Milesight

Milesight Empowers Indonesia's Toll Road Operations with Advanced AI LPR and Traffic Monitoring Solutions

📍 Location: Indonesia

Location	Milesight Partner	Industry Segment	Related Products	
Indonesia	PT. MODULE INTRACS YASATAMA	Traffic Management	Entrance & Exit Supplement Light AI LPR Pro Bullet Plus Camera AI Road Traffic Speed Dome Camera	AI Road Traffic PTZ Bullet Plus Camera AI Road Traffic Radar Pro Bullet Plus Camera

Overview

Intracs, a leading system integrator in Indonesia's toll road industry, dominates more than 70% of the market share, delivering intelligent Electronic Toll Collection (ETC) systems across major islands like Java and Sumatra. As a key technology partner, Milesight has supported Intracs in deploying over 300 AI-powered LPR cameras across major toll roads including Bocimi Toll Road, Cijago Toll Road, and Paspro Toll Road. These deployments serve PT Jasa Marga Tbk, the state-controlled toll road operator that manages approximately 73% of the country's toll road network, and plays a pivotal role in shaping Indonesia's intelligent transport systems.

Challenges

To support the digital transformation of Indonesia's toll systems, the client faced two key challenges:

ETC Access Point Validation and Accuracy

The increasing use of RFID-based tolling created vulnerability to card misuse, where unauthorized vehicles might attempt to use someone else's RFID card. Ensuring the match between the vehicle and the RFID credentials required a highly accurate LPR solution. Furthermore, entrance and exit data had to be precisely recorded and reconciled for both billing accuracy and traffic flow analysis.

Highway Surveillance in Demanding Conditions

As highway environments require round-the-clock surveillance under harsh weather, high-speed traffic, and varying lighting conditions, there is a need for durable, high-performance cameras capable of delivering clear imagery, intelligent event detection, and long-distance monitoring.

Solution

Scenario 1: ETC Access Control

Milesight deployed the **Entrance & Exit Supplement Light AI LPR Pro Bullet Plus Camera** across toll gates to enhance vehicle identification and ensure data consistency throughout the access control process.
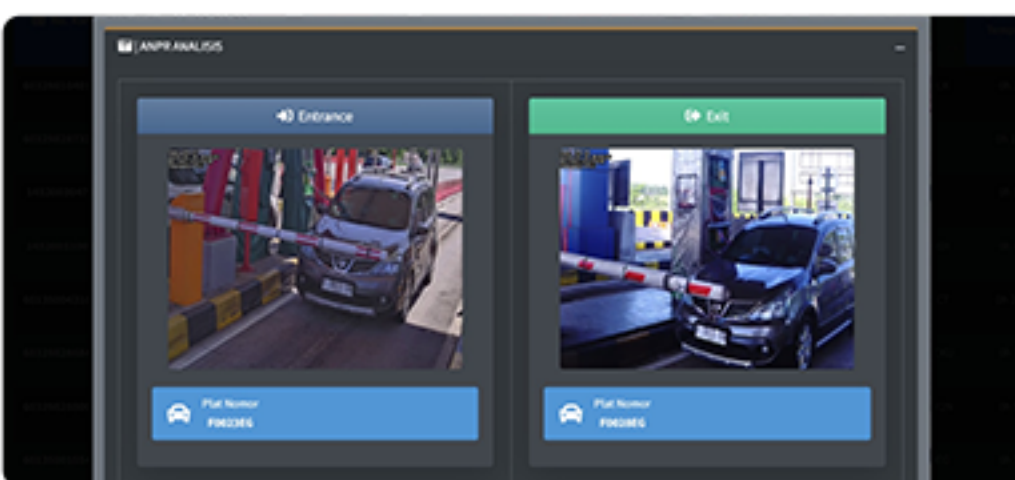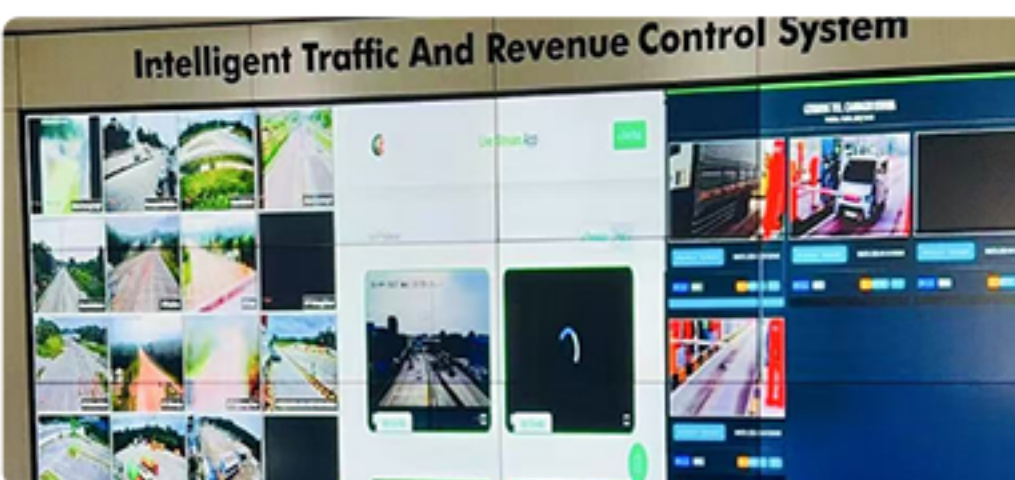

Application Highlights:

> 98% LPR Accuracy

Integrated AI algorithms ensure highly accurate plate recognition, even for fast-moving vehicles, and extract key vehicle attributes (type, brand, color) to support multi-layered verification with RFID systems.

