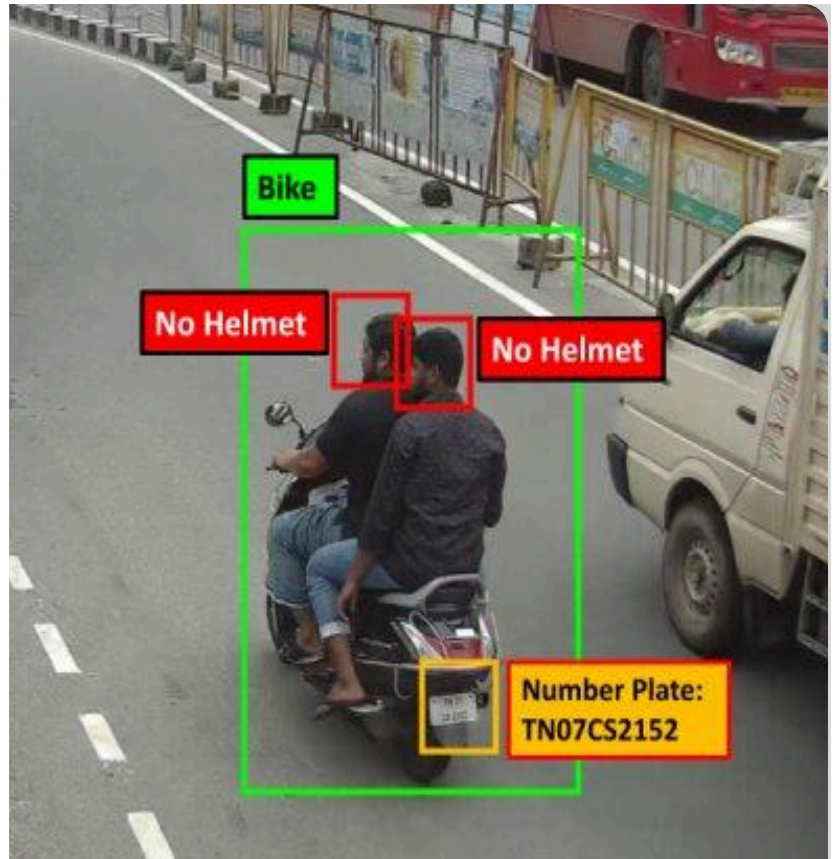


INTRODUCTION



India's cities are witnessing explosive growth in traffic. Daily congestion, accidents, and traffic rule violations have become the norm.

Traditional traffic systems struggle to keep up. Manual enforcement is time-consuming, expensive, and often ineffective in large urban setups.

Krypton AI Technologies presents a next-generation AI-Based Intelligent Traffic Management System (ITMS) that leverages cutting-edge artificial intelligence, smart edge computing, and scalable integration to bring order, safety, and sustainability to Indian roads. Designed specifically for the diverse and challenging conditions of Indian traffic, our ITMS solution uses proprietary AI models trained on real-world Indian road data to automate enforcement, enhance monitoring, and improve traffic compliance across cities, highways, and intersections.



A smart AI-powered solution designed to monitor, manage, and optimize traffic flow, enhance road safety, and ensure efficient law enforcement through real-time data and automation.

PROPOSED SOLUTION

Our AI-Based Intelligent Traffic Management System (ITMS) uses real-time AI to monitor, analyze, and enforce traffic rules across all types of roads—urban, rural, and highways. Unlike traditional systems, it doesn't rely on costly, specialized cameras. It works smoothly with existing CCTV/IP setups, making it both scalable and affordable.

What sets it apart is its adaptability to Indian traffic. Trained on real-world data, it handles irregular driving, reads all kinds of number plates, and performs reliably in low light and tough weather.

- No special hardware – Compatible with standard CCTV/IP cameras.
- India-specific training – Detects non-standard plates, mixed vehicle types, and erratic behavior.
- Plug-and-play setup – Easily integrates with current infrastructure.

AI Trained for Indian Roads

Our AI models are custom-trained using real-world traffic data from India.

