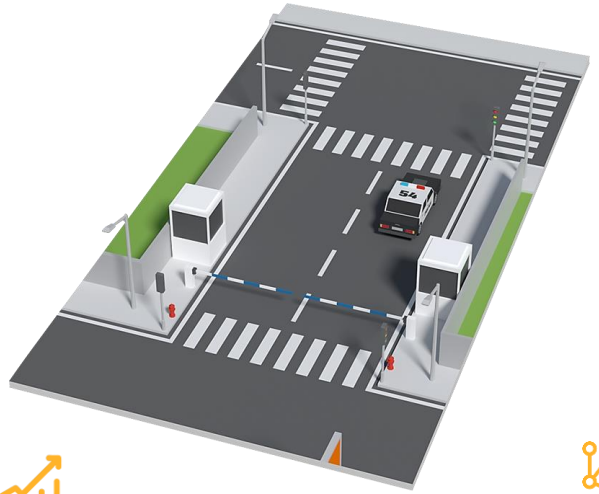
Staying ahead of the curve when it comes to overcrowding is crucial for the safe and effective management of airports.

Ipsotek's AIVA engine can detect and count people in an area or directionally. Automatically generated heatmaps and reports help you monitor passenger flows and uses of each area, understand where to send people after security with signage, or understand which parts of the airport are being utilized at any given moment.

Perimeter Protection

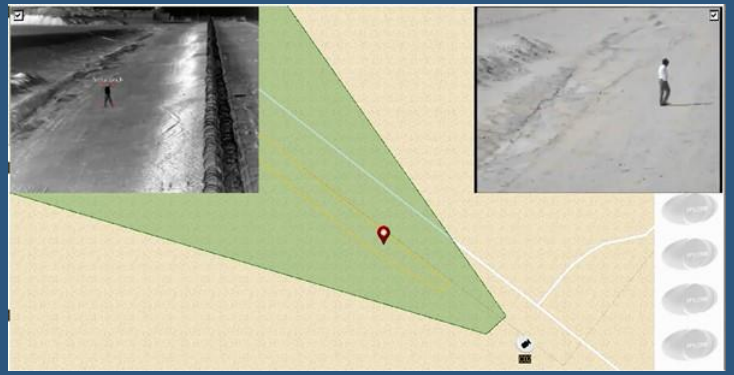
Protecting an airport's perimeters and its restricted zones are key to ensuring the smooth running of all operational areas.

VISuite work seamlessly with video, thermal and IR surveillance CCTV cameras at ranges of up to 1km and provides real-time alerts for perimeter and intrusion breaches.



Improve Security Response Time

Reduce Operator Workload



Automating Perimeter and Intrusion Monitoring

One of the standard functions in VISuite is the automatic control of PTZ cameras when an alert is generated on an associated fixed camera. This allows wide areas to be monitored reliably without manual intervention.

VISuite provides visual, metadata and PTZ camera data when an intrusion is detected, which is fed to the control room for operators to manage.

When an operator takes control of a PTZ camera joystick, VISuite automatically relinquishes control.

Operational Challenges

Airports operate under strict government and aviation health & safety guidelines which all staff must adhere to.

VISuite supports multiple airport specific 'Use Cases' and is able to automatically generate alerts for operators to manage and log. Examples include; intrusion into aircraft only zones, driving violations and speeding.

Alerts can be displayed on dynamic dashboards and updated according to the airport's operational requirements. VISuite can also be integrated with an email system to notify managers when certain events have occurred.

Airfield & Fuel Farm

A breach into unauthorized areas on an airfield may result in the automatic shut down of services. For instance, a breach in the fuel tank storage and distribution area may interrupt fuel delivery to holding tanks beneath the apron for refueling aircraft.

VISuite automatically detects intrusion into restricted areas and sends alerts to the control for staff to manage.

Detect Security Threats Early

Mitigate Operational Interruptions

Crowd Management

Automate queue management with real-time insight into passenger flow.

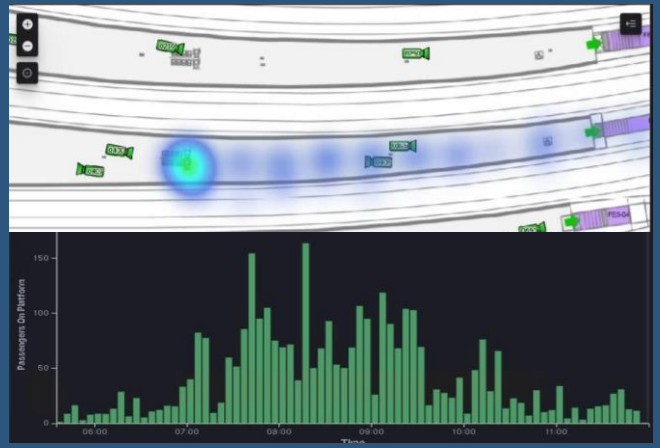
VISuite converts CCTV footage into actionable data, alerts, and reports to reduce costs, improve response time, and augment the passenger experience.

