

# Applied Intelligence at Ports and Container Terminals

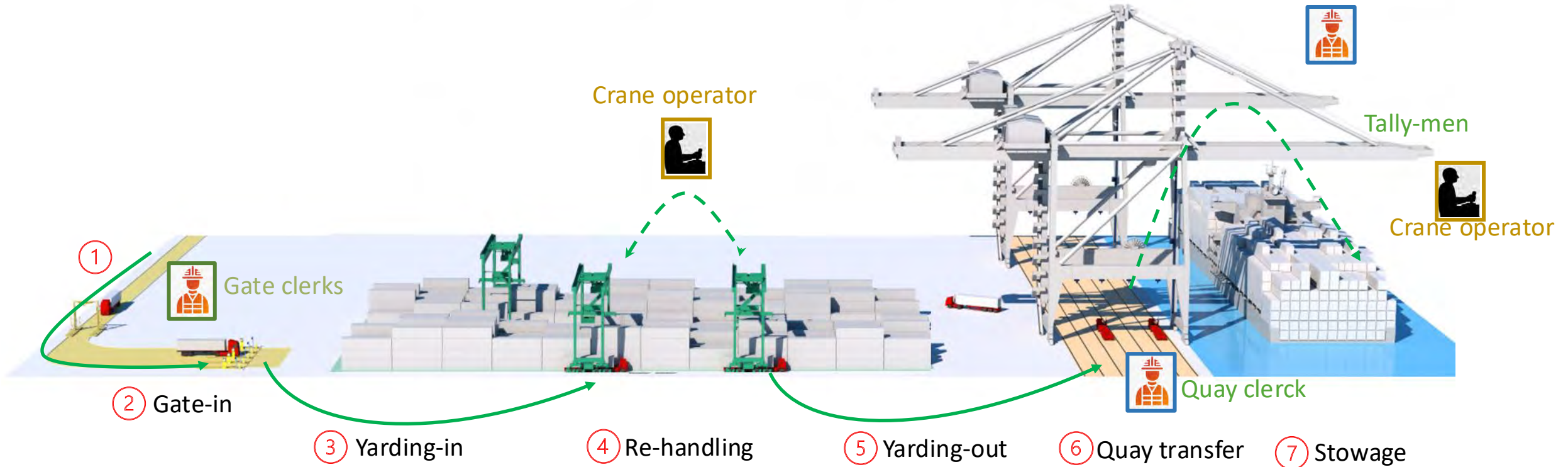
**BLACK SEA**  
Ports and Logistics 2026



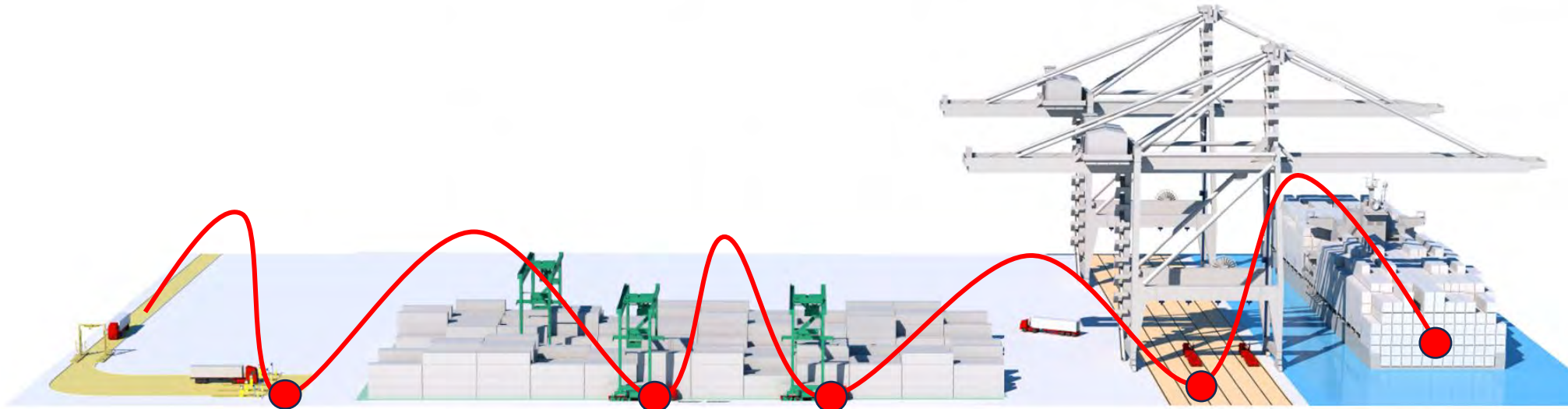
Rodrigo Garro  
Istanbul, Jun 11<sup>th</sup>, 2026

