

CROWDVISION

*Leveraging Pedestrian Analytics to
Improve Passenger Processing,
Safety, and Experience*

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Why Pedestrian Analytics?

- Passenger Experience
 - Monitoring and servicing restrooms based on usage as opposed to time
 - Provide proactive wait time and experience information to set and manage passenger expectations
- Operational Efficiency
 - Measuring and monitoring processes for real time and long term improvements
- Public Safety
 - Understanding occupancy and presence to help reduce the risks of soft targets or manage evacuation events
- Commercial
 - Understanding people movement and flow through retail and concession areas

Why CrowdVision Pedestrian Analytics?

- Complete population measurement (100% of passengers in view), not sampling and no population bias
- No proprietary hardware – COTS Sensors
- Unique spatial occupancy detector for asset utilization measures
- Rooted in crowd analysis – highly accurate with dense crowding
- No use of private device or personal information
- Advanced algorithm capabilities and space reconfiguration

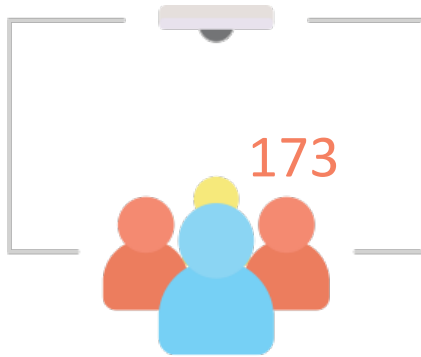


Solution Description – Overview

The CrowdVision software solution processes video-streams from commercial-of-the-shelf (COTS) digital IP cameras to detect passenger counts, position, and movements; derive key metrics; and present those to users in intuitive ways to support their decision-making:

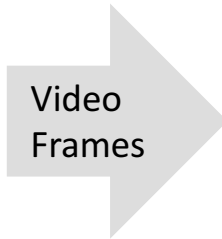
COTS IP Cameras as Sensors

Measures 100% of passengers in monitored areas



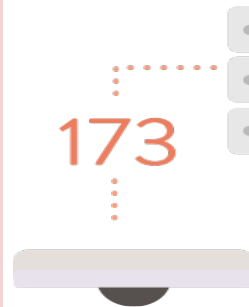
Fisheye and wide angle cameras significantly reduce the number of sensors needed as compared to proprietary vendors

No personally identifiable information (PII) is collected



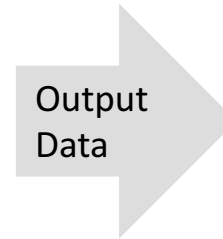
CROWDVISION Proprietary Software

Computer vision detection from video frames + Machine learning optimization for accuracy



Actionable anonymous (no PII) transactional data is used and retained for operations and reporting

Video is not retained in production



Data Analytic Outputs

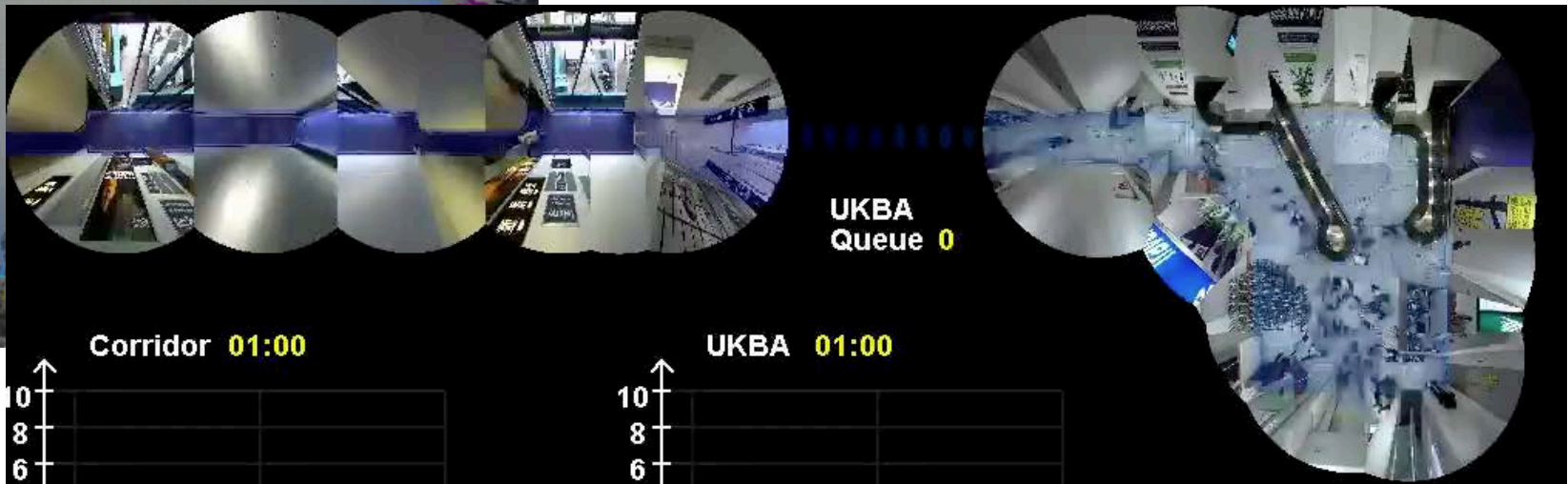
Real-Time Dashboards
KPI Data Reports
Searchable Database
API/Custom Data Feeds



CROWDVISION

Detect People

- Leading edge machine vision technology
- Detects 100% of people – no sampling
- Measures peoples' location and movement vectors
- Very live, accurate



CROWDIVISION

Experience in the Global Airport Sector



London City Airport



CrowdVision has enabled LCY to achieve **world class passenger throughput** whilst maintaining a **premium passenger experience**.

London Heathrow Airport



By using CrowdVision in Terminal 2 and the Airport Operations Centre, LHR have managed their **security lane network** to provide **early warning** of passenger demand.