

# Rail OCR Solutions



## Automatic registration of train containers & railcars to improve operational efficiency

Camco's Rail OCR Solutions capture crucial data while trains approach the terminal, without hindering or delaying operations. Seamless TOS integration ensures that the data is instantly sent to the TOS, ultimately improving train turnaround time.



Camco is working with terminals worldwide to optimize the way they operate

### Products

- Rail OCR
- Train Gate Operator
- TrackView application

### Advantages

- Reduced operations time
- Improved TOS planning
- Enhanced safety

### Features

- Seamless TOS integration
- Checking all inbound trains
- High resolution pictures for damage inspection

### Application

- Container terminals
- Intermodal terminals

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# Rail Portals

Specifically designed to register railcars and containers

Technology to support railcar segmentation

Rail OCR solutions go beyond accurate container registration: they support identification of railcars as well as the exact location of a container on that railcar. Rail portals are therefore equipped with various sensors complementing the camera systems.

The sensors are used to detect the train, railcar and container boundaries in order to perform segmentation. This technology also supports the detection, categorization and processing of all types of tank containers.

A standard rail OCR solution will capture pictures of each container's left, right and top side, to ensure basic OCR. Optionally, pictures of the container's front and rear can be provided, for IMDG label recognition.



## OCR support

- Container number and ISO code
- Non ISO container numbers (US)
- Railcar and chassis numbers
- (Optional) IMDG and seal presence
- Door direction

## Specifications

- Pictures of container left, right and top side
- Optional pictures of container door
- Support for double stack containers and double track trains
- Detect location of container on train



# Train Gate Operator

Increase productivity with Operator application

Preprocess, register, post-process

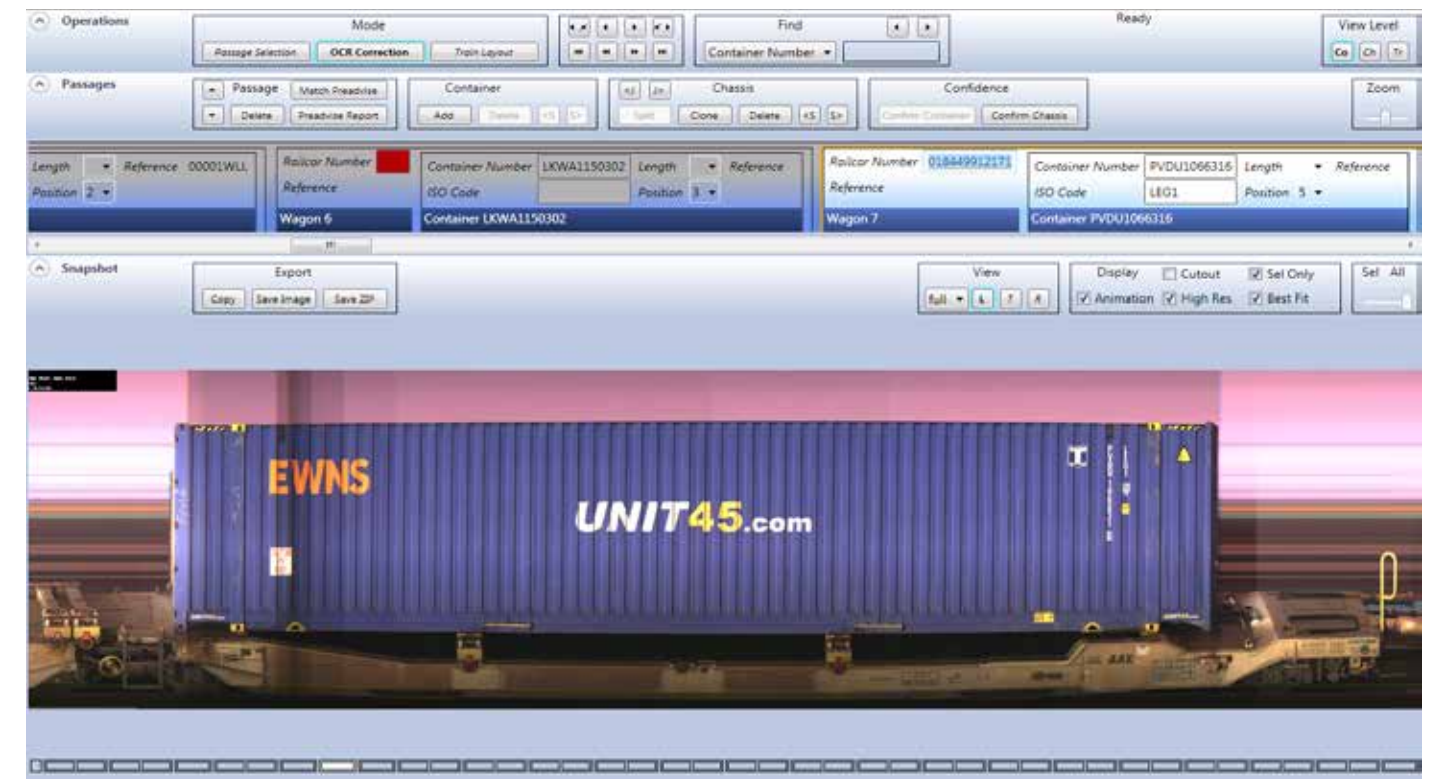
Seconds after a train has passed the rail portal, all data is processed and sent to the TOS. Using the Train Gate Operator, the operator can verify the images for further processing. The operator can select a train passage to view the train configuration with its railcars and containers and correct any OCR data. Detailed pictures allow the operator to double-check OCR data, such as container numbers and IMDG labels.

