



Video Enforcement Surveillance System (VES)-CCTV



Closed-circuit television (CCTV) systems consist of roadside cameras, communication devices, as well as camera control and video display equipment. CCTV is located at one or more remote monitoring locations that allow surveillance of roadway and traffic conditions for traffic and incident management. Cameras are also required for visual confirmation of dynamic message signs and ramp signal operation, as well as security purposes.

The CCTV Cameras are installed along the motorway to properly monitor traffic flow and any occurrence of incidents at plaza premises. Video management system is accessed through state of art Traffic Control Centre (TCC) build at different sections of motorways.

These videos, which are captured by a camera is transferred to the module of the video surveillance system at traffic Control Centre. There are two types of connections through which the captured video is transferred:

Videos can be transmitted over the computer network IP or they can be sent as analog videos. Videos from both IP cameras and analog cameras can be transferred over the computer network whereas unlike analog cameras, IP

cameras can connect directly to an IP network. In case of analog cameras, an encoder must be installed to transmit analog video over IP. The input from an analog camera is encoded and output a digital stream for transmission over an IP network.

Depending upon whether IP camera or analog video camera is used, the captured video can be transmitted over cables or through the air. Cables are generally considered inexpensive and the most reliable method of transferring video but, wireless is an important alternative for transmitting videos as setting wires can be expensive for certain applications such as parking lots, fence lines, remote buildings, etc.

CCTV cameras play an important part in road network management. They are installed at sensitive locations on the network to support traffic management, where congestion and traffic queues are frequent and at other locations where there is an increased risk of accidents and traffic incidents. When used for traffic surveillance they can either have a fixed field of view - for example, when used to monitor traffic and provide alerts - or be equipped with a pan, tilt and zoom (PTZ) capability to allow operators to have a wider field of view.

Fixed field of view cameras are generally used for monitoring motorway sections where hard shoulder running is permitted.

Pan, Tilt Zoom (PTZ) cameras are commonly used for:

- elevated motorways in built-up areas
- exposed motorway bridges or roads at high elevations
- urban motorways with tidal flow and / or reduced lane width
- locations where congestion frequently occurs and queues exceed 1km

Either fixed or PTZ cameras can be used:

- in road tunnels and on the approaches to those tunnels
- at the termination of a motorway, at busy interchanges and places where there are lane reductions

Control room operators depend on the CCTV camera images - displayed either on their work-stations or large-scale on a "video wall". CCTV camera images are an important means of traffic surveillance that complements other traffic control measures. Operators rely on images from CCTV cameras to detect and monitor traffic incidents and assess the number of running lanes affected. From this it may be possible to estimate the likely duration of a traffic incident based on previous experience and traffic modelling techniques. Video image processing is used to alert control room operators to stationary vehicles and other unusual events. Operators often wish to see a sequence of images from successive CCTV cameras, in the form of a "video tour".



VES Components

PTZ Camera

One of the commonly used camera for security purpose is PTZ camera; where P stands for Pan, T for Tilt and Z for Zoom. Pan, Tilt, and Zoom are the main features of this camera which is controlled by a software or via joystick. This security camera has an ability to rotate 360 degrees so that it can cover a wide area and can zoom into detail. The other features that attract toward this security camera are Weatherproof, Night Vision, Multiple Alarms, Auto Focus, and Tamper Resistant.



Main Features

- Field of view. Although it also depends on the mounting location of the security camera, but most of the times a PTZ camera can capture the full 360 degree area.
- Motion Tracking. Our PTZ cameras come with the motion tracking feature.
- Power Zoom and Auto Focus.
- Weatherproof.
- Tamper proof.

Main Benefits

- The main benefit of PTZ cameras is one of flexibility and control as they can offer 360-degree views of the area they are installed within. In addition, the tilt and zoom features offer greater field of focus and enhanced clarity.
- Most PTZ cameras capture images in super high resolution.
- Being larger than dome cameras and most bullet cameras, they are a more visible means of deterring potential intruders to your property.
- PTZ cameras can also be fitted with infra-red night vision with in-built LEDs to provide adequate low-light surveillance. They are typically more powerful than their dome or bullet counterparts and can provide more long-range night vision of up to 200ft (approx.).

Fixed Camera

Dome cameras are either ceiling mounted or suspended from a wall mounted bracket depending on the application or the field of view required. The camera unit is mounted inside a transparent dome which can be tinted to obscure the camera position. Dome cameras come in a wide variety of forms. They can be analogue or IP, fixed or mobile.



Main Features

- Poles with Accessories.
- Fiber based Network system or 4G Cellular internet.
- Solar system with batteries.
- LCD Placed at Control Centre

Main Benefits

- Dome cameras offer a more discreet way to keep your premises under surveillance as they have a lower profile.
- Although the field of view cannot be changed (see PTZ cameras), it is not apparent in which direction the camera is facing which can make it harder for intruders to 'bypass'.
- They can be supplied and installed with vandal resistant covers.
- Dome cameras can also be fitted with infra-red night vision with in-built LEDs to provide adequate low-light surveillance up to 100ft (approx.).



VES System Features

Aid Commuters

Traffic cameras placed at common congestion points on highways, freeways, interstates and major arteries often share feeds with news outlets - both radio and TV, which in turn pass them onto commuters in the form of traffic reports. Normally, traffic flows do not vary much from day to day, but in the event of a severe accident or road closure, a traffic alert can be extremely valuable for a time-crunched commuter.

Valuable Data

Traffic cameras that simply monitor car flows on roads and major arteries are often maintained by state departments of transportation. Along with monitoring the roads for accidents or major closures, footage from traffic cameras is influential in decisions regarding future road development and construction.

Enforce Laws

Cameras used to enforce speed and red light laws are effective in catching moving violations and issuing tickets.

Encourage Safe Driving

Visible surveillance cameras posted at intersections can encourage safe driving habits and discourage moving violations.



JK TECHNOLOGIES, SIA
RIGAS IELA 40, dz.5, OZOLNIEKI,
OZOLNIEKU PAGASTS,
JELGAVAS NOVADS, LV-3018, LATVIJA



eMail: info@jktech.com
Hp: www.jktech.com