

GLOBAL SHOWCASE – SPOTLINE ON AUTOMATION

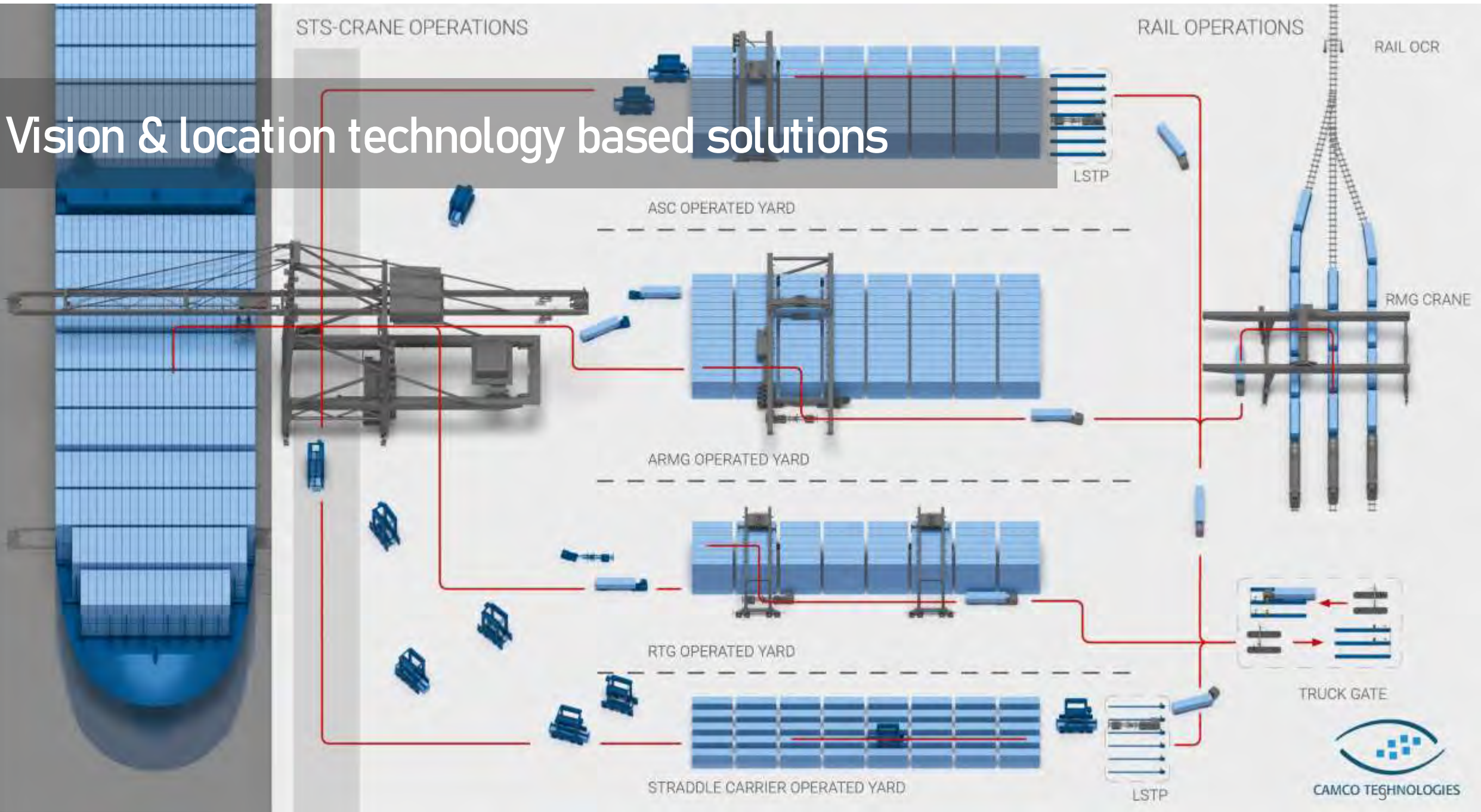


Erkan Belek
Genel Müdür Türkiye
July 2021

“We automate the container hand-over process”

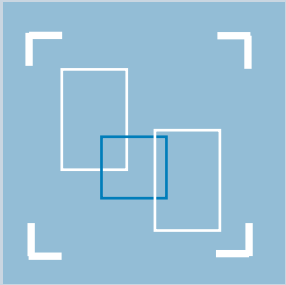


Vision & location technology based solutions

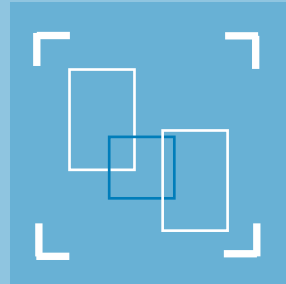


AUTOMATON SOLUTIONS & SERVICES

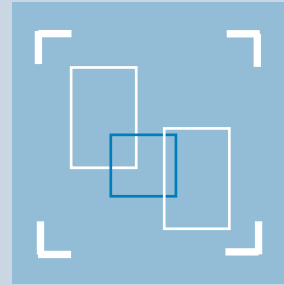
GATE AUTOMATION



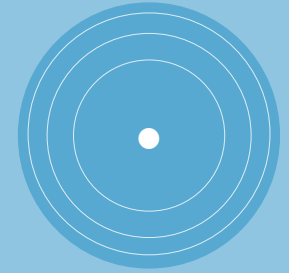
CRANE OCR



RAIL OCR



LOCATION BASED SOLUTIONS





+230
TERMINALS

9/10
GLOBAL TERMINAL
OPERATORS

+ 55 Mio
TEU/Y

The logo for MPET, featuring a stylized yellow and black 'M' symbol to the left of the letters 'MPET' in a bold, black, sans-serif font.

MPET

MSC PSA EUROPEAN TERMINAL



CAMCO TECHNOLOGIES

An aerial photograph of a large port terminal. In the center, a large blue and white container ship is docked at a pier. To the right, a red container ship is docked with several large green gantry cranes positioned over it. The cranes have white containers with 'MPET' written on them. The water is greyish, and other smaller boats are visible in the distance. The overall scene is industrial and busy.

**INCREASING TERMINAL EFFICIENCY
THROUGH AUTOMATION**