They can:

- Detect red light, no helmet, triple riding, no seat belt and speed violations.
- Recognize & classify vehicles of all types.
- Accurately read number plates—even non-standard ones.

The system performs reliably in poor lighting, crowded scenes, & unpredictable road conditions.



Use Existing Cameras – No Expensive Setup

Eliminates the need for new hardware.

Our solution works on regular IP-based CCTV cameras already deployed across cities and highways.

This dramatically reduces costs and speeds up deployment.



Glossary

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A Powerful Web Dashboard

We offer a fully web-based, mobile-friendly control panel.

From here, officers can:

- View live camera feeds.
- Monitor real-time violations.
- Track trends via heatmaps.
- Generate automatic reports.

Role-based access ensures only authorized personnel manage the system.



Krypton Edge Processing Device – Smart AI at the Edge

Each surveillance point is powered by a Krypton Edge Device, an AIoT Device that processes video locally—no delays, no cloud costs. With built-in 5G, it sends instant alerts to control centers.

- On-site AI processing – No internet lag
- Cloud-free – Cuts down on costs
- 5G-enabled – Real-time alerts and updates



Built for Smart Cities

Our system supports:

- Integration with Integrated Command & Control Centers (ICCCs)
- Real-time coordination with city departments
- Smart alerts for congestion, unusual activity, or accident zones

We're already deployed in multiple government projects and continue to evolve with new AI features.



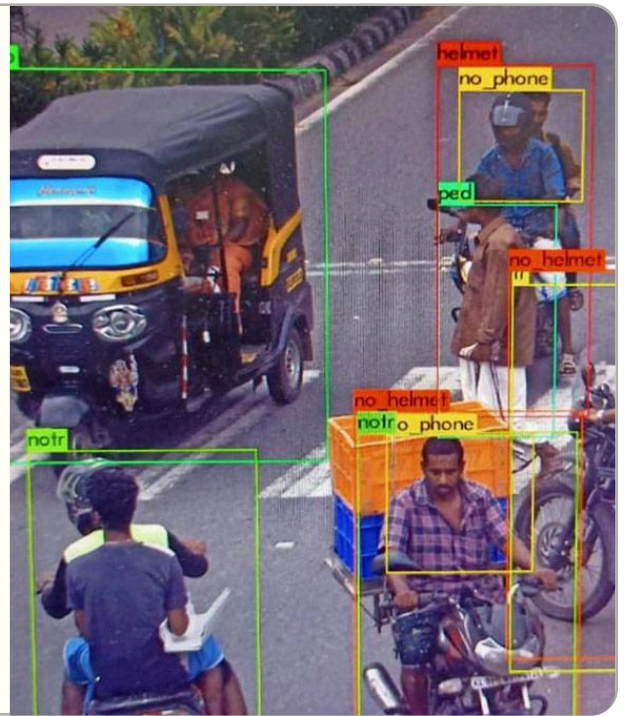
Auto-Challan System

Our ITMS automatically detects traffic violations and completes the entire challan process within seconds—no manual input required.

How it works:

- Captures image and video of the violation
- Recognizes both standard and non-standard number plates
- Fetches owner details via Vaahan/Saarthi
- Generates a digital challan
- Sends it via SMS, WhatsApp, or Email

Efficient, accurate, and fully automated.