Optimized planning & handling of trains

The collected information allows the TOS to plan the moves of each train in the most efficient way.

Visual proof for damage claims

High quality images of the railcars and containers are available for effective damage claims management.



## TrackView for better exception handling

The Rail solution can be further extended to support live shunting. Using TrackView, operators can view a complete actual inventory of the railcars located on the shunting tracks. When railcars are moved, the inventory is updated accordingly. This allows for further

automated container handling. Rail tallymen no longer need to record this information at the shunting tracks before containers are moved by cranes. With TrackView, operators can work in a more agile way, as processing train data is more focused on exception handling.

Select	Track	#Inch.	#Outch.	Direction	Last Activity	Status
<input type="checkbox"/>	Track1	2	4	Inbound	2018-04-28 05:21:51	PENDING
<input type="checkbox"/>	Track1	0	0	Inbound	2018-05-08 02:17:35	OPEN
<input type="checkbox"/>	Track2	1	0	Inbound	2018-05-28 02:39:29	READY
<input type="checkbox"/>	Track3	22	91	Inbound	2018-05-17 02:38:24	PENDING
<input type="checkbox"/>	Track3	0	0	Inbound	2018-05-08 02:29:02	OPEN
<input type="checkbox"/>	Track4	0	0	Inbound	2018-05-27 23:55:27	OPEN
<input type="checkbox"/>	Track5	2	0	Inbound	2018-05-28 01:55:31	READY