Entrance/Exit Flow Consistency

Vehicles entering and exiting toll roads are counted and matched to validate traffic flow models (e.g., Entrance = Exit1 + Exit2), improving accuracy in toll collection and traffic analysis.

Extensive System Compatibility

Milesight LPR cameras feature a high level of system compatibility, enabling seamless integration with our system integrator partner Intracs's proprietary Intelligent Traffic and Revenue Control System. In addition to this specific deployment, the solution is also fully interoperable with a wide range of industry-standard ITS platforms, supporting scalable and intelligent traffic management across diverse tolling infrastructures.

Evidence Collection

The camera links with overview cameras to capture supplemental snapshots, including driver faces or cargo loads, delivering comprehensive documentation of each vehicl's journey.

Smart Search Functionality

Investigations and reviews are accelerated by the camera's ability to search events using partial vehicle features - plate number, brand, direction, and more - and export footage for enforcement purposes.
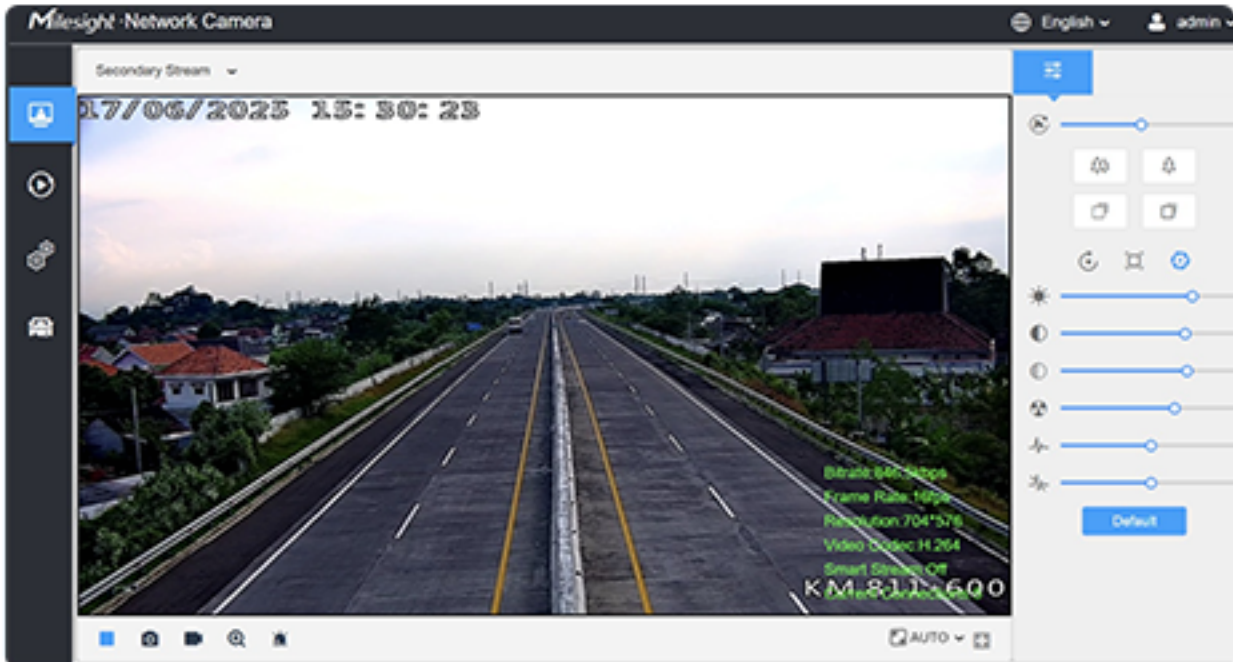
Consistent Imaging in Any Lighting

Equipped with IR or white LED supplement lighting, the camera dynamically adjusts brightness for optimal image clarity both day and night, supporting visibility up to 25 meters.

Scenario 2: Highway Surveillance

To enhance highway monitoring capabilities, Milesight deployed a mix of **AI Road Traffic Speed Dome, PTZ Bullet Plus, and Radar Pro Bullet Plus Cameras**, specifically designed for road environments.

Application Highlights:

High-Definition Imaging

Featuring 1/1.8" Progressive Scan CMOS sensors and ultra-low-light performance (down to 0.002Lux), the cameras deliver sharp, clear visuals in all lighting conditions, including nighttime and tunnels.

Long-Range Zoom

Up to 42x optical zoom and 90fps high frame rate allow detailed observation of distant, fast-moving vehicles.

AI-Powered Detection

Deep learning algorithms enable precise recognition of vehicles and people while filtering out irrelevant object - improving alert accuracy and reducing false positives.

Traffic Flow Statistics

The system counts and classifies vehicles based on type and other attributes, generating real-time reports that support traffic planning and congestion mitigation.

Weather-Resistant Design

Engineered with IP66 and IK10 ratings, the cameras maintain reliable operation in the demanding environments of highways, exposed to rain, heat, and vibrations.

Conclusion

Through close collaboration with Intracs and Jasa Marga, Milesight has significantly enhanced the intelligence and reliability of Indonesia's toll road infrastructure. The integration of AI LPR and smart traffic cameras has not only improved tolling accuracy and fraud prevention, but also strengthened road safety and operational efficiency across critical highways. This case marks another milestone in Milesight's contribution to Southeast Asia's intelligent transportation transformation.