

Data-based operation for smoother customer experience in shopping mall.

BarraShoppingSul adopts smart Axis cameras with video analytics to support marketing strategies and analyze the flow of customers.



Organization:
BarraShoppingSul

Location:
Porto Alegre, Brazil

Industry segment:
Retail

Application:
Safety and security

Axis partners:
Anixter, Digifort,
K2 Segurança

Mission

BarraShoppingSul is one of 18 shopping malls managed by Multiplan, a Brazilian retail group that oversees more than 2 million m² of properties. This area is visited by some 180 million customers each year—almost as many people as the entire population of Brazil (200 million). Despite this concept, BarraSul used an analog video surveillance system when it first opened, which hindered the display of details.

Solution

K2 Segurança, a system integrator partnered with Axis Communications, conducted a detailed study of all aspects of the shopping center so that it could propose the right technologies for a successful operation, taking into consideration the mall's concern in enhancing its customers' experiences and emotional well-being.

The old analog camera system was entirely replaced by Digifort software and Axis network cameras, using models ranging from the tiny AXIS P1204, to vandal-proof cameras that offer Full HD resolution, to the robust AXIS Q6044-E PTZ dome. It also uses video analytics such as license plate reading (LPR), customer flow analysis, and virtual fences.

Result

From a security perspective, operators in the control room no longer have to decipher low resolution images. With this change, the mall can provide an even better customer experience. By measuring the flow of people and analyzing which places were most visited at specific times of day and which entrances saw the most traffic, BarraSul gained an advantage from a commercial point of view, enabling the design of new marketing strategies.



Analog problems

With more than 225 shops on two levels, BarraShoppingSul was launched with a video surveillance system using analog cameras encoded for use with VMS software over an IP network. At the time, there were two separate systems: one for the parking lot and the other for the rest of the mall. Before long, this setup proved to be problematic, mainly due to the difficulty in accessing the separate systems and the low quality of the images.

For example, it was hard to see if a customer had actually removed their card from the parking lot card dispenser just from watching it from the control room. To complicate matters, the shopping mall's modern architectural design uses large glass structures to take advantage of natural light. Analog cameras did not respond well to the intense difference in light levels in some environments, resulting in overexposed or underexposed images.

"In addition to image quality, we wanted to change the system because the old design was based on the wrong concept, employing too many dome cameras," says Eduardo Vitagliano, the project's operations manager. By prioritizing mobile cameras in places more suitable for fixed cameras, it was difficult to track people and suspicious vehicles.

There were also problems with the system's intelligence. The number of visitors, for example, was estimated based on the number of vehicles in the center's 3,800 parking spaces.

Gold trust

The change in the BarraShoppingSul security concept was led by K2 Segurança, which directed the studies that included everything from observing operators at work to assessing the system's vulnerabilities.

From the beginning, K2 looked to Axis not only because of the durability of the equipment and the high resolution of the images, but also due to its confidence in the brand. "We have had great satisfaction working with Axis. They are much more than a manufacturer; they have been a partner we can count on at all stages of the project."

"The company gave us support during the pre-project period with planning, customer presentations, and a convincing demonstration of the product's advantages, and with the commercial aspect and with everything involved in the after-sales period," said André Colla, K2's Technical Director.

The fact that K2 is a certified partner in Axis' Channel Partner Program made the developers feel more confident in investing in the new project, with the assurance that they would receive the expected results.

Eduardo Spinelli Vitagliano, the mall's operations manager, says, "We are very pleased with the system, with the quality of the cameras and the software, and with the support that K2 has given us in designing the project. We have achieved huge advances with this project, not only in terms of image quality and security, but in the whole operational process."

Rethinking everything

This project involved much more than replacing equipment; it included a conceptual shift in the system, taking into account the customer's real needs. The main monitoring operation shifted its focus to fixed cameras, with mobile cameras now playing a supporting role.

The license plate reading technology (LPR), for example, was not part of the initial plan, but K2 suggested that the new design for the vehicle accesses use cameras with capacity to add on this application in the future. Ultimately, the feature was implemented in the first phase. "The mall decided on this add-on, and the license plate reading system was installed without the need to make any adjustments or change to the cameras," adds Colla.





“We succeeded in measuring the benefits of the new system financially, since it solved some problems and avoided others.”