TrackView supports live shunting



# WE AUTOMATE, YOU OPERATE

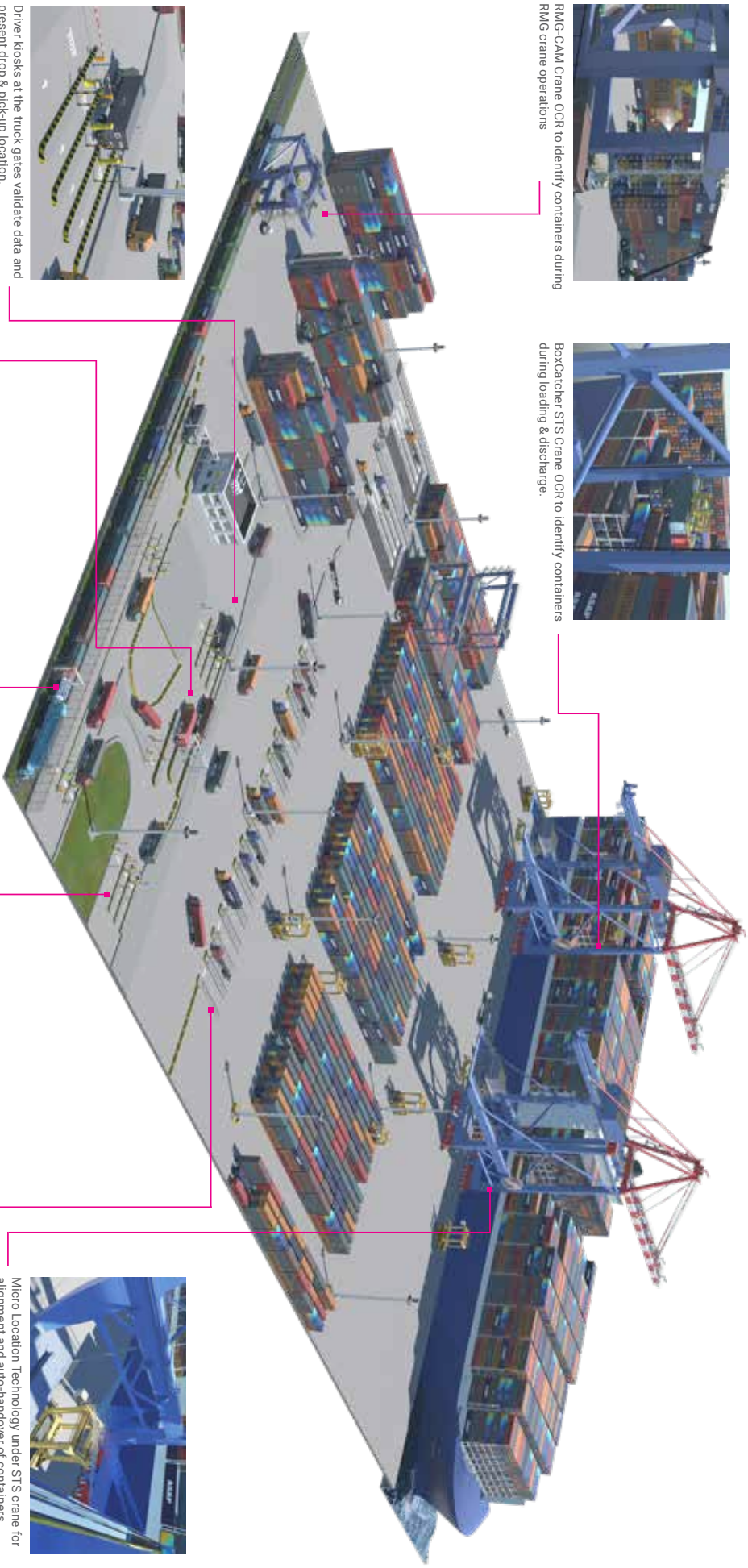
Camco Technologies automates the hand-over process of containers using visual-assisted & micro location technologies



RMG-CAM Crane OCR to identify containers during RMG crane operations



BoxCatcher STS Crane OCR to identify containers during loading & discharge.



Driver kiosks at the truck gates validate data and present drop & pick-up location.



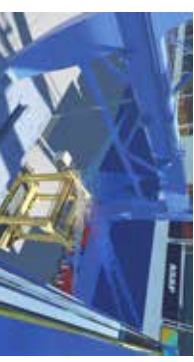
Truck OCR portals capture container data and images of in- and outbound traffic.



Rail OCR portal for automated inspection, identification and inventory of railcars and containers.



Pre-gate kiosks allow checks at terminal entry and exit.



Micro Location Technology under STS crane for alignment and auto-handover of containers



Transfer point kiosks assist truckers at container interchange zone.