Improve Security Response Times

Reduce Operating Costs

Augment Retail Business Models

Improve Passenger Experience



Understanding Passenger Flow

Early detection is crucial when it comes to overcrowding in order to maintain safe and secure passenger flow throughout the airport.

Ipsotek's A.I.V.A. engine can detect and count people waiting at check-in or as they move around the airport. Automatically generated heatmaps and reports assist in monitoring passenger flows and choke points across the airport, from security and screening through to departure gates in real-time.

This data can be shared with retailers during rent reviews and leveraged when redesigning retail layouts and signage.

Bundle Options

To simplify deployments, the Airport bundle is divided into 6 different types of camera views or areas found on an airport. By deciding how many cameras are needed in each area, the deployment time can be reliably reduced by using solution templates from previous airport deployments.

Airfield Protection Solutions

Airfield, Fuel Farm

Perimeter Protection Solutions

Perimeter Fence, Staff Access

Crowd Management Solutions

Arrivals, Departures, Security Lanes, Retail Units, Rail Links, Bus Station & Transfers

Access & Face Recognition Solutions

Entrances, Arrivals, Departures, Security Lanes, Staff Areas

Roadway Monitoring Solutions

Carparks, Road Network, Vehicle Forecourt, Bus Station & Transfers

ANPR Solutions (License Plate Recognition)

Car Park Entrances, Road Network Access, Vehicle Forecourt

See also:

Rail Bundle
Retail Bundle
Logistics Bundle

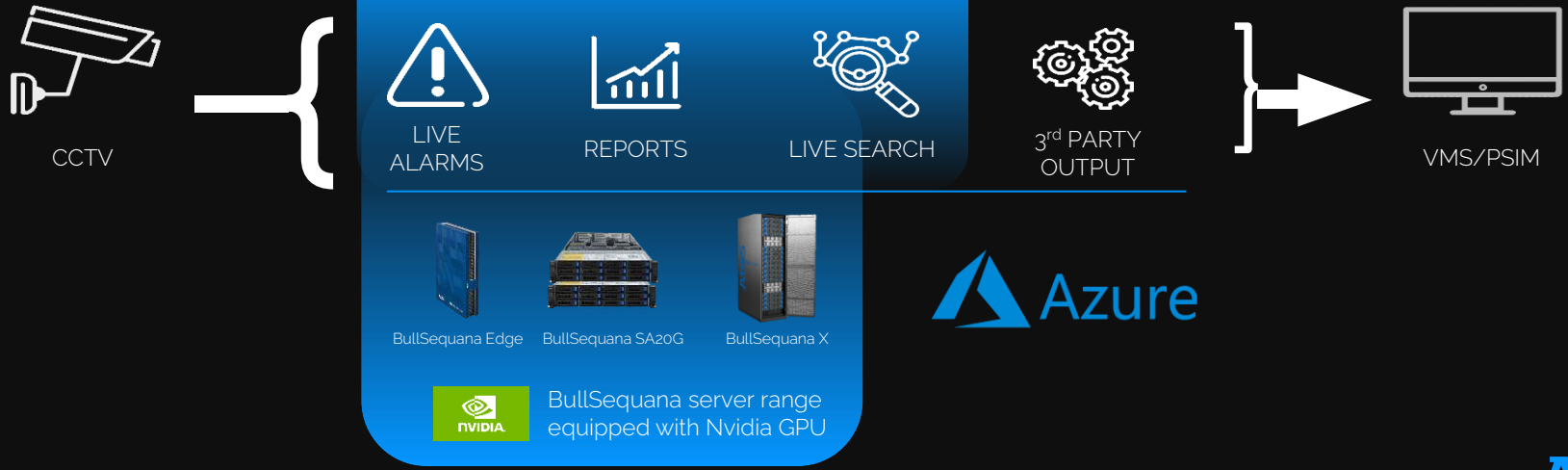
They trust us

Atos

Key features of Ipsotek, our video analytics software based on AI

- Pre-Trained AIVA Detection, Classification, & Tracking Engine
- Flexible Rule Engine with 100+ Templates
- Custom Reporting
- Real Time Alerts
- Post Event Search and Tracking
- Detailed API & 3rd Party Integrations

How does it work?



Deploying Ipsotek VISuite on Azure

Contact us here:

SALES EMAIL

More info on atos.net & ipsotek.com