Take off with the market leader

The no.1 in people flow monitoring

Xovis Airports

www.xovis.com
XOVIS PTS - one system for all purposes

XOVIS PTS measures crucial KPIs such as:
- Passenger counts
- Queue length
- Dwell time
- Waiting time
- Passenger journey (curb to gate)
- Process time
- Desk / lane activity
- Passenger throughput

Continuous coverage is guaranteed in:
- Buildings with ceilings up to 20 m
- Areas up to 100 m² per sensor
- Large areas, where an unlimited number of sensors are combined in a Multisensor

XOVIS PTS IS THE MOST COMPLETE SOLUTION ON THE MARKET, MEASURING ALL RELEVANT KPIS ALONG THE ENTIRE PASSENGER JOURNEY AND ENABLING AIRPORTS TO OPTIMIZE CUSTOMER SATISFACTION.

Xovis PTS works all over the airport:
- Taxi Ranks
- Duty-free
- Security
- Check-in
- Baggage Reclalm
- Terminal Entrances
- People Movers
- Gates
- Transfer Security
- Escalators
- Emigration & Immigration
- Customs

202 Security Checkpoints
129 Immigration Checkpoints
50 Check-ins
23 Retail
54 Taxi Ranks, Bathrooms, People Mover etc

73 Airports
458 Touchpoints
13'249 Sensors in use at airport
XOVIS PTS - one system for all purposes

Xovis PTS combines the Xovis 3D sensors with the Xovis XS Suite software. Based on the 3D images computed on the sensors, the Windows server-client software Xovis XS Suite calculates and visualizes KPIs such as waiting times and passenger throughput in real-time. Web and mobile clients are also available.

UNMATCHED ACCURACY

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. Passengers individually are recognized even if they are only 20 cm away from each other. Xovis PTS guarantees constant sample rates up to 98%, meaning that 98% of passengers in the covered area are registered by the system.

UNLIMITED COVERAGE

The broad portfolio of Xovis 3D sensors (see page 6-7) with ultra-wide viewing angle accommodates the specific architectural conditions of any airport. An unlimited number of sensors can be combined in a Multisensor for large areas.

GUARANTEED DATA PRIVACY

Due to the Xovis PTS unique 3D Stereo Vision Sensor with a powerful on-sensor person tracking engine, data privacy is always guaranteed. No video stream leaves the sensor. The only data sent out by the sensor is a constant stream of moving dots, each dot representing a passenger.

LOW TOTAL COST OF OPERATION

Xovis PTS is a thoroughly industrialized and operations-proven system with a high level of ease of use. Thanks to the direct image processing on the sensors, only one server is needed to run the Xovis Software Suite. With a Mean Time Between Failure (MTBF) of 25 years and no dependence on signal-emitting devices, the Xovis PTS is a future-proof investment in Swiss Quality.

AUTOMATED QUEUE DETECTION

In unstructured multi-queue areas, passengers mix with other groups. As shown on the next double page, Xovis PTS measures waiting times only for passengers, as the system detects queues automatically and excludes staff, meeters and greeters. Even layout changes are detected automatically.
Why airports count on Xovis

HIGHER PASSENGER SATISFACTION

Airports face fierce competition. Xovis PTS paves the way to stand out via active passenger flow management, optimized passenger experience and ultimately increased passenger satisfaction. The gathered data lays the foundation for a streamlined planning of both staff and facilities in every part of any airport.

EXPECTATION MANAGEMENT

Long queues make airports look bad, even if they do not necessarily mean long waiting times. Passengers are much more likely to put up with waiting times when they know what they have to expect. Therefore, consistent expectation management is the key to passenger satisfaction. Airports that use digital signage to display accurate waiting times guide passengers more smoothly through their facilities. The unmatched accuracy of Xovis PTS enables airport operators not only to measure and predict present waiting times but also features a forecast function that shows how waiting times will develop over the next 30 minutes.

OPERATION OPTIMIZATION

Based on the real-time passenger flow data gathered with Xovis PTS, airports also have a powerful tool at hand to optimize the use of assets and the planning of resources including:

- Number of staff on duty
- Dynamic allocation of check-in facilities for maximized infrastructure use and throughput
- Adjustment of cleaning frequency to accommodate predicted passenger volumes

The real-time data is conveyed on dashboards with multiple types of live views.

