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CASE STUDY

Videonetics helps the ‘Orange City’of India become a Smart City as well

Organisation : Nagpur Smart & Sustainable City Development Corporation Ltd

System Integrator : Larsen & Toubro Ltd Construction, Smart World & Communication BU

Project Location : Nagpur, Maharashtra, India

Industry Segment : Traffic Management

Solution :
Videonetics Traffic Management System, comprising:
- Automatic Number Plate Recognition (ANPR)
- Red Light Violation Detection (RLVD)
- E-Ticket Management System
- Video Command & Control Centre

Summary

Videonetics has supported Nagpur in achieving the Smart City status, under the Smart City Mission of Government of India, by securing its roads with an AI & DL powered Videonetics Traffic Management System.

The solution has helped the city to solve its traffic enforcement problems such as red light jumping, zebra crossing / stop line violations, over-speeding violations, tracking of suspect/ stolen vehicle, and generating E-Ticket for violators as per the Motor Vehicles Act. It includes applications like Automatic Number Plate Recognition (ANPR), Red Light Violation Detection (RLVD), E-Ticket Management System.

With the successful implementation of the solution, Nagpur has witnessed greater traffic discipline and substantial decrease in traffic violations. More efficient traffic management has helped the city achieve its Smart City objectives.

The Challenge

Over the last few years, Nagpur has witnessed a rapid rise in the number of vehicles, and also in traffic violations and road accidents. The city administration recognised the need to enhance road safety, and the traffic police department sought a solution that would act as a true decision support system to regulate and analyse vehicle movement on roads. In addition, the police expected the solution to assist them in maintaining law and order, to identify frequent offenders as well as stolen / suspect vehicles, as and when they enter the city.

The Solution

With the city needing to enhance its road safety even as it was expanding, Videonetics designed a solution based on its Videonetics Traffic Management System that provides continuous monitoring of the traffic situation, records traffic violations at intersections, and triggers necessary penal action against violators.

1. 24x7 real-time monitoring: Today, the city has ANPR and RLVD systems spread across 120 traffic junctions, to track and record licence plate of any type of vehicle, as well as detect red light or stop line violation at intersections. Nearly 1,300 IP cameras have been deployed, to monitor vehicle movement and detect suspect vehicles simultaneously.

2. Violation prosecution: Videonetics's E-Ticket Management System has been assimilated with Regional Transport Office database, to fetch the details of a vehicle and its owner. Once a violation is detected, an e-ticket is issued to the offender. The **e-ticket** also maintains a record of all payments, both received and pending.

3. A centralised security view: The solution provides the police a bird's eye view of the traffic junctions and city's roads, from the Command & Control Centre. From the unified interface, security operators can view, manage real-time alerts and respond them swiftly.

The Impact

Prior to the installation of Videonetics's Smart City solution, Nagpur city relied on on-site traffic monitors / police to catch offending vehicles. However, the recent implementation of the solution has eliminated the need for physical deployment of traffic police at each junction. Videonetics's solution helps maintain the security on city's roads by detecting and recording traffic violations with accuracy, resulting in irrefutable evidence for local authorities. In addition, citizens have started obeying traffic rules, resulting in an over 50% reduction in traffic violations.

The open architecture of the solution not only allows the city to continue adding more applications to make its traffic management more robust, but also integrate with the city surveillance system in a single unified interface, to address security concerns with a holistic approach.

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