

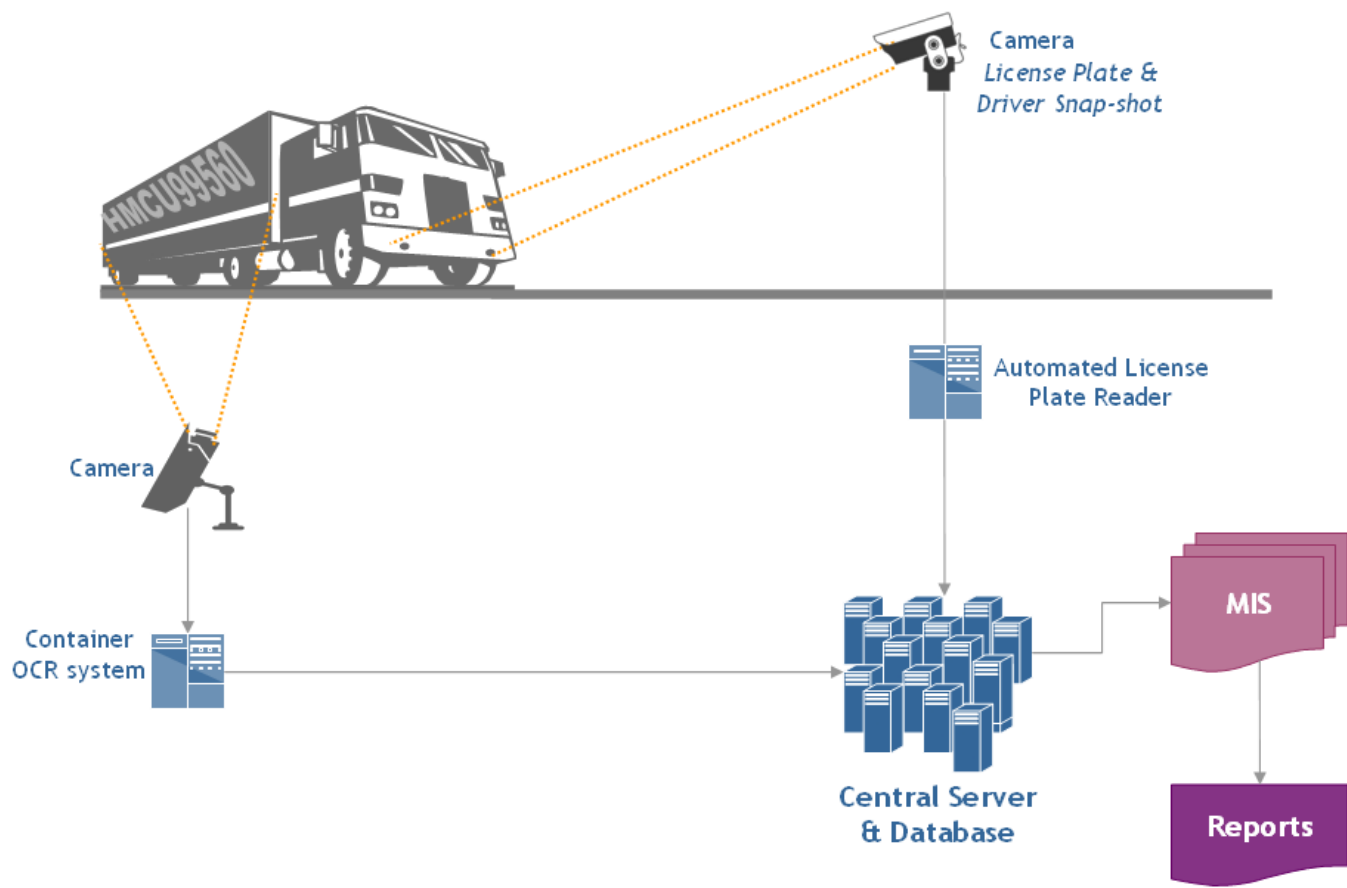


Container OCR System

Kritikal's Container Number OCR system automatically identifies records and verifies the Container ID number for both fixed and moving scenarios. The system is designed for efficient container loading and unloading ensuring accurate container movement. The system facilitates an effective management and operations at gate, yard, and loading and unloading zones for modern ports and terminals.

The Container Number OCR system is based on Kritikal's proprietary OCR Engine Platform. The underlying OCR engine is modified to suit the requirements of Container Number OCR system for translating images of printed text (here container ids captured using camera) into machine-readable form with a standard encoding scheme with 100% accuracy.

The Container Number OCR system can be easily integrated with Kritikal's proprietary Automatic License Plate Reading System (KLiPR) for integrated solutions for a port/ container terminal. The integrated system is suited for capturing, recognition and storing the Container No/ IDs along with License plate of the vehicles. Along with effective operation for ports, the integrated system provides maximum access control and security management.



Features and benefit of Container Number OCR System

- Increases efficiency and throughput at the container terminal gates and quay cranes by processing images at less than 1 second per image.
- Facilitates automation of terminal, depot and/or vessel operations.
- Improves terminal entry and exit security, by providing 24-hour non-stop container number recognition.
- Reduces operating costs by facilitating real-time global tracking and tracing of containers.
- Enhances and facilitates terminal's operations through consistent performance.
- Container ID No, ISO codes and chassis No. reading on both moving and stationary containers.
- Automatic real-time recognition, recording and verification of container ID numbers.
- Intelligent character recognition regardless of image source quality - image source may be partially distorted by rust, mud, peeling paint, fading colors and/or uneven lighting conditions.

Applications

- Toll collection points control for container logistics
- Cargo security at terminals
- Terminal gates control
- Container terminal logistics
- Container inventory management at yards
- Container damage inspection

Container Number OCR System: Case study at a major US port

Objective:

To design, develop and port a camera based solution using Matrox Iris Camera (with embedded PC) for successfully performing OCR (Optical Character Recognition) on Container Ids.

Kritikal's Solution:

With Kritikal's dual expertise in Embedded Systems and Image processing, we successfully modified and ported the image processing code and OCR code on the Matrox Iris cameras with an embedded processor. The OS used was Windows CE 5.0 on Matrox IRIS platform and implemented and compiled in MS Embedded VC++.

Value Delivered:

- Localizing the image processing on cameras
- Reduce load on the server
- Reduced bandwidth usage within the network
- Reduced the cost of operations
- Provided competitive advantage in fiercely competitive container logistics industry