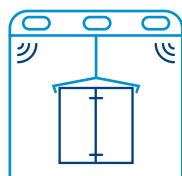




# RMG-CAM Crane OCR



Crane OCR

Identifying containers  
during railside and  
landside operations

# Rail mounted gantry crane OCR system

Camco Technologies is a pioneer and reference in the automation of intermodal and container terminals. Our new RMG-CAM OCR camera has been designed to increase efficiency in rai-side and landside operations. The new RMG-CAM camera system automatically captures, identifies and registers containers during handling by Cantilever Rail Mounted Gantry Cranes (RMG cranes). The RMG-CAM captures key OCR/OFR data and images without disrupting crane operations: there is no impact on the container's flight path nor the crane's uptime. Seamless TOS integration ensures that the data is instantly sent to the TOS, ultimately improving operational efficiency. OCR/OFR read rates are high, keeping operator

exception jobs to a minimum. Our RMG-CAM crane solution is highly accurate and engineered for reliability, high availability and easy maintenance. The system's guaranteed longevity results in short ROI times. Complementing the RMG-CAM with our Rail Camera Portal will take automated container handling to the next level: the portal creates an inventory of containers from all incoming trains and shares this with the TOS; the RMG-CAM performs an additional check to validate load lists and avoid inventory errors.

## Enhanced safety under crane

The RMG-CAM system supports crane OCR for day and night operations on Rail Mounted Gantry cranes. This intelligent camera captures high resolution images of the container's **short sides** during handling, without interrupting normal crane operations. Data formerly registered manually by tallymen under the crane are now automatically captured, greatly enhancing safety. A typical setup is based on a pair of high-end industrial high-speed cameras fixed onto the RMG crane legs. With unobstructed views towards the container's flight path, the

cameras will capture images of each passing container's front and rear.

These images are immediately processed on the cameras and image analysis results are sent to the TOS for further use. Integration with the crane control system ensures correct triggering.

To support 24/7 operations in all weather conditions, the cameras are equipped with built-in LED light projectors which produce optimal on-demand light conditions.

## Best in class RMG OCR



1. High resolution front and rear pictures
2. 12MP shutter cameras
3. In-box CPU
4. Powerful AI for unparalleled accuracy
5. LED projectors 24/7 availability
6. Seamless integration with TOS
7. Intuitive Camco Technologies crane operator application for exception handling

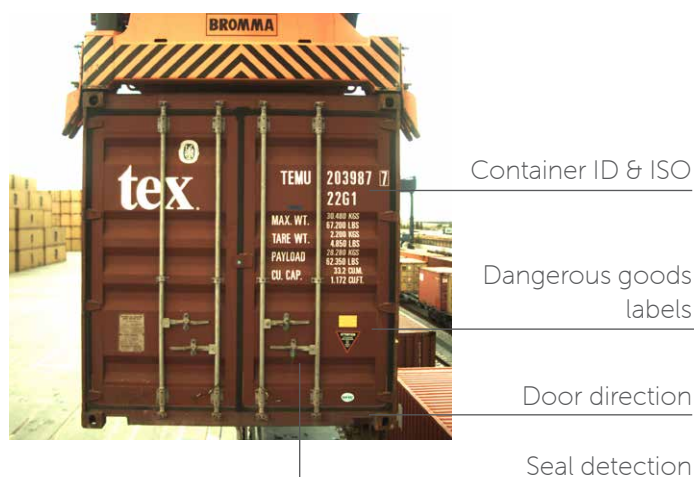
## Built-in image analysis software

Each RMG-CAM runs a powerful integrated CPU for instant image analysis and data processing

Every single CamcoTechnologies OCR camera system is equipped with a powerful CPU enabling integrated and high-speed image analysis. Dedicated software engines, based on convolutional neural networks and OCR technology, immediately start processing after image acquisition.

Processed container data include the container ID, ISO code, seal presence, door direction and dangerous goods labels.

All standard container sizes are supported (20/40/45ft), as each camera uses a combination of two state of the art 12MP global shutter cameras, designed to capture fast moving objects, traveling at high speed.



The position of the Camco Technologies RMG-CAM cameras depends on the terminal's specific needs, the RMG crane design and type of operations



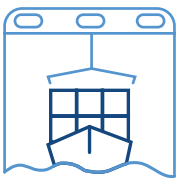
Camco Technologies RMG-CAM automatically detects and adapts to the container's dimensions

## Crane Operator Application

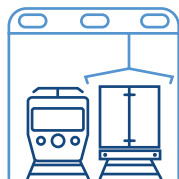
Operators can use the **Camco Technologies Crane Operator Application** for further **exception handling**. Processing OCR correction jobs is easy with this intuitive web-based application, where operators can validate data based on high-resolution container images. Exceptions are

defined per customer. Examples are incorrect or missing container numbers, exceptions relating to seal presence and dangerous goods labels. As the number of exceptions is limited, a single operator can be assigned to multiple cranes.

# “Providing accurate data for the automation of rail and landside operations”



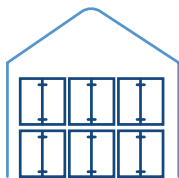
Maritime



Intermodal



Ro-Ro



Logistics

Camco Technologies is a pioneer in the automation of the container hand-over process. The Camco Technologies image recognition and location-based automation solutions provide accurate and essential data for terminals to optimize operations. Our proprietary hardware and software solutions integrate seamlessly with any terminal operation system and are implemented in more than 250 terminals all over the world.

**We automate, you operate.**

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