

HALO Smart Toll service



Overview

HALO can deliver your AI driven SMART Toll solution that transforms toll collection, enhancing efficiency, user experience, and adaptability today and for your future transportation needs.

SMART Toll

HALO can integrate with various technologies to ensure fast, seamless, efficient, and automated toll collection with minimal human intervention. We cater to different stakeholders, including drivers, toll operators and administrative staff to ensure data security and compliance with regulations.

Automatic Vehicle Identification (AVI) System

HALO's SMART Toll Utilises RFID (Radio Frequency Identification), ANPR (Automatic Number Plate Recognition), or DSRC (Dedicated Short-Range Communications) for identifying and recording vehicles.

By ensuring quick passage through toll booths that reduces congestion and wait times, the revenues collected per hour can increase, especially during the busy hours.

Toll Transaction Management

Smart Toll processes transactions in real-time, supporting various payment methods (RFID tags, credit/debit cards, mobile payments).

It also integrates with financial institutions for secure payment processing and fraud prevention.

Drivers can set up an automatic top up feature to ensure they always have sufficient funds and never get fines for missed payments.

Dynamic Pricing Engine

HALO's SMART Toll solution can adjust toll rates based on various factors (traffic volume, time of day, vehicle type) to manage congestion and optimize revenue.

Mobile Application and Web Portal

HALO's solution offers an interface for users to register, manage their accounts, check toll rates, top up their balance online and receive traffic updates.

We provide users with a detailed transaction history, dispute resolution and customer support features.

Data Analytics and Reporting

HALO's SMART Toll analyzes data on traffic patterns, revenue and system performance, offering insights for decision-making and strategic planning and compliance reporting.

HALO can help you identify congestion and model multiple alternatives in high fidelity to give you the most economical solution to meet the need for reduction in congestion.

Maintenance and Support System

Monitors the health of the toll collection infrastructure, predicting and preventing hardware failures.

Provides a ticketing system for issue resolution and regular software updates.



Where **Innovation**
meets **Infrastructure**
and **Productivity**
meets **Progress**

Benefits

- HALO's solution can reduce vehicle idle time and queue lengths at toll booths, facilitating smoother traffic flow and increasing revenue per minute, especially during peak hours.
- Dynamic pricing manages traffic density by incentivizing off-peak travel, thus reducing congestion and improving overall travel time
- Automation of toll transactions minimizes the need for manual operations, reducing labor costs and human error.
- Real-time data processing and analytics enable efficient management of toll operations and quicker response to issues.
- Accurate and automated toll collection increases revenue assurance and reduces leakage due to manual handling or evasion.

Standards

ISO/IEC 18000-6C

Covers RFID technology used for vehicle identification, ensuring compatibility and interoperability between different RFID systems

IEEE 802.11p

Dedicated Short-Range Communications (DSRC) for vehicle-to-infrastructure communication, ensuring reliable data exchange in ITS (Intelligent Transportation Systems).

ISO/IEC 27001

Information security management, particularly important for protecting user data and financial transactions within the toll system.

PCI DSS (Payment Card Industry Data Security Standard)

Ensures secure handling of cardholder information for toll transactions.

Open Standards for Data Exchange

Utilizes open standards like JSON or XML for data exchange to ensure interoperability and integration with other systems or third parties.

Best Practices

Modular System Design

HALO's modular architecture facilitates scalability, maintainability and future enhancements.

User-Centric Design

We ensure that user interfaces (customers and operators) are intuitive, responsive and accessible.

Comprehensive Testing

HALO applies rigorous testing protocols, including unit testing, integration testing and stress testing, to ensure system reliability and performance.

Data Privacy and Security

Our solution includes strong encryption, secure authentication mechanisms and regular security audits to protect user data and financial transactions.

Real-Time Monitoring and Alerting

HALO institutes real-time system monitoring and alerting mechanisms to quickly identify and address any operational issues, minimizing downtime and maintaining service quality.

Disaster Recovery and Business Continuity

Our developers regularly update disaster recovery plans to ensure business continuity in the event of system failures, natural disasters, or cyber-attacks.

Training and Support

Providing comprehensive training for system operators and ensuring reliable support services is a core element in our solution.

Sustainability Considerations

HALO incorporates green and sustainable practices in system design and operation, optimizing energy consumption, supporting electronic and paperless transactions.

Compliance and Legal Requirements

We can ensure your solution stays updated and in compliance with all relevant local, national and international regulations and standards affecting toll collection and data handling.