SECURITY & SURVEILLANCE

Smart Cities

Presented by:

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Smart City Agenda

- ➢ **Surveillance Solutions**
    - ▪ **Surveillance System**
    - ▪ **FRS (Face Recognition System)**
- ➢ **ITMS**
    - ▪ **ANPR (Automatic Number Plate Recognition)**
    - ▪ **RLVD (Red Light Violence Detection)**
    - ▪ **SVD (Speed Violation Detection)**
    - ▪ **No Helmet Detection**
    - ▪ **Illegal Parking Detection**
- ➢ **Vehicle Solutions**
    - ▪ **Vehicle Camera**
    - ▪ **Mobile NVR**
- ➢ **Thermal Solutions**
    - ▪ **Temperature Detection Cameras**

Surveillance Solutions

Surveillance System

In Smart cities Project surveillance cameras has helped deter crime to a great extent and helped to maintain law and order in the city. On most occasions, CCTV footage installed at public places has helped the police department to prevent any mishaps and/ or identify evidences.

Surveillance System Consist of:

- ICCC Dome Cameras.
- Bullet cameras at Traffic signals and Public places
- PTZ (pan Tilt Zoom) cameras at Public places.

Surveillance Solutions

Surveillance System Trends in Surveillance

COMPRESSION
To store the recorded data for future references.

H.265 would get a compression rate of 50% compared to H.264.

For 2MP camera for 24 hours recording the storage Space needed.

- For H.264 - 35.8 GB
- **For H.265 - 25.4 GB**
- **For H.265+ - 16 GB**

Surveillance Solutions

Surveillance System Trends in Surveillance

NIGHT VISION
IR technology is bringing a great relief for night visibility. Distance of coverage is a concern.

Present Day

Built in Normal IR : 150 meter
External IR illuminators : 500 meter

Image will be in black and white and it will have a glaring effect due to the IR reflection.

Surveillance Solutions

Surveillance System Trends in Surveillance

- **Laser IR:**
Built in laser : 500 meters

Clearer image without reflection effect. Require less maintenance compared external IR units.

- **Starlight IR:**
Distance : 250 meters

Clearer image in the moon light & natural color during night. However if the light falls to 0 lux, image turns to black.

Surveillance Solutions

FRS (Face Recognition System)

- **Face Recognition**

Biometric method of identifying an individual by comparing live capture or digital image data with the stored record of that person. Facial recognition systems are commonly used for security purposes but are increasingly being used in a variety of other applications

ITMS (Intelligent Traffic Management Solutions)

## ANPR (Automatic Number Plate Recognition)
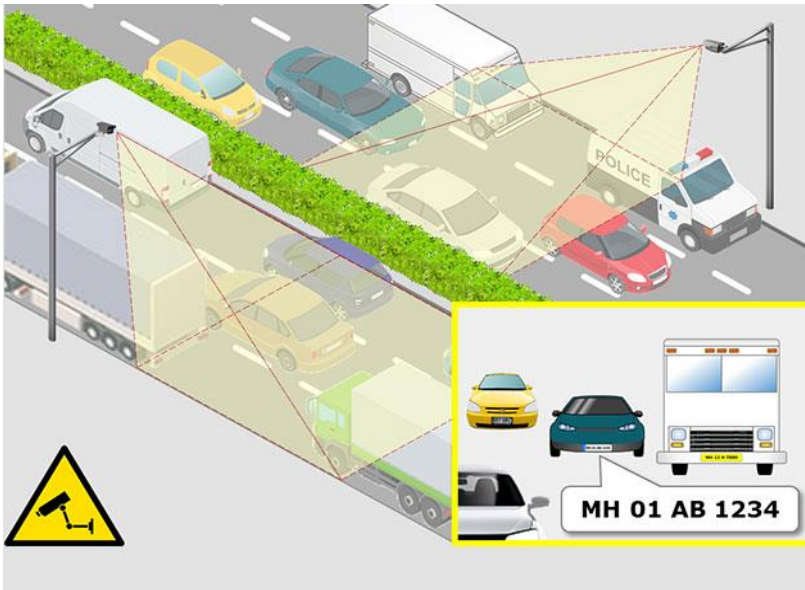
Automatic Number Plate Recognition:

Statutory requirement to have all the numbers to be captured and kept for future reference

Automatic Number Plate Recognition using ANPR cameras and associated software's. The numbers will be captured and kept in a database both as images and OCR based converted file.