# Road to Vessel Journey

## 5 single moves from road to vessel



# Road to Vessel Journey



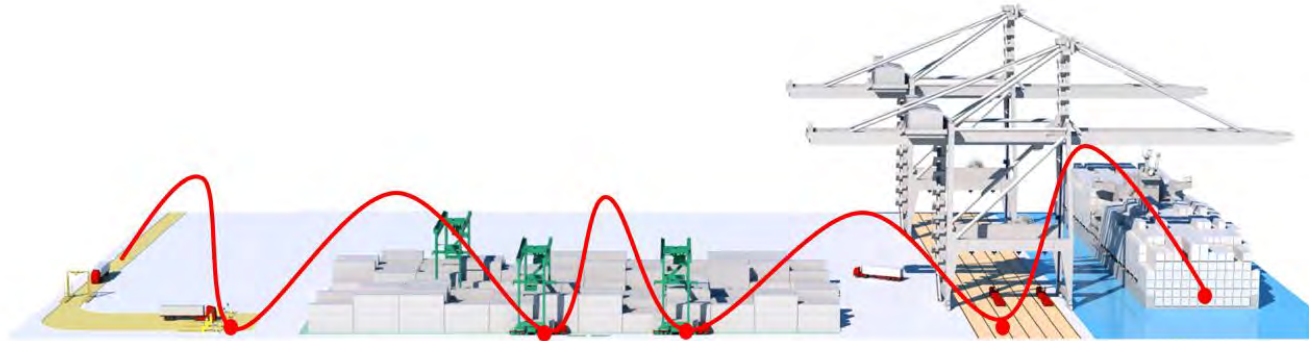
## Is this the right container being pickup up?

- Reading container number
- Reading via truck-ID (license plate/tag/roof)

## Is this the right pickup or drop location?

- RTG (Stack locations)
- STS (lane location)
- Vessel (bay/row/tier location)

# Road to Vessel Journey



Those container moves are guided by the Terminal Operating System dispatching digitized jobs to clerks and crane operators.



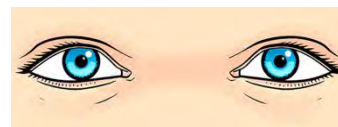
Digitized Jobs



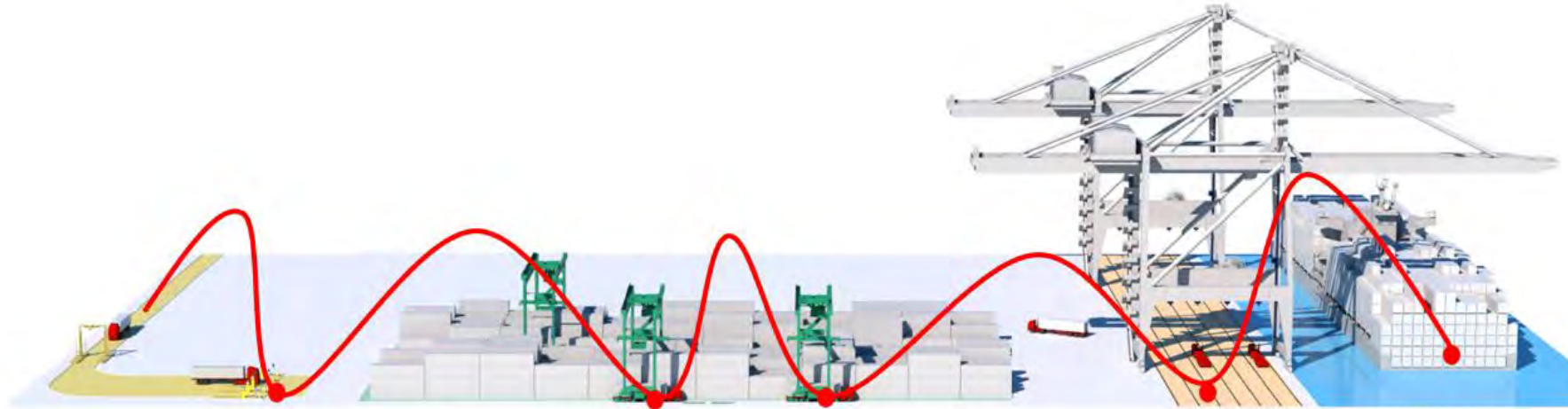
These clerks and crane operators rely solely on visual checks to execute those instructions



