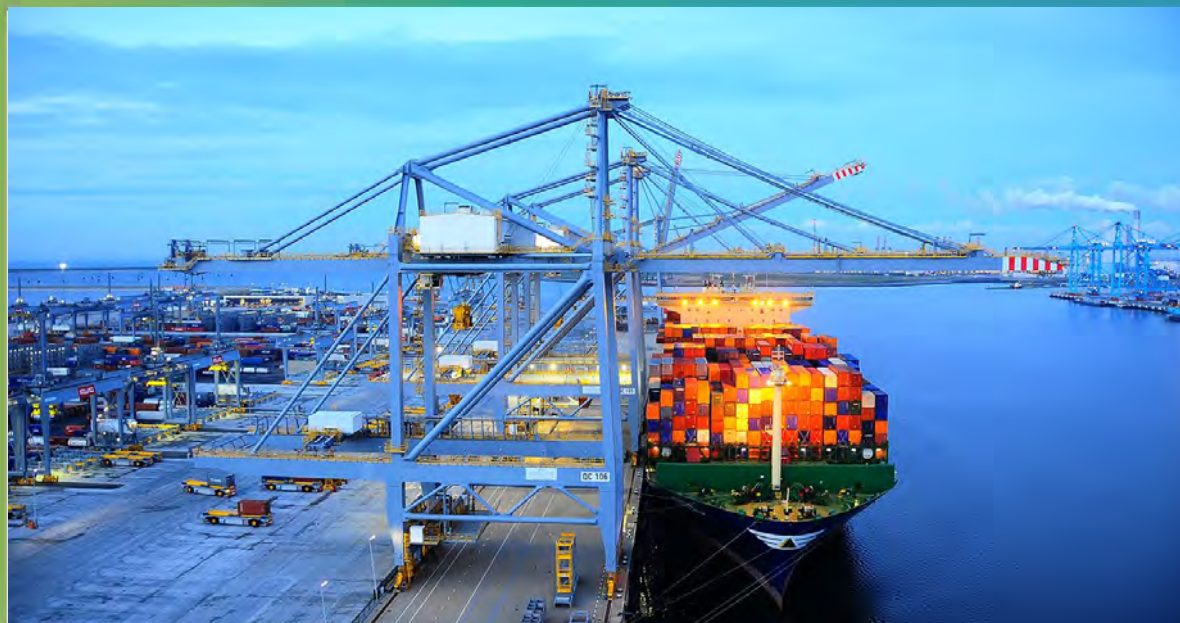


INCREASING EFFICIENCY, SAFETY & VISIBILITY



Anton Bernaerd
Trieste, May 30, 2024

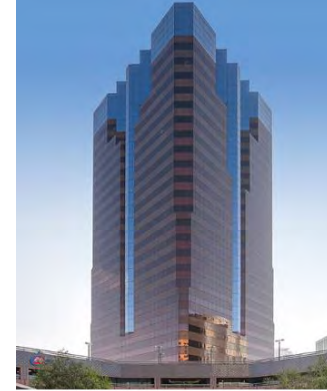
Automating container hand-over processes



Camco Technologies



Private owned
Global presence
24 years in terminal automation
Passion for technology
Industry innovator



Camco US
One World Trade Center
Long Beach



Camco Middle East FZE
JAFZA ONE Tower – Building A



CAMCO TECHNOLOGIES
AUSTRALIA PTY LTD



Camco China
Shanghai



A unique combination of four business units:

- Product Development
- Production Factory
- Project Factory
- Services Factory

Product Development

2002 Camco GEN1 cameras with embedded computer

2003 Line scan technology for OCR portals

2004 Spot line triggering, no ground loops

2008 Modular Kiosk

2010 LSTP Kiosk (full panel)

2014 BoxCatcher

2019 Full Integrated OCR portal (LC Portal)

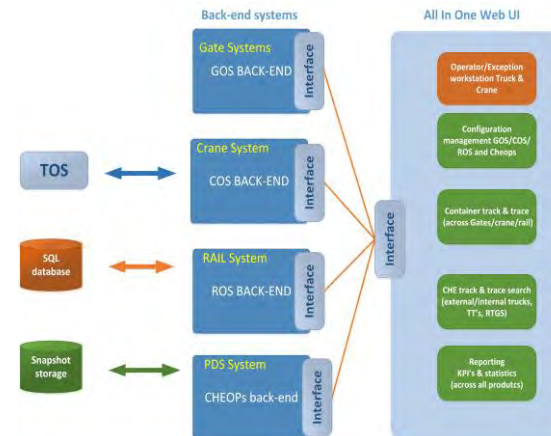
2020 NFC tags on all hardware

2021 UVS (under vehicle scanner)

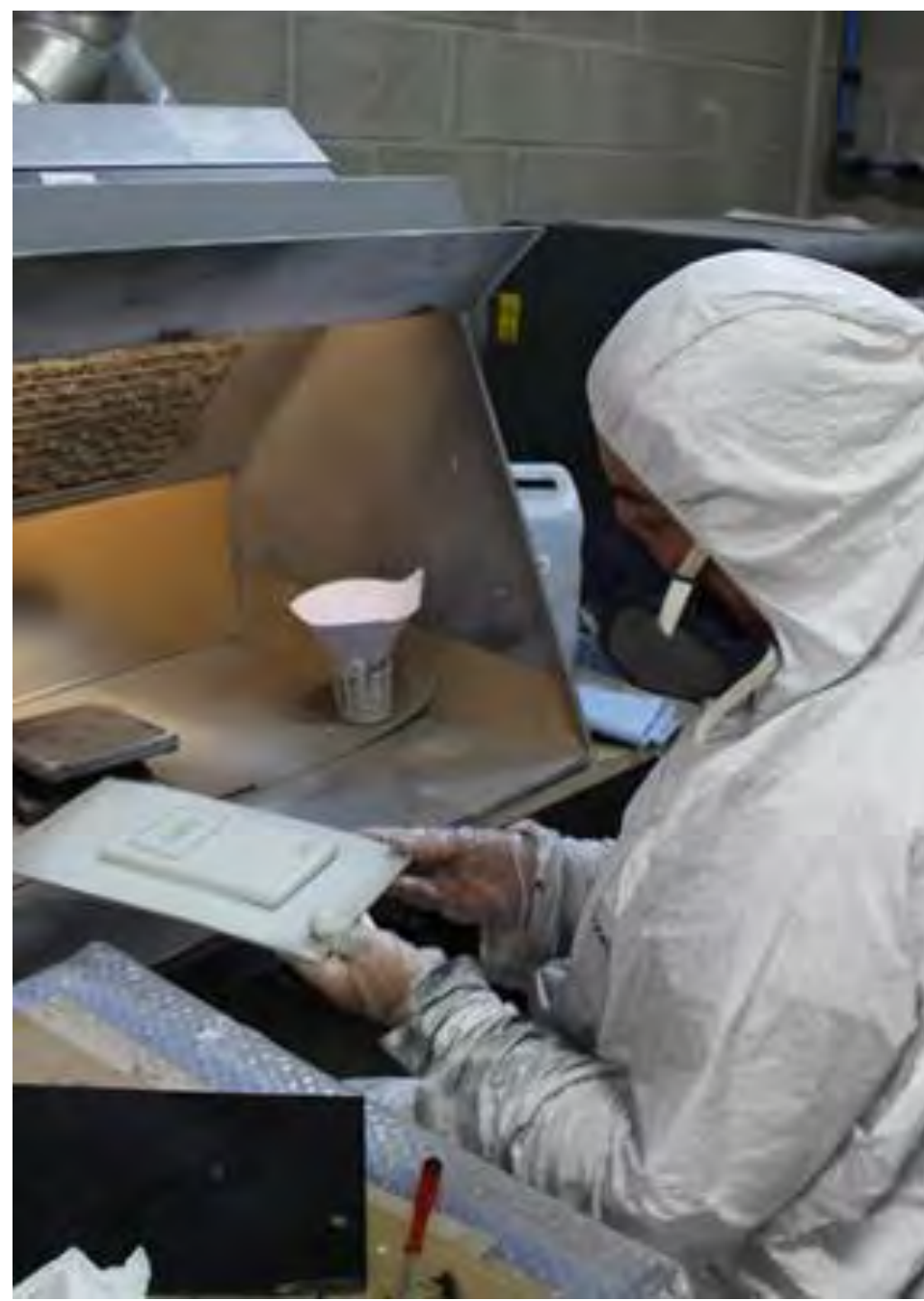
2022 Spreader Cam

