

To the future, non-stop.

The concessionaire of Brazil's 5th largest airport invests in a video monitoring system that is already bringing operational enhancements.



Organization:
BH International Airport

Location:
Confins, Minas Gerais,
Brazil

Industry segment:
Transportation

Application:
Safety and security

Mission

BH International Airport, in Confins, Minas Gerais, receives 9.6 million passengers per year on domestic and international flights. BH Airport, the concessionaire responsible for the airport, opened a tender for the video surveillance system for the new Terminal, listing 50 criteria and requiring a proof of concept to confirm whether the manufacturer's promise was reflected in what was to be delivered.

Solution

After a practical analysis lasting more than a month, the concessionaire chose Axis Communications as the brand for the cameras for the new Terminal. BH Airport carried out the project that prioritized how well the proposal met the technical specifications for operation, safety and maintenance, while offering the lowest investment. All cameras have WDR technology with Forensic Capture that makes it possible to see important forensic details clearly. They all have IK08 or higher anti-vandal protection and enhanced image compression capacity using Axis Zipstream technology.

Result

The project was fully developed to make the airport environment safer from the point of view of civil aviation and operational security. The images are shared in real time with law enforcement authorities. Even facial expressions that show nervousness can prompt a preventive contact action.

But the advantages for BH Airport go beyond traditional video surveillance. Airport cameras can support internal investigations to analyze passenger complaints in general.

Operators can use the images displayed at the Airport Operation Center (APOC) to accurately measure the aircraft's ground time on the apron for billing airport fees. These cameras make it possible to see whether the pilot has received the right instructions, and whether the plane has been parked in the loading and unloading position correctly, since a poorly positioned aircraft can cause serious problems.



Freedom of choice

BH International Airport's new Terminal has more than doubled the airport's passenger capacity - from 10 million passengers a year to 22 million. More than US\$ 260 million were invested in the project, including the expansion of the aircraft apron area and new parking spaces. The concession, which runs until 2044, made it clear that the video monitoring system should be based on an open platform to ensure free competition during the procurement period and when any expansion was required.

A detailed study was carried out for the installation of the video monitoring system in the new terminal, evaluating six aspects: technology, integration, cost/benefit ratio, business needs, operational needs, security/safety, and maintenance needs. More than 50 specific points covering these six aspects were considered.

To test this future investment, a concept test was carried out in a real-life environment, in an area chosen by the concessionaire. For one month, images were captured using cameras from six different manufacturers. Axis met all the specifications and satisfied the needs set out in the project.

Operational benefits

The project combined the fixed AXIS M1124-E Network Cameras (and the Full HD version, AXIS M1125-E) and AXIS P3224-LVE (as well as the Full HD version, AXIS P3225-LVE). AXIS P5635-E and AXIS Q6115-E PTZ cameras were also selected.

Greater accuracy was achieved in outdoor areas thanks to superior image quality, with lighting compensation and zoom. The images show the exact moment of landing, and the entire path along the runway is tracked by the cameras. This allows confirmation of the exact moment when the employee places a chock on the aircraft wheel, starting the clock for the aircraft apron fee. It also allows recording of aircraft status in order to protect the airport.

In addition, by monitoring the apron and aircraft, the system ensures that airport employees have properly instructed pilots. An improperly positioned aircraft can cause accidents even on the ground, such as a crash with the air bridge.

One of the technical challenges presented by apron monitoring was dealing with reflections generated by concrete, a problem mitigated by WDR technology using Forensic Capture. AXIS Q6115-E's Speed Dry function removes raindrops from the lens on outdoor cameras mounting on lamp posts, all with the push of a button via the software interface—a useful tool in bad weather.

Security's vision in the process

As a key process user, the airport security team participated in all stages, from conception to commissioning, conducting a survey of safety requirements related to the concession contract and strategic partners. Airport security participated actively throughout this process, evaluating the detailed designs, coverage plans and adherence to current regulations to specify and quantify the equipment needed.





The tender criteria for BH Airport included the MTBF for the equipment and image quality, coupled with a five-year warranty.

Passenger security

Passengers' entire trajectories are monitored discreetly from the new Terminal access road until boarding the aircraft, including check-in, lounge, passenger and hand luggage inspection areas and boarding and disembarkation rooms. Given its high daily flow of people, the system allows users to identify suspects, abandoned objects and even support security for a company doing ATM maintenance.

Corridor Format—which turns the horizontal view into a 9:16 aspect vertical view—proved to be useful in some of these locations: for example, in an area where passengers circulate near an escalator. The initial plan was to have two cameras: one to see people in transit and the other to capture persons coming down the stairs. Corridor Format, however, made it possible to view both with a single camera.

All boarding gates have cameras on the walls, not the ceiling, which capture passenger faces from the front for better facial identification.

There are Axis cameras even on the air bridges—one at the entrance and one at the exit. Any suspicious incident or behavior can be evaluated by the security team who can reach the site within a few minutes or call out the right professionals, such as medical support.

The airport community

In addition to the common areas, the administrative area and critical areas such as energy control and air conditioning room were also equipped with Axis network cameras. The underground section of the new Terminal, where employees and suppliers circulate, is also covered by Axis cameras.

Storage and future

Using Cat-5e UTP cabling, the images captured in the International flight area are stored in Full HD quality, while images from the domestic flight area are archived in HD, both at 15 frames per second. Axis Zipstream technology has allowed the airport to estimate a storage capacity of 500 Tb for the entire camera system, even with all the movement that takes place at an airport and the use of several PTZ cameras.

The system performance has led to plans to install cameras in the parking lot and elevators as well, including the glass elevators.



About Axis Communications

Axis offers intelligent security solutions that enable a smarter, safer world. As the market leader in network video, Axis is driving the industry by continually launching innovative network products based on an open platform - delivering high value to customers through a global partner network. Axis has long-term relationships with partners and provides them with knowledge and ground-breaking network products in existing and new markets.

Axis has more than 2,700 dedicated employees in more than 50 countries around the world, supported by a global network of over 90,000 partners. Founded in 1984, Axis is a Sweden-based company listed on NASDAQ Stockholm under the ticker AXIS.

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