CERTUS AUTOMATION

Gate OCR Portal

PRODUCT DETAILS

VERSION 1.0

Revolutionizing traffic management: Automatically capture every truck visit at your terminal

Accurate and real-time information is key to maintaining smooth operations at your facility. With our state-of-the-art line scan technology, the CERTUS OCR Portal provides high-quality images from all angles of the container and the truck cabin.

The heart of our OCR Portal lies in our AI trained OCR engines, which boast unrivalled accuracy. Coupled with best-of-breed cameras and solid-state illumination, our OCR technology guarantees unparalleled performance, ensuring that you receive the highest level of accuracy and efficiency with every truck visit.

WHAT SETS US APART

- Global Track Record
- First system operational since 2003
- +1000 OCR Systems operational 24/7
- High Recognition Rates
- Wide range of integrations
- Unparalleled support 24/7

STANDARDS OF EXCELLENCE

- ISO 9001
- ISO 27001
- VCA Certification

Five reasons to choose CERTUS for your Gate OCR Portal

When looking for a partner to deploy OCR Technology for your gate operations, you need to be ensured you will get the best results. At CERTUS, we are extremely confident that our OCR solution for the gate is the most superior product in the market and will bring a short Return on Investment. Here's why you should consider CERTUS.

EASY DEPLOYMENT

Each OCR portal will be delivered 'turn-key' including all cameras, illumination, cabling, data processor and triggering. All that is required is erecting the portal to its final position and final checks by our engineers. Each portal is up and running within a day.

NON-PROPRIETARY HARDWARE

Best possible process automations solution supported by the CERTUS Gate Operating System (GOS). The GOS integrates the best-of-breed hardware available on the market.

PROVEN INTEGRATIONS

The Gate Operating System has been integrated dozens of times, with multiple Terminal Operating Systems, Warehouse Management Systems and various homegrown systems. CERTUS has the proven track record being able to integrate with 3rd party systems.

DESIGN TO PROCESS EXTREME GATE PEAKS

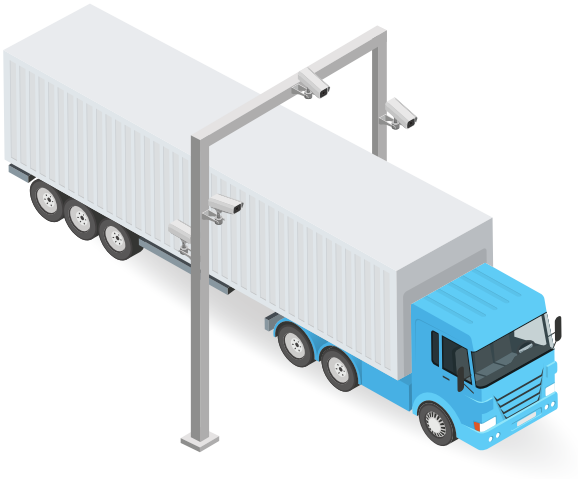
Trained to review your foreseen automation process, gate layout and expected capacity. CERTUS Analytics tooling that shows the performance of the Gate enabling to monitor and act based on specific process KPI's.

MULTIPLE REDUNDANCY LEVELS

CERTUS uses all sides of the truck/container to come to a final OCR result. This ensures highest reliability through a high level of redundancy in the system. Failure of a component can only impact a single gate lane.

OCR Installation Options

With three distinct versions to choose from, we offer a comprehensive suite of options tailored to meet diverse requirements and budgets.



OCR Portal

The OCR Portal is a comprehensive gate OCR (Optical Character Recognition) solution designed to capture and record every detail of trucks and their cargo as they pass through. It employs advanced image processing technology to extract and inter-pret information from truck license plates, shipping container numbers, and all other relevant data.

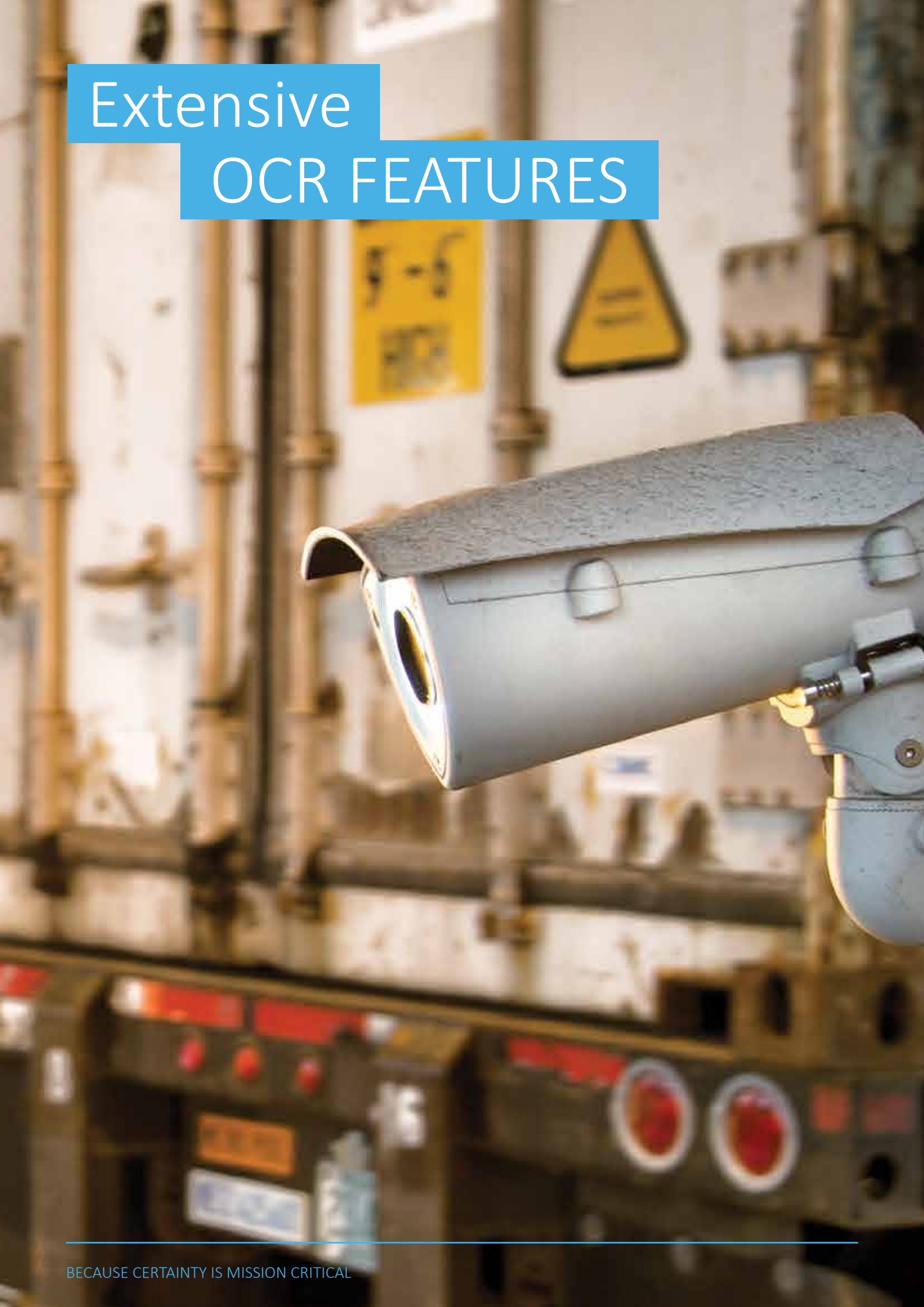
OCR Express

OCR Express is a cost-effective version of the gate OCR solution. While it may not provide as detailed information as the OCR Portal, OCR Express efficiently extracts key data points such as license plates and container number. This enables quick identification and monitoring of vehicles, helping to enhance security measures and maintain a smooth flow of traffic through the gate.

Mobile OCR

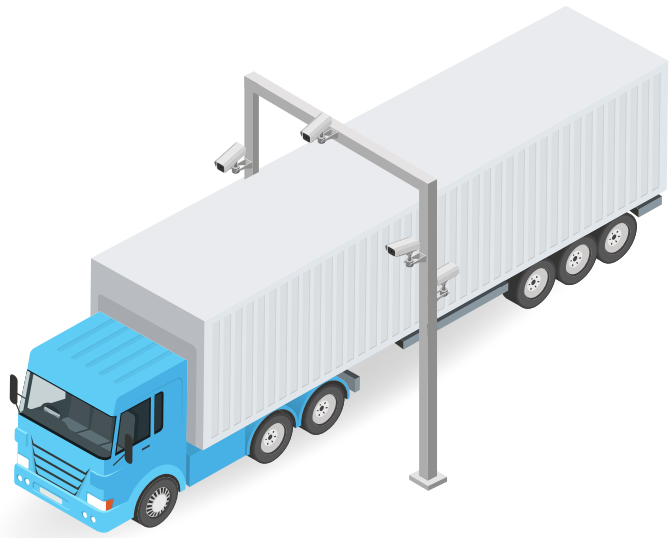
The Mobile OCR solution offers flexibility and mobility, allowing users to capture basic vehicle details anywhere within the terminal. This solution is ideal for situations where a fixed OCR system may not be available or practical. By utilizing the camera of a mobile installation, it can quickly extract information from vehicles that pass by and provide essential vehicle data on the go.

Extensive OCR FEATURES



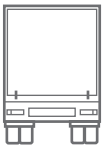
Discover our AI based OCR features

All AI recognized features are accompanied with a confidence value. The confidence value can be used to trigger remote exception handling or monitor system performance.



TRUCK LPR

The system recognizes the license plate at the front of the truck, recognition is based on cameras using both white as well infra-red illumination.



CHASSIS LPR

The system recognizes the license plate at the back of the trailer. The output includes a confidence value, which can be used for exception handling purposes.

TRAILER ILU CODE

For the EU market, the system can output the ILU-Code for trailer cargo, a standardized identifier for intermodal loading units.

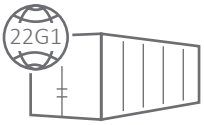
CHASSIS SIDE (US)

Specific for the United States, the system outputs the unique serial number at the chassis side of the trailer. A separate image from both sides is provided as well.

**features are subject to the gate design. Please contact your local sales representative for more information*

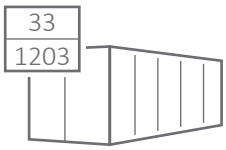
CONTAINER CODE

Output of the Container Code markings according to ISO6346 standard.



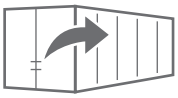
ISO CODE

Automatic report of the Size/Type based on the ISO Code identification.



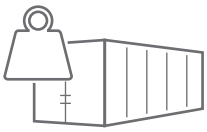
UN NUMBER

For hazardous cargo, the system can output the UN number accompanied.



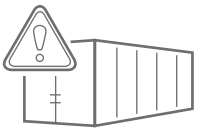
DOOR DIRECTION

For each container, the system can output the door direction.



WEIGHT RECOGNITION

For container cargo, the system can identify the printed Max Gross, Tare and Net weight.



HEAVY LOAD INDICATOR

The system can identify the heavy load label when applied on the container.

HAZARDOUS PLACARD PRESENCE

When detecting any hazardous placards, the system can output a presence indicator, including on which side it was detected. This can be used for verification against booking data.

HAZARDOUS PLACARD CLASS

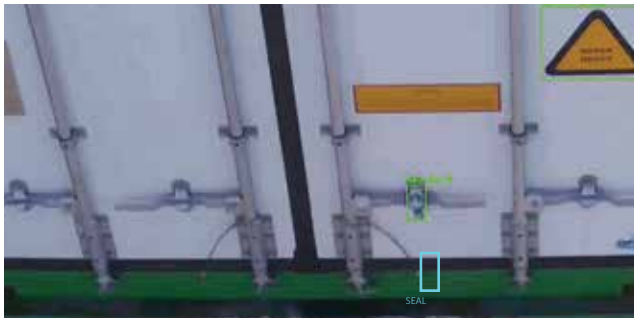
When labels are detected, the system can output the label class ID according to the IMO standards, including a cut-out of the label itself.

GENSET PRESENCE DETECTION

Automatic detection of Genset clip on units attached to the container and output of an indicator.

SEAL DETECTION

Detection of the presence of a bolt seal for containers on a visible door following the ISO PAS 17712 (bolt seals).



CONTAINER POSITION

The system will output the sequence of the containers recognized, e.g. 1st, 2nd, 3rd

EMPTY CHASSIS

This feature will confirm the chassis is empty and no container or object could be detected.

DAMAGE ALARM

The system verifies the integrity and ‘stackability’ of the container and can output a damage alarm, which can be used to trigger remote review.

DAMAGE CLASSES

The system can automatically classify damage, e.g. dust, dents, holes, shape deformation, including a certainty level.

5 SIDE DAMAGE IMAGES

The system outputs damage images from the complete passing of the truck, based on superb +12-megapixel image (amount of MP depends on the length of the truck). The damage images are captured based online scan cameras, allowing extreme zoom in.

VIDEO CLIPS

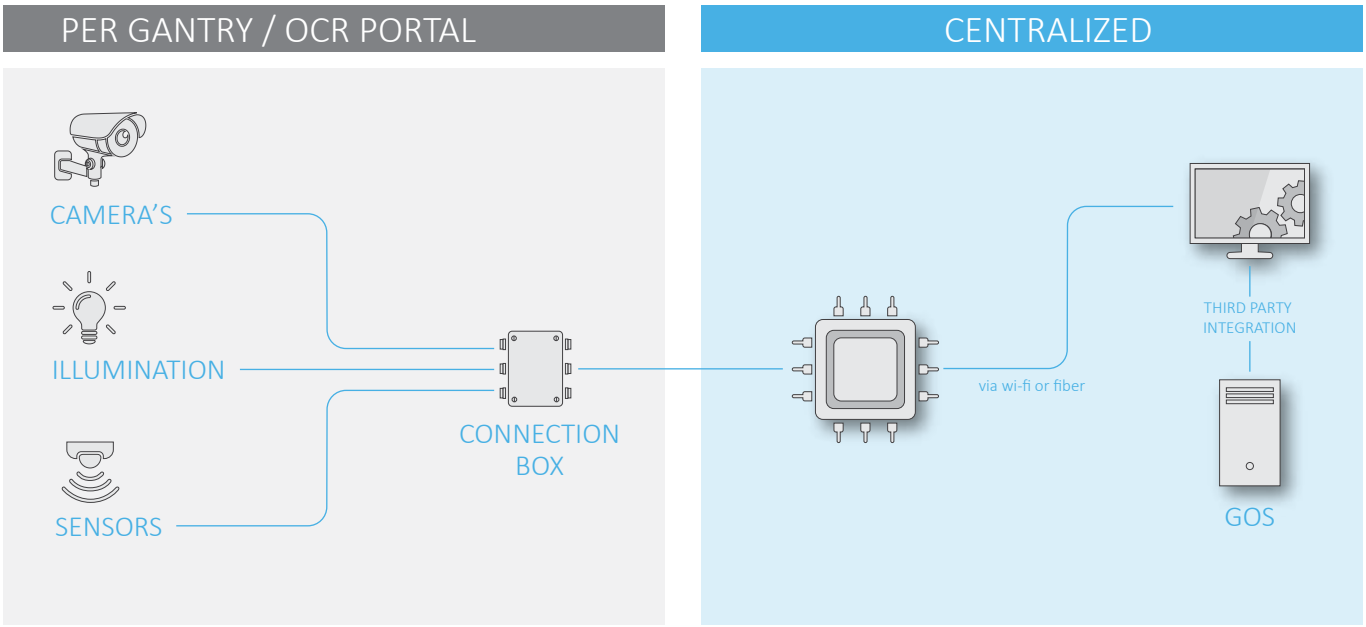
As an alternative to Damage Images, the system can output video clips from different angles.

Best of breed HARDWARE

GATE OCR PORTAL | Architecture

CERTUS Gate OCR portals are provided on a turn-key basis, including all triggering, illuminating and capturing. The only site requirements are to have concrete foundations, power & network at point of installation, as well as traffic regulating measures such as curb stones and speed signs.

The following illustration summarizes the envisioned system architecture from a simplified interface perspective. Depending on the features selected, the integrations may vary.



GATE OCR PORTAL | Hardware details

OCR CONTROLLER

The OCR engine runs on a ruggedized controller within the OCR portal that will be provided by CERTUS and is connected to the cameras via its own local network.

The OCR software submits the output to the central server via the connection to the LAN, alternatively via Wi-Fi. The controller is to be connected to the (office) LAN and to the PLC. In case of any connection loss, the OCR controller will buffer the OCR events until connection is restored.

CONNECTION BOX

Connection boxes will be located on the gantry with a power supply, loop detectors, backplane with electrical components such as breakers, surge protector, and clamps.

OCR CAMERAS

IP-based cameras housed within all weather-proof enclosures will be installed on the gantry. CERTUS uses non-proprietary cameras, fit for purpose in a terminal environment. .
CERTUS works with a combination of area scan cameras and line scan cameras, depending on the features selected.

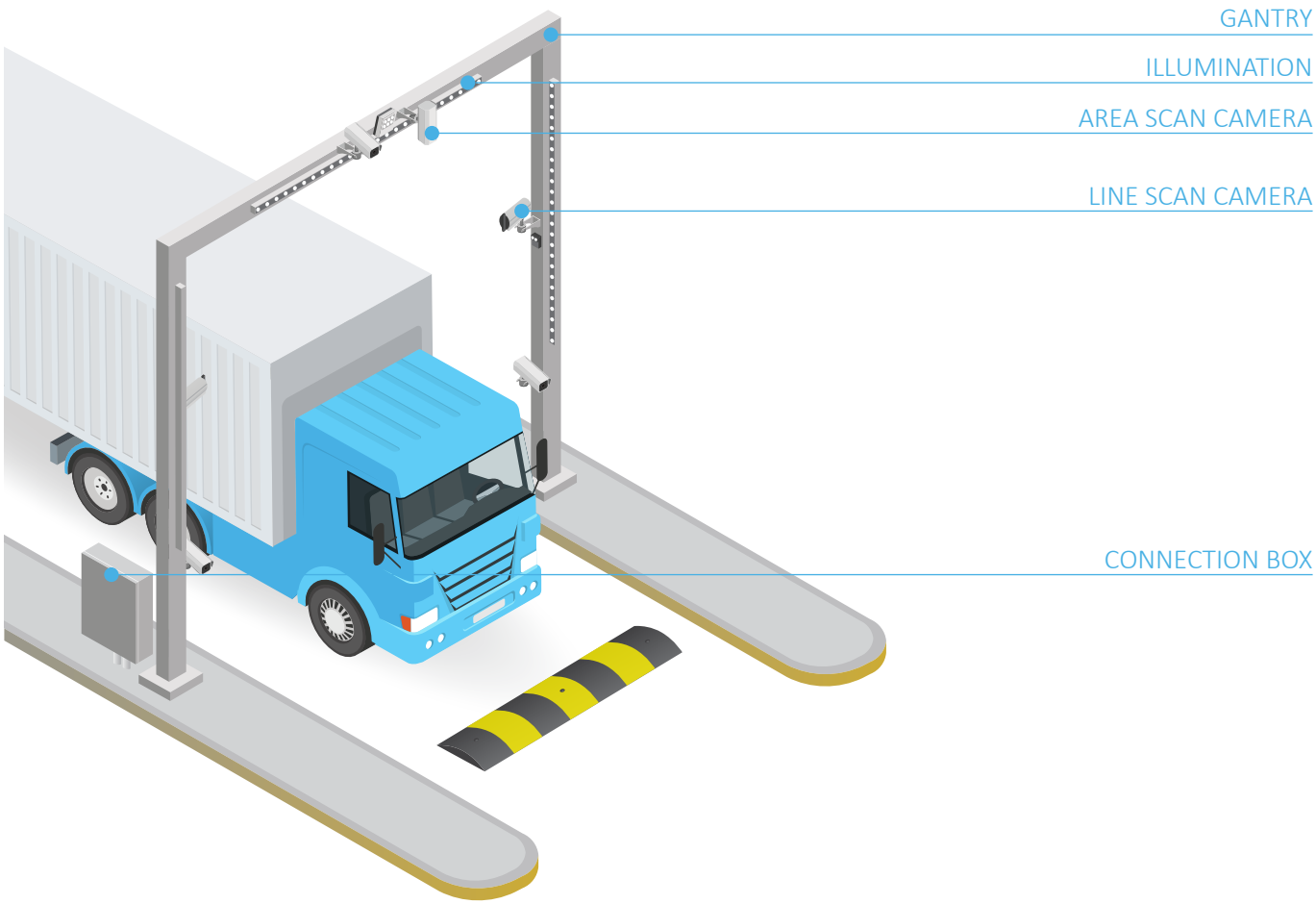
GANTRY

All equipment will be mounted to a special engineered portal. The portal is made from galvanised steel, fit for purpose in the marine environment and last for over a decade. All cabling will run through the inside of the gantry.

GATE OCR PORTAL | Design

The lean design results in a standard footprint of 6,4 m width (pole center to center). In case less space is available, the width needed can be reduced with special cameras and lenses. The portals can also be placed staggered so that even less space is required. As such, the space is optimally used. Other key features include:

- Can stand out in the open with no canopy required
- Guaranteed OCR accuracy rate (even without canopy)
- Drive-through, supports truck speeds up to 50 km/h or higher
- Fast processing time; output available in seconds
- Supports all different container types and truck combinations
- Designed with multiple redundancy levels
- No proprietary components used
- Output of high resolution images
- Most reliable triggering system
- Cost efficient base model, with various additional features
- Environment friendly by low power consumption
- Smallest foot print available in the market
- Seamless interaction and integration with the local TOS or other host system
- In combination with Driver Kiosks, Traffic Control Equipment and our PASS Navigator GOS, CERTUS provides seamless integrated Automated Gate Systems, operational at numerous sites around the globe.



Functional SOFTWARE

BECAUSE CERTAINTY IS MISSION CRITICAL

Software

To support centralized control over the transactions of the Gate OCR Portal, and to integrate with the TOS, CERTUS offers the optional exception control software named PASS NXT Gate. This software serves as a middleware between the various OCR engines and the TOS. The following functionality is provided through PASS NXT Gate:

Interact and consolidate the data from multiple Gate OCR Portals.

Integrate with the TOS in any interface protocol or using standard API's.

Provide for exception handling features when validating OCR data against the TOS, enabling decoupling of exception management from actual operations. Examples of exceptions include:

- Container not on discharge / load list
- Hazardous label detected on container but booking is not based on hazardous
- ISO code does not match the booking data
- Damage alarm to be validated
- Amongst many other possible validations…

Exceptions can be split over first level and second level exceptions, to separate between urgent and less time sensitive validations.

Provide an archive for the OCR events and related Damage images to allow the user to:

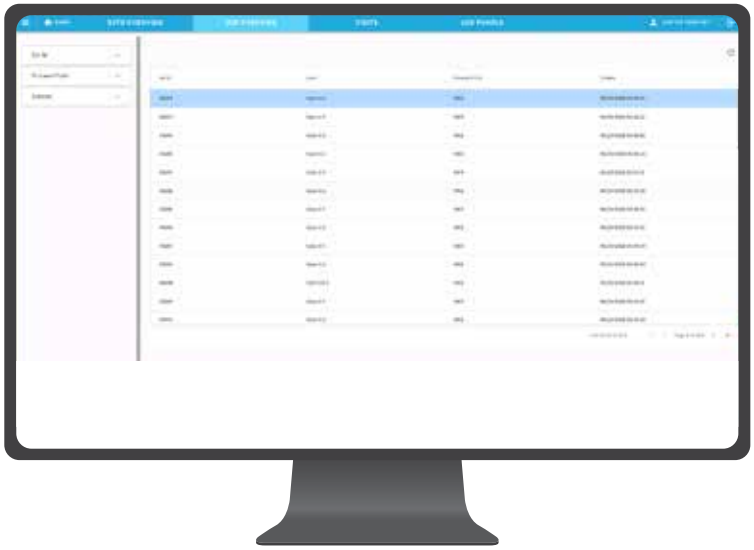
- Search on historical data by container ID, event ID, Crane ID, or time range,
- Review details of OCR event (OCR data, confidence level, images),
- Export OCR data.

Through administrator settings, clean up mechanisms can be enabled. The period of storage and back-up of images & events is the responsibility of the end user.

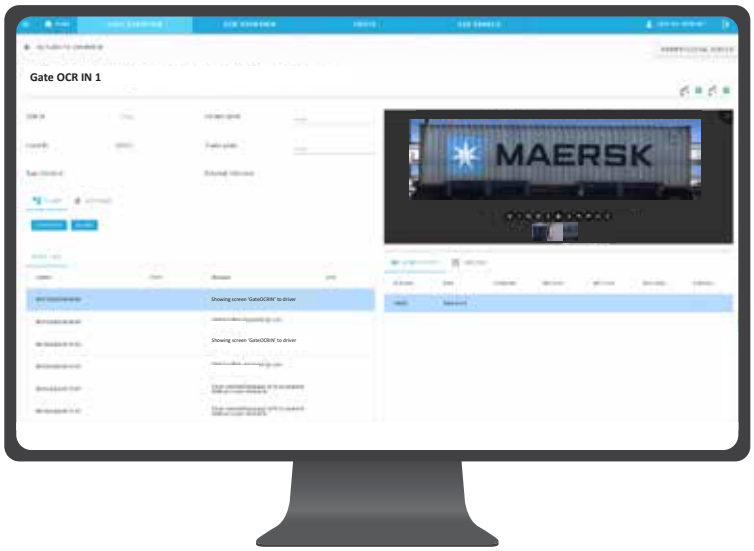
CERTUS recommends deploying PASS NXT Gate on a virtualized server environment.

PASS NXT Gate | System Features

PASS NXT Gate can be accessed from a central location within the company.



The OCR Overview allows (remote) look-up of OCR events. The user can search by number (event ID), by container, or filter on all events for a certain date range.



The Gate detail screen shows the event details after searching.

The image ribbon can be enlarged to review all the available images in a bigger window. Zooming is possible using the scroll wheel of the mouse.

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