AIRPORT RETAIL

6 Airports

18 Touchpoints

Happy passengers are happy shoppers that spend more

XOVIS' PEOPLE COUNTING IMPROVES AIRPORT SHOPPING EXPERIENCE

CHALLENGE

In fact, passengers that wait less, spend more. In addition to helping airports speed up check-in, security, immigration and other processes, Xovis is also a powerful tool to optimize people flow within the retail sections of airports. From a footfall counting point of view, airport concessions sections are demanding areas. There are challenging circumstances, when airports aim to optimize the shopper experience:

- Setup changes occur frequently within retail areas at aiports
- Companies continually modify store layouts and displays
- Shopping behavior of passengers is very difficult to predict

SOLUTION

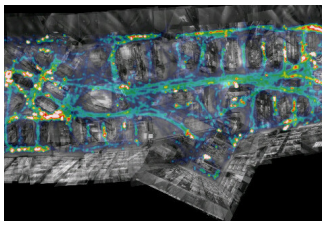
Typically, airports use the retail application within the Xovis Passenger Tracking System (PTS) to measure footfall to different stores. Xovis' unique capability to cover large areas by linking up an unlimited number of ceiling-mounted Xovis 3D Sensors into a Multisensor opens new doors. Based on data streams from the sensors, the Xovis Airport Software calculates and visualizes KPIs such as:

- Number of entering/ exiting passengers, i.e. the fill level at various shops
- Dwell time of passengers in different areas of stores, i.e. hot and cold spots
- With a Xovis Multisensor up and running, passenger flows are shown in real-time

REFERENCES

CPH | KEF | LYS | ORY | VIE | ZRH

Ceiling-mounted Xovis 3D Sensors count the number of entering and exiting passengers.



Connecting an unlimited number of Xovis 3D Sensors into a Multisensor, the Xovis Airport Software includes various visualization options to identify hot spots.

BENEFITS

The Xovis Passenger Tracking System (PTS) goes far beyond simply counting passengers in and out. Covering both small and large areas (Multisensor), the Xovis system comes along with numerous benefits:

- Airports know when footfall peaks occur
- Staff planning and opening hours can be adjusted accordingly
- Accurate data is available to optimize product placement and store layouts
- A tool to measure store performance for planning and pricing purposes
- An improved shopping experience with shorter waiting times

XOVIS

AIRPORTS SOLUTION SHEET

How does it work?

Long queues make airports look bad and frustrate passengers. Xovis provides airports with a powerful tool to move passengers more smoothly through their facilities, optimize staff and infrastructure planning and ultimately increase customer satisfaction. The combination of Xovis 3D Sensors and software solutions helps improve efficiency all over the airport and prepares the ground for innovative business models.

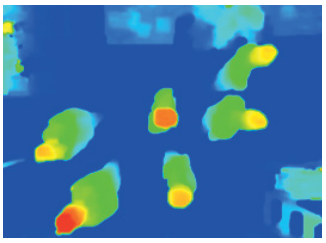
Counting and tracking passengers anonymously, the Xovis system combines 3D sensors with software solutions to measure the targeted KPIs in real-time. A broad portfolio of Xovis 3D Sensors with ultra-wide viewing angle accommodates the specific architectural conditions of any airport. Mounted on the ceiling, one sensor covers up to 100 m2 or 1100 sq.ft. and can be mounted from 2.2 to 30 m or 7.5 to 98 ft. high. A high-resolution 3D image, often also referred to as a stereo image, of the covered/ recorded area is calculated up to 30 times per second, providing the basis on which every person that is entering the covered area is counted and tracked anonymously.

Based on the 3D images computed on the sensor, the software receives data streams from all the installed sensors, calculates and visualizes KPIs such as waiting times and passenger throughput on real-time dashboards. An unlimited number of sensors can be connected into a Multisensor to track passengers through large areas anonymously continuously. The system also features an automated queue detection that measures waiting times only for passengers excluding staff, meeters and greeters even in unstructured, dynamic multi-queue areas.

Passengers are recognized individually even if they are standing shoulder to shoulder. Constant sample rates of 98% are guaranteed, meaning that 98% of passengers in the covered area are registered. The 3D stereo vision technology does not depend on signal-emitting devices and is highly robust against all kinds of external influences such as shadows, light changes, and heat emissions.

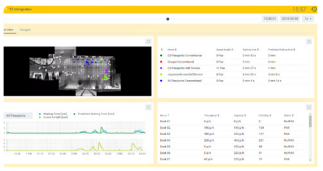
According to the study "Rise to Challenge – The Risks and Opportunities of Digitization for Airports," from Roland Berger, a five-minute delay for 25 percent of passengers at the security checkpoint could induce a drop in retail sales of 2 to 3 percent. People that wait more, spend less.

Power over Ethernet (PoE), combining data connection with power in one cable, and a Mean Time Between Failure (MTBF) of 25 years simplify installation/ maintenance and keep the total cost of operation low. Implementing FPGA technology, the image processing is performed on the sensor. No video stream leaves the sensors and data privacy is guaranteed. Only a constant stream of moving dots, representing the counted passengers, is sent out. Only one server is needed to run the system with up to 600 sensors. The Xovis system can easily be integrated with other software solutions. For example, waiting times can be exported automatically from the system and displayed on screens at the airport or on the airport's mobile app.



3D image computed by Xovis 3D Sensor indicating heights and distances by different colors

Xovis 3D Sensor, PC2



The Xovis software receives data streams from the sensors, calculates and visualizes the KPIs

Web and mobile clients of the software are also available

The data paves the way to streamline processes such as staffing