

## Medellin adopts the Axis video surveillance system. Strengthening the fight against crime with modernization and migration from analog to digital.



Organization:  
Company for Urban  
Safety (ESU)

Location:  
Medellín – Antioquia,  
Colombia

Industry segment:  
City surveillance

Application:  
Public safety and  
security

Axis partners:  
Grupo Unión, Genetec

### Mission

Medellin has an area of 382 km<sup>2</sup> of which 110.9 km<sup>2</sup> are urban areas, its population density is 16,083 inhabitants/km<sup>2</sup>, its height above sea level is 1,550 meters, and has a total of 16 communes, 249 districts and 5 subdivisions, with a population of approximately 2.2 million people. Since 1996, Medellin has had a video surveillance system that, in 2010, had a total of 222 analog AutoDome cameras installed in strategic locations in the city. Each camera had two information channels - video and control - that were transmitted by analog signal to and from the monitoring center of the Single Number for Safety and Emergency services - NUSE 123, whether by telephone and/or fiber optics.

The city has been transformed rapidly, with technological development in which new companies, the increase in means of communication, vehicle traffic both by land and air over the city, more buildings among others, resulting in complex utilization.

Population growth also brought problems, mainly due to social conflicts, which mutate and affect different areas thereof. Medellin saw the rise of the drug culture, the activation of guerrillas, military groups, paramilitarism and common delinquency, creating an internal conflict in which urban massacres, terrorist attacks and forced displacement destabilize the everyday life of the city.

To strengthen security, the Ministry of the Interior and Justice has been leading the establishment of the Integrated Systems of Security and Emergency - SIES, with in which is the Single Number for Security and Emergency - NUSE 123 is a constitutive part of this initiative to be the means by which they can improve citizen solidarity and governance, as it is in the most expeditious mechanism for citizens to access the State's response.

"Video compression is essential not only when optimizing storage resources, but also for their transmission over any type of network, especially when the platform implemented in the project for urban security in Medellin is almost entirely wireless. Axis, with its hardware, guarantees these basic requirements when speaking of IP video solutions."

Felipe Zabala, Engineer at Grupo Unión.

## Solution

After a lengthy market investigation conducted by the ESU Alliance - Union Group, one of the world's leading manufacturers in consultation, sales and installation of IP CCTV systems, defined criteria for the technology needed to migrate the existing video surveillance system in the Municipality of Medellin, towards better technology such as digital.

They proceeded to make a design without having to leave the traditional analog cameras, for which AXIS Q7401 Video Encoders were installed and the new devices for monitoring are AXIS Q6034-E Network Cameras with the latest dome IP technology: devices with high availability, maneuverability and definition for video surveillance tasks that support security and emergency agencies in the city.

Integration was conducted from various manufacturers such as Axis, Alvarion, Genetec and Barco, providing results in the IP CCTV system, to meet all the requirements necessary with the latest technology, which is easily expandable. By the end of 2011 there were about 400 integrated Axis network cameras.

## Result

The solution permitted the optimization of the resources, increased the timeliness of services provided to citizens in emergency and security situations, strengthened the fight against crime and supported justice, using technological, administrative, operational and training tools.

## Criteria

- > Ease of deployment and operation
- > Performance and quality
- > Reliability
- > Security
- > Scalability and extensibility
- > Low total cost of operation
- > 24-hour video recording for 5 years
- > Large format digital visualization system
- > Flexibility and easy integration of new cameras for the system
- > High availability of the system
- > Camera bandwidths not greater than 5 Mbps

## Future applications

The initial cost for the modernization of Medellin city's video surveillance system was 5 million dollars, delivered in full by the Municipality. This project, implemented by the ESU-Unión Eléctrica Group Alliance, comprises not only the modernization of the CCTV system, but also the migration of the entire emergency and safety system of the city to what is called the new Integrated Metropolitan Emergency and Security SIES-M, which is a systemic strategy that seeks coordination among State agencies; the total investment is 16 million dollars. The project was 8 months under development; and was fully installed in the city of Medellin in 2012.



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**Genetec**