BEYOND THE AIRPORT BUSINESS

The measured KPIs are of great value not only for airport operators, but also for many of their partners and suppliers. For instance, ground service providers are often interested in buying check-in data for their planning. Xovis can help increase efficiency in non-aviation related sections of airports. In retail areas, the system measures KPIs such as the number of customers and dwell times.
Exemplary use cases

COPENHAGEN (CPH) - CHECK-IN
With almost 30 million passengers per year, CPH is Scandinavia’s busiest airport. It trusts in Xovis PTS as the only system on the market that measures waiting times accurately in unstructured check-in situations. The system covers the whole waiting area in the T2 Check-in hall up to the desks (56 desks, 1500 m²) and measures:
- Individual and real-time queues, detecting the desk allocation
- Queue length/ waiting time per check-in desk
- Passenger outflow rates
- Average process time per check-in desk
- Number of passengers processed

VIENNA (VIE) - SECURITY CONTROL
Vienna International Airport (VIE) is an important hub in central Europe with 30 million passengers per year and a comprehensive set of connections to eastern Europe. Among other places, VIE deploys the Xovis PTS at the security checkpoint in Terminal 3 with the system covering the full waiting area of 1000 m²:

Thanks to the unique automated queue detection, Xovis PTS separates passengers from other groups (visitors, staff etc.) and detects which passenger and which desk/ lane belong to which category. Based on the automated queue detection, Xovis PTS measures the waiting time, process time and passenger throughput accurately for every single queue, giving the airport operator useful information on how to manage overflow situations and increase overall performance. Since Xovis PTS automatically detects layout changes over time, for example, when more desks/ lanes are allocated to the Economy category, there is no need to adjust the system settings.

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A BROAD PORTFOLIO

The PC2/PC2R/PC2S and PC3 with the numerous product variants cover installation heights from 2.2m to 20m, allowing up to 100m² of effective tracking area to be monitored with a single sensor. The coverage capabilities of the full portfolio are described in the Selection Guide.

MULTISENSOR

The Xovis Multisensor combines an unlimited number of sensors with varying mounting heights and angles; it acts as one overall sensor and tracks passengers continuously through large areas. Xovis has successfully implemented numerous demanding Multisensor solutions in many airports around the globe.

WIDE RANGE OF ACCESSORIES

The robust 3D sensors of the PC-Series can be installed directly on the ceiling. Also, Xovis offers a wide range of accessories to meet every possible installation requirement. Please ask for the Accessories brochure.

TECHNICAL DATA

<table>
<thead>
<tr>
<th>Working principle:</th>
<th>3D stereo vision distance measurement</th>
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| Installation angle: | +/- 15° in x-axis  
                     | +/- 5° in y-axis |
| Operation temperature: | 0°... 45 °C |
| With outdoor housing: | -25°... 40 °C |
| Storage temperature: | -20°... 70 °C |
| Air humidity: | 20 ... 80% |
| IP protection: | IP40 / IP65 (outdoor) |
| Connection: | RJ45 Ethernet, cat.5e |
| Power supply: | PoE Class 0 (IEEE 802.3af) |
| Power consumption: | < 5W |
| Required illumination: | 2 lux / 9 lux (outdoor) |
| Size [LxWxH]: | PC2 / PC2R / PC2S: 13.0 x 9.4 x 3.0 cm  
                | PC3: 33.0 x 6.1 x 4.0 cm  
                | PC3-O: 38.5 x 9.0 x 8.6 cm |
| Weight: | PC2: 350 g  
           | PC2R & PC2S: 250 g  
           | PC3: 600 g, PC3-O: 1700 g  
           | PC2 / PC2R / PC2S: up to 6 m  
           | PC3/ PC3-O: up to 20 m |
...to the system

SYSTEM COMPONENTS

The Xovis XS Suite is a Windows server-client software, which receives data streams from all installed sensors to calculate the needed KPIs and visualize them in the user interface, the XS client. The software is installed on a server at the customer’s premises. Remote access is needed for maintenance and support. One standard server can handle up to 600 sensors.

FUNCTIONALITIES

Based on the data from the sensors, the Xovis XS Suite includes the following functionalities:

- Calculation of KPIs
- Visualization on dashboards (various views)
- Forecasting
- Alerts based on customized thresholds
- Reports (Microsoft Excel)
- Interfacing with other software
- Sensor management
- System management and monitoring

As mentioned previously, the gathered data can also be displayed via web and mobile clients.

WEB CLIENT

The available web client features real-time dashboards and works also on mobile devices. As shown in the picture below, the user can switch between the various covered areas and display several KPIs.

INTEGRATION

The Xovis XS Suite 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.
These customers count on Xovis: