



Mobile Harbor Crane OCR

PRODUCT DETAILS

VERSION 1.0

Extending OCR Excellence to Mobile Harbor Cranes



Building on our extensive experience with deploying optical character recognition (OCR) technology on Ship-to-Shore Cranes, we are excited to extend our advanced OCR solutions to Mobile Harbor Cranes. This expansion harnesses our proven technology to enhance operational performance and precision across a variety of port equipment. By integrating OCR into Mobile Harbor Cranes, we ensure consistent benefits and reliability throughout the terminal, optimizing efficiency and accuracy in cargo handling operations.

WHAT SETS US APART

Global Track Record

First OCR system operational since 2003

+1000 OCR Systems operational 24/7

High Recognition Rates

Wide range of integrations

Unparalleled support

STANDARDS OF EXCELLENCE

ISO 9001

ISO 27001

Safety Certificate for Contractors

Reasons to choose CERTUS for your Mobile Harbor Crane OCR

When you are looking for a partner for Mobile Harbor Crane OCR you need to know you get the best results. At CERTUS, we are extremely confident that our OCR solution for container handling equipment is the most superior product in the market and will bring a short Return on Investment. Here's why you should consider CERTUS.



SMART & SIMPLE ARCHITECTURE

CERTUS Mobile Harbor CraneOCR processes all data locally on the container handling equipment. Only the actual OCR message and images are sent over the network immediately upon every transaction. The design is robust and reliable, with little to no dependencies.



NON-PROPRIETARY HARDWARE

CERTUS utilizes the best of breed industrial cameras available on the market. Our Mobile Harbor Crane OCR is compatible with various hardware vendors (though we have our preferences) and remains unaffected by hardware end-of-life. We pride ourselves on being 'hardware agnostic'.



PROVEN INTEGRATIONS

The OCR exception handling software has been integrated with all major terminal operating systems. The system is triggered based on a standard PLC signal or video motion.



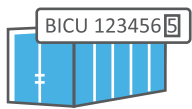
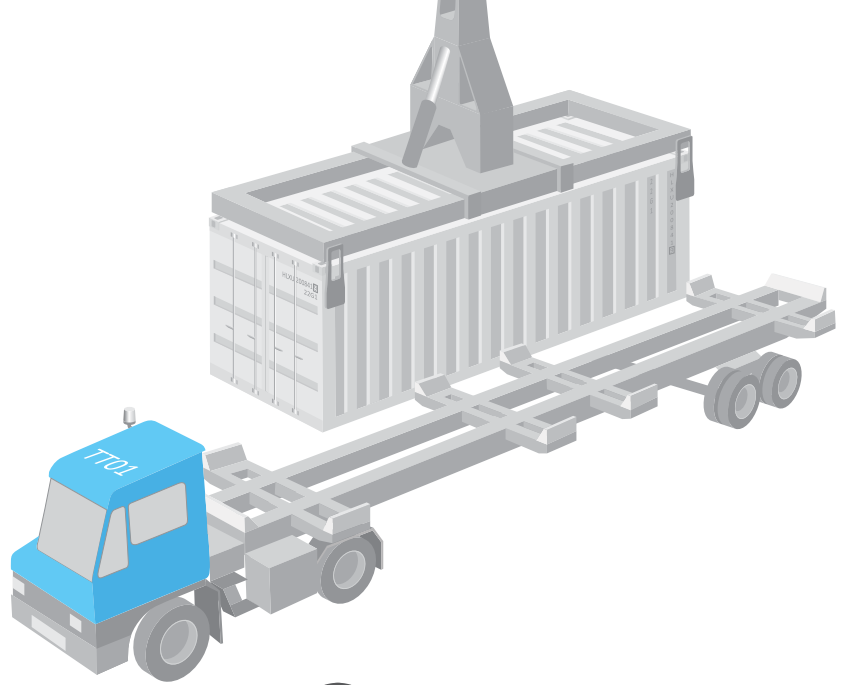
NOT IMPACTING OPERATIONS

With CERTUS Mobile Harbor Crane OCR, image capture does not require specific moves, enforced stops, or fixed angles. Additionally, in most deployments, CERTUS OCR operates effectively without any additional illumination.

Reliable OCR FEATURES



OCR Features



CONTAINER CODE

The container code is automatically recognized from one or more sides of the container, ensuring accurate identification during operations.



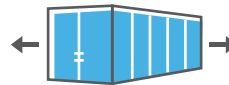
ISO CODE

The system captures and identifies the ISO code, providing standardized classification of container types for streamlined processing.



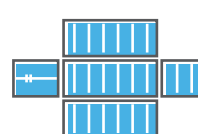
TERMINAL TRACTOR ID

The terminal truck ID is detected to associate the container with the transporting vehicle for enhanced operational tracking.



MOVE TYPE

The system identifies the move type and records whether the container is being loaded or unloaded."



DAMAGE IMAGES

The system captures detailed damage images, including both photos and videos, to document container condition during handling.



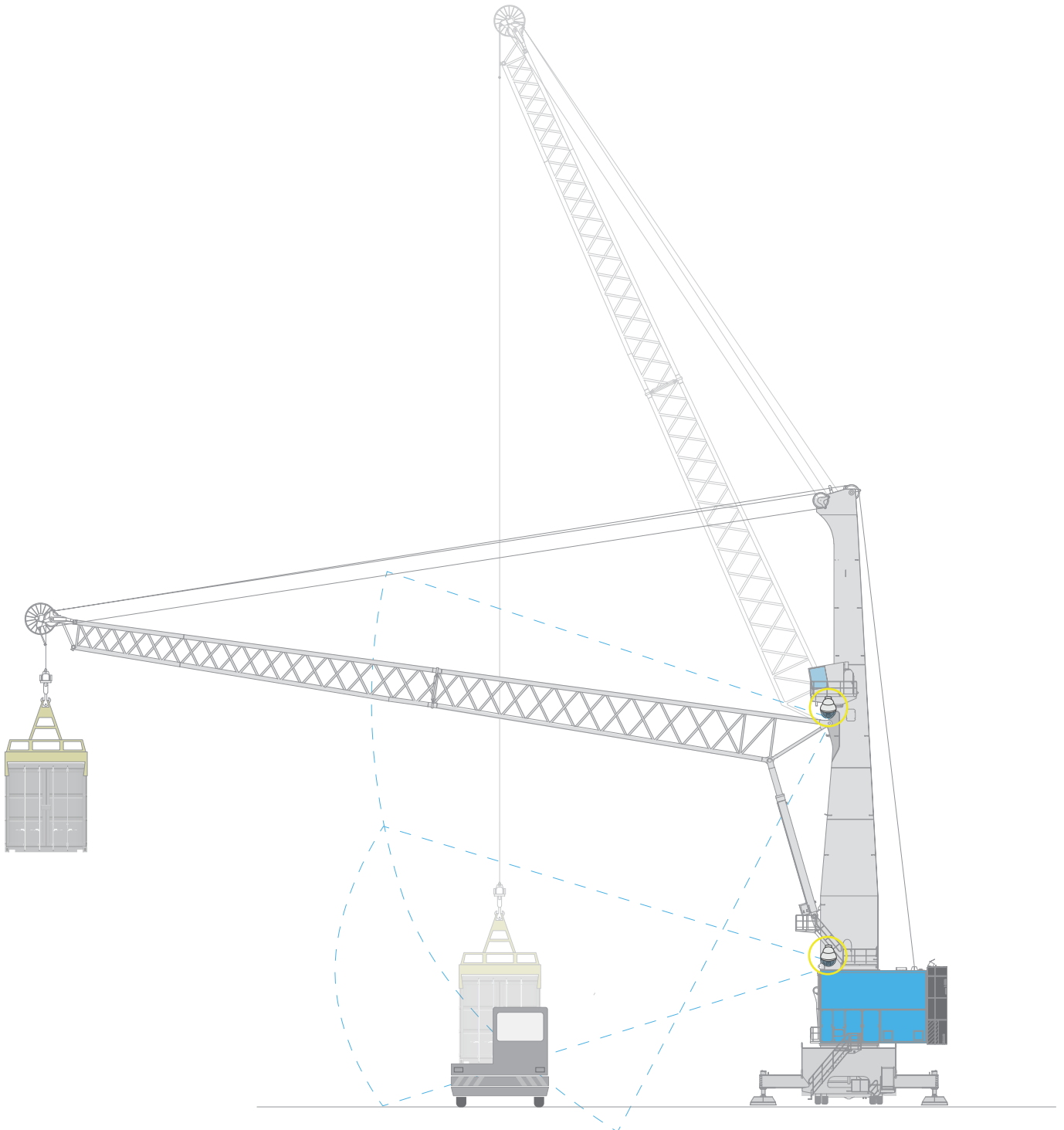
Best of breed
HARDWARE

BECAUSE CERTAINTY IS MISSION CRITICAL

Hardware Setup

To ensure unmatched accuracy, our system incorporates a dual camera set. This set-up captures high-resolution images from different angles, providing comprehensive coverage of the container surfaces. The dual-camera configuration minimizes occlusions, captures clear container codes, and eliminates potential errors. The result: precise and reliable identification.

Our Mobile Harbor Crane is equipped with strategically placed cameras to enhance operational efficiency and safety. The accompanying drawing illustrates the precise locations of these cameras, designed to provide comprehensive coverage and accurate monitoring during cargo handling operations.



Hardware specifications

CAMERAS

The solution features advanced 4K high-performance cameras, delivering the highest resolution for maximum accuracy and detail. These cameras are built to endure harsh environments, offering robust protection against dust, water, vibrations, shocks, and extreme temperature fluctuations. Optional wiper function automatically cleans the lens. Best of all, they capture full forensic detail while optimizing bandwidth and storage efficiency.



PLC

The solution can optionally integrate with the machine's PLC to automate operations by managing various inputs and outputs based on user-defined logic. When used, the PLC continuously monitors sensor data, processes inputs, and executes control commands to operate machinery and equipment efficiently. Alternatively, the system can be triggered based on video motion detection, offering flexibility to suit different operational setups and requirements.

4G ROUTER

When a LAN connection is unavailable, the system includes a 4G router with a SIM card for remote management and data transmission to the server. This 4G router supports redundant mobile network connectivity, ensuring continuous operation even if one network fails. The 4G subscription is subject to a Service Level Agreement (SLA), guaranteeing reliable connectivity and consistent data transfer.

OCR CONTROLLER

The OCR Controller is responsible for processing the captured data. All data is processed directly on the crane. This eliminates the need for external connectivity, making the solution fully independent of cloud or network infrastructure.

The controller comes with sufficient storage capacity to retain images and data for a period of three months, ensuring that all relevant information is available for review and analysis.

CONNECTION BOXES

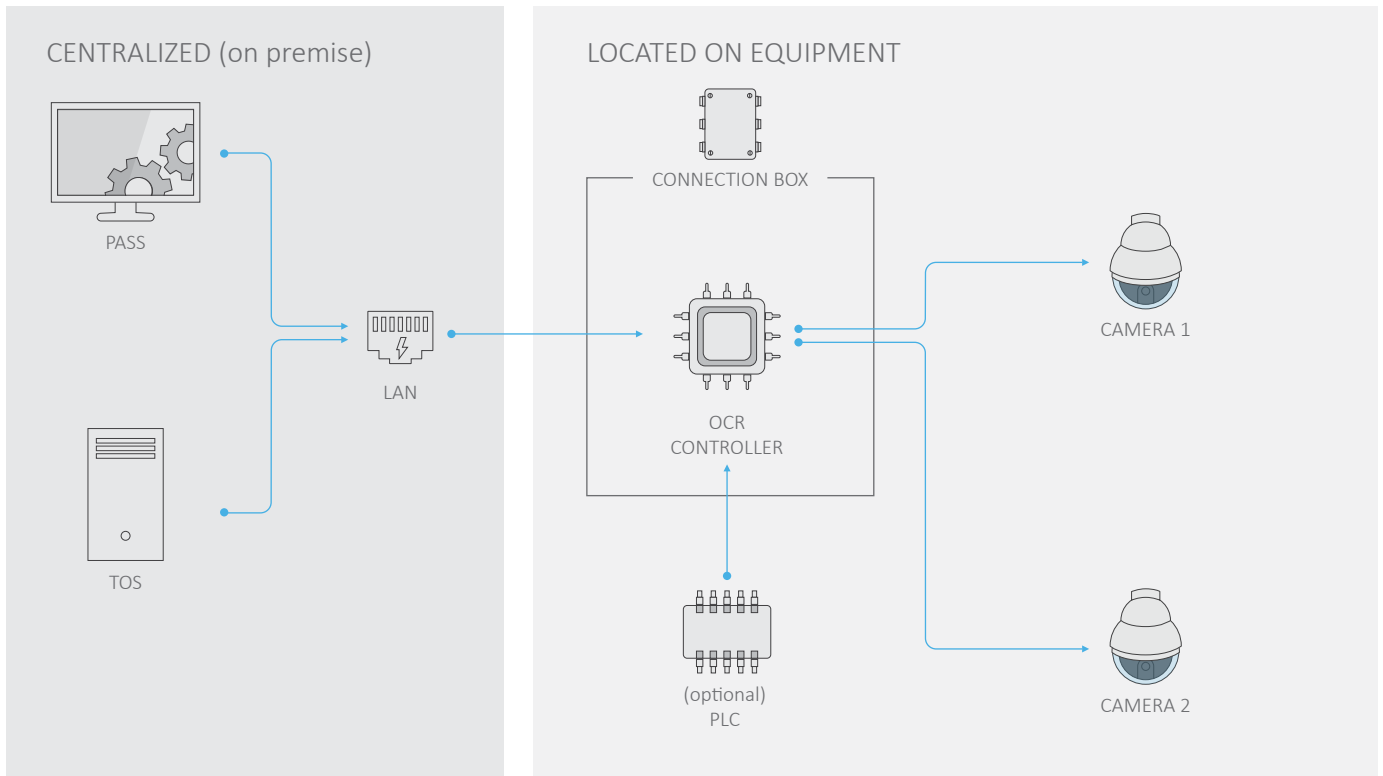
A connection box will be located at a logical position on the equipment. The connection box will house a OCR Processor. This component is essential for connecting the power supply and housing the OCR Controller. It ensures that all hardware elements are securely connected and protected from environmental factors.



Network Architecture

To ensure unmatched accuracy, our system incorporates a dual camera set. This set-up captures high-resolution images from different angles, providing comprehensive coverage of the container surfaces. The dual-camera configuration minimizes occlusions, captures clear container codes, and eliminates potential errors. The result: precise and reliable identification.

The system obtains OCR results multiple times for each container move and compares the results, which leads to a higher confidence and overall OCR rate.



Functional SOFTWARE

```
347 .widget-area-sidebar {  
348     font-size: 13px;  
349 }  
350  
356     display: inline-block;  
357     height: 69px;  
358     float: right;  
359     margin: 11px 28px 0px 0px;  
360     max-width: 800px;  
361 }  
362
```

```
363 #access ul {  
364     font-size: 13px;  
365     list-style: none;  
366     margin: 0 0 0 -0.8125em;  
367     padding-left: 0;  
368     z-index: 99999;  
369     text-align: right;  
370 }  
371
```

```
372 #access li {  
373     display: inline-block;  
374     text-align: left;  
375 }  
376
```

Software

To support centralized control over the Mobile Harbor Crane OCR transactions, and to integrate with the TOS, CERTUS offers the optional exception control software named PASS. This software serves as a middleware between the various OCR engines and the TOS. It provides for exception handling features when validating OCR data against the TOS, enabling decoupling of exception management from actual operations.

IMAGES AVAILABLE

Best image from each camera

Video clips from 2-4 views (lock/ unlock from 2 cameras)

TYPICAL EXCEPTIONS

Low confidence level

No recognition



CERTUS
AUTOMATION

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