

Madrid Bus Station South: Video analytics come to Europe's busiest bus station.

Axis cameras with facial recognition software collect evidence on the 20 million people who use the station annually.



Organization:

Avanza, an ADO company (Madrid Bus Station South)

Location:

Madrid, Spain

Industry segment:

Transportation

Application:

Safety and security, facial recognition

Axis partners:

Segur Group, Herta Security

Mission

South Station is the first long-distance bus station in Europe. It occupies over 350,000 square feet with 65 docks in operation, 300 garage spaces, retail businesses and services, ticket sales, offices, etc. The building is integrated into the Méndez Álvaro Transportation Interchange, connecting to the network of subways and nearby trains. It is owned by Madrid Town Hall and for the past 17 years has been managed by Avanza, an ADO company, and global leader in mobility and bus station operation.

Operating 22 hours a day, 365 days a year while handling 20 million people, it is impossible to have no incidents occur. Thus, the security team's objective was to constantly gather visual evidence of everything happening at the station in order to identify individuals involved in incidents.

Solution

The station's Security Department works in conjunction with state Security Authorities and also relies on the consulting and systems integration services of Segur Group. After discussion with the Director of Security, the group suggested the installation of IP cameras from Axis Communications running Herta Security facial recognition software.

Result

As a result of these improvements, the security of the station and its users has increased. The number of incidents has been reduced from five per day to just five per month. In addition, they have streamlined collaboration with Security Authorities and are able to provide them with the information and images needed to complete investigations generated by incidents at the station.

“The superb capability of the installed Axis Communications cameras to adapt to rapidly changing light conditions has been instrumental in achieving improved video surveillance, and in the operation of the facial recognition system at Madrid Bus Station South.”

Miguel Ángel Gallego, Director of Security, Madrid Bus Station South.

With over 130 years of history, Avanza is a leading company of the passenger highway transportation sector in Spain. Since 2013 started a new phase integrated into Grupo ADO, a multinational Mexican company dedicated to the integral mobility of people.

Safety at Spain's busiest bus station

Madrid Bus Station South is the busiest bus station in Spain, servicing 1,500 domestic destinations and another 500 throughout Europe and Morocco. It is an environment with a massive influx of people that during Holy Week in 2016 alone received more than 40,000 passengers and 1,500 vehicles of all types. The building features a closed-circuit television (CCTV) system managed on the Geutebrück platform and consisting of over 100 fixed cameras. As well, the facility relies on anti-intrusion and fire prevention systems that, along with surveillance services, serve to protect the infrastructure. In addition to relying on personnel who interact among the workers at the station, the facility also receives the support of local and national police.

Providing passengers and workers at the station alike with a sense of total protection is one of Avanza's principal objectives. Although the most common risks are theft, minor altercations, health care emergencies (falls, attacks), keeping track of lost and abandoned items and attending to the needs of businesses operating there, the Security Department is also prepared for any emergency that may require a more involved response.

Improved safety when boarding

A makeover of the station began in 2014 and security systems were updated. A new control center and emergency evacuation facilities were created, and docking areas were closed off to enhance the safety of travelers boarding the buses.

As part of these improvements, Segur Group suggested migration in phases to an IP video surveillance system – and the use of cameras from Axis Communications – for the deployment of a facial recognition system running BioSurveillance NEXT software from Herta Security specially designed to immediately identify subjects in a multitude of environments and while in motion.

In order to find the proper balance between overall and detailed views, it was necessary to change the location of multiple cameras. By lowering their positions and narrowing their angles of view, it was found that in the south area of the building shiny floors and large windows created heavy lighting contrast, hotspots and harsh backlighting that hindered identification. Thus, the decision was made to use IP cameras with Full-HD resolution that were designed for demanding environments, such as AXIS Q3505-V and AXIS P1365 Network Cameras.

99% accurate facial recognition

With unique capabilities such as delivering 60 fps, corridor view (9:16) and true color, security personnel have managed to overcome many of the difficulties they had encountered with other cameras. The functionality delivering the most impact has been Wide Dynamic Range - Forensic Capture, allowing the cameras to respond instantaneously to changing light conditions at the scene and render everything happening in sharp detail. As a result of the cameras' image quality, the facial recognition system responds precisely even with partial concealment of a face, changing facial expressions and moderate rotation. Presently, the accuracy level is greater than 99%.

The integration of a facial recognition system, collaboration with state Security Authorities and the sharing of database information have resulted in a significant reduction in the number of incidents and an improvement in the overall level of security.