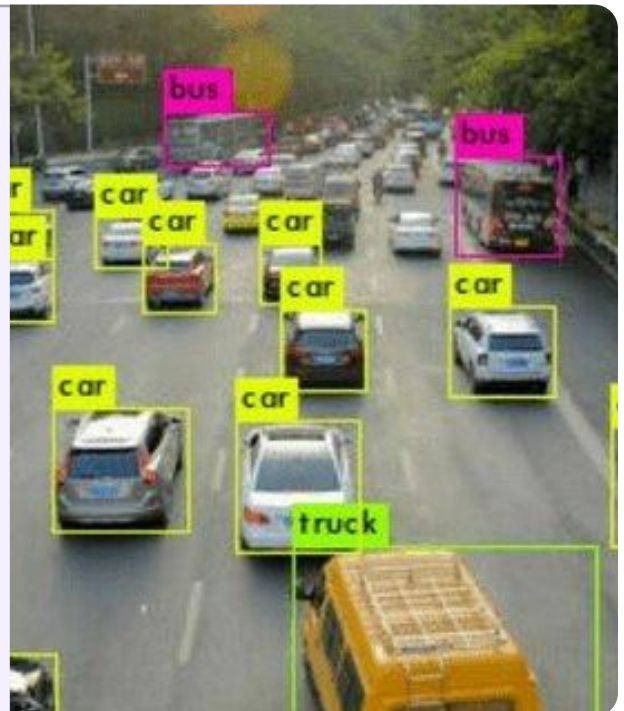
Seamless ATCS Integration

Our AI-Based Adaptive Traffic Control System (ATCS) can be easily integrated into the existing ITMS infrastructure.

What makes it efficient:

- Works with the same surveillance setup
- No major hardware or software overhaul needed
- Minimal additional investment required
- Enhances signal control and traffic flow in real time

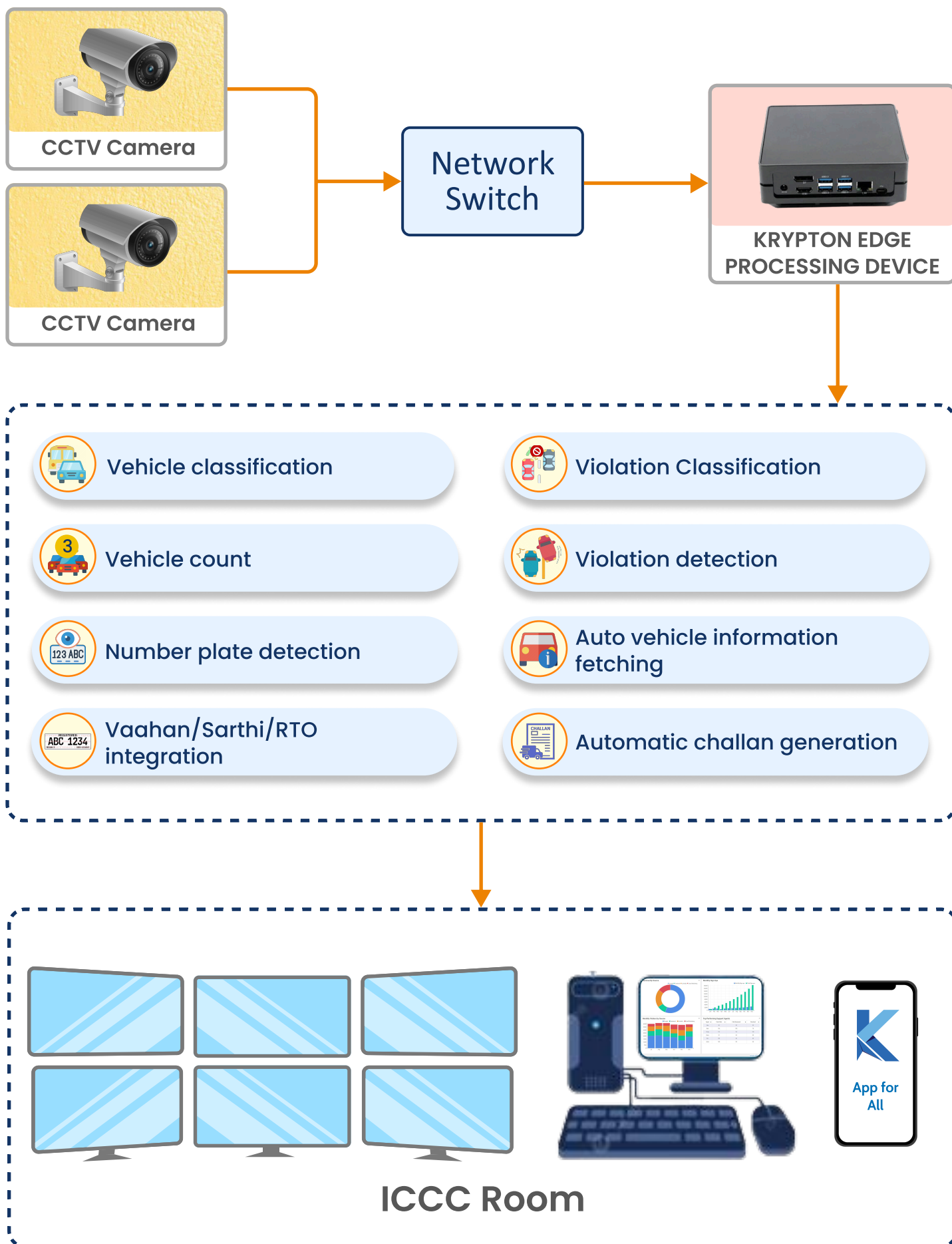
Smart expansion with maximum compatibility and low cost.



