CCTV Surveillance System for New Town Kolkata

A smart city hinges on the very idea of leveraging and harnessing cutting-edge information and communication technology (ICT) for improving efficiency and sustainability of the smart urban living. That said, a crucial aspect of the smart urban living is ensuring uninterrupted security and safety for the citizens, leveraging cutting-edge technology. Thus, it is absolutely imperative to introduce a smart city surveillance mechanism to instil a sense of security within citizens.

New Town Kolkata, being a smart city, is pledged to ensure the safety and security of its citizens by utilizing the new and emerging technologies.

In view of this, the township envisages resorting to close-circuit television (CCTV) cameras, which is one of the most widely used and user-friendly technologies that help in providing day-to-day surveillance and monitoring of the areas where they are installed. In addition to close supervision, these technology of these cameras allow for post-incident analysis and collection of indisputable legal evidence, thereby forming a robust mechanism to ensure safety and security of the township.

The first phase of the CCTV system planned to be set up across New Town will include installation of CCTV cameras, along with a Video Analytic System and an Automatic Number Plate Recognition (ANPR) system for optimized utilization of the CCTV system and enhancing the safety and security feature of the same.

Types of CCTV cameras planned to be installed in New Town

- **Box Camera** – These are professional quality CCTV security cameras that allow the user flexibility in designing a security camera best suited for their needs. You can choose the type of weather protection, camera resolution, video signal type, and the type of lens that best suits your needs. Box cameras also allow easy replacement or upgrading of the camera/enclosure/lens combination. By simply changing the box camera body, the video pickup portion can be replaced. Replacing or upgrading the lens allows the user to change the angle of view, without having to replace the entire camera.

- **Bullet Camera** – These are long and cylindrical in shape and are ideal for outdoor use. Their strengths lie specifically in applications which require long distance viewing. Installed within protective casings, the cameras are shielded against dust, dirt and other natural elements. The cameras can easily be mounted with a mounting bracket, and come fitted with either fixed or varifocal lenses depending on the requirements of its intended application. Bullet cameras allow for IR night vision, compact size aids installation, and high-quality image resolution.
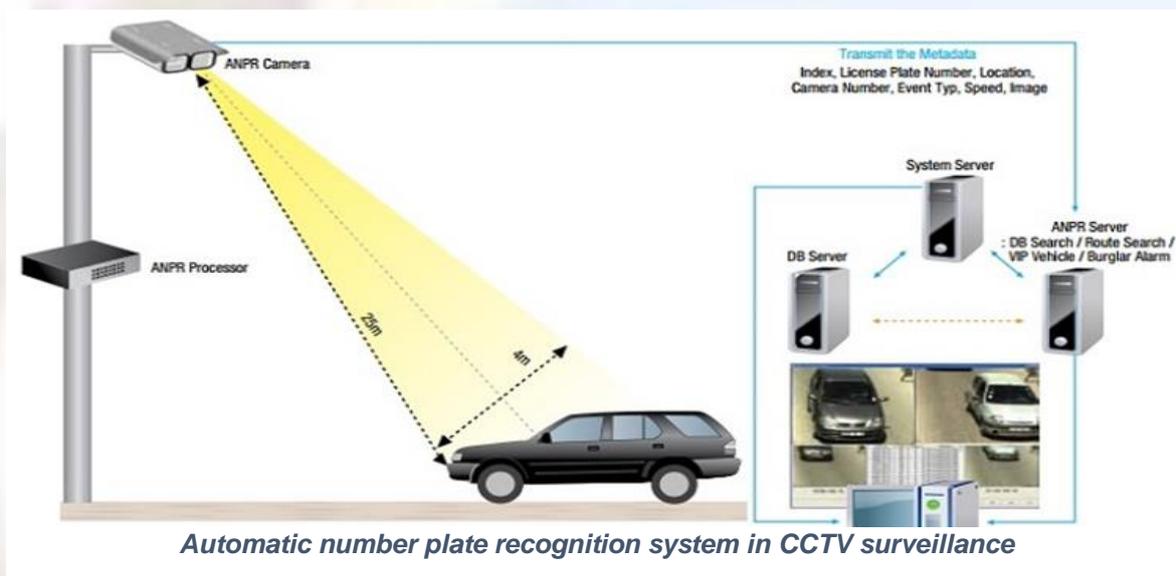
- **PTZ (Pan, Tilt, Zoom) Camera** – These cameras allow the camera to be moved left or right (panning), up and down (tilting) and even allow the lens to be zoomed closer or farther. These cameras are used in situations where a live guard or surveillance specialist is there operating the security systems. PTZ cameras provide 200m IR night vision, X36 optical zoom, and high-quality image resolution.
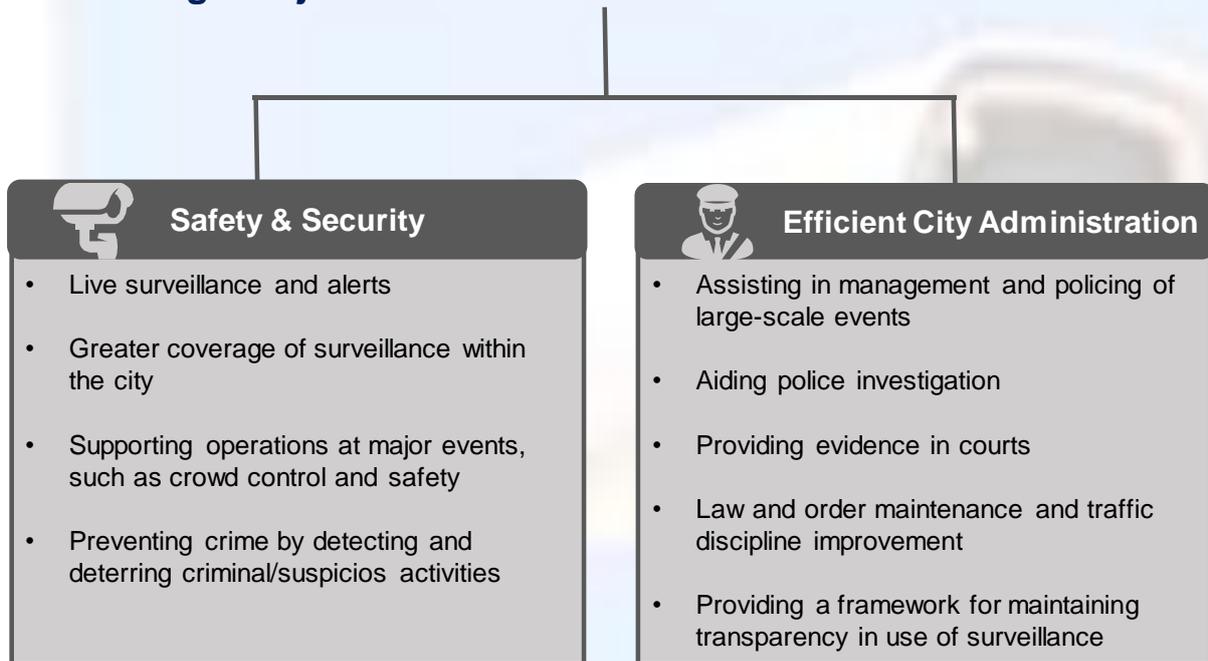
Scalability features of the mechanism

