

Milesight Customized Special Vehicle Code Recognition Solution in Mexico



Technology Partner
IPTE

Location
Mexico

Industry Segment
Traffic

Related Product
[Milesight DualVision TrafficX Camera >](#)
[Milesight Entrance & Exit Supplement Light AI LPR Pro Bullet Plus Camera >](#)
[Milesight AI Road Traffic Pro Bullet Plus Cameras >](#)

Overview

To support a government transportation project in Mexico, IPTE partnered with Milesight to develop a **customized vehicle identification solution capable of recognizing special vehicle codes painted on truck roofs**. Deployed at toll plazas, the solution leverages Milesight's high-performance AI LPR cameras, advanced recognition algorithms, and flexible customization capabilities to expand traditional license plate recognition beyond standard vehicle identification methods. The project demonstrates Milesight's ability to combine robust hardware, intelligent AI algorithms, and customer-driven innovation to address unique transportation management requirements and deliver reliable results in large-scale deployments.



Challenges



Traditional LPR systems are limited to standard license plate recognition. Existing market solutions could not recognize the special roof-mounted vehicle codes required by the project.



No existing reference implementation was available. Both the customer and the market lacked proven deployment experience for this application, making product selection and system design challenging.



Conventional license plate capture is often obstructed. In freight-intensive environments, front and rear license plates can be blocked by trailers, cargo containers, barriers, or surrounding vehicles, resulting in missed identifications.



High-accuracy vehicle identification is essential. Border control agencies, logistics hubs, and government authorities require reliable vehicle tracking without disrupting traffic flow.

Solution Highlights



Milesight provided a complete end-to-end customized solution based on its AI LPR camera portfolio, including:

- 6 units of Milesight DualVision TrafficX Camera
- 36 units of Milesight Entrance & Exit Supplement Light AI LPR Pro Bullet Plus Camera
- 8 units of Milesight AI Road Traffic Pro Bullet Plus Cameras

Customized Roof Code Recognition

Milesight developed a dedicated firmware enhancement that enables cameras to **accurately detect and recognize special vehicle identification codes** painted on truck roofs, extending the capability of conventional LPR technology beyond standard license plate recognition.

Seamless Integration with the Jacob Management Platform

The customized recognition capability is **fully integrated with the customer's proprietary Jacob platform**. Once vehicle codes are detected and recognized by Milesight cameras, the data is automatically transmitted to Jacob for centralized management, record keeping, and operational analysis. This seamless workflow enables efficient vehicle tracking and data management while maximizing the value of the recognition system.

Comprehensive Technical Support

Beyond customization, **Milesight provided extensive project support** throughout the deployment process, including:

- Product specification analysis and solution consultation
- Camera selection recommendations based on application requirements
- Remote installation guidance and angle optimization
- Multiple rounds of field testing and performance validation
- Dedicated operation manuals for the newly developed functionality

Proven Performance and Scalability

The customized firmware **achieved excellent recognition performance in real-world deployments**. Combined with Milesight's robust hardware design and highly accurate AI LPR algorithms, the solution delivered reliable operation under demanding transportation conditions.

Following successful validation, the customer is exploring opportunities to **expand the deployment across different regions of Mexico**. As a government-backed project, the solution demonstrates strong scalability and replication potential for future transportation management initiatives.



Conclusion

This project highlights Milesight's ability to transform unique customer requirements into practical, scalable solutions. By extending traditional LPR technology to support special roof-mounted vehicle code recognition at toll plazas in Mexico, Milesight enabled reliable identification of commercial vehicles and streamlined data management through seamless integration with the customer's Jacob platform. As a government-backed deployment with strong replication potential across Mexico, **the project lays the foundation for broader adoption of intelligent vehicle identification solutions in toll management, logistics operations, and commercial transportation management.**

Related Products



Milesight DualVision TrafficX Camera

- High-performance AI Chip and AI ISP Embedded
- AI-based Onboard ANPR
- 250km/h High Recognizable Speed
- 99% Capture Rate & 98% Plate Recognition Rate
- 2*5MP Auto Focus Lenses
- Dual-lens for Overview and ANPR Image
- 50m ANPR Distance & 2-3 Lanes Covering
- Support 1TB SD Card for Edge Storage
- 4G LTE Network for Wireless Transmission (Optional)
- Built-in GPS for Precise Location



Milesight Entrance & Exit Supplement Light AI LPR Pro Bullet Plus Camera

- Integrated Supplement Light
- Wiegand Protocol for Access Control System
- Intelligent AI-powered LPR Algorithm
- Allowlist/Blocklist Management and No-plate Event
- Evidence Camera Linkage
- WDR Supported
- Smart IR II Technology
- Versatile Interfaces



Milesight AI Road Traffic Pro Bullet Plus Cameras

- Traffic Violation Detection
- Intelligent AI-powered LPR Algorithm
- Traffic Flow Statistics
- Evidence Camera Linkage
- 4X/12X AF Lens
- Up to 4K Ultra High Definition
- 1/1.8" Sensor & 0.005Lux Starlight
- 60fps High Frame Rate