# Integrated Closed Circuit Television (CCTV) Surveillance Systems

Closed Circuit Television, popularly referred as CCTV, is basically use of video cameras to transmit images to specified monitors, recording devices and other gadgets. CCTV was first used as an alternative to human eyes, providing a set of eyes to an otherwise high risk location for a human-being. Modern day CCTV system is primarily used as a surveillance device; enhancing, re-enforcing, deterring and/or monitoring high security areas, private or public. GL offers its expertise in the design and deployment of integrated CCTV surveillance systems.
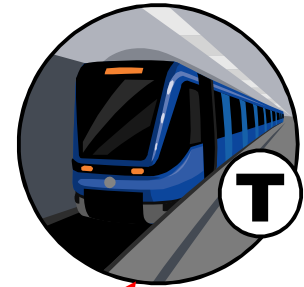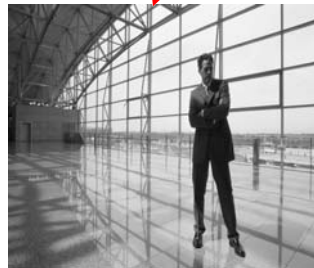
Transit Buses

Station Platforms

Transit Trains

*GL's CCTV Solutions*

Airports

Airport Terminals

City Streets

CCTV as a surveillance tool is commonly used in places like stores, airports, malls, large mass transit systems, tunnels, railways, and military bases among many other security sensitive locations. CCTV has also become crucial as a counter intelligence tool and is widely utilized by law enforcement agencies worldwide.

CCTV surveillance systems have evolved from basic units comprising of a video camera, monitoring station and/or a recording devise besides local wiring on the premise to include wireless broadband and wide area networks and devices for a system-wide connectivity. Modern day high-tech smart CCTV systems are capable of not only detecting intrusions but also detecting and tracking suspicious objects/persons, chemical substances, and providing remote direct communication between an observer and a subject.

With the introduction of state-of-art technology and software tools, and large bandwidth Wi-Max as well as fiber optic based communication systems for real time faster transmission, an image from CCTV video cameras can be captured and analyzed for proper identification and course of action. Analytical abilities of the system includes capturing vehicle tag numbers, Left Object Detection (LOD), zooming into a targeted person's face and running his image into a database for bio-metric identification, and analyzing air samples from a targeted object for its chemical hazard detection. The future of CCTV surveillance systems is wide open in as far as what can be achieved. CCTV systems can be designed to fit the needs of almost any client.
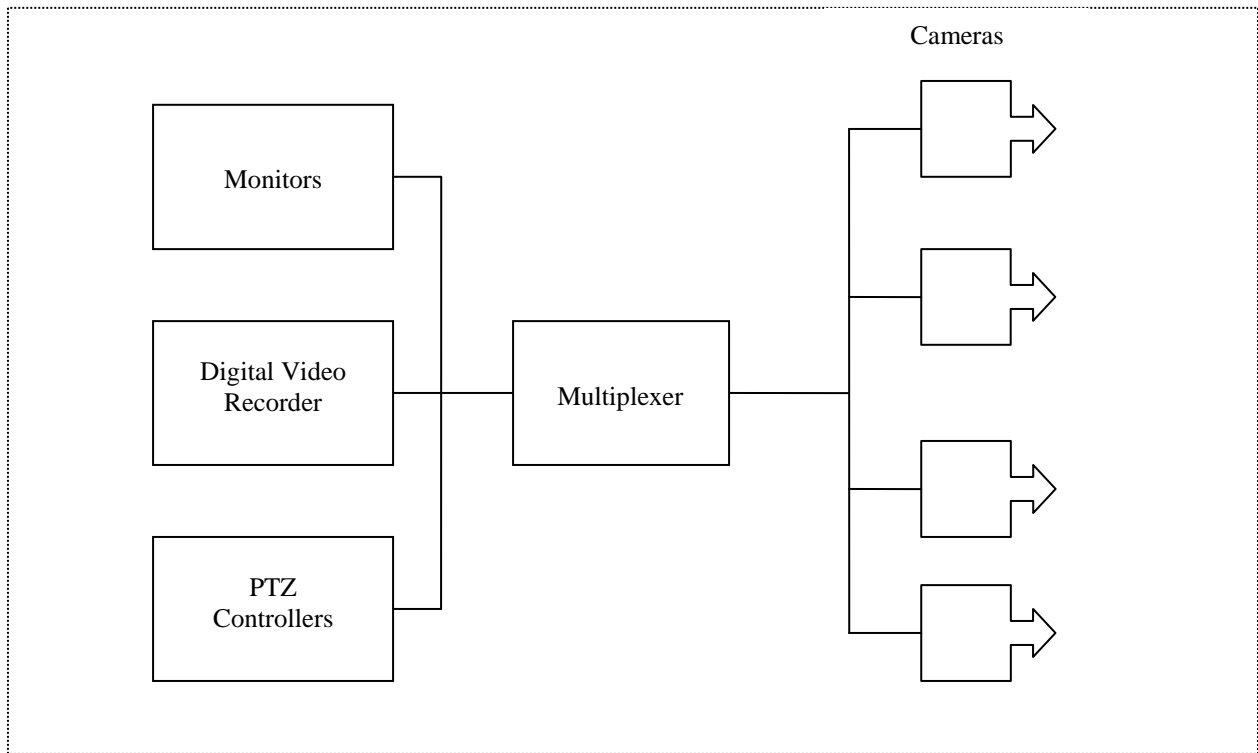
**Typical components of a CCTV surveillance system are:**

- Video Cameras
- Camera Servers
- Digital Video Recorders (DVR)
- Multiplexers
- Monitors
- Pan/Tilt/Zoom PTZ Motorized Lenses and Controllers



Cameras

# Typical Localized CCTV Surveillance System

Cameras

Monitors

Digital Video
Recorder

Multiplexer

PTZ
Controllers

# Typical Integrated System-Wide CCTV System



Command
&
Control

Monitor
&
Analyze

Process
&
Storage

CCTV
Server

WAN

CCTV 1

CCTV 2

CCTV 3

CCTV 4

CCTV Systems

Operations and Control Center