



COMPETITIVE ADVANTAGE

Dynamic queue detection for dynamic airports

HOW THE XOVIS TECHNOLOGY HELPS TO ACCURATELY MEASURE QUEUES

CHALLENGE

To optimize resource utilization, airport operators strive to control passenger flow and maximize throughput. Unstructured queuing areas are thus a problem at every smart airport. To meet ever higher service level standards, airport operators depend on real-time insights into the length of queues and the ability to accurately identify queues as they emerge. Typically, they face the following challenges in order to meet higher service level standards:

- How to collect an accurate data set to find out precisely how many people stand in a queue?
- How to measure KPIs per individual queue?
- How to maximize operational efficiency?
- How to analyze overflows and bottlenecks?

SOLUTION

The Xovis technology is currently the only solution on the market capable of accurately measuring waiting times in unstructured queuing areas. In addition, individual queues, e.g. for a predefined airline, can be detected automatically and in real time. This unique Xovis queue detection also excludes staff and meeters & greeters from any queuing process. The Xovis Dashboard displays separate queues in different colors and provides insight into the following KPIs:

- Queue lengths/ waiting times
- Passenger outflow rates and throughput per desk
- Number of passengers processed
- Overall performance of any queue



Numerous ceiling-mounted Xovis 3D Sensors can be combined to cover large areas



Operations teams use the data to optimize resource planning

BENEFITS

Xovis is unique in its ability to automatically cope with layout changes as they occur without any manual intervention. By accurately measuring waiting times for queues in unstructured and structured areas, the Xovis system paves the way for streamlined processes:

- Optimized queue management at unpredictable locations
- Improved processes through real-time and historical data analysis
- Optimized resource planning and desk allocation
- Improved overall passenger experience through better service

XOVIS

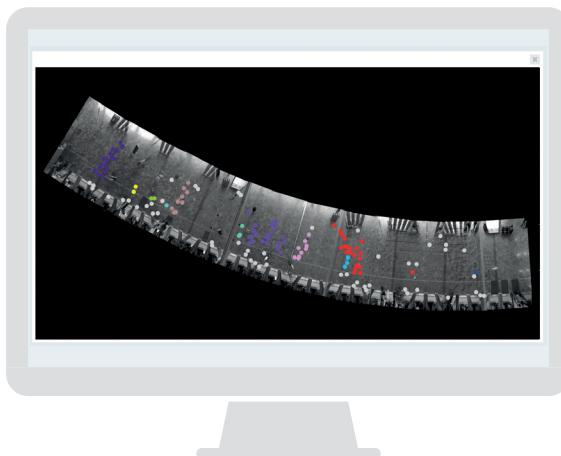
Get to know your queues with Xovis

UNIQUE QUEUE DETECTION

Xovis' precise passenger flow and queue management solution tracks all passengers as they move through their departure and/or arrival journey. Xovis PTS is the only solution on the market capable of measuring waiting times in unstructured areas such as check-in. As a result, individual queues and overflows can be automatically detected in real time. With our unique dynamic queue detection feature, staff, and meters and greeters are excluded from the individual queues.

KPIs PER INDIVIDUAL QUEUE

Xovis' dynamic queue detection provides precise measurement of KPIs for individual queues in various areas such as check in or security control.



A large set of KPIs is provided in real-time for each individual queue:

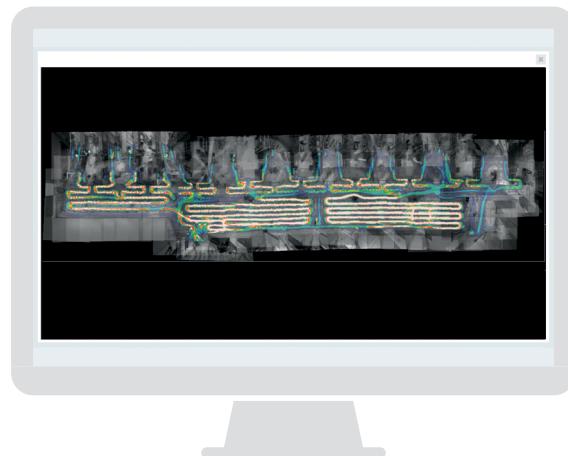
- Queue outflow
- Waiting times
- Desk throughput
- Process time
- Queue length



Name	Queue Length	Wait. Back.	Wait. Forw.	Out Flow
Business	41	3m	4m	547
Eco	173	4m	7m	1344
Transfer	30	2m	4m	352

MAXIMIZE OPERATIONAL EFFICIENCY

Xovis enables smart airports to manage the variability in passenger flow, maximize passenger throughput and optimize service levels and resource deployment through real-time measurement of queue length and waiting times. Even in complicated queueing areas where the layout frequently and drastically changes, Xovis provides accurate measurements through adaptable algorithms.



ANALYZE OVERFLOWS AND BOTTLENECKS

Queue overflows a reality in many airports during periods of high demand. Xovis' unique queue detection automatically detects overflows for individual queues, triggers alerts and enables stakeholders to replay specific queuing situations to help identify bottlenecks and optimize operations.

