Driving the future of Smart Port Transformation with Camco digital solutions

asean Ports and Logistics 2024
The Cornerstone of Global Economy and Supply Chain Networks

CAMCO TECHNOLOGIES

24 Oct, 2024

Confidential. All rights reserved. No content can be reproduced without permission.

Outlines

Selamat pagi

- Camco Introduction
- Why Digitalization is a MUST today
- How Camco helps for smart transformation
- Two examples for automation

ABBY ZHANG

CEO OF CAMCO ASIA

About Camco

CAMCO Headquarters in Belgium

CAMCO Shanghai Office

CAMCO USA Office

CAMCO UAE Office

CAMCO Australia Office

25 Years
The longest history

CAMCO established in 1999, with 288 employees becomes the biggest company in terminal automation. CAMCO is the most stable technology company guarantee to provide long term services for her supplied systems.

300+
Biggest Project Reference

More than **300** container terminals worldwide installed Camco automation systems, it makes Camco the global leader in our industry with the richest experience and knowledge for all types of projects. And same time all the new technology developed by CAMCO are proved.

5 M&S teams
The Efficient Service

With five M&S teams located in Belgium, Abu Dhabi, Shanghai, Los Angels and Australia, CAMCO provides the 24/7 full time efficient maintenance service globally.

Innovation Focus

With a 30 engineers R&D team, CAMCO never stopped innovation, it guarantees the customers of CAMCO have always the most advanced technology in the industry.

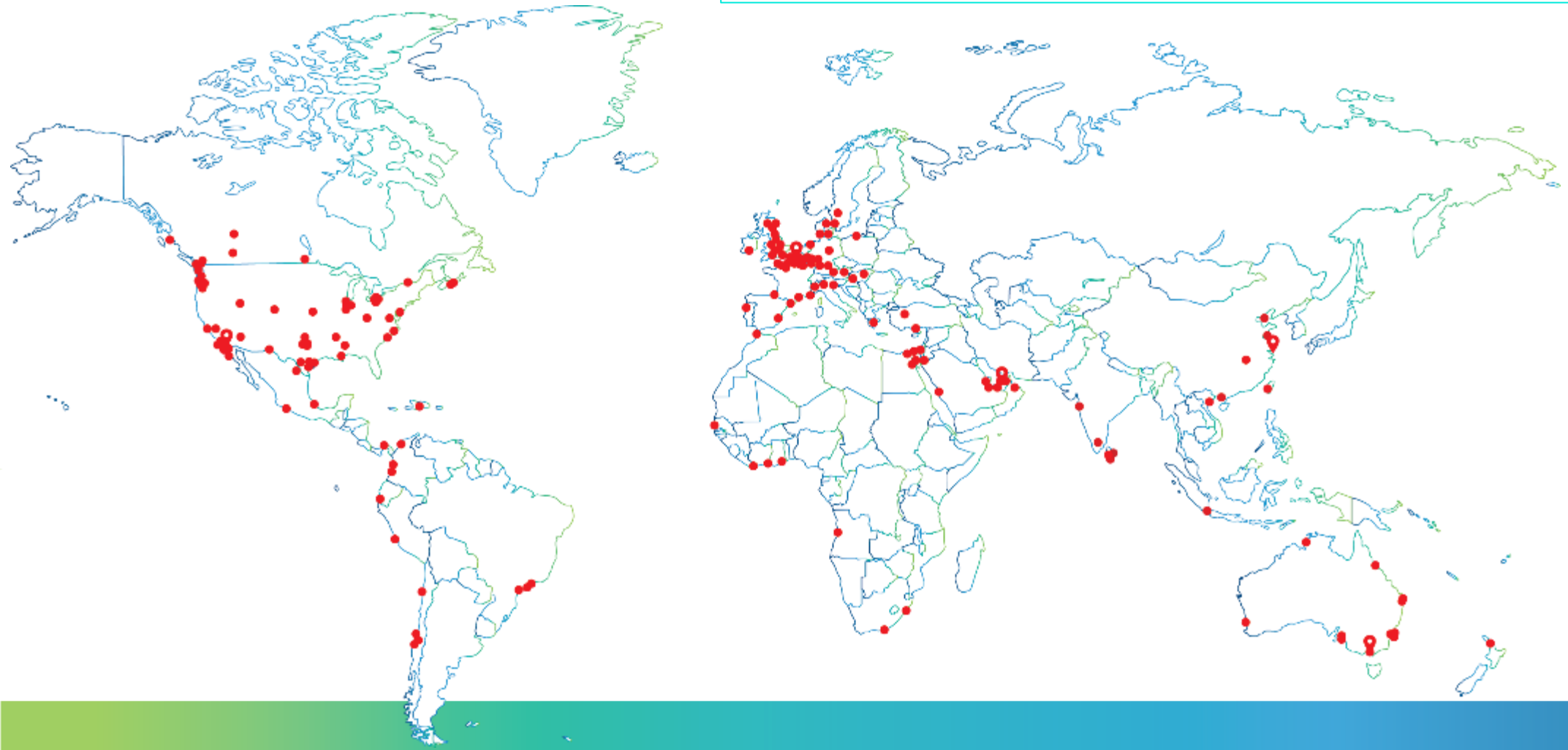
Design and produce own hardware
In-house engineered Solutions

Camco designs, develops and implements its own technologies. Unlike sales organizations or system integrators, we keep total control over our hardware and software, and support a long-term product strategy.

Confidential. All rights reserved. No content can be reproduced without permission.

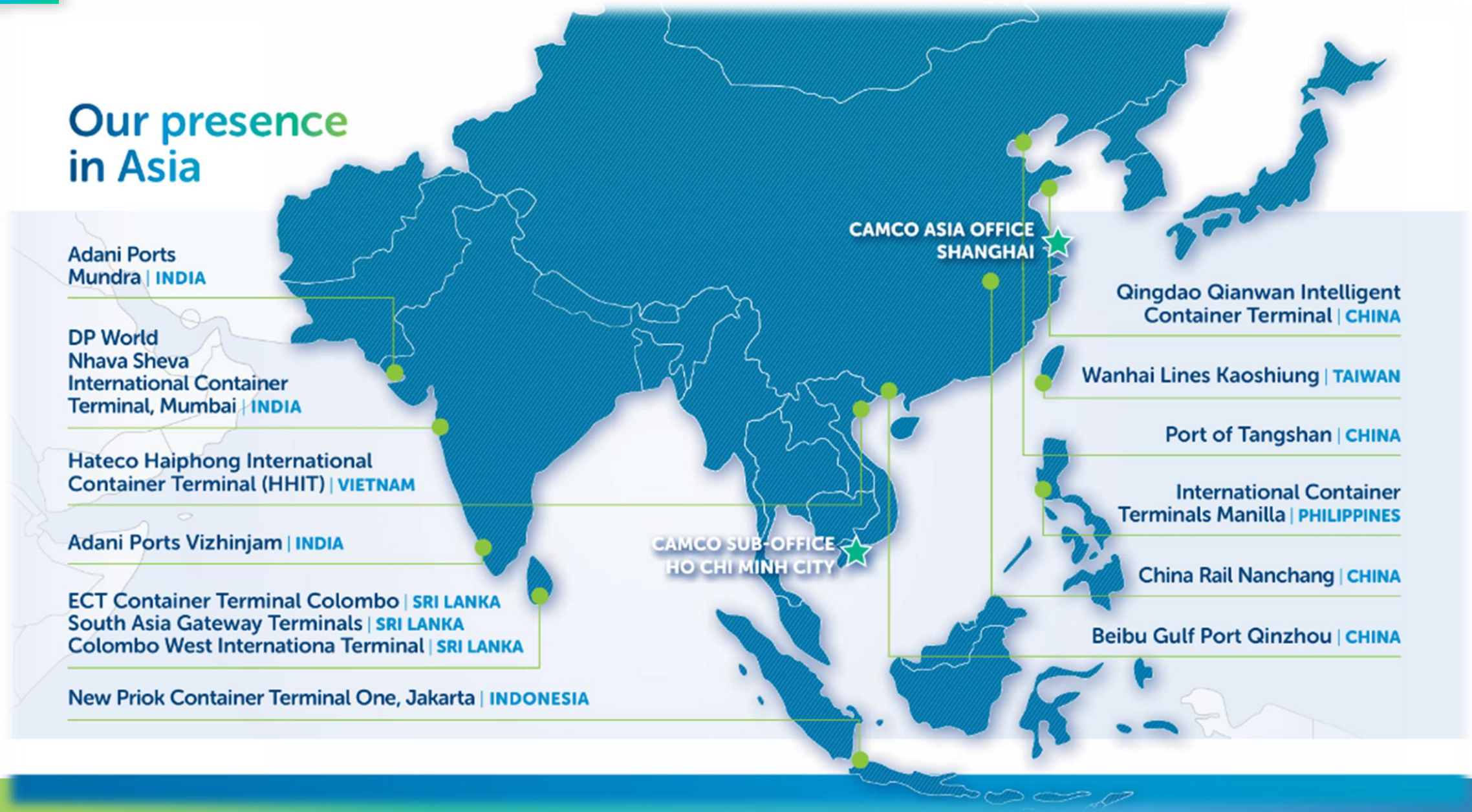
More introduction about Camco
Project Reference

300+	700+	3000+	320+
TERMINALS WORLDWIDE	OCR PORTALS	GATE & GRID KIOSKS	CRANE OCR



Confidential. All rights reserved. No content can be reproduced without permission.

Camco Presence in Asia

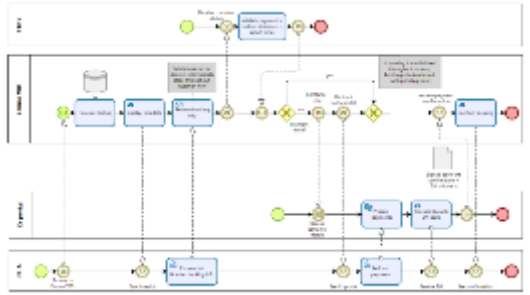


Confidential. All rights reserved. No content can be reproduced without permission.

Why automatization and digitalization is a must today

CAMCO TECHNOLOGIES

6 reasons



Confidential. All rights reserved. No content can be reproduced without permission.

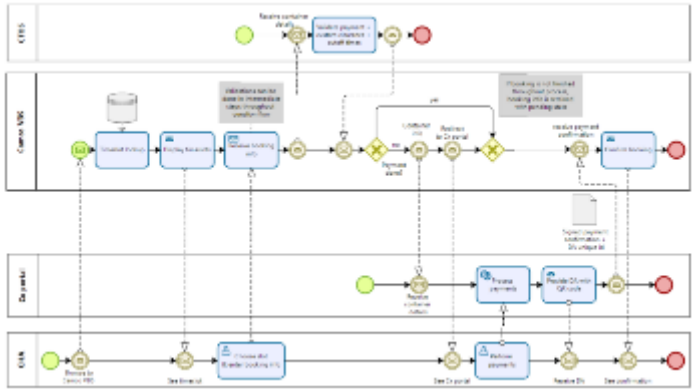
Why digitalization is a must today

Increasing safety

Through digitalization, we can eliminate the need for workers in hazardous areas such as gates and under STS cranes, where many accidents with severe injuries frequently occur.

Removing human mistakes and frauds

Digitalizing processes introduces a structured and controlled system to your operations. Each process step is mandatory, with data validated through OCR technology. All human interventions by clerks are logged, and every step, along with related data and images, is archived for future use. This archived data facilitates efficient querying, retrieval, fraud detection, and analysis.



Confidential. All rights reserved. No content can be reproduced without permission.

Why digitalization is a must today

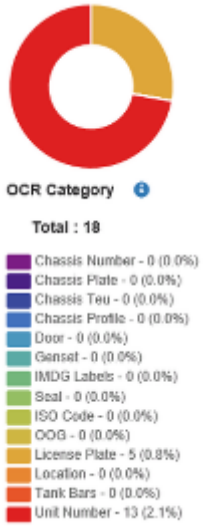
Enhance Sustainability

Having queues at the gates is very bad for the environment and increases the carbon emissions

Digitalizing gate processes reduces truck pass trough time to less then 60 seconds eliminating queuing at the gates

Enhancing productivity and maximizing efficiency

Digitalized processes generate analytical data through key markers. This data can be used to define KPIs, leading to faster and more efficient operations for trucks, trains, and vessels. More accurate checks result in better utilization of the infrastructure



Confidential. All rights reserved. No content can be reproduced without permission.

Why digitalization is a must today

Increase operational control

Digitalization gives dashboards allowing to better control the operations.

Reduce costs

By digitalization and automation of the operation process, one can save on operational costs.

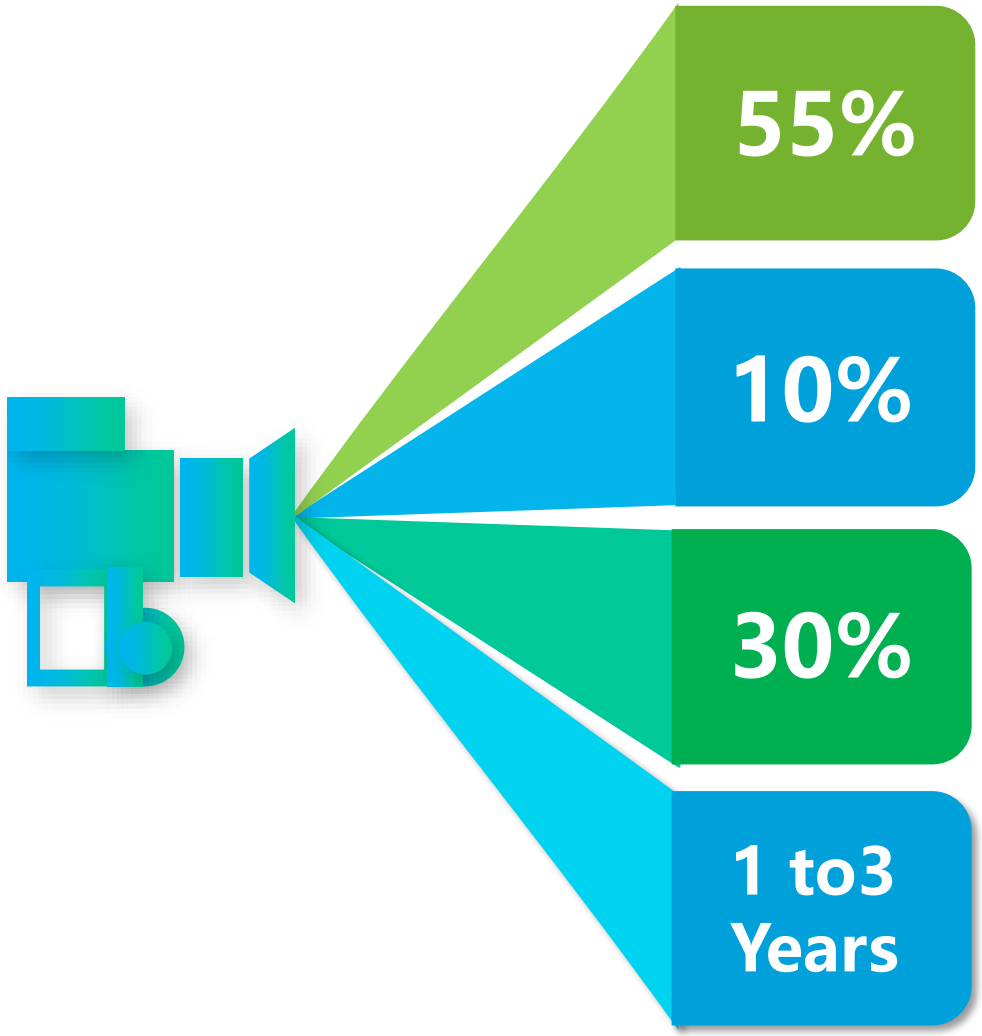
Workers in the gates, usually 20 people (3 shift of 8 people) can be replaced by making men less gates needing only 1 remote operator

With most of our customers, the crane OCR investment can be paid back in 1 year.

Confidential. All rights reserved. No content can be reproduced without permission.

Why Smart Port Transformation

Smart Port



Operational cost saving

Some customers said that their operational cost saving up to 55% after the terminal upgraded with automation.

Carbon emissions

"The automated terminal not only increases the port's handling efficiency, but also reduces carbon emissions by up to 10 per cent," said Chen Wuyuan, president of Shanghai International Port Group.

Productivity

Some terminals tell the productivity increased round 30% after they upgraded their terminals with automation.

ROI

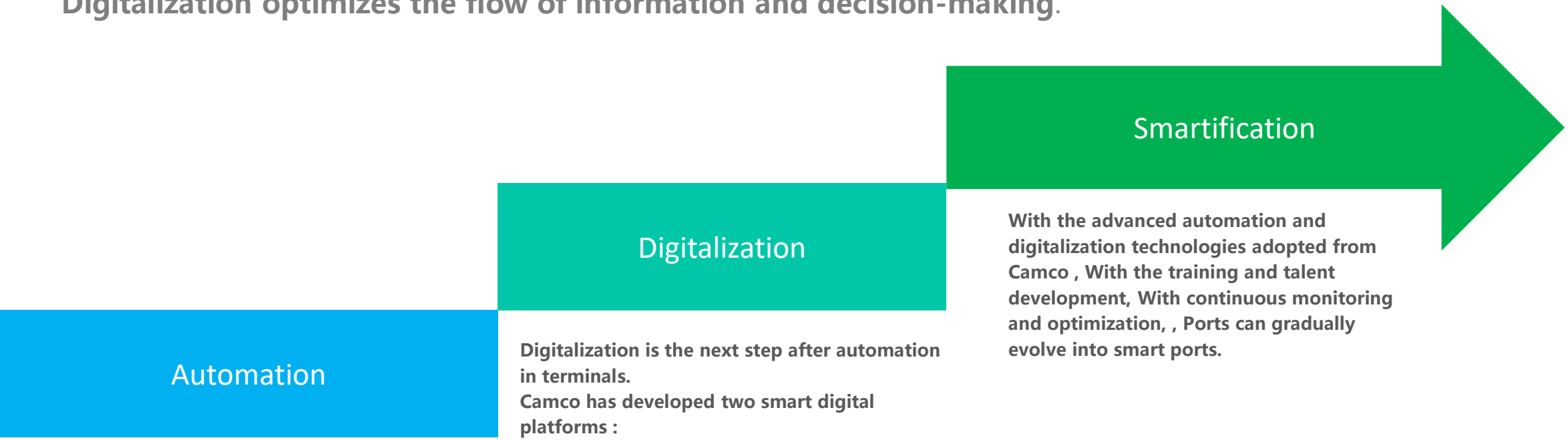
By increasing the productivity , eliminating the human mistakes and accidents, reducing the cost ,normally the terminals can get back their investment in automation in 3 years more or less.

Confidential. All rights reserved. No content can be reproduced without permission.

How to Start the Smart Transformation?

In container terminals, both automation and digitalization work together to improve overall efficiency

Automation reduces manual labor
Digitalization optimizes the flow of information and decision-making.



With the advanced automation and digitalization technologies adopted from Camco , With the training and talent development, With continuous monitoring and optimization, , Ports can gradually evolve into smart ports.

Digitalization is the next step after automation in terminals.
Camco has developed two smart digital platforms :

- **The Bridge**
- **RT Digital Twin**

All automation solutions from Camco:

- **Gate automation**
- **Quay automation**
- **Yard automation**
- **RTLS**

Confidential. All rights reserved. No content can be reproduced without permission.

How Camco helps for smart transformation ?

Step 1 Automation

RAIL AUTOMATION

START PROCESSING TRAINS WITHOUT DELAY AND IMPROVE TRAIN TURNAROUND TIME

- OCR RAIL PORTAL
- RMG OCR CAMERAS
- RTLS
- SPREADER CAMERA

YARD AUTOMATION

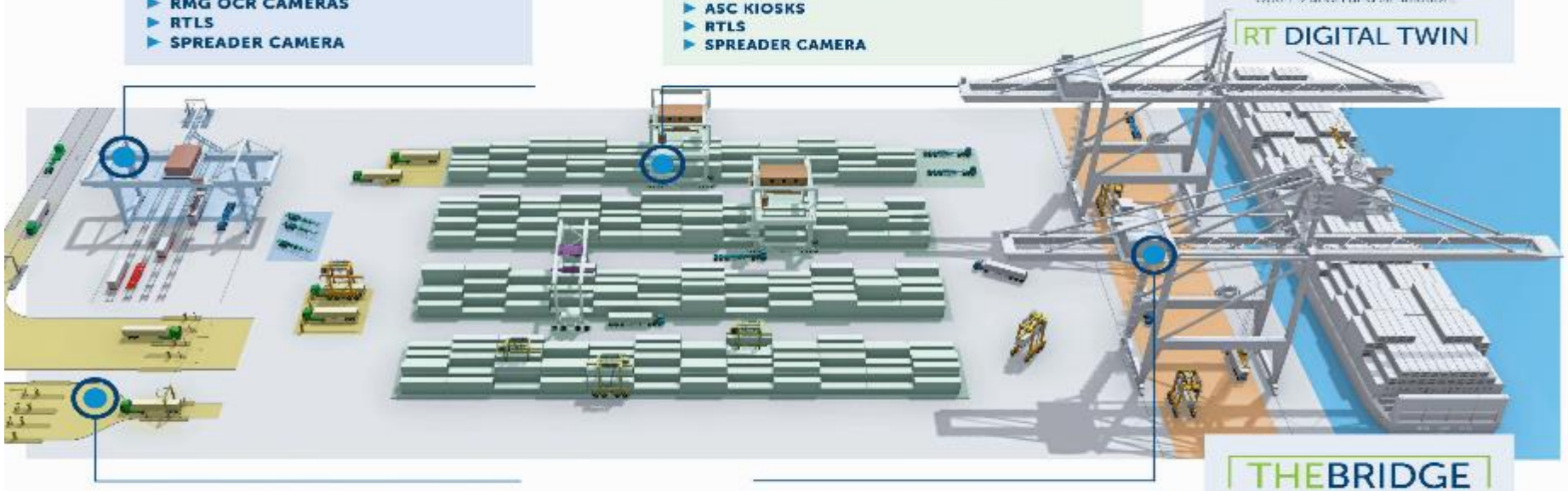
FROM A STEP BY STEP INTEGRATION TO FULL INTEGRATION OF TERMINAL PROCESSES

- RFID RTG/RMG TRUCK HANDOVER
- VMT MANUAL / AUTO JOB STEPPING
- RTG/RMG OCR CAMERAS
- ASC KIOSKS
- RTLS
- SPREADER CAMERA

Step 2 Digitalization

Camco's virtual mirror of your complete terminal, RT Digital Twin, **a real-time digital representation of all assets and associated processes and systems**, is the ultimate automation step for process analysis, optimization and simulation.

RT DIGITAL TWIN



GATE AUTOMATION

THE INDUSTRY REFFERENCE IN VISION-BASED GATE AUTOMATION SOLUTIONS

- OCR PORTALS
- KIOSKS
- VBS VEHICLE BOOKING SYSTEM
- RFID

QUAY AUTOMATION

IMPROVING WATERSIDE OPERATIONS FOR A LEANER, GREENER INDUSTRY READY FOR INCREASING TRAFFIC

- OCR BOXCATCHER
- TT AND SC IDENTIFICATION AND ALIGNMENT
- BLV BAY LOAD VERIFICATION
- RTLS
- SPREADER CAMERA

THEBRIDGE

Camco's recently developed integrated platform, The Bridge, **enhances integration across all operational levels by providing a unified web-based system that connects GOS, truck OCR, rail OCR, RTLS, and Crane OCR,** enabling the management of multiple terminals and Camco installations from a single screen.

Smart Port Solutions

Confidential. All rights reserved. No content can be reproduced without permission.

2 examples of automation:
Auto gate

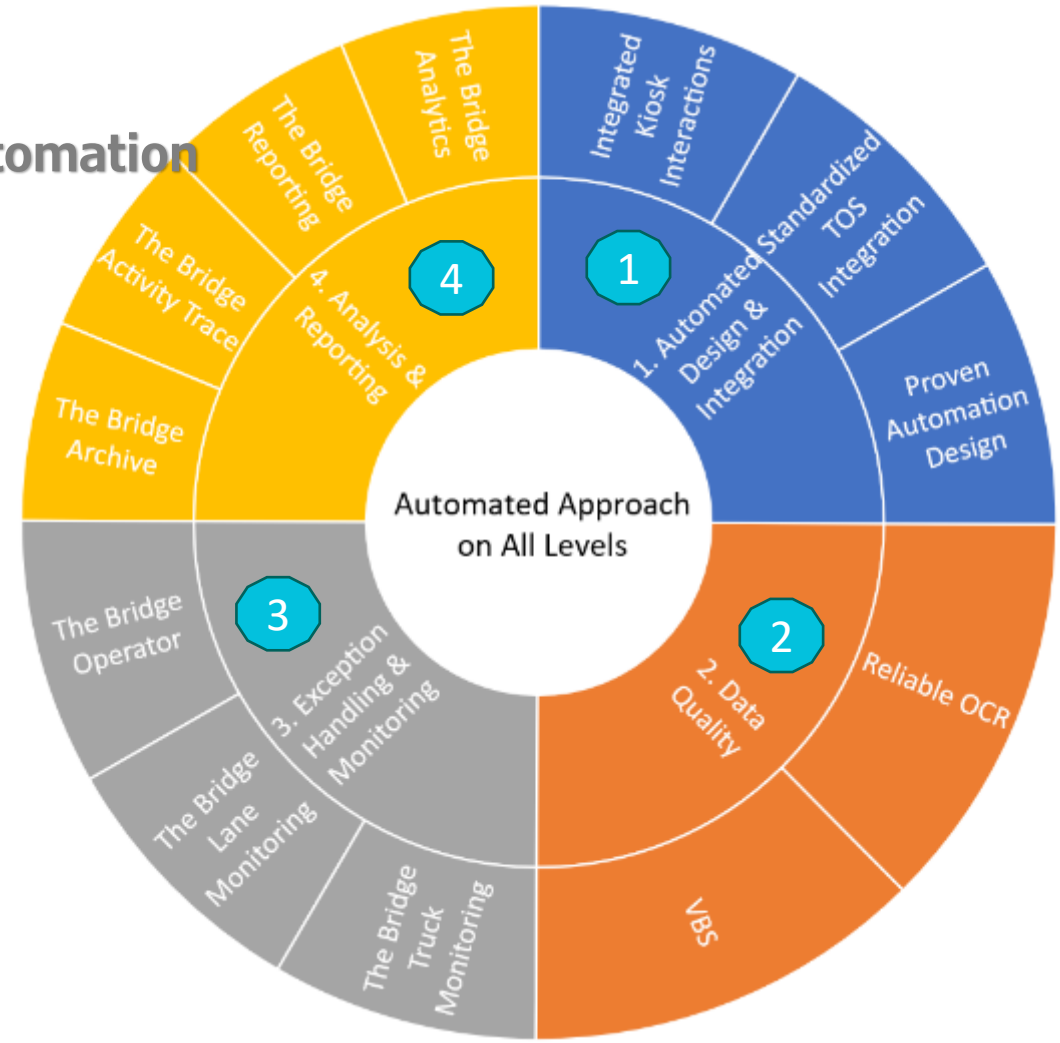
Confidential. All rights reserved. No content can be reproduced without permission.

Auto-Gate

Gate automation ≠ installing OCR cameras

In 4 golden rules to a structured approach of gate automation

1. Design: physical, business processes, KPI's
2. Maximize Data Quality: use OCR&VBS
3. Implement Exception handling & monitoring
4. Analysis & reporting for feedback



Confidential. All rights reserved. No content can be reproduced without permission.

Expected Performance

The KPI of a successful gate automation project should be:

Average time at an In-gate kiosk (*1): 70 seconds

Based on following processes:

- Truck driver identification by card
- Biometric check of truck driver (fingerscan)
- Input of appointment/booking number
- Confirming transaction overview screen
- Input of 1 seal number of 1 export container
- Selection of container position on chassis for 1 Import container

Number of GOS exceptions: 3% - 6%
Number of TOS exceptions: 2% - 4%

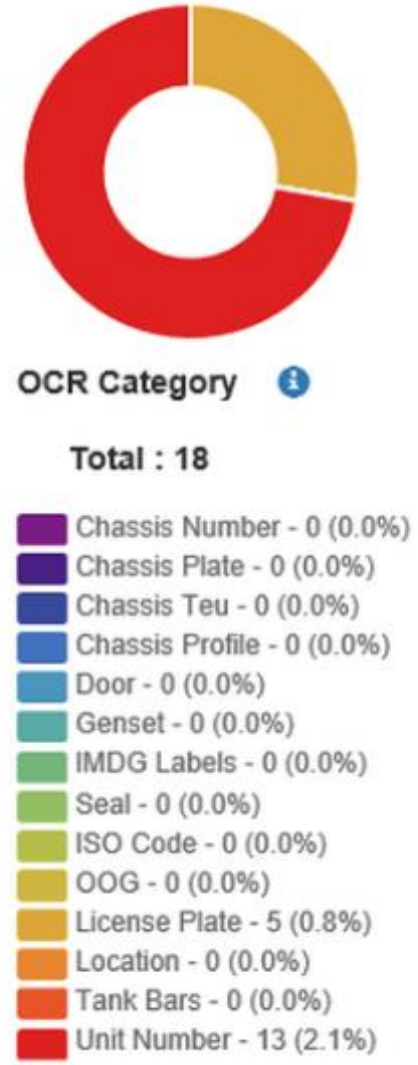
Confidential. All rights reserved. No content can be reproduced without permission.

Expected Performance

Typical job exception analysis (generated by dashboard)