**Eduardo Spinelli Vitagliano,
BarraShoppingSul Operations
Manager.**

For some of the more critical areas where lighting could be switched off by mistake or intentionally, the design called for AXIS P1405-LE Network Cameras equipped with infrared. This means that even if someone sabotages the lighting, the camera will keep capturing good-quality images. All the frontage of the shopping mall is monitored by AXIS P1427-E bullet cameras with 5-megapixel resolution. They also monitor the parking lot. This way, the system ensures complete and continuous coverage of large areas, even if the PTZs are facing the other direction.

In cases where a PTZ is really needed, AXIS Q6044-E Network Cameras were used to approximate the image of a person, a license plate, or something suspicious. In the indoor areas, the concern was to cover the largest possible area with sufficient resolution and quality to enable the recognition of people.

Results from the start

K2 Segurança's André Colla saw the results from the beginning. "We managed to increase staff efficiency in detecting events, thanks not only to the quality of the equipment but to the way the system was laid out and how the systems were designed."

The new system began offering forensic analysis features that facilitate the operators' work in identifying suspects and reduce investigation time. Using filters, mall security staff can optimize their searches based on physical characteristics. For example, it is possible to search for images of a man wearing blue pants and a red shirt, without having to scan through all available hours of recordings. Another goal of the change was to better integrate the cameras into the mall design. After all, the project won the "Innovative Design" category of the ICSC (International Council of Shopping Centers) Latin America Shopping Center Award. Compact and discreet cameras were therefore desirable.

A highly discrete camera—the AXIS P1204—was used for vehicle access totems. Set up to capture the face of the drivers while they insert or remove a parking card, the camera allows the operator to identify the driver in a less invasive way, preventing visitors from feeling uncomfortable with a very large piece of equipment. "In practice, we see that customers tend to not have that unpleasant feeling that their privacy is being violated," says Colla. The Digifort software module allows real-time centralized display of all screens and shows if a customer is having difficulties completing the process.

Head count

BarraShoppingSul uses smart cameras with people counting to generate customer traffic reports based on the time of day, day of the week, and heat maps. These reports even allow comparative analysis.

The installation of an IP camera system with analytics resources means the areas involved can extract data to support decisions regarding the provision of services, for example. "The system measures the flow of people, which is generating benefits for the management area, because it makes it possible to identify areas with higher traffic, or to learn which entrance is more frequently used, and thus get a better understanding of customer dynamics," said Colla.

Today, AXIS M3004-V cameras count people at the entrance. "But we have other points where we would like to count the number of people. To achieve this, we're increasing the number of cameras that offer this feature," Eduardo Vitagliano added.

"One difficulty we have is with the communication between the control room and elevators; this will be resolved with the installation of audio-equipped IP cameras. In other words, a communication problem will be solved with a camera. It is very interesting to explore the possibilities that cameras currently offer," reflects Vitagliano. In this case, the customer can press the emergency button in the elevator and he or she will be heard and seen by operators in the control room.

Benchmark in security

Shopping centers face constant threats of vandalism, either due to clumsiness or intentional defacing to facilitate illegal activities. To work around this challenge, vandal-proof AXIS M3004-V and AXIS M3005-V cameras were suggested. "Vandal-proof cameras are essential for a shopping center project," André Colla said.

In the mall area and technical corridors where these acts are most prevalent, using this type of camera reduces sabotage attempts—such as breaking the equipment or facing the lens in a different direction.

Over time, the IP cameras installed at BarraSul have increased visitors' sense of security and have given BarraShoppingSul a reputation as a safe, family-friendly environment. Some situations were prevented thanks to the monitoring system, such as the early identification of suspects or people about to lose a purse, which helped create a reputation as being a safe place to shop. This is especially important in times of greater violence in the city. On one recent occasion the state governor went so far as to ask for the support of the National Army in dealing with escalating violence in Porto Alegre.

According to André Colla, "Porto Alegre has become a city with high crime rates, and it is natural that some cases of violence in shops will appear in the media. If some developments appear frequently in the media as targets of criminal acts and, in contrast, BarraShoppingSul does not have this history, this has a positive impact."



About Axis Communications

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Axis has more than 2,500 dedicated employees in more than 50 countries around the world, supported by a global network of over 80,000 partners. Founded in 1984, Axis is a Sweden-based company listed on NASDAQ Stockholm under the ticker AXIS.

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