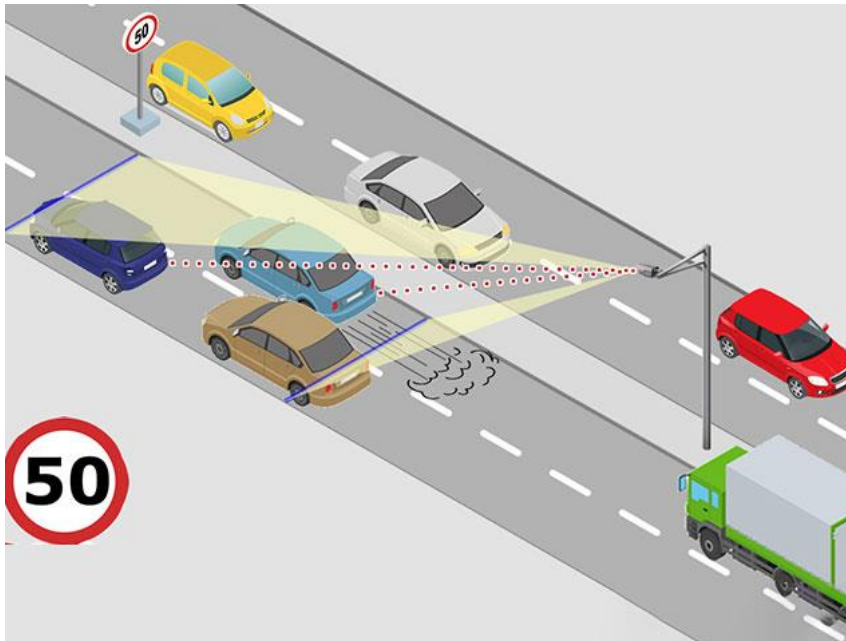# ITMS (Intelligent Traffic Management Solutions)

RLVD (Red Light Violation Detection)
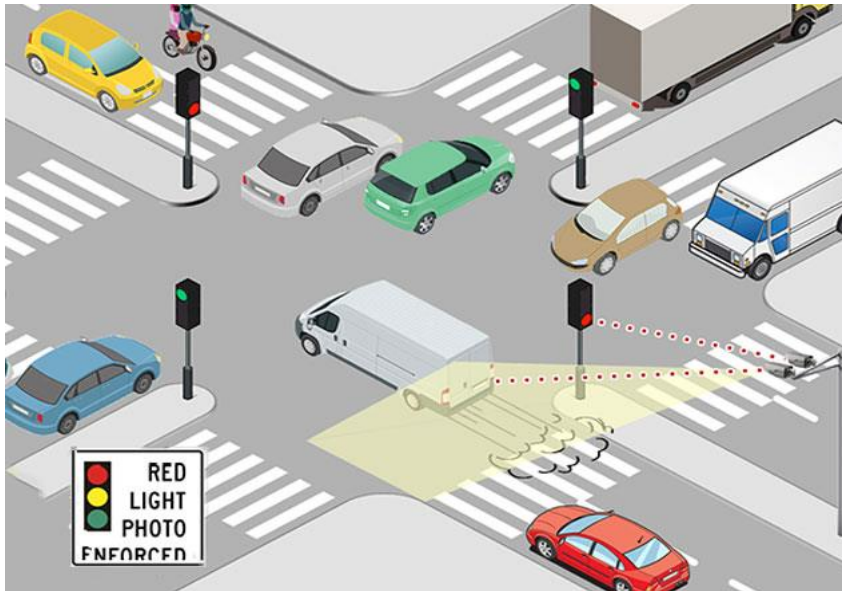
Red Light Violation Detection:

Statutory requirement to have all the Vehicles which violating the red-light signals to be captured and kept for future reference

Red Light Violation Detection using ANPR cameras and associated RLVD software's. The vehicles and numbers will be captured and kept in a database both as images and OCR based converted file.

ITMS (Intelligent Traffic Management Solutions)

SVD (Speed Violation Detection)

Speed Violation Detection:

Statutory requirement to have all the Vehicles which violating the allotted Speed to be captured and kept for future reference

Speed Violation Detection using ANPR cameras and associated SVD software's. The vehicles and numbers will be captured and kept in a database both as images and OCR based converted file.

ITMS (Intelligent Traffic Management Solutions)

No Helmet Detection

No Helmet Detection:

No Helmet Detection is a system which is to detect persons with/without helmets. No helmet detection technology not only removes manual intervention but also brings in transparency in the booking of violations, wherein a challan will be sent to the violator (without helmet) by capturing the number plate of the vehicle and video clip of the violator.

ITMS (Intelligent Traffic Management Solutions)

Illegal Parking Detection

Illegal Parking Detection:

Detect the vehicles that have parked by the roadside or in the areas where the parking is prohibited.