- Can be integrated with a central command and control system

- ONIVF (Open Network Video Interface Forum) compliant and can be integrated with third-party hardware and software

- Can be integrated with other Law Enforcement Devices, like location-wise voice command, law enforcement vehicles with GPS tracking, body-worn camera, etc., as well as remote monitoring

- Integrated solution with certified special purpose IP camera system, local processing unit, and dynamic open platform software

- Built-in Automatic Number Plate Recognition (ANPR) engine, enabling detection of multinational licence plates

Automatic number plate recognition system in CCTV surveillance

The strategic objectives that CCTV surveillance achieves

Safety & Security

- Live surveillance and alerts

- Greater coverage of surveillance within the city

- Supporting operations at major events, such as crowd control and safety

- Preventing crime by detecting and deterring criminal/suspicios activities

Efficient City Administration

- Assisting in management and policing of large-scale events

- Aiding police investigation

- Providing evidence in courts

- Law and order maintenance and traffic discipline improvement

- Providing a framework for maintaining transparency in use of surveillance

Key Benefits of CCTV Surveillance

- Instils a sense of security within citizens, by promoting the concept of a Safe City, along with robust disaster management

- Achieves improved governance by providing critical data to the city authority and city administration

- Helps reduce congestion on the road by paving the way for efficient traffic management

- Makes room for future integration with the central command and control centre, thus ensuring a comprehensive database to be used efficiently for improving the quality of life for the citizens and visitors of New Town.

Conclusion

The extensive network of CCTV cameras is a prudent enabler for city authorities and administration/police department to help strengthen their capabilities by using the footage and information gathered, during investigations and security planning. Thus, the endeavour to bring New Town smart city under CCTV surveillance is sure to enhance the city's safety and security, thereby improving its ease-of-living quotient for the existing residents and those willing to settle in New Town. Such initiatives by New Town city authorities reinforces the township's steady commitment towards building an exemplary model that the future smart cities of the country can look up to.