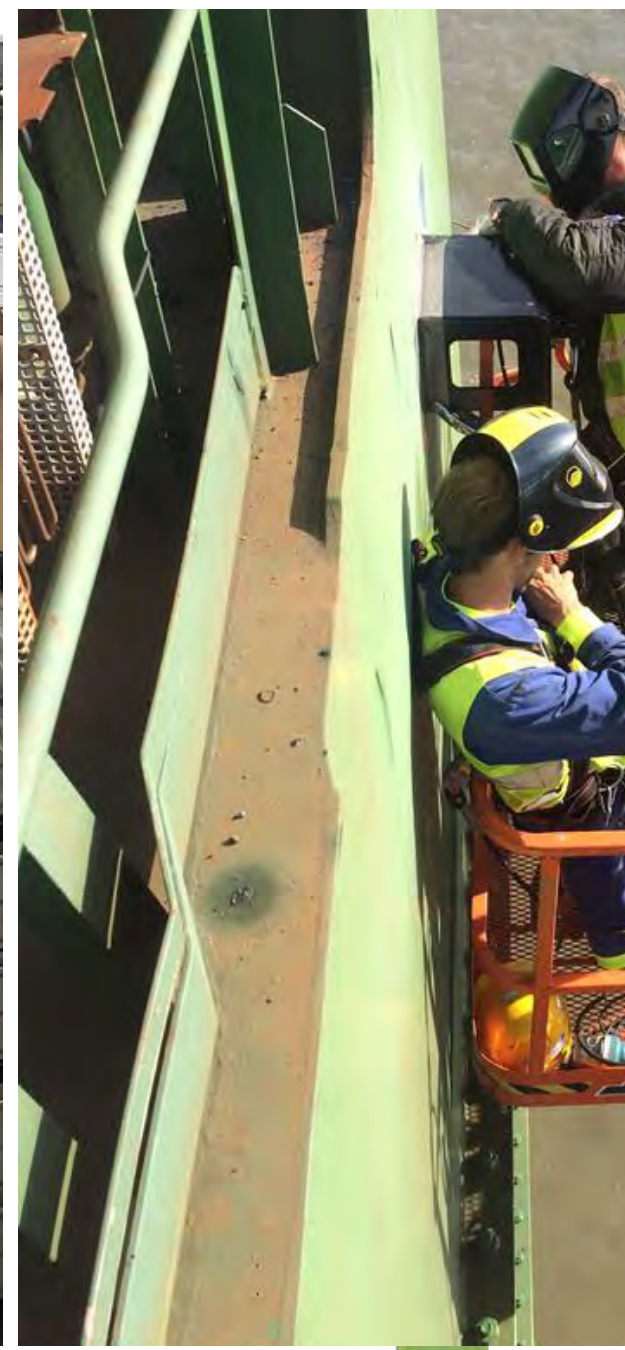
2023 The Bridge

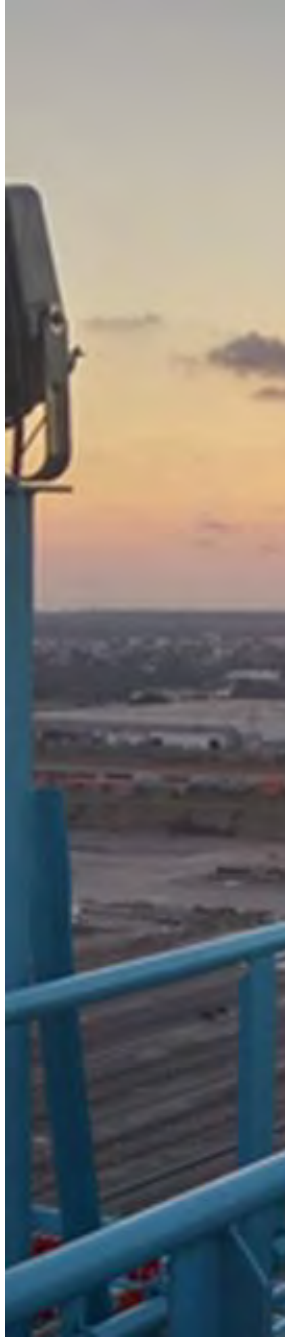
2023 Real-Time Digital Twin

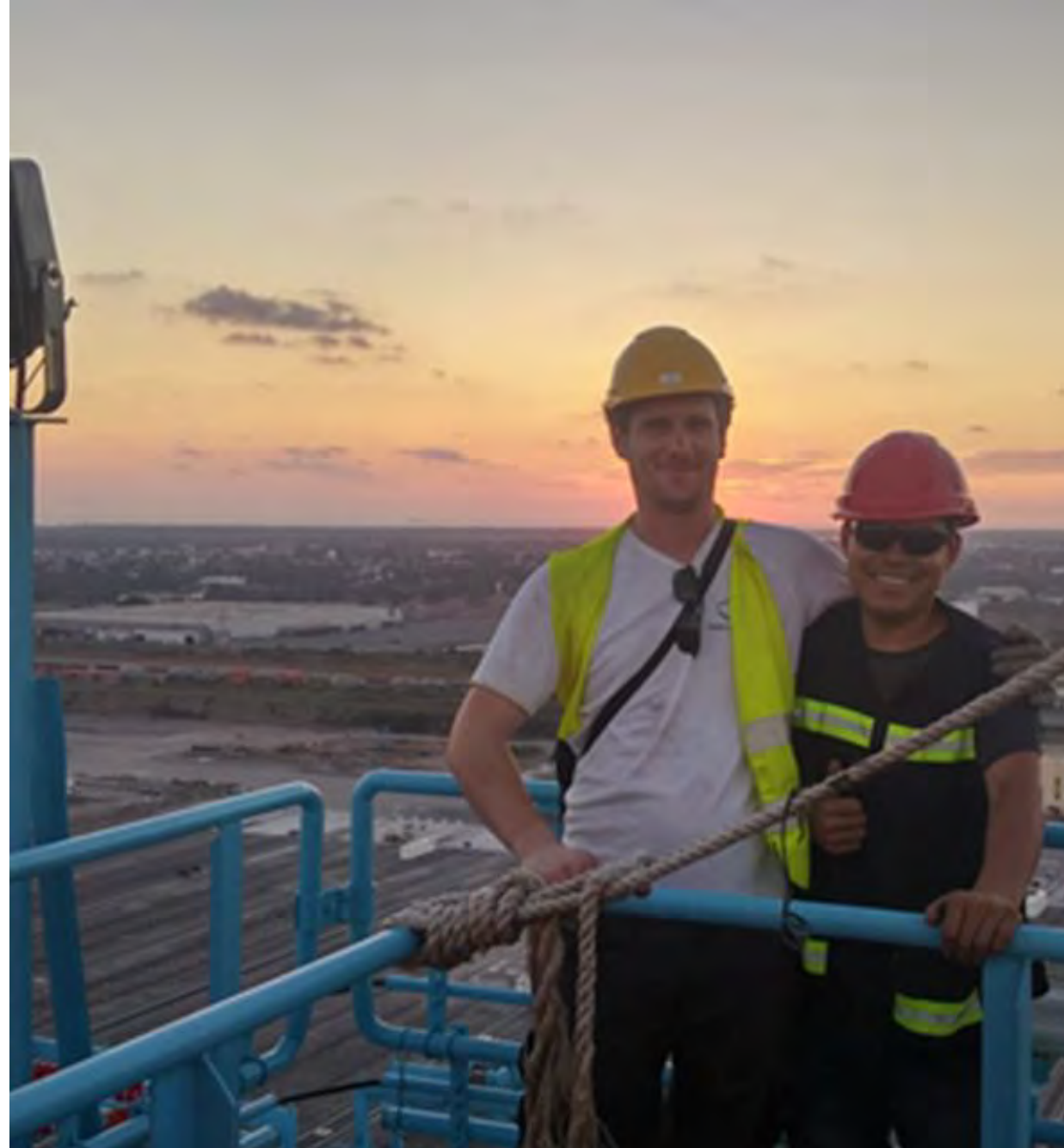


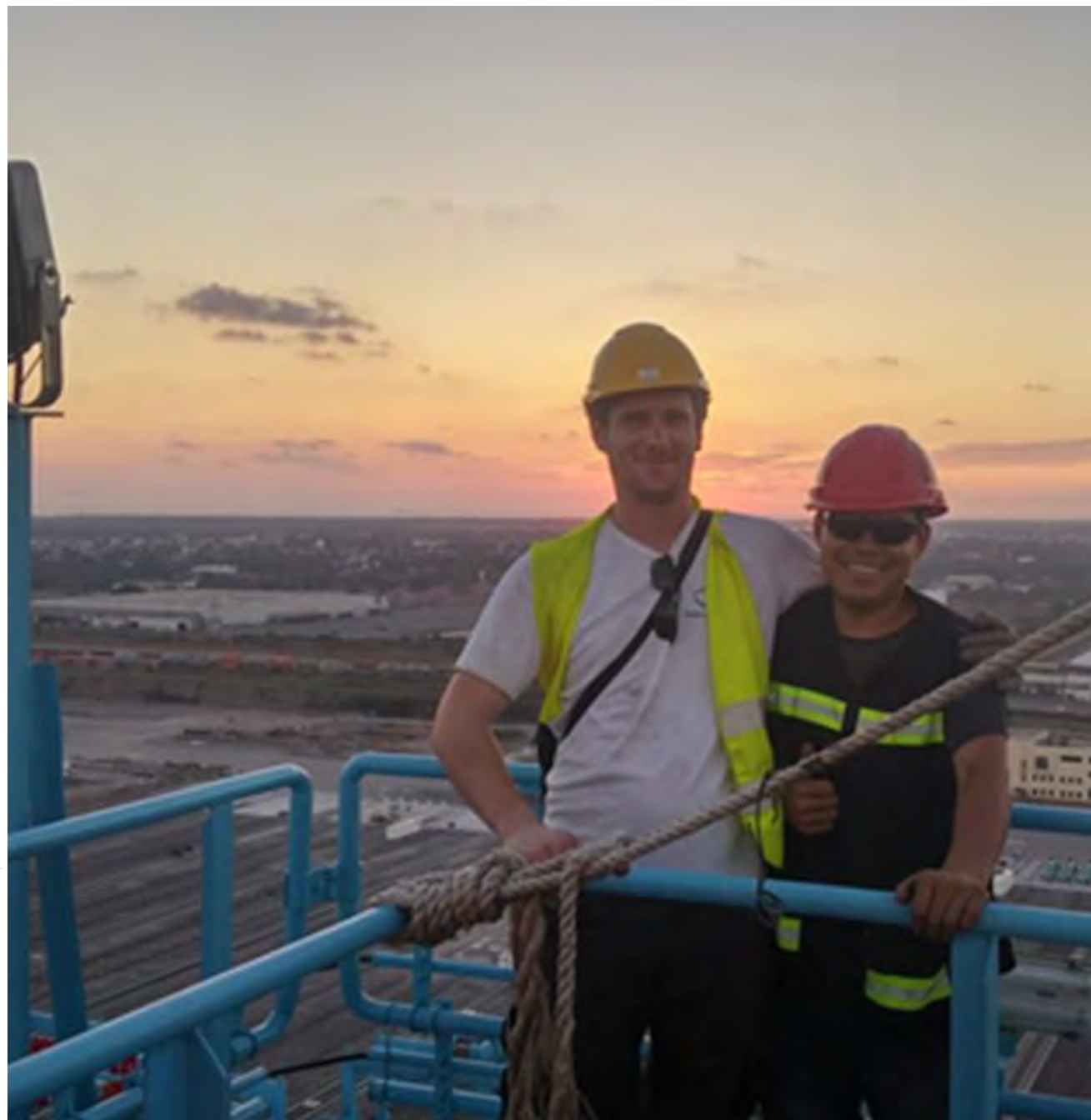




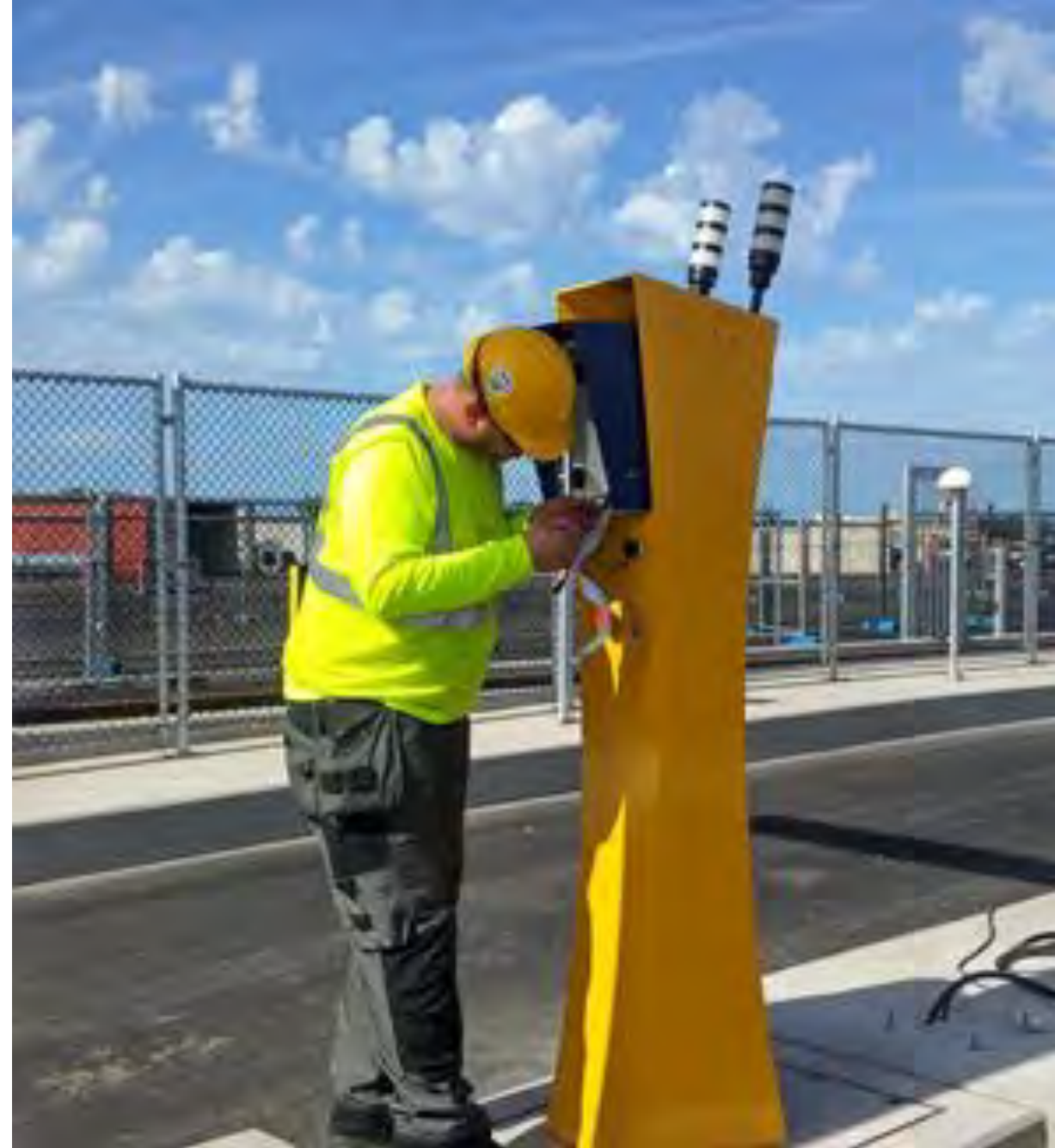










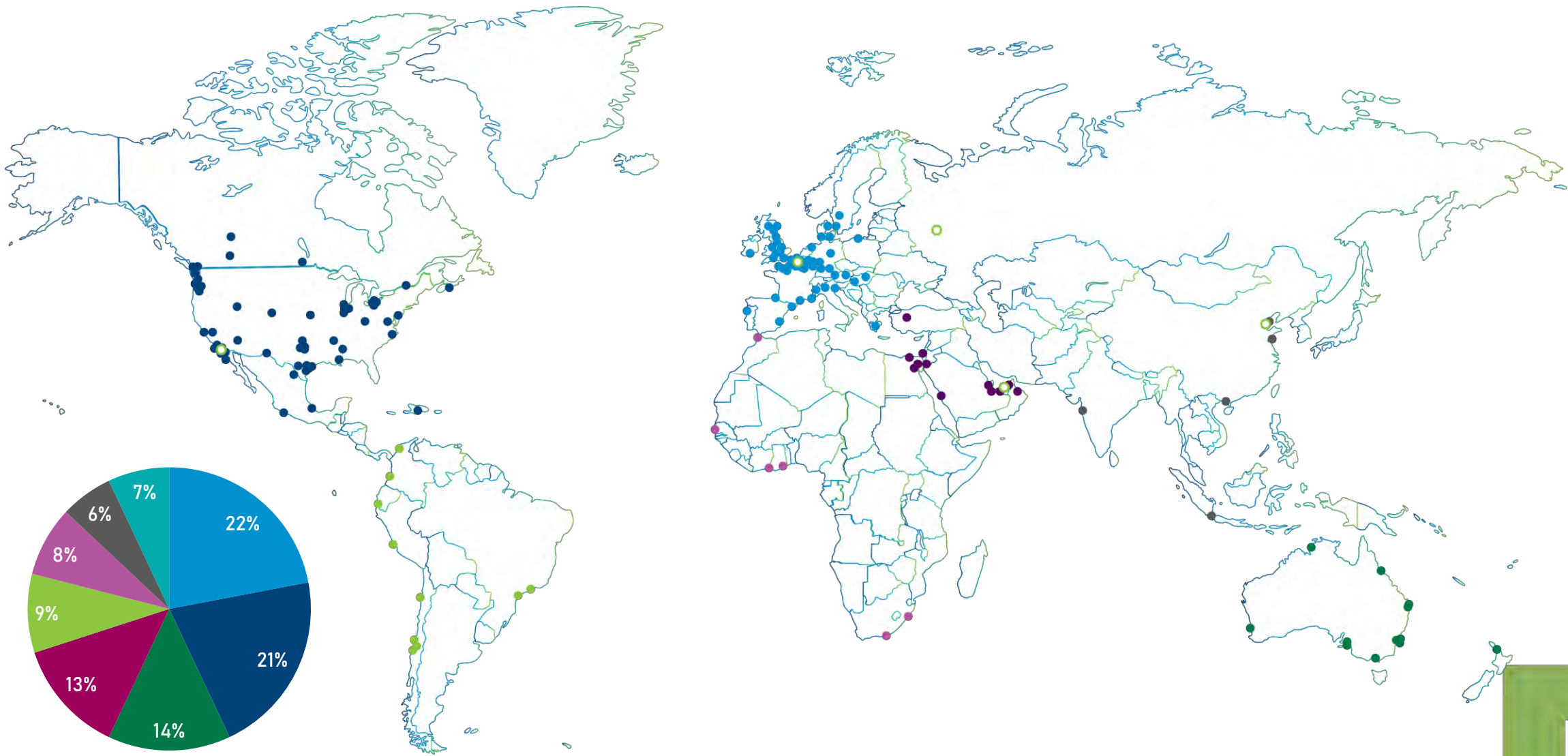


People!

Total >225 staff
Belgium/Shanghai/LA/Dubai/Sydney

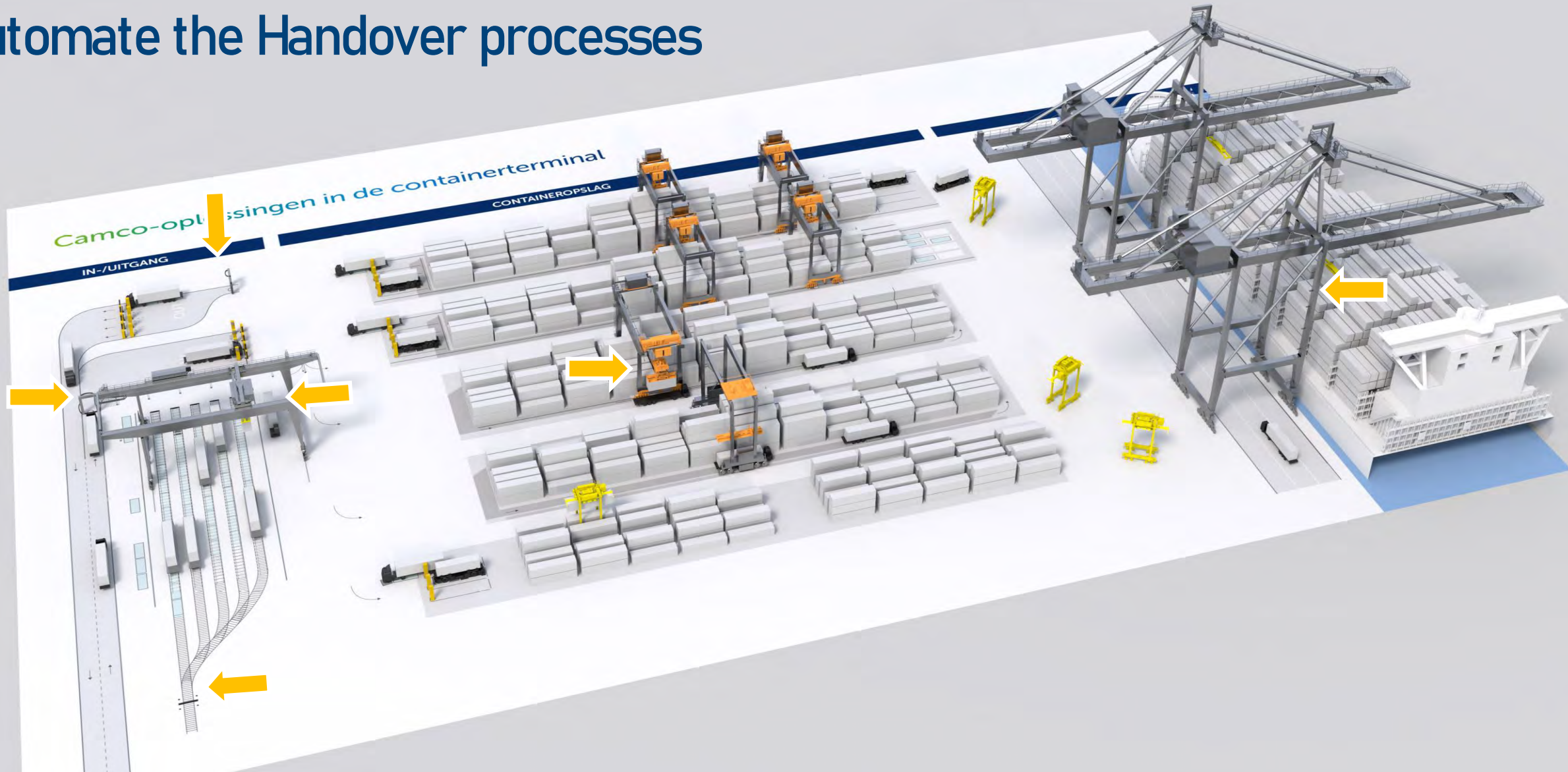


Global – Worldwide Presence



Vision & location technology-based solutions

Automate the Handover processes



Camco automation solutions

Visual-based



Gate

- *Truck OCR Portals*
- *Gate kiosks*
- *Access control*
- *Vehicle Booking System*
- *Under Vehicle Scan*
- *ADI*
- *Gate Operating System*
- *The BRIDGE*



Quay

- *BoxCatcher STS-crane OCR*
- *Roof & Spreader Cam OCR*
- *STS PLC interface*
- *ADI*
- *Crane OCR System*
- *The BRIDGE*



Yard

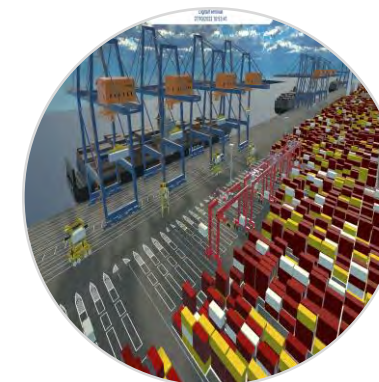
- *RMG & RTG OCR & ID*
- *Spreader Cam*
- *LSTP kiosks*
- *RFID ID*
- *RTG/RMG/ASC interface*
- *The BRIDGE*



Rail

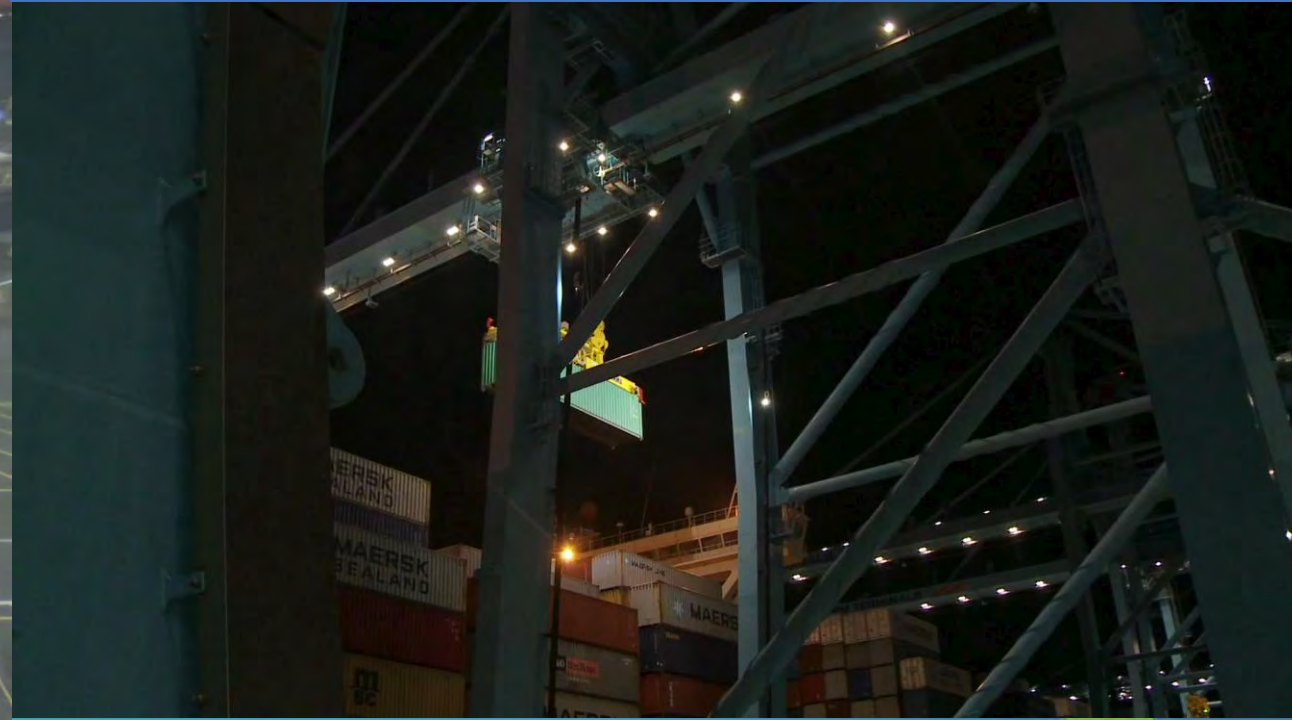
- *Rail OCR portal*
- *AEI TAG*
- *ADI*
- *Brake-shoe wear & tear*
- *Undercarriage inspection*
- *The BRIDGE*

Location-based



Horizontal Transport

- *RTLS - PDS*
- *GNSS/UWB/RFID applications*
- *Real-Time Digital Twin*
- *The BRIDGE*