Our ITMS is more than just a product—it's a commitment to building smarter, safer, and more sustainable cities.

We believe in innovation with impact—using AI to solve real problems on the ground. Krypton AI Technologies is proud to support India's journey toward smarter governance, cleaner cities, and seamless mobility.

SOLUTION ARCHITECTURE

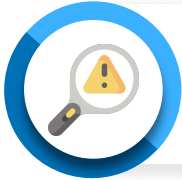


KEY BENEFITS



Enhanced Road Safety

The system proactively detects violations like speeding, red-light jumping, and wrong-way driving to prevent accidents and ensure public safety.



Real-Time Incident Detection and Response

AI algorithms enable immediate detection of accidents, breakdowns, & congestion, allowing quick coordination with emergency services & minimizing road blockages.



Automated Enforcement of Traffic Rules

Reduces reliance on manual enforcement by automatically identifying and recording violations such as no-helmet riding, triple riding, or lane violations.



Reduced Traffic Congestion

By monitoring traffic flow and providing dynamic rerouting through integrated Variable Message Displays (VMDs), the system helps decongest busy areas.



Centralized Monitoring & Control

A web-based dashboard provides authorities with a unified view of all monitored locations, enabling data-driven decision-making and better traffic planning.



Cost-Effective Manpower Optimization

Minimizes the need for on-ground personnel for routine monitoring, freeing them for other critical duties and saving operational costs.



Comprehensive Data and Reporting

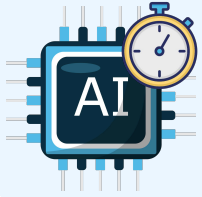
Generates detailed logs, heatmaps, and violation reports to support analytics, policymaking, and performance evaluations.



Seamless Integration with Existing Infrastructure

Designed to work with current traffic signals, surveillance systems, and city-level platforms, reducing the cost and effort of new setups.

UNIQUE SELLING POINTS



AI + Vision-Based Detection Technology

- Utilizes deep learning and real-time video analytics for accurate violation detection.
- Detects multiple infractions simultaneously like red-light jumping, helmetless riding etc.



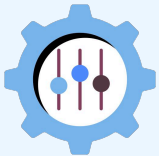
Modular and Scalable System

- Deployable in phases—start small and scale citywide as needed.
- Suitable for cities with limited initial infrastructure or budget.



Edge and Cloud Hybrid Architecture

- Offers low-latency detection using edge devices.
- Enables large-scale data storage and analysis via secure cloud servers.



Customizable Rule Engine

- Rules can be modified based on regional traffic norms and laws.
- Supports temporary configurations during events, VIP movements, or emergencies.



Seamless Integration with VDBs and Emergency Systems

- Analyzes trends like peak traffic hours and accident-prone zones.
- Provides insights for future infrastructure planning and optimization.



Intelligent Analytics for Urban Planning

- Utilizes deep learning and real-time video analytics for accurate violation detection.
- Detects multiple infractions simultaneously like red-light jumping, helmetless riding etc.

TRUSTED BY



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