Human feedback



# Road to Vessel Journey



On a manual operated terminal the TOS is blind

Instructions are send out digitaly (handheld)  
Feedback is « analog », based on the human  
factor



# The Automation Imperative

Rising volumes & congestion

Labor scarcity & safety pressure

Manual work =  
Blind spots & errors

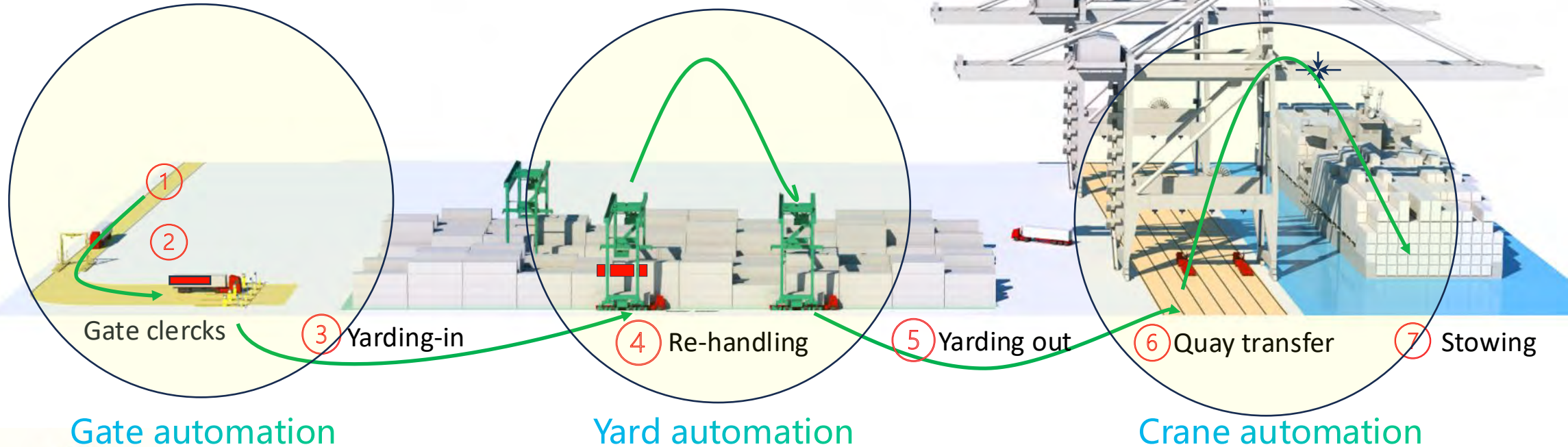
Customer expects efficiency

Competitive advantage depends on automation



# Road to Vessel Journey

From manual black box operations to fully digitised terminal



- Digitalisation brings high visibility on the terminal processes
- Gate/yard/crane automation generates visual, location and timestamp data by move
- Makes TOS 100% copy of physical situation on the yard/vessel/train
- Higher efficiencies
- Less clerks on the yard, higher safety

# Camco Technologies Overview



CAMCO Headquarters in Belgium



CAMCO Shanghai Office



CAMCO USA Office



CAMCO UAE Office



CAMCO Australia Office

- **27 Years The longest history**  
CAMCO established in 1999, with 350 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.
- **Local M&S teams The Efficient Service**  
With five M&S teams located in Belgium, Abu Dhabi, Shanghai, Los Angeles and Australia, CAMCO provides the 24/7 full time efficient maintenance service globally.
- **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.
- **Innovation Focus**  
With a >50 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.

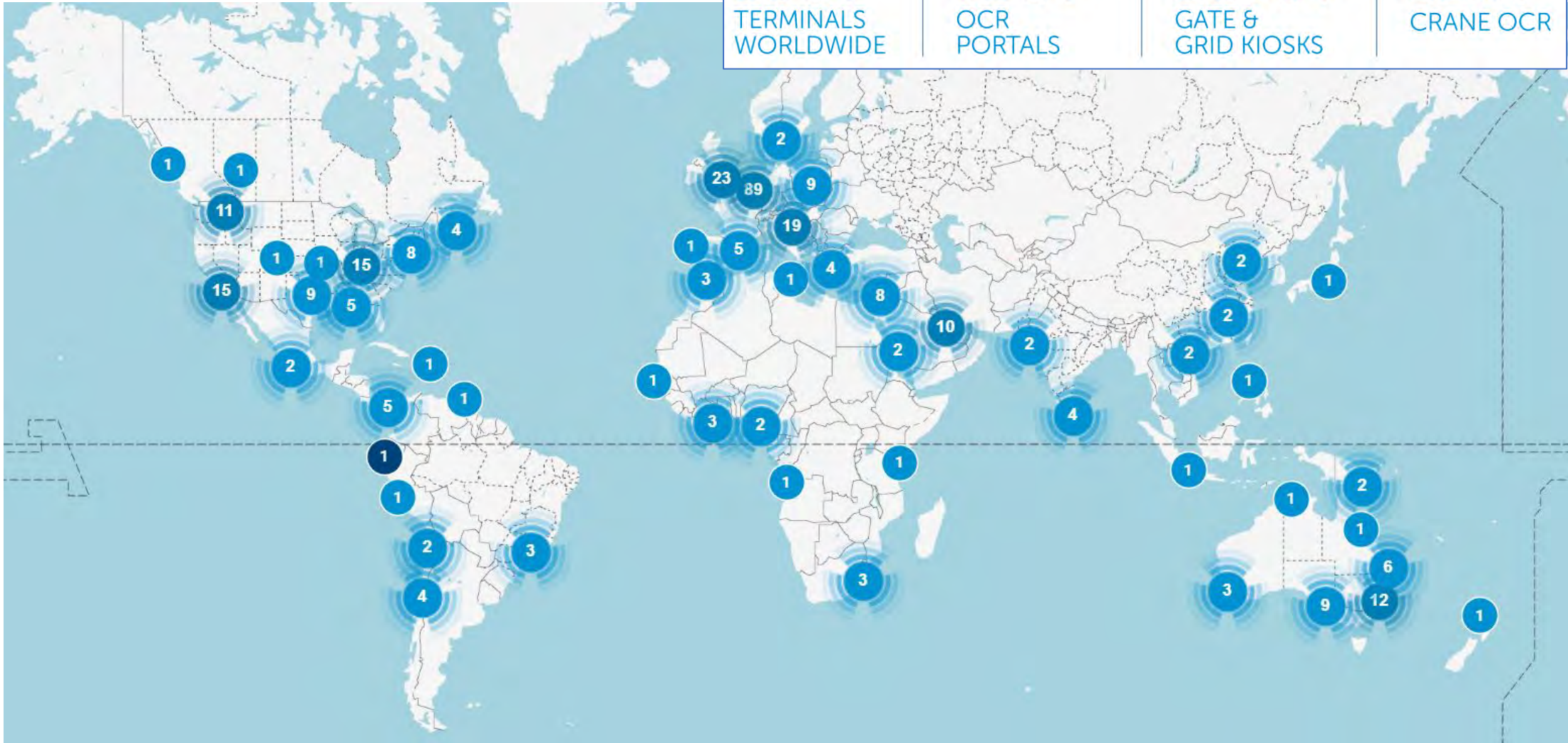
# Camco at a Glance

300+  
TERMINALS  
WORLDWIDE

700+  
OCR  
PORTALS

3000+  
GATE &  
GRID KIOSKS

320+  
CRANE OCR





A unique combination of four business units:

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





# Camco Product Portfolio

## RAIL AUTOMATION

START PROCESSING TRAINS WITHOUT DELAY AND IMPROVE TRAIN TURNAROUND TIME

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

## YARD AUTOMATION

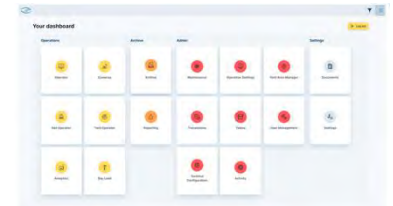
FROM A STEP BY STEP INTEGRATION TO FULL INTEGRATION OF TERMINAL PROCESSES

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



## THE BRIDGE

Management by Intelligence



## RT DIGITAL TWIN



## GATE AUTOMATION

THE INDUSTRY REFERENCE IN VISION-BASED GATE AUTOMATION SOLUTIONS

- ▶ OCR PORTALS
- ▶ KIOSKS
- ▶ VBS + ITT VEHICLE BOOKING SYSTEM
- ▶ RFID
- ▶ WEIGHT IN MOTION (WIM)

## QUAY AUTOMATION

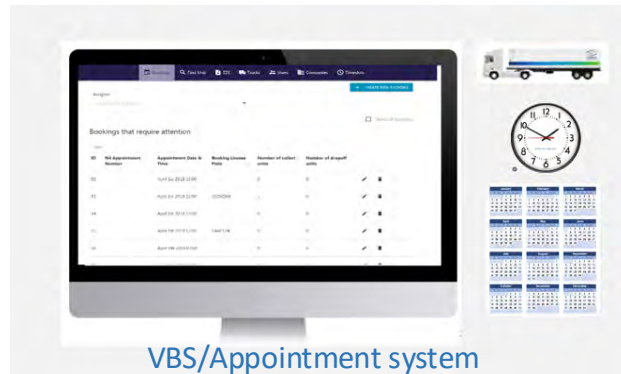
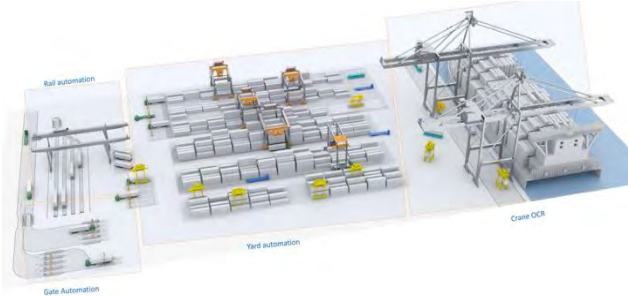
IMPROVING WATERSIDE OPERATIONS FOR A LEANER, GREENER INDUSTRY READY FOR INCREASING TRAFFIC

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

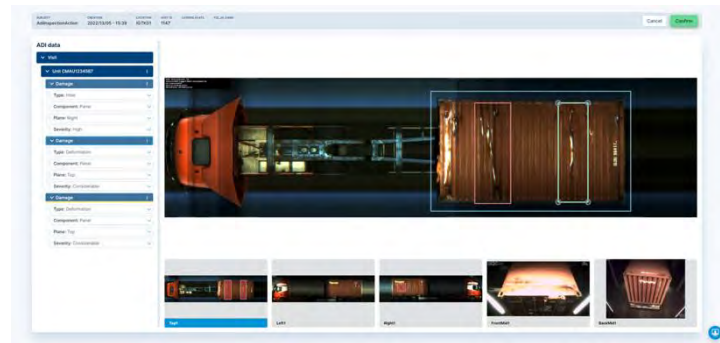


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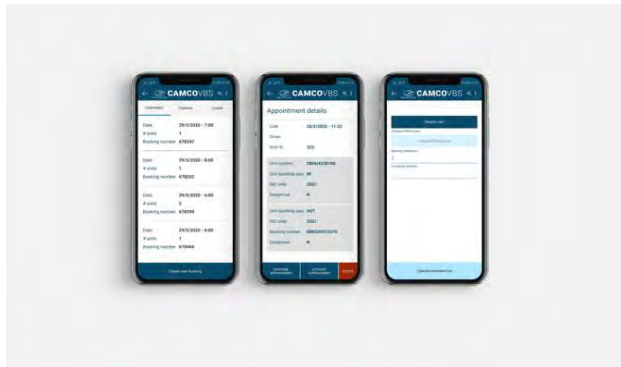
# From products to software solutions



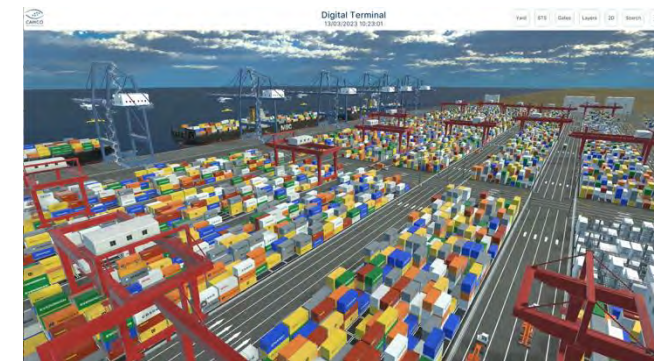
THE BRIDGE



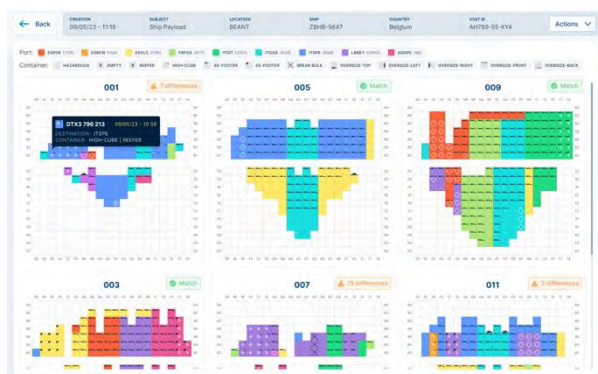
Automatic damage inspection



VBS Truck app



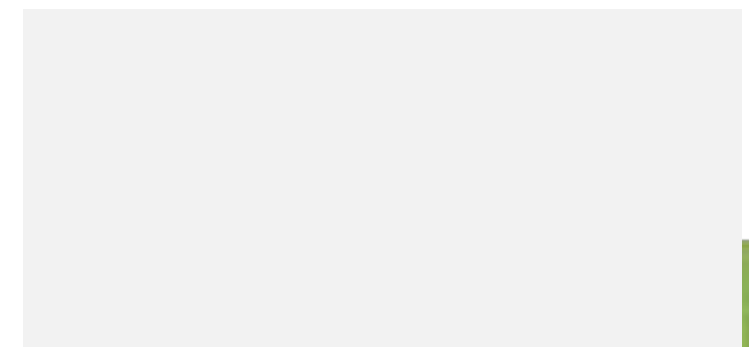
Real Time Digital Twin



BLV Bay Load Verification



ITT Inter Terminal Transfer



More to come



# ADD FOUR "DIGITAL COLLEAGUES" TO YOUR TERMINAL WORKFORCE



**Turn damage detection  
into operational advantage**



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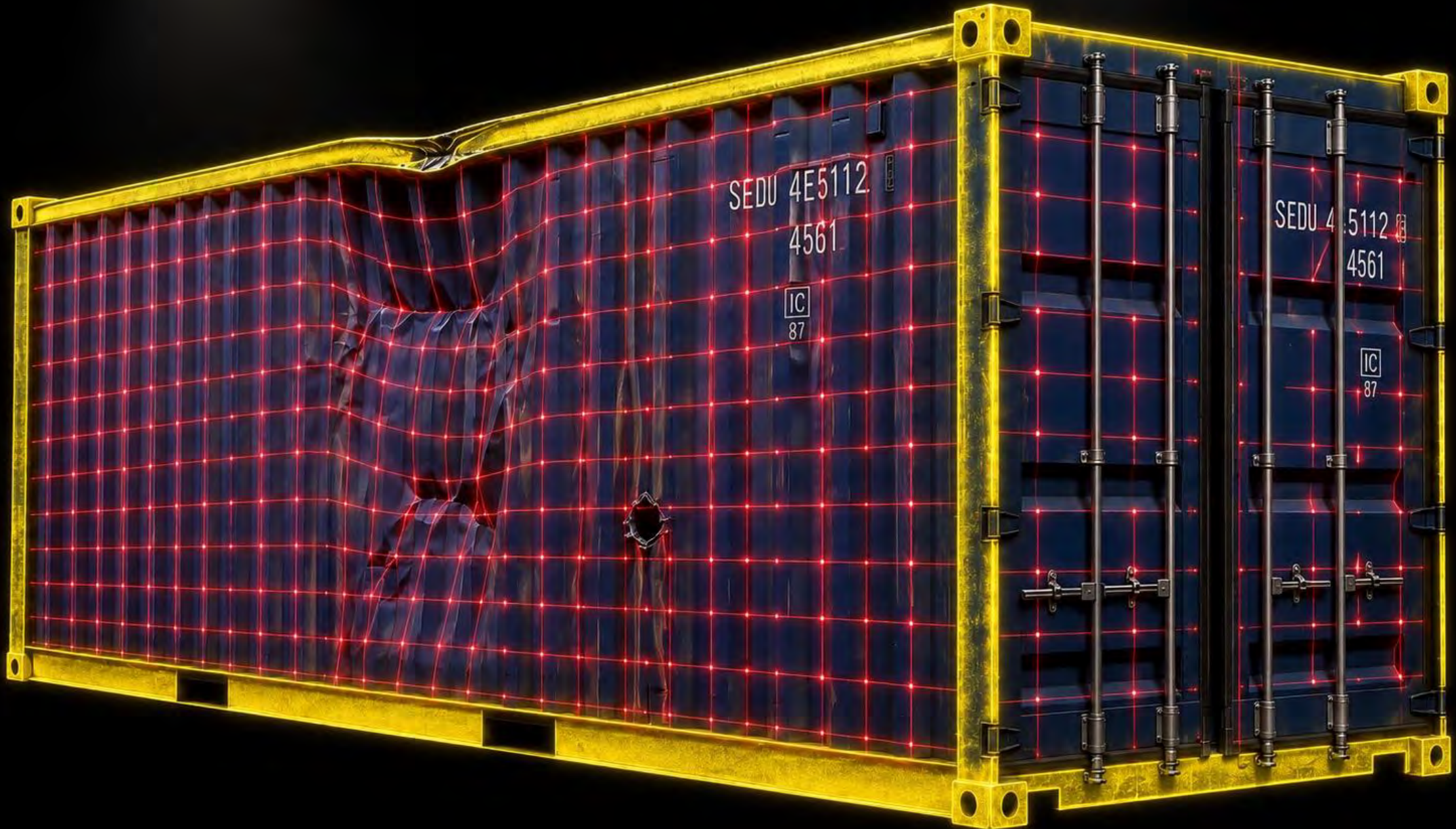
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DAMAGE TYPE	SPECIALIZED AGENT	WHAT IS DETECTED	WHY IT MATTERS	OPERATIONAL IMPACT
<b>Frame deformation</b>	Frame Deformation Agent	Bent corner posts, twisted frames, structural distortion	A deformed frame compromises the structural integrity of the container and directly affects safe lifting and load distribution	Very high impact – container should <b>not enter the stack</b> ; exception flow required
<b>Door open / misaligned</b>	Door Open Agent	Open, unsecured, or misaligned doors	Open or misaligned doors create safety risks, cargo loss risk, and make compliant stacking or handling impossible	Very high impact – container handling and stacking are <b>unsafe or impossible</b>
<b>Panel deformation</b>	Panel Deformation Agent	Significant dents, bulges, buckling of side or roof panels	Severe panel deformation can affect container stability, stack load tolerance, and safe interactions with lifting equipment	Very high impact – stacking may be <b>unsafe or prohibited</b> , depending on severity
<b>Holes / perforations</b>	Holes Agent	Suspected holes or punctures (may include false positives such as spots or stains)	Holes may affect cargo condition and liability, but do not always compromise structural integrity	<b>Medium impact</b> – typically <b>flagged and documented</b> for inspection, monitoring, or future claims

Thank you!

