



L&T's Video Analytics Solution (VAS) paves the way for increased safety and security of Vadodara-Ahmedabad Expressway

Overview

Country or Region: India

Industry: Infrastructure

Customer Profile

Modern Road Makers Private Limited (MRMPL) is the arm of IRB Group, which executes turnkey construction works for roads, highways, bridges, tunnels and other infrastructure. Over the years, MRMPL has built grand and diverse state-of-the-art facilities and developed its own expertise in construction of highways. This has enabled the company to execute the most challenging projects with ease and within the constraints of time and cost.



Need

Safety gets the highest priority when it comes to constructing highways which cater to increased traffic and movement of goods. Similarly availability, reliability and security are of utmost importance in road transport. Unfortunately, increased traffic volumes have resulted in congestion on highways.

The Ahmedabad-Vadodara Expressway connects the cities of Ahmedabad and Vadodara in the state of Gujarat, India. The six lane 102.3 km long expressway has five toll plazas, Emergency Crossovers, Traffic & Medical aid posts, Vehicle rescue posts, pedestrian facilities, parking places and utilities, It has reduced the travel time between the two cities from 2.5 hours to 1 hour.

As a part of this project, MRMPL awarded to L&T Electrical & Automation's Control & Automation (C&A) business unit, a contract for supplying as per NHAI requirements, Highway Traffic Management System (HTMS) on turnkey basis.

As part of HTMS system, the following Video Analytics features have been implemented for detection of:

- Vehicle Over speeding
- Illegal parking
- Wrong entry-exit

- Traffic congestion
- Abandoned or fallen objects

Solution

C&A was responsible for design engineering, supply, installation and commissioning of the Integrated System, which included Emergency Call Box, Mobile Communication system, Variable Message Sign system, Meteorological Data system, Automatic Traffic Cum Classifier system and CCTV Surveillance system.

To increase safety of travelers, C&A implemented its **iVision_{max}-VAS** (Video Analytic Solution) for highway control & supervision. VAS is a real time support system for traffic operators. C&A has installed five IP based cameras, one at each of the entrances of Ahmedabad Express, Ring Road, Nadiad, Anand and Vadodara toll plaza. These collect and provide real time information on incidents in the vicinity.

iVision_{max}-VAS solution is armed with artificial intelligence based Nuisance Alarm Minimisation System (NAMS) based on patented technologies. It helps to accurately detect events and reduce false alarms. It provides a comprehensive solution for the many applications required by the road and traffic industry.

Crisis situations often lead to traffic jams or fatal accidents caused by vehicles driving in

About Us

L&T Control & Automation (C&A) is a Strategic Business Unit of L&T Electrical & Automation. It is a part of Larsen & Toubro – the multi-billion India-based conglomerate. L&T's C&A business is market leader in delivering integrated electrical & automation solutions in India and overseas. With over three decades of experience in diverse industry segments, C&A delivers value through comprehensive solutions based on varied technology platforms and incorporates the benefits of its wide-ranging experience. L&T's state-of-the-art Electrical & Automation Campus at Navi Mumbai in India has the latest testing and manufacturing equipment. It incorporates a modular manufacturing unit, an application software laboratory and a fully networked office for engineering and project management.

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- Iron & Steel making E&I
- E&I for Bulk Material Handling
- E&I for Ports

Oil & Gas

Upstream, Midstream and Downstream

- Integrated Process Control
- Pipeline SCADA
- Emergency Shutdown and Fire & Gas
- Terminal Automation & Tank Farm

Power

Generation, Transmission and Distribution

- Integrated controls for Boilers and Turbines
- Station C&I
- E, C&I for CHP, AHP, WTP
- E&I for Solar Plants
- Smart Grid

Buildings

Hotels, Hospitals, Factories, Malls, Data Centres

- Substation
- MV / LV Power Distribution System
- ELV / CCTV / Fire Detection & Alarm Systems (FDAS) with suppression solution
- Access Control
- Lighting Control

the wrong direction, illegally parked on the road, etc. The **iVision_{max}-VAS** can proactively share such critical information with all concerned, which enables taking immediate action, commencing rescue operations and providing relief to travelers in distress.

System Highlights:

- Helps in detecting over-speeding, which in turn reduces accidents
- Provides alerts in the event of queues building up at toll plazas, jaywalking on restricted stretches on highways, etc.
- Detects abandoned or fallen objects
- Counts the number of vehicles that have passed through the toll plaza
- Prevents illegal parking in prohibited areas by proactively providing alerts
- Provides real time user-defined alerts, i.e. the user can define the criteria for alerting with reference to a specific camera view

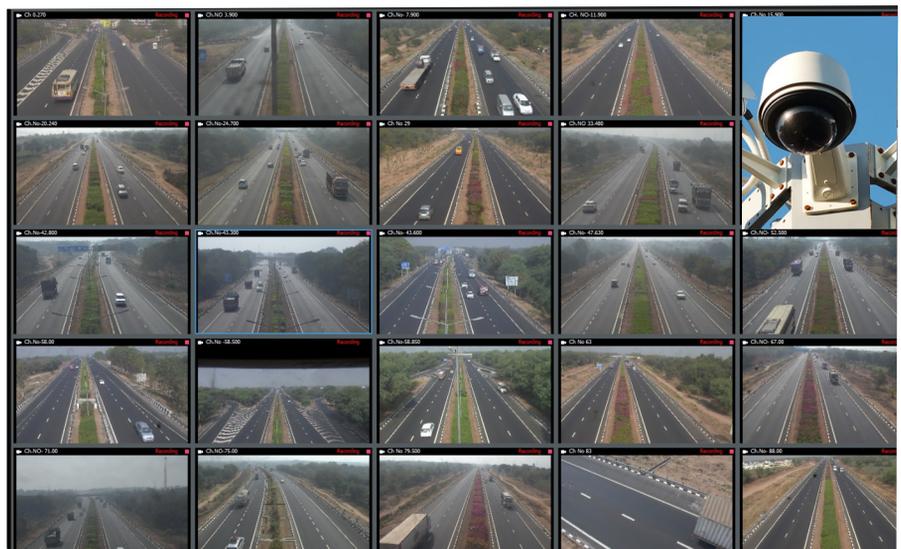
Benefits

- L&T's video analytics constantly provides feedback from multiple cameras - without the errors of manual interventions. This facilitates quick analysis, alerts and reports on live feed & recorded footage.
- Reduces road accidents
- facilitates quick response and effective rescue operations



- Effective incident management in case of accident/emergencies
- Greater control and improved operation with visualisation at centralised location
- Enhanced operation and reliability
- Enhanced service delivery

C&A also supplied and commissioned other systems like Data Acquisition System, Emergency Call Boxes, Variable Message Signs, Meteorological system, Automatic Traffic Counter-Cum-Classifer and Networking. For centralised monitoring, the Central Control Room was setup for operation and management of Advanced Traffic Management.



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