

Collect revenue
and enforce laws
for government

›ICE Tolling

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ICE Tech's Tolling solution is an integrated Point Of Sale (POS) application that enhances the e-governance of revenue collection and national assets management. It effectively collects toll road usage revenue, has self-audit capability and produces real-time reports on system performance, data analytics and revenue collection.

To ensure system reliability and continuity, the tolling application is orchestrated as a business process. The same process applies to each vehicle to automate vehicle identification, consistently apply fee levies and maintain secure fee collection.

› Key Features and Benefits

- Easily activate route management to direct vehicles through the tolling site with the ICE Borders module
- Standalone operation: Independent operation for fixed and mobile sites
- POS integrates with e-payment platforms and supports flexible payment options to accommodate citizens' liquidity:
 - Cash
 - Multicurrency capability with exchange rate management
 - Bank cards
 - Prepaid options
 - Mobile payments
 - E-Cash
- Activate payment exemptions for specified vehicle types
- Licencing enforcement and verification through real-time integration with vehicle licencing databases to automate and speed up vehicle processing using:
 - Automatic Vehicle Classification (AVC) system
 - Automatic Number Plate Recognition (ANPR) cameras
- Assist law enforcement by identifying wanted or listed vehicles
- 99% uptime reliability with offline capability to accommodate low-quality or intermittent internet connectivity
- Remote monitoring of all sites supported by our 24/7 call centre

› Key Capabilities

Static and/or Mobile Tolling

ICE Tolling's cross-platform architecture remains fully operational where infrastructure constraints exist – be they static, established toll gates with existing infrastructure and/or mobile sites with limited or provisional infrastructure.

Mobile Platform Integration for Low-Powered Ease of Operation and Portability

ICE Tolling is fully compatible across platforms, from traditional desktop computing hardware to mobile devices such as smartphones, tablets, or netbook-style hardware. A toll operator or officer can use a mobile device to review documentation, classify the vehicle, determine the toll fees and process payment electronically.

Secure Access to System and Information

ICE Tolling ensures daily secure operations on-site owing to the integration of security architecture and focus on operations. The system's role-based authentication limits a user's access to authorised features and appropriate sensitive information, based on their profile.

Security Infrastructure

Each static site can be equipped with the following security systems:

- CCTV
- Booth protection via access control and security barriers
- Backup power generation/alternative energy systems (stabilise operability throughout power fluctuations)



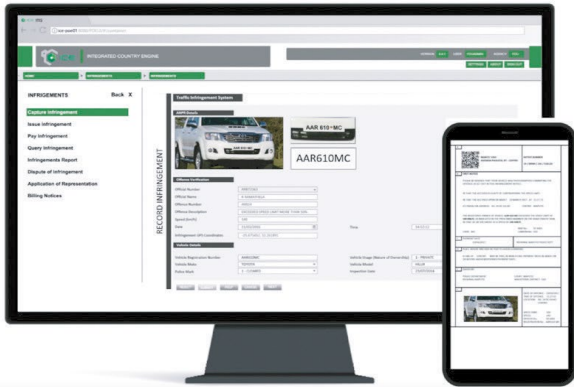
> Multi-site Integration and Support

- All sites are managed from a central control room/centre
- Enable remote site monitoring
- Service desk for support
- Supports operations
- Coordinates maintenance and technical operations
- Data secured utilising off-site backups



> Automated Tolling Fees and Law Enforcement

ICE Tolling's ANPR technology is installed onsite and integrates with the local licencing and vehicle registration authority's system. It automates vehicle identification and compliance verification to direct and enforce the appropriate action.



> Law Enforcement Assistance

ICE Tolling simultaneously flags any administrative marks, fines, or non-compliance notices on the vehicle or the owner to the tolling officer/operator.

This dual-purpose system functions as a national law enforcement tool whereby vehicles on a watch or search list are flagged as they attempt to traverse a tolling or border plaza.

This automation also empowers police officers at mobile sites with the information needed to sift motor vehicles efficiently and smartly.



Vehicle Inspection
& Document Check



Select Infringement
Handheld Device



Ownership Detail
Database Lookup



Verify Image &
Speeding Violation

> Tolling Process

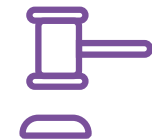
ICE Tolling captures the licence plate image, extracts the digits and queries the system to verify the vehicle's particulars. The vehicle is categorised and the appropriate tolling fee calculated. The toll officer/operator can intervene to adjust the tolling fee but requires authorisation.



Payment



Create & Issue
Fine



Judicial Process

› Revenue Collection

The ICE Tolling's built-in advanced accounting features, reconciliation and auditing capabilities ensure accurate revenue collection. Transaction documentation and reports include media that can be used to identify the physical vehicle later, along with an audit trail of all actions performed:

- Secure operational process
- Images attached to each tolling transaction (ANPR, cashier and overview)
- Dashboards for real-time system monitoring
- Accurate fee administration/exceptions
- ANPR technology aids in accurate vehicle identification
- Discount management where eligible
- Vehicle exemptions for government, military or healthcare services
- Secure cash-up process
- Multi-step cash-up process
- Senior cashiers can monitor all transactions from the back office
- Cash-up detail and summary reports
- Exception and informational reports
- Transaction detail report
- Tolling income statement report
- Tolling summary report (daily, monthly, yearly)
- Boom override exception report
- Transit vehicles at tollgates report, etc.
- Operational integrity contingencies
- Battery level monitoring
- Internet connectivity monitoring
- Data sync monitoring
- 24/7 call centre support
- Support tickets monitoring and resolution, etc.

> Operational Infrastructure

A static site can be equipped with multiple contingencies to minimise potential downtime such as IT system infrastructure redundancies and maintain operations during connectivity or power outages:

- On-site server installation will mitigate a connectivity outage
- An onsite server to ensure the system continues to operate
- Onsite backups and server syncing ensure no data loss
- Power system versatility to handle fluctuations
 - National grid
 - Alternative energy
 - Generator

> Mobile Tolling Sites

ICE Tolling is a cross-platform application so it can operate on an appropriate mobile device under limited network coverage and battery power conditions. This ensures long-term field operation under challenging circumstances.

Because our ANPR technology and traffic control equipment are mobile, a provisional tolling service can be quickly erected and operational with minimal overheads and infrastructure and still maintain effective, measurable performance.

The tolling (vehicle identification to calculate the fee, administering the fee and fee collection) is performed using the mobile device in-field. Revenue is collected via an online or electronic method, while maintaining rigorous and auditable financial controls.

> System integration and Interoperability

ICE Tolling offers two key means of system integrations:

- ⬡ ICE Tech platform integration
- ⬡ Disparate third-party system integration

The ICE Tolling module fully integrates with other ICE Tech vertical modules to create a comprehensive solution that can service national requirements. Multiple e-governance aspects such as licencing, traffic infringement, customs and excise can be leveraged to enhance the value and capability of the solution for designated or multiple sites as the workload demands.

This powerful integration uniquely positions ICE Tolling to share information between adjacent countries and enables law enforcement agencies to collaborate in joint operations, crime prevention activities, customs and excise and border security operations, etc.

› The ICE Tolling solution is ideal for managing intercity, provincial and national tolling. The system integrates seamlessly with the ICE Tech product stack, bringing together an e-governance suite of products for an improved, seamless, compliant environment and enhanced citizen experience.

> www.icetech.io