The violations Includes:
1. Overdue parking
2. Wrong parked vehicle type
3. Prohibited area for parking

Illegal parking detection technology not only removes manual intervention but also brings in transparency in the booking of violations, wherein a challan will be sent to the violator (Illegal parking) by capturing the number plate of the vehicle and video clip of the violator.
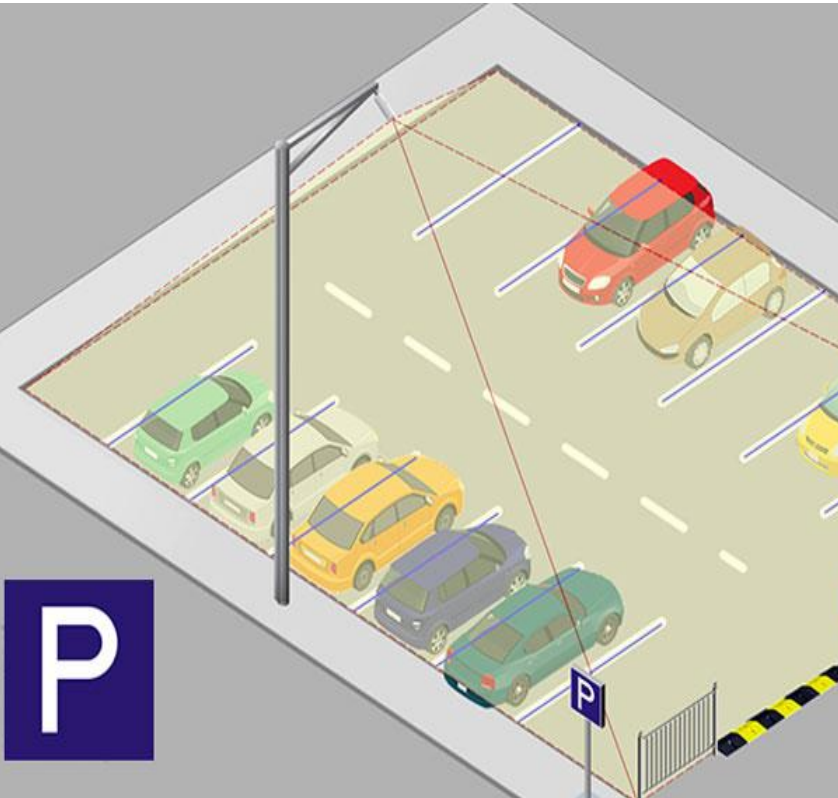
ITMS (Intelligent Traffic Management Solutions)

Vehicle Solution

Vehicle Cameras and Mobile NVR
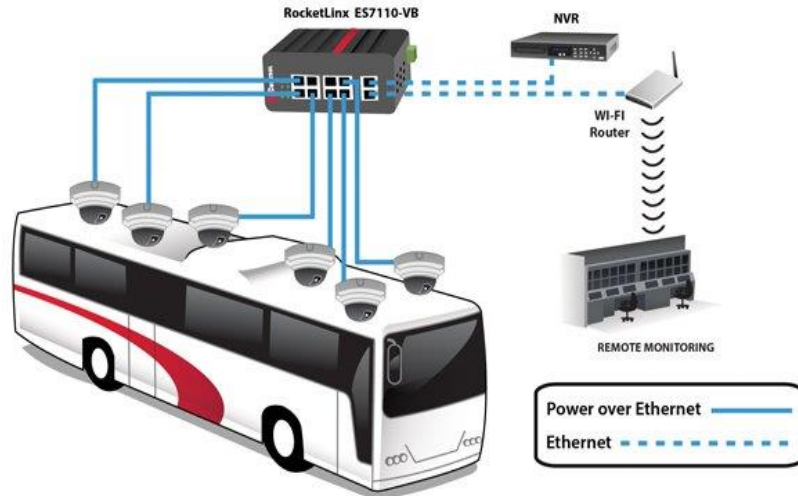
Vehicle Camera in public Bus is help to detect the Crime and accidents (vandalism, pickpocketing, traffic incidents) Irregular driving behaviour (fatigue driving, over-speed, sharp turn, rapid acceleration, idling).

Mobile NVR equipped with GPS-sensor inside the bus is able to detect vehicle collision or crash accident and push an alarm to notify the control center.

Getting updates and alerts on bus location , direction , speed so that control center can intervene driver immediately with audio talk once abnormal situation happens.

Vehicle Solution

Vehicle Cameras and Mobile NVR

Weatherproof Rugged PTZ Cameras is designed for Rough Service and Mobile Application. Such as patrol/Military surveillance, security outdoor evidencing etc.

Camera is complete and fully integrated solution for controlling PTZ Cameras remotely and stream video via wireless networks

By having Mobile Surveillance Solution each and every incident in the vehicle will be captured and stored in the MNVR.

Thermal Solution

Temperature Detection Camera

Thermal Temperature Monitoring Solutions promote non-contact temperature measurements at key entry/exit points within offices, stores etc to help detect elevated temperatures while limiting direct interaction between people.

Thermal Temperature System is ideal for measuring several people at a time and while in motion with high accuracy. The includes recorder also to keeps track of all measurements.

The cameras that measure temperature are thermal imaging cameras capable of non-contact measuring the body temperature of a group of 16 persons in less than 30 ms and with a margin of error of less than or equal to 0.3ºC

THANK YOU