EUROSTAR™

CLIENT
Eurostar

LOCATION
Gare du Nord, Paris

INDUSTRY
Transportation

APPLICATION
Passenger journey analysis

CASE STUDY

Managing passenger flow with Xovis

HOW AN AIRPORT'S SOLUTION MADE IT TO THE STATION ON TIME

Already unique in the railway industry for their renowned high-speed trains that run through the Chunnel, Eurostar was one of the first train operators who ever decided to equip their station with a state-of-the-art passenger tracking system. Due to the long history of railway transportation and thus mostly well-aged stations, finding a technology robust enough to handle the constantly changing environmental circumstances in those buildings had been difficult – that is, until Eurostar met Xovis.

ABOUT EUROSTAR

Eurostar is the only high-speed train that directly links the UK to France and Belgium via the Channel Tunnel. Eurostar has been taking their travelers from city center to city center since 1994.

Since then, Eurostar has carried over 150 million passengers. The company takes thousands of people a day between the cities of London, Paris, Brussels, Lille, Calais, Disneyland-Paris and now Amsterdam.

CHALLENGE

The departure process at Gare du Nord (Paris) includes a journey through both French and British Immigration checkpoints, security checks as well as ticket validation – overall thirteen queues occurring over less than 2000 square meters. With very little room for extension and given the surrounding historic masonry, Eurostar constantly needs to increase the efficiency of the departure process and thus requires precisely measured passenger flow data. Finding the right measurement method was hard to do because various light and thermal conditions, as well as a highly complex and variable departure process, make it impossible for most technologies to measure even simple KPIs, such as passenger counts, precisely.
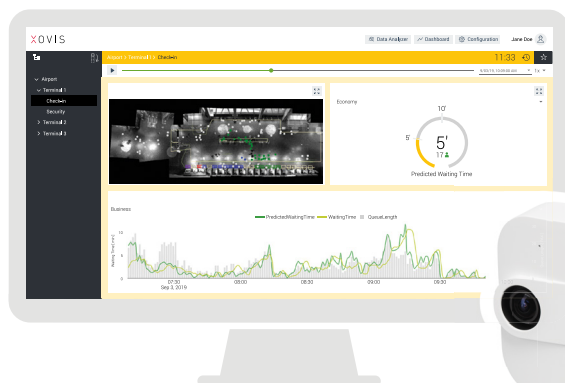
XOVIS

SOLUTION

Sixty-nine Xovis 3D sensors of different types make it possible to seamlessly cover the entire departure area and capture the movement of passengers in real time. Based on that, Xovis counts passengers at every resource and in every queue, but also applies its advanced queue detection algorithms to provide accurate waiting times for all processes involved. Real-time dashboards provide a clear view on operational processes and support on-site staff in decision making. In addition, the historical view on passenger movements and the analysis of KPIs made verifying floor layout changes much easier.

After the upcoming station redesign, Eurostar will ensure maintaining their capability to measure passengers as they flow through the terminal. By collecting historical passenger flow information, Eurostar will even be able to apply predictive analytics to further improve the operational efficiency and passenger satisfaction at their terminals.

Are you interested in Xovis technology and our solutions? We are here for you.
Please contact us: **transportation@xovis.com**

BENEFITS

Now that Eurostar has a clear view on the entire departure process at Gare du Nord, alternating floor layouts can be corroborated very conveniently. Having a trusted tool to measure the operational efficiency makes discussions with authorities and ground staff much easier, which helps to review and optimize existing processes at the station.

In order to improve their passengers' experience, Eurostar is even planning to inform passengers about expected waiting times through several channels like screens or website; making them yet again one of the first train operators to do so.

"Our need at Eurostar is to accurately monitor the volume of customers at our terminal and the throughput of the station. After having tested a couple other solutions with unsatisfying results, we ran a POC with Xovis and were able to get valid results immediately. We followed it by deploying the Xovis solution in all our control areas at Paris Nord, where we can now efficiently gather helpful and exact information about the behavior of our passengers when they go through our ticket and passport checks.

During the project, the Xovis team demonstrated great professionalism and was able to help us in building the real time dashboards that matched our needs. We have also appreciated their documentation which has avoided issues we often face when implementing these types of technical projects."

Maël DELMAS,
Lead Business Systems Manager - Stations

www.eurostar.com

XOVIS

How does it work?

Long, slow-moving queues are not only a hassle for airports and train stations, they are also discouraging to passengers. Xovis provides a powerful tool to move passengers more smoothly through facilities, optimize staff and infrastructure planning and ultimately increase customer satisfaction. The combination of Xovis 3D Sensors and software solutions helps improve efficiency across the facility and prepares the ground for innovative business models.

Counting and tracking passengers accurately while at the same time maintaining passenger anonymity, Xovis PTS combines 3D Sensors with software solutions to measure the targeted KPIs in real time.
A broad portfolio of Xovis 3D sensors that have a wide angle of view accommodates the specific architectural conditions of any building. 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 130 ft high.
A high-resolution 3D image, also referred to as a stereo image, of the covered/recorded area is calculated up to thirty times per second. This provides the basis of data for counting and tracking every passenger who enters this area.

Based on the 3D images computed on the sensor, the software receives data streams from all the installed sensors. It then calculates and visualizes KPIs such as waiting times and passenger outflow rates on real-time dashboards. An unlimited number of sensors can be connected in a multisensor to continuously track passengers (without collecting personal passenger data) through large areas. The system also features automated queue detection that measures waiting times for passengers only – excluding staff and meeters and greeters even in dynamic queue areas.

Passengers are recognized as distinct from one another even if they are only 18 cm/7 in away from each other. Again, despite this precision, no personal identifiers are collected. Sample rates of up to 98% are guaranteed, meaning that 98% of passengers in the defined area are registered. The 3D technology does not depend on signal-emitting devices and is very robust. It handles external influences such as fluctuating light and heat conditions without wavering from its task.

Power over Ethernet (PoE), aka combining data and power in one cable, plus a mean time between failures (MTBF) of 25 years, simplify installation/maintenance and keep total cost of ownership low. By implementing field-programmable gate array (FPGA) technology, image processing is performed on the sensor. No video stream leaves the sensors and data privacy is guaranteed. Only a data push of coordinates, representing passengers, is sent out. Only one server is needed to run the system with up to 500 sensors. Xovis PTS can be easily integrated with other software solutions. For example, waiting times can be exported automatically and displayed via screens at specific locations on the operator's premises or on the operator's mobile app.

For more information about Xovis software:
www.xovis.com/pts

ABOUT XOVIS

With more than 130,000 Xovis 3D Sensors in the field, Swiss-based Xovis is the market leader in people flow management in the airport and retail industry. Today more than 300 customers from various industries (airport, retail, transportation and more) count on the combination of Xovis 3D Sensors and software solutions to move people more smoothly through their facilities, optimize their resource planning and increase customer satisfaction as well as revenues. Founded in 2008, Xovis has evolved from a three-person start-up to a dynamic company with over 100 employees. Xovis is headquartered at the gates of Switzerland's capital and has branches in both USA and China.

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