

Hanwha Techwin's Wisenet video surveillance cameras help the City of Bologna create a smart traffic system



“Our control room operators have been particularly impressed with the exceptional clarity of the images captured by the cameras and the data analytics capabilities of the system, which are enabling them to accurately visually verify what may be occurring and quickly take appropriate action”

– Alberto Nuzzo, Head of Office 'Digital Infrastructure and Telecommunications', at Comune di Bologna

Challenge

Bologna is the seventh most populous city in Italy. It is at the center of a metropolitan area of approximately one million people with a diverse range of travelling requirements within a very large area. The City of Bologna has always invested in traffic control and monitoring systems with the aim to make travel easier and faster for its citizens. An example of this is a centralized traffic light management system which has been in operation since 2013 and has helped reduce travel times within the urban area. The City of Bologna wanted to invest in a video surveillance solution which would allow the monitoring of 12 vehicle access gates to the city in order to provide authorities with reliable real-time information about urban mobility. The purpose was to provide a tool to allow authorities to take strategic planning measures and optimally redistribute the traffic load on the road network.

Solution

After extensive research, which included the evaluation of a wide range of possible solutions, a decision was made to procure a total of 89 Wisenet cameras manufactured by Hanwha Techwin. The implemented solution consists of cameras dedicated to vehicle counting and classification, and ANPR cameras which have been installed on strategic gates. The cameras monitor both directions of travel to allow local authorities to study the most important and strategic vehicle access flows to the city. This is made possible thanks to the latest generation of Wisenet cameras. By integrating high image quality and advanced video algorithms, Wisenet 'intelligent' cameras are able to enhance the value of video surveillance by supporting mobility and security in Smart Cities. 24 of the cameras installed are Wisenet XNO-6120R/TD bullet cameras equipped with Traffic Data, an edge based

application developed in cooperation with Sprinx Technologies which facilitates the collection of statistical data about vehicle flow. By tracking the vehicles moving in a camera field of view, the application is able to provide information on vehicle counts, classification and average speed. 24 of the other cameras installed are Wisenet XNO-6120R/FNPs. These feature Roadway License Plate Recognition application which is able to help the local authority's control room operators detect illegally parked vehicles and other traffic infringements. Effective with all European number plate formats, the application has more than a 95% recognition accuracy whatever the environmental conditions, even when vehicles are moving at speeds of up to 150 km/h.

Result

“We are delighted with how easy it has been to successfully integrate the Wisenet cameras with our existing video management platform and our other supervision monitoring systems,” said Alberto Nuzzo, Head of Office 'Digital Infrastructure and Telecommunications', at Comune di Bologna, when commenting on the success of the traffic management solution. “The data captured by the Traffic Data and ANPR applications running onboard the cameras, is allowing us to far better manage the existing levels of traffic, whilst also helping us capture and store valuable data which we will be able to analyze to assist us to plan for the future.

“Our control room operators have been particularly impressed with the exceptional clarity of the images captured by the cameras and the data analytics capabilities of the system, which are enabling them to accurately visually verify what may be occurring and quickly take appropriate action.”

**Wisenet X series, XNO-6120R**

The Wisenet XNO-6120R is a 2 megapixel bullet camera which is able to capture high definition images with the help of a 12x optical zoom, digital image stabilization with built-in Gyro sensor, a Defog feature and built-in IR illumination. Part of the Wisenet X camera series, the XNO-6120R features the World's best Wide Dynamic Range (WDR), which performs at up to 150dB to produce clear images from scenes that contain a challenging mix of bright and dark areas and normally result in overexposed or underexposed images. The processing power of the Wisenet 5 chipset incorporated into the Wisenet X series provides an opportunity to run on-board third-party video analytics plug-ins for different applications, such as numberplate recognition, vehicle counting/classification and real time automatic incident detection.