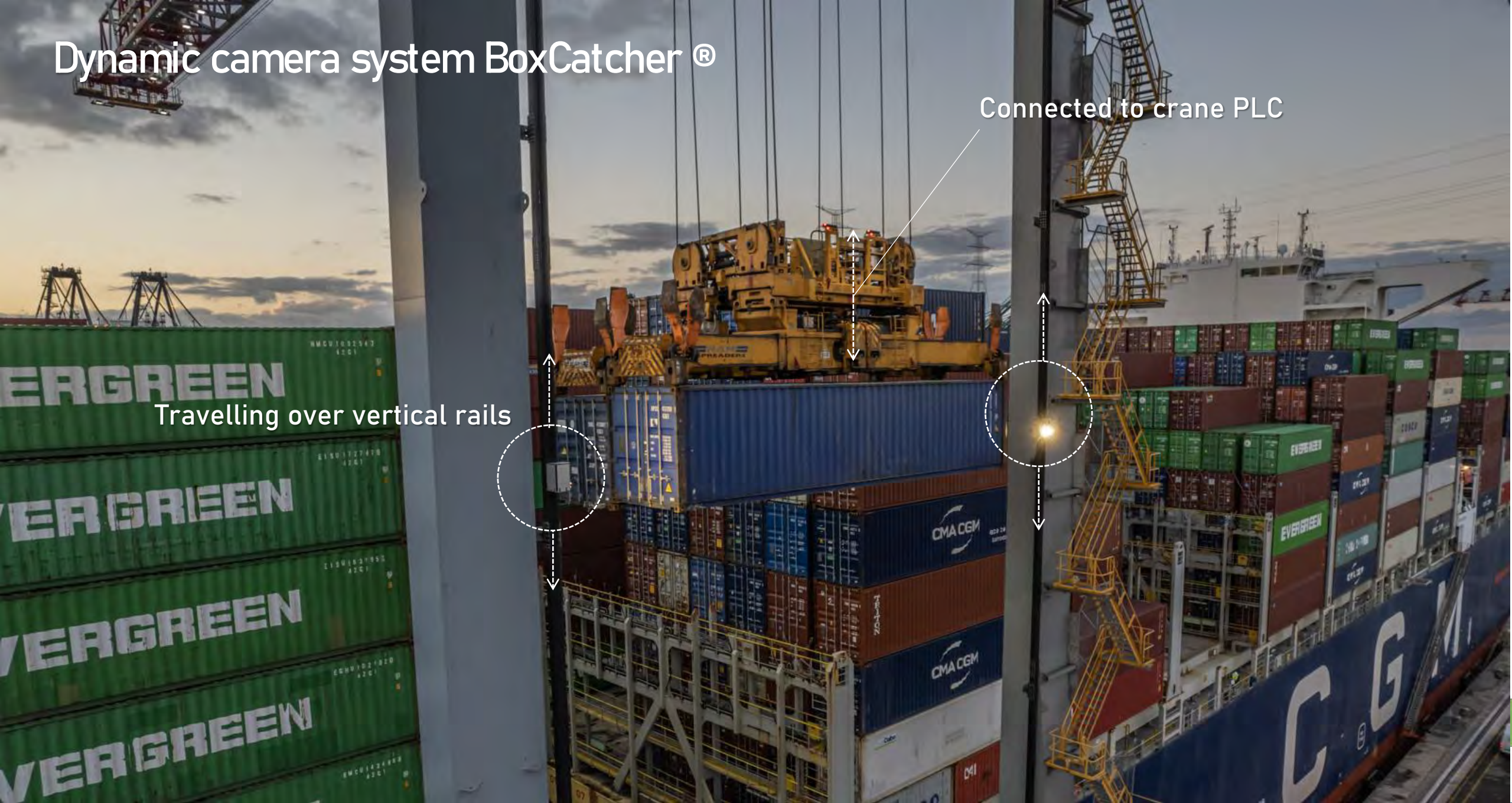




BoxCatcher STS crane OCR

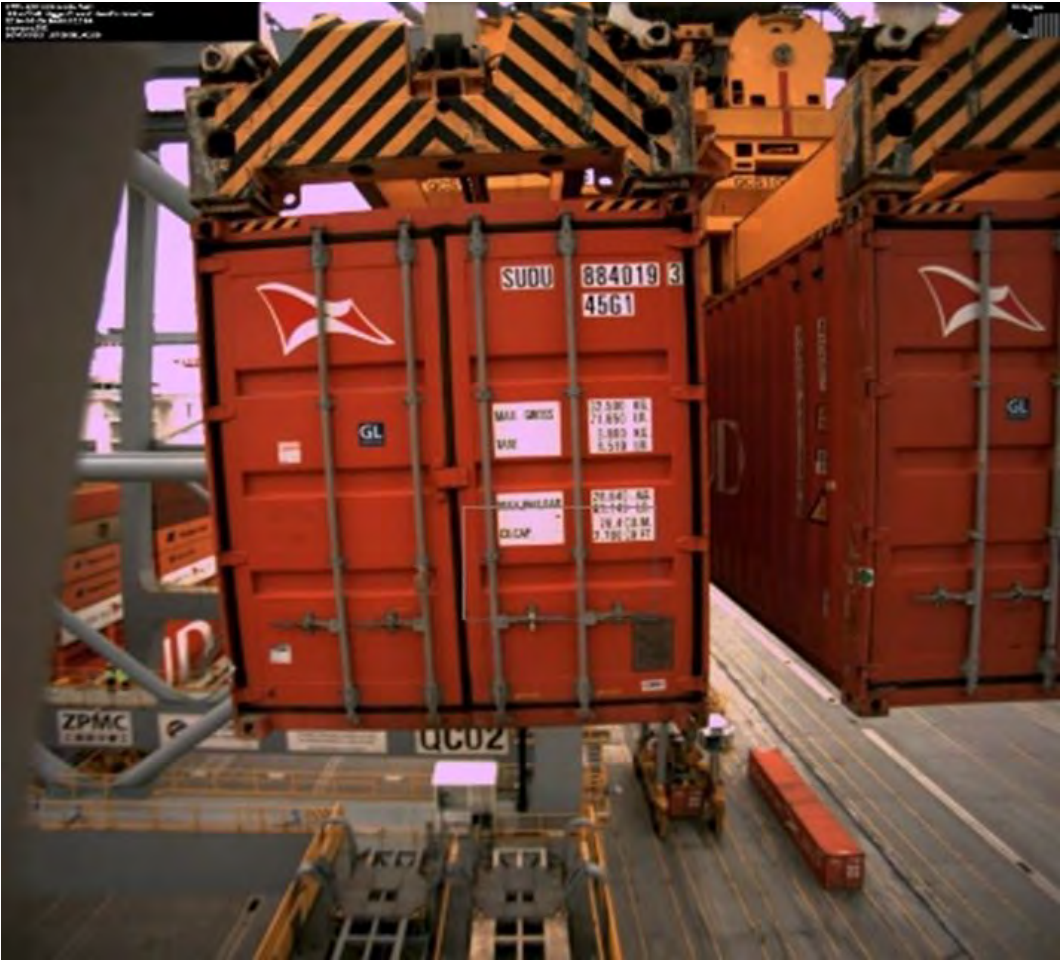


Dynamic camera system BoxCatcher®



Connected to crane PLC

Travelling over vertical rails

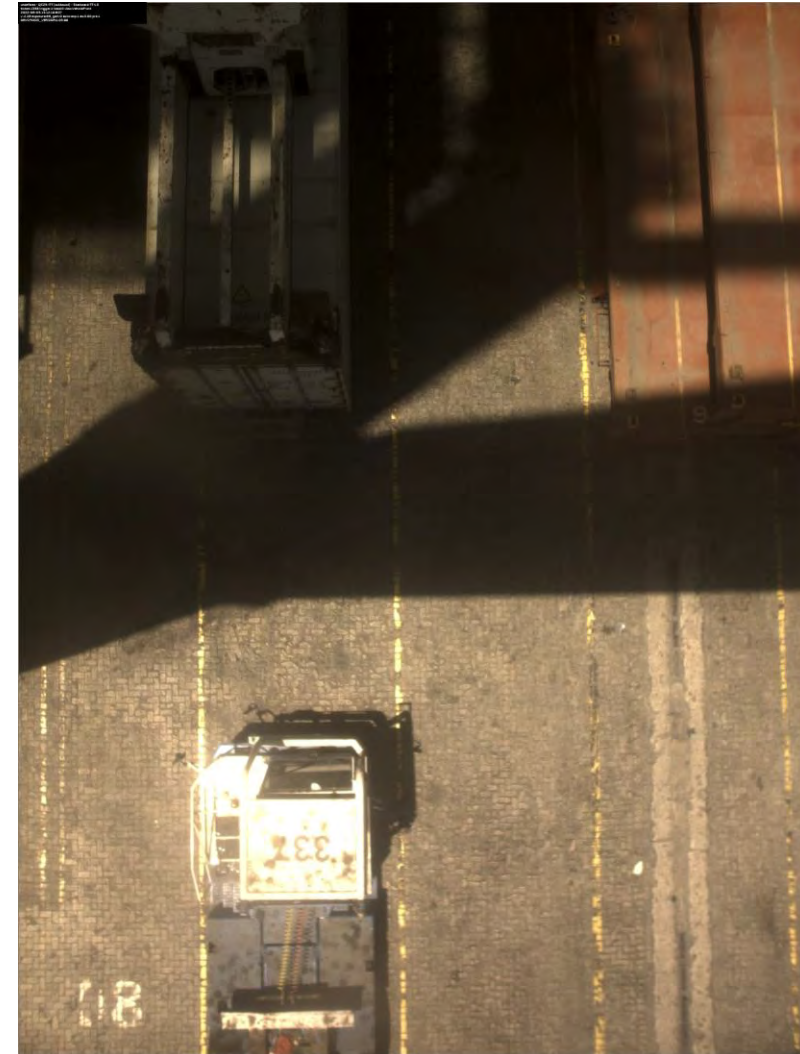
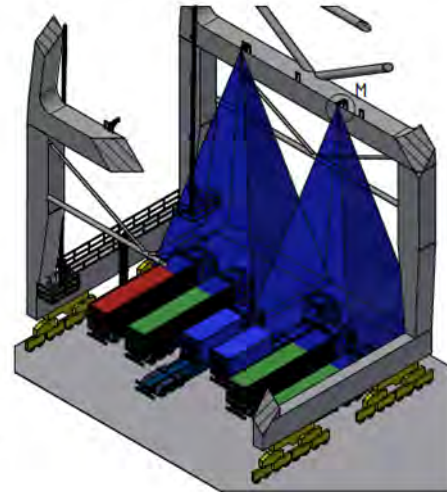
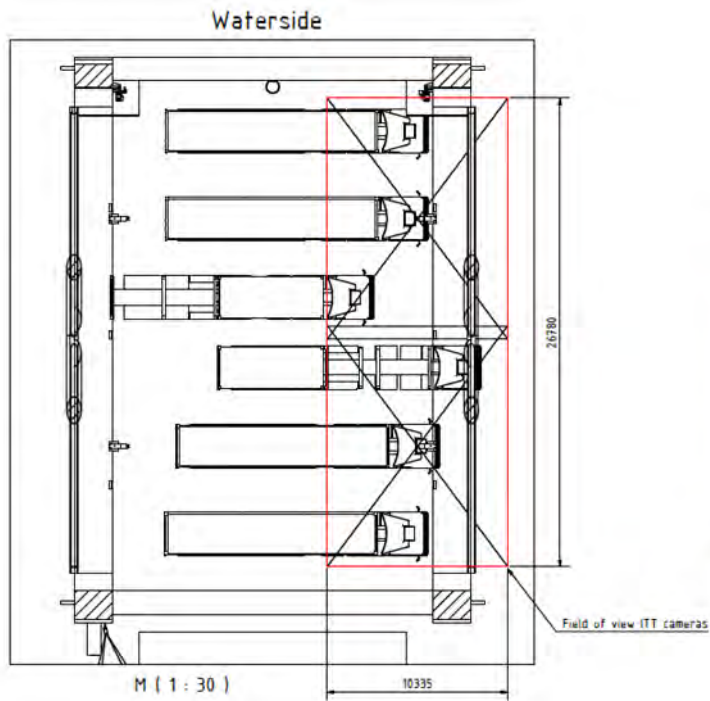






Straddle Carrier & Truck ID Matching – Visual-based

Roof number cameras mounted on Portal beam



Straddle Carrier & Truck ID Matching – UWB-based

Identifying TT under STS crane, RTLS system



Bay Load Verification - BLV



← Back

CREATION09/05/23 - 11:18

SUBJECTShip Payload

LOCATIONBEANT

SHIPZBHB-5647

COUNTRYBelgium

VISIT IDAH789-55-XY4

Actions

Port:EGPSE (774)

Container:HAZARDOUS

Reported situation

001

2018161412100806040201030507091113151719

94929088868482

222018161412100806040201030507091113151719

94929088868482

7 possible errors

001

2018161412100806040201030507091113151719

94929088868482

222018161412100806040201030507091113151719

94929088868482

Resolve differences

Report differences

Cancel

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BoxCatcher® accuracy rates



OCR

Container number	> 98%
ISO code	> 98%
IMO placards : presence	> 96%
IMO placards : class	> 93%
UN number : presence	> 96%
UN number	> 90%
Container weight*	> 85%
*Extended feature Values applicable if data not obstructed Handwritten numbers excluded	