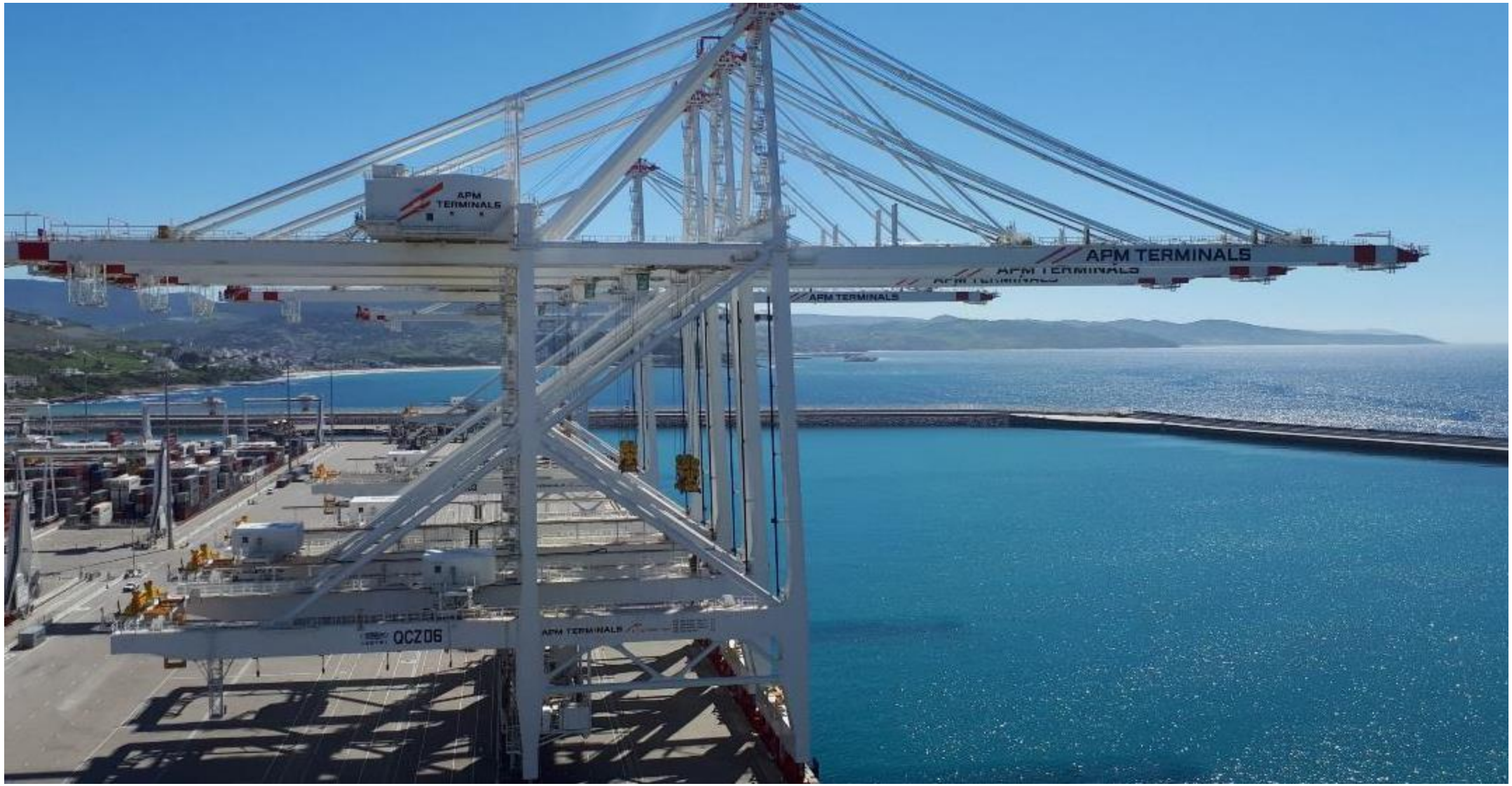
Total = 5%

OCR = 2,9%



Confidential. All rights reserved. No content can be reproduced without permission.

2 examples of automation:
Crane OCR



Confidential. All rights reserved. No content can be reproduced without permission.

BoxCatcher

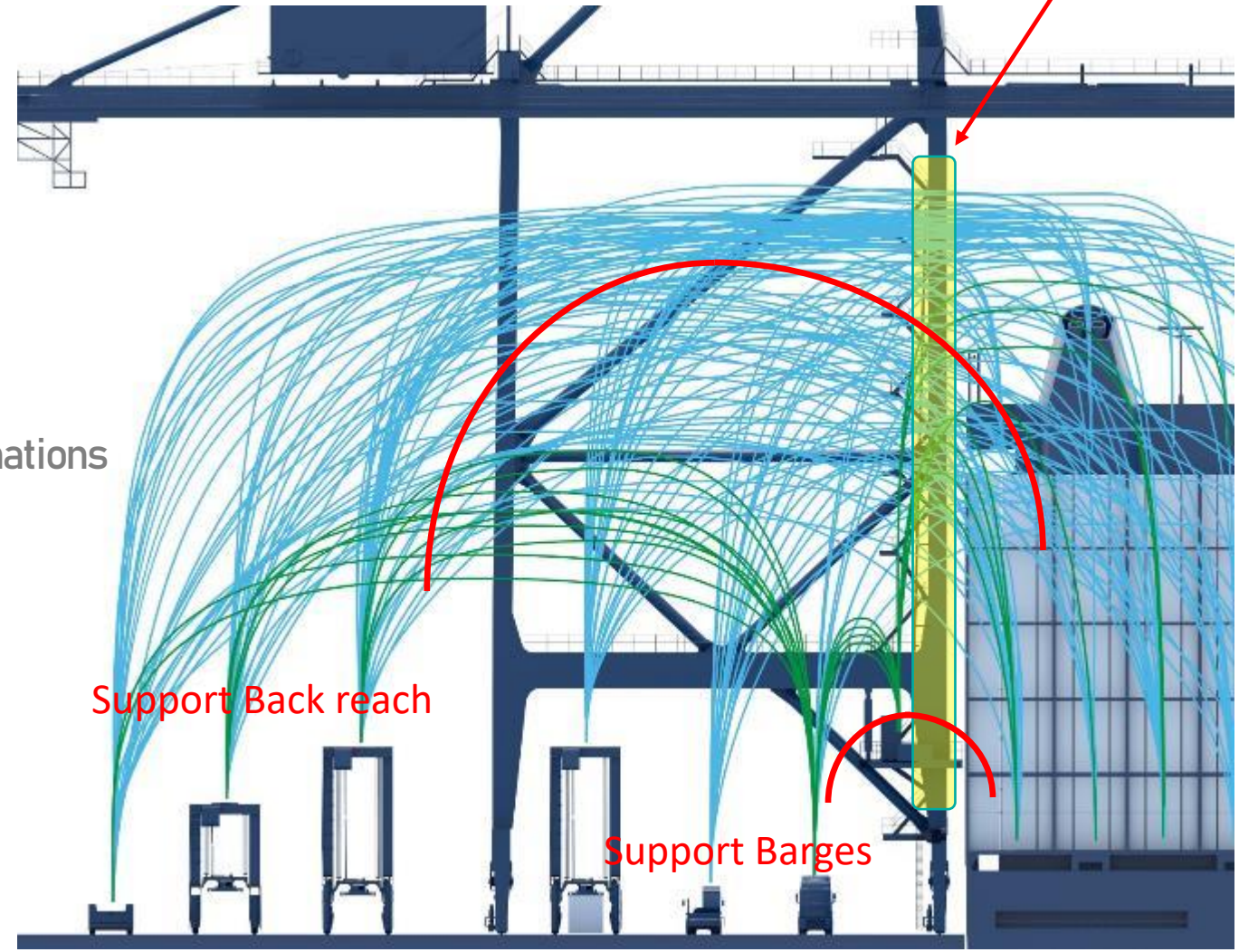
Unparalleled STS crane OCR

Camco's Boxcatcher is the most advanced OCR camera system

Project Reference Worldwide

Supported moves

- Supports under portal beam moves
- Support back reach moves
- 20/40ft 2x40ft 2x20ft 4x20ft combinations

