

# CASE STUDY

Digitise the environment to move traffic and secure revenue



ICEBORDERS

## The Objective



The Beitbridge border between South Africa and Zimbabwe is the busiest land border in Africa. The ageing infrastructure could not accommodate the increase in traffic and volume of vehicle processing transactions. The paper-based systems and manual processes between government agencies slowed things down even more.



Freight vehicles were queuing for an average of three days to clear the border which negatively impacted the GDP in the region, as well as the drivers' wellbeing.



The border encountered revenue leakage due to lack of tight controls and people taking advantage of the gaps that manual processes offer.

## Actions Taken

The Zimbabwe government initiated a construction project to upgrade and modernise the Beitbridge border and commissioned the ICE Borders ICT solution.

ICE Borders digitised the manual, paper-based vehicle flow and data collection functions to streamline and accelerate processes. It communicates between the various internal and external government departments at the border to verify vehicle and citizen records throughout the clearance process. Integrations with the multitude of border systems and devices provides high volume processing at speed.

The following functionality was implemented:

- A full vehicle intelliflow system with built in intelligence and queue management that integrates processes from nine different government agencies into a single view of the vehicle status in real-time.
- Mobile inspection applications replaced paper-based systems to increase compliance and control.
- Capacity to process the high volume of transactions between systems and hardware devices
- Transparent view of a vehicle's status in the overall flow to clear goods and vehicles quickly.
- Integration with ICE supported traffic control equipment which facilitates and directs traffic through the border site.

- Configurable architecture to accommodate business rules which require multiple process flows for different vehicle and consignment types.
- ICE's intelliflow and mobile inspections capability translates inputs from government systems into rule-based decisions. Instructions display on transparent queue call-out screens in parking areas and buildings to direct traffic flow, while communicating with sophisticated traffic control equipment.
- Traffic control equipment includes smart booms and directional traffic lights which read vehicle licence plates and direct drivers along the route through the border site.
- All business intelligence data reporting is provided by the system which empowers operations with extremely valuable information.

## Results

ICE Borders delivered immediate return on investment and value to all stakeholders:

- ✓ **Compliance assurance**  
Transparent vehicle status tracking and intelligent traffic control equipment facilitated an almost 100% vehicle compliance which verifies that vehicles were not truly meeting border exit compliance criteria prior to the system being implemented.
- ✓ **Reduced revenue leakage and corruption**  
Minimal human fraud and bribery due to system driven compliance rules authorising vehicle movement through the border. Payment processing speed increased to expedite traffic flow through the border.
- ✓ **Improved productivity**  
Availability and visibility of valid data supports border operations in identifying bottle necks and quicker decision making. This was not effectively possible before due to paper-based and manual information sharing between government departments.
- ✓ **Accelerated traffic flow and improved driver wellbeing**  
Traffic flow and payment automation reduced the average queue waiting time of freight vehicles from +72 hours to +3 hours.

## Increased transaction capacity



tolling transactions from inception and counting.



integration transactions between various systems and counting.



Increased vehicle compliance rule check from below 30% to near 100% compliance.