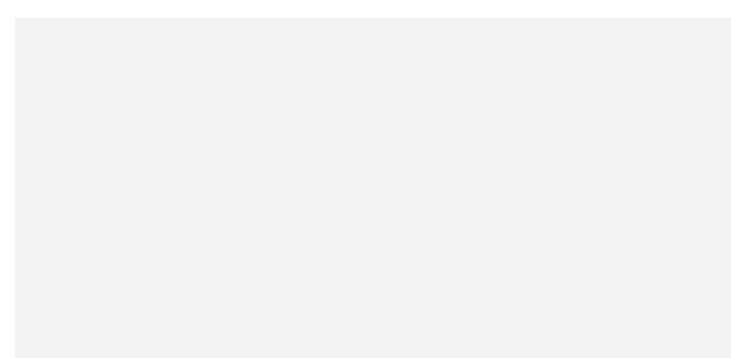
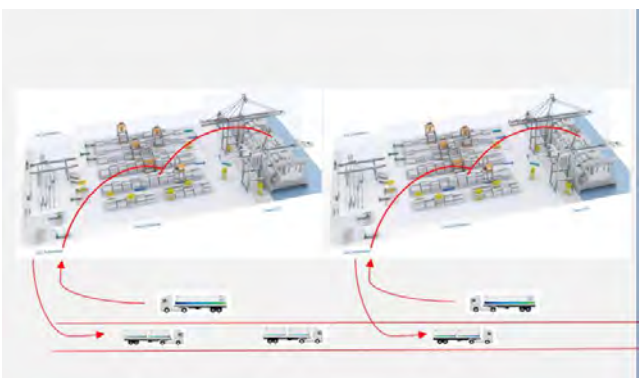
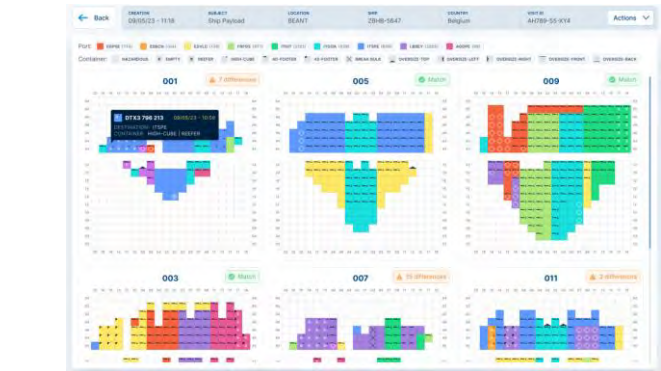
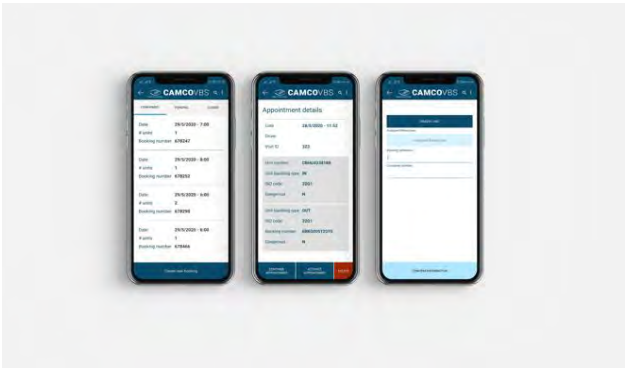
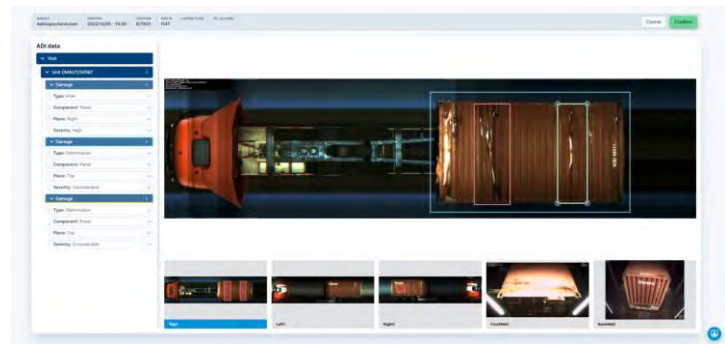
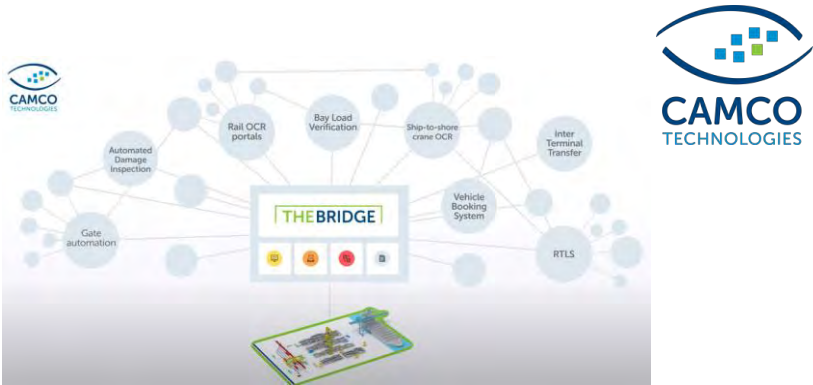
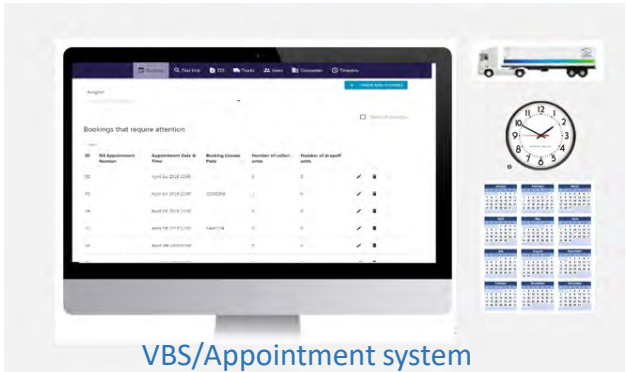
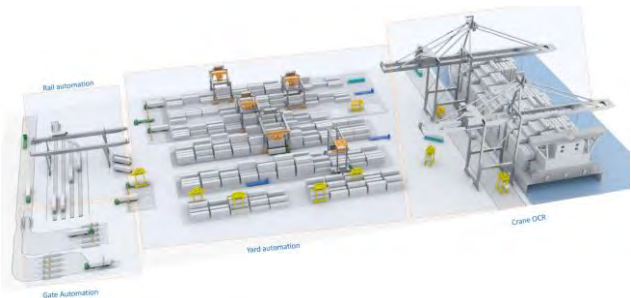
OFR