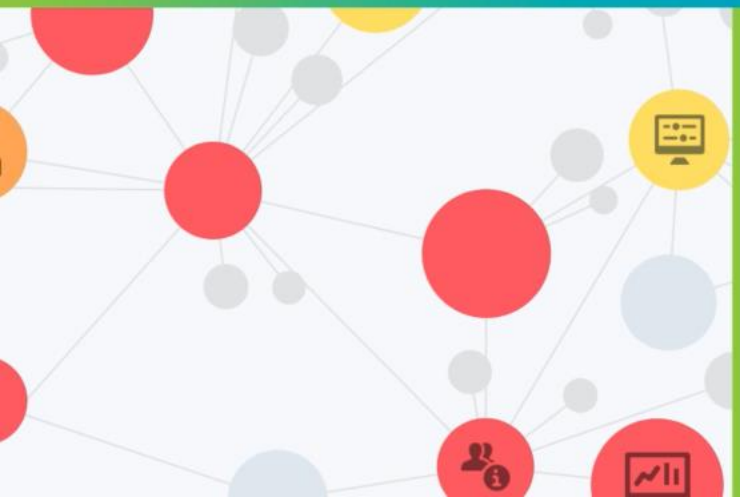


Confidential. All rights reserved. No content can be reproduced without permission.

CAMCO
TECHNOLOGIES

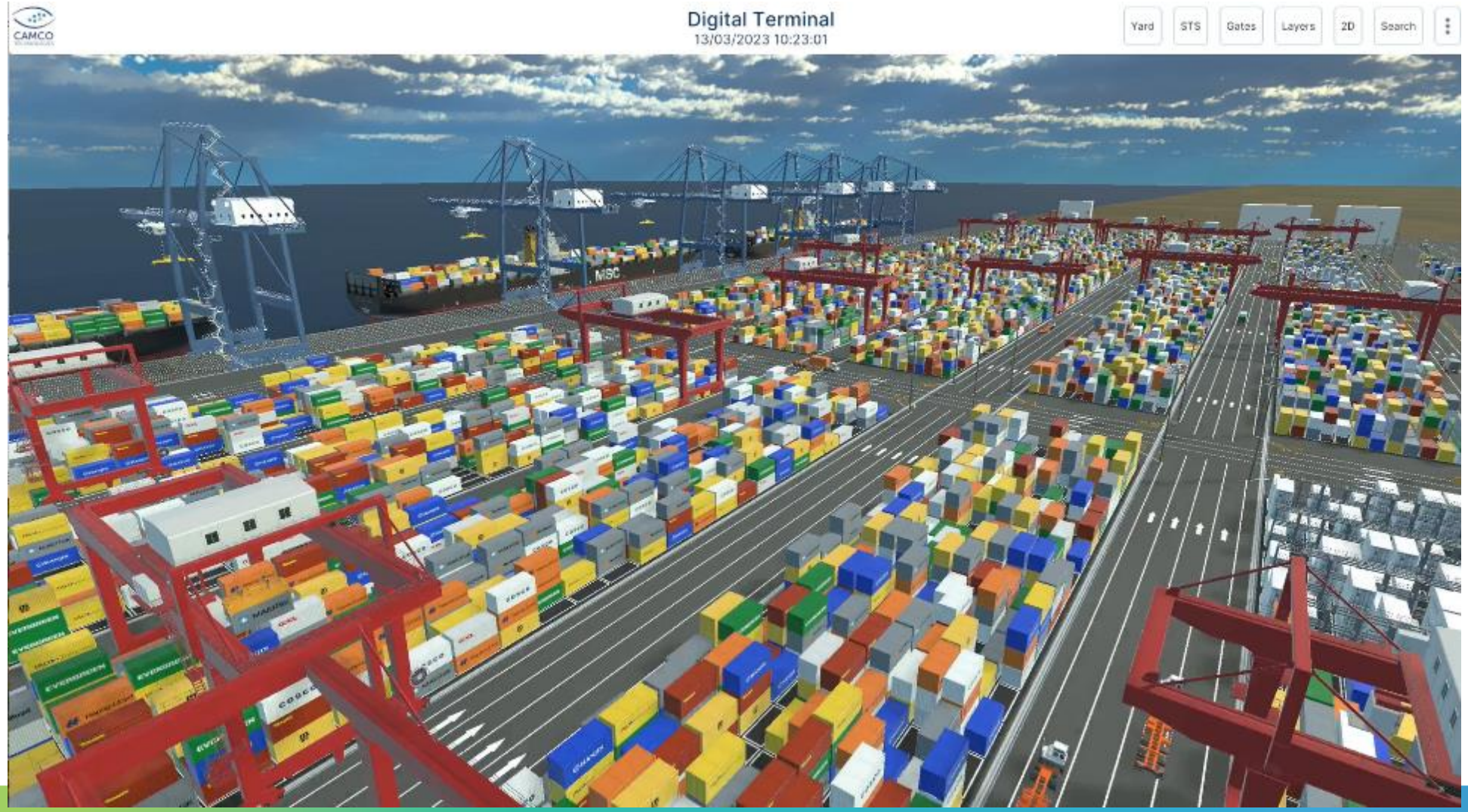
THE BRIDGE

Empowering container terminals
through automation



Real Time Digital Twin

A real time interactive 3D model of a terminal



RT DIGITAL TWIN
Management by Intelligence

Confidential. All rights reserved. No content can be reproduced without permission.

Thank you-Terima Kasih

Abby.zhang@camco.be
+32 468466991

CAMCO
TECHNOLOGIES