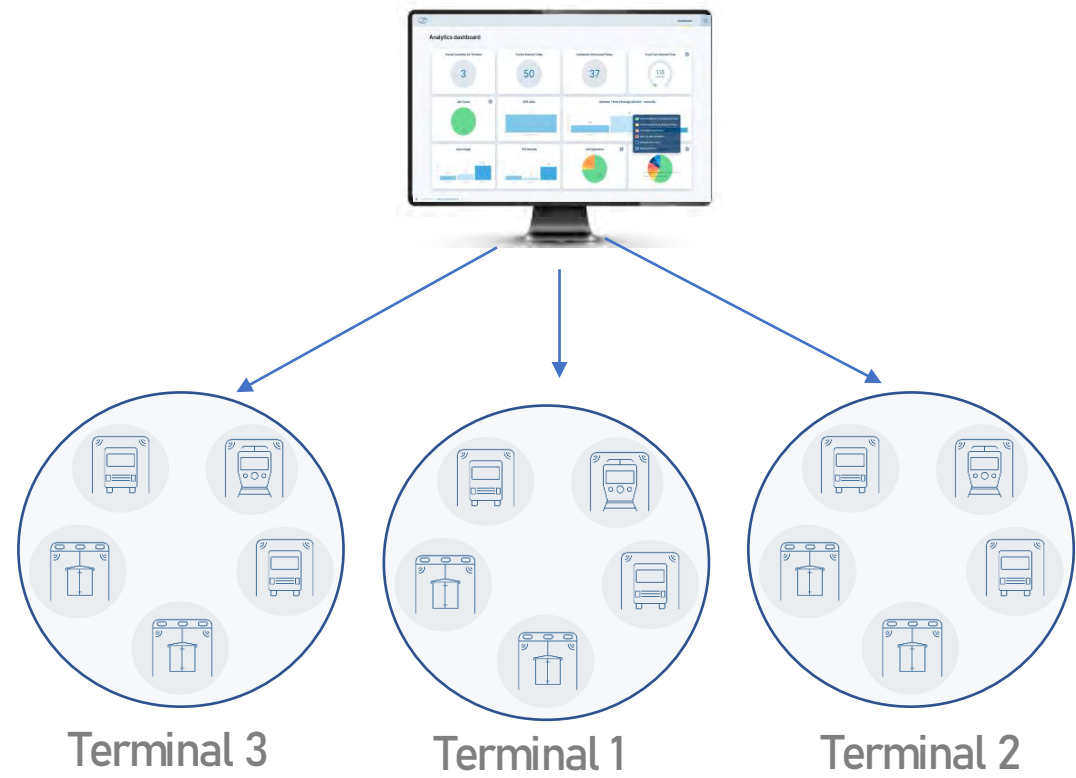
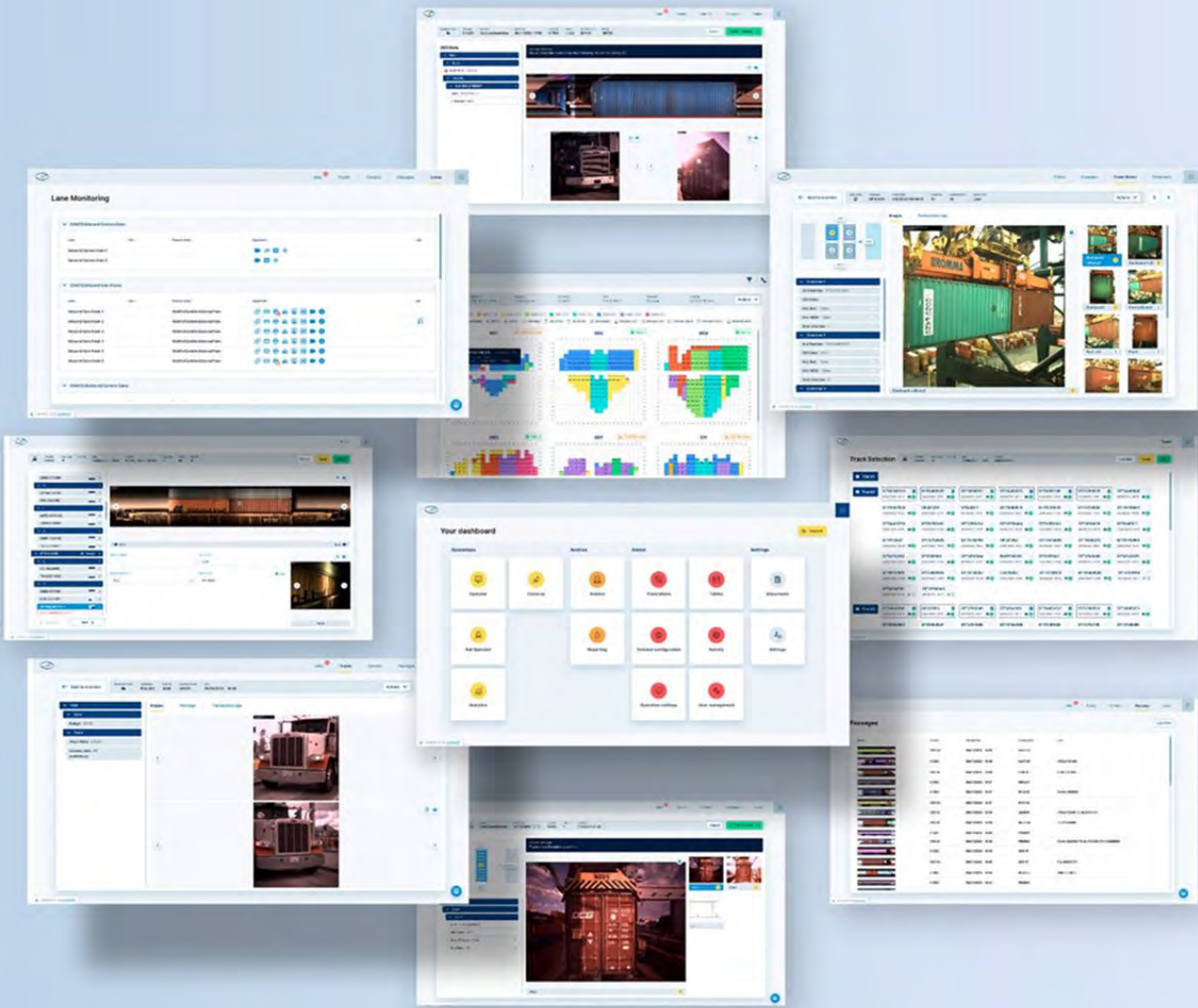
Door direction	> 99%
Seal presence	> 95%
Tank valve detection*	> 90%
Tank container bars presence*	To be audited
* Extended feature	

CONDITION RECORDING

Condition checking
Storage for later retrieval

From products to software solutions





Multi terminal

Transparently controls all Camco's products across several terminals from one web browser

Multi product

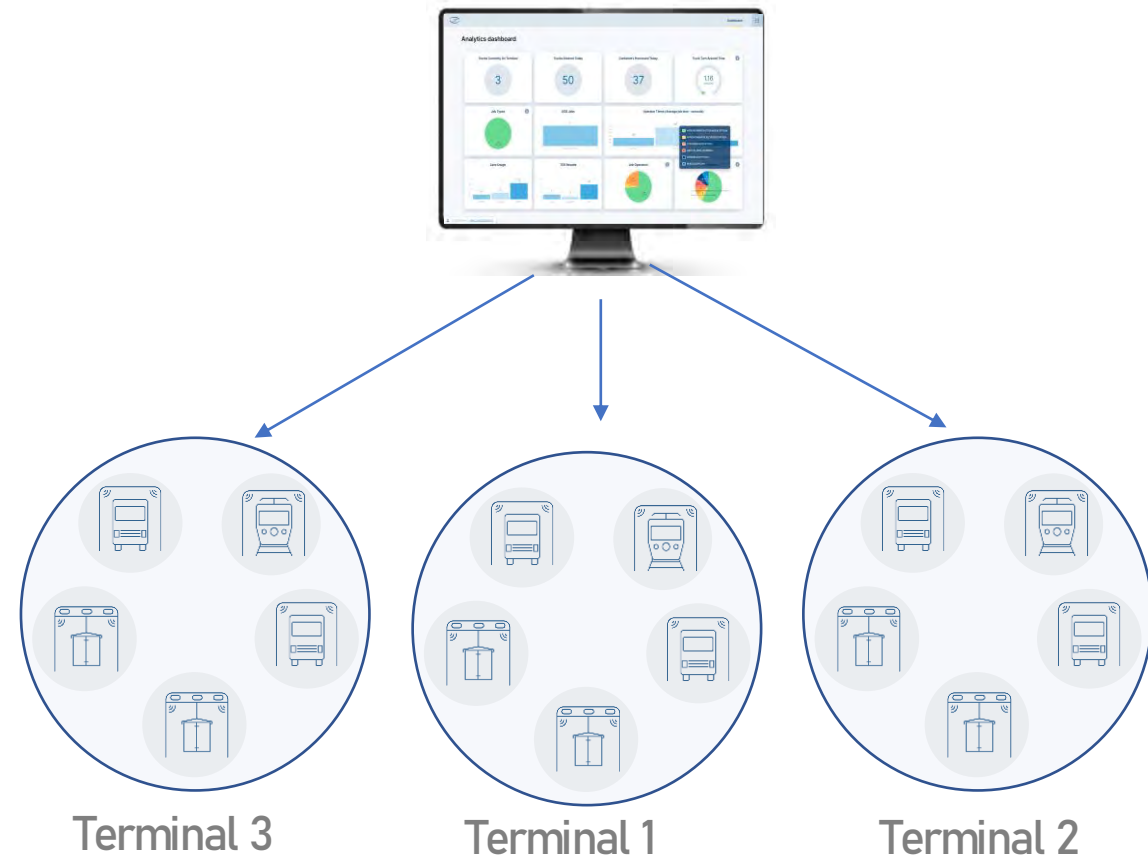
Supports all Camco products Gate/Crane/Rail/RTLS + side products as VBS/ITT, BLV, and RT Digital Twin...

Multi application

supports all applications as setup, configuration, user configuration, exception workstation, maintenance console, dashboard, reporting, analysis and real-time 3D terminal view

THE BRIDGE

Management by Intelligence



What about AI in this story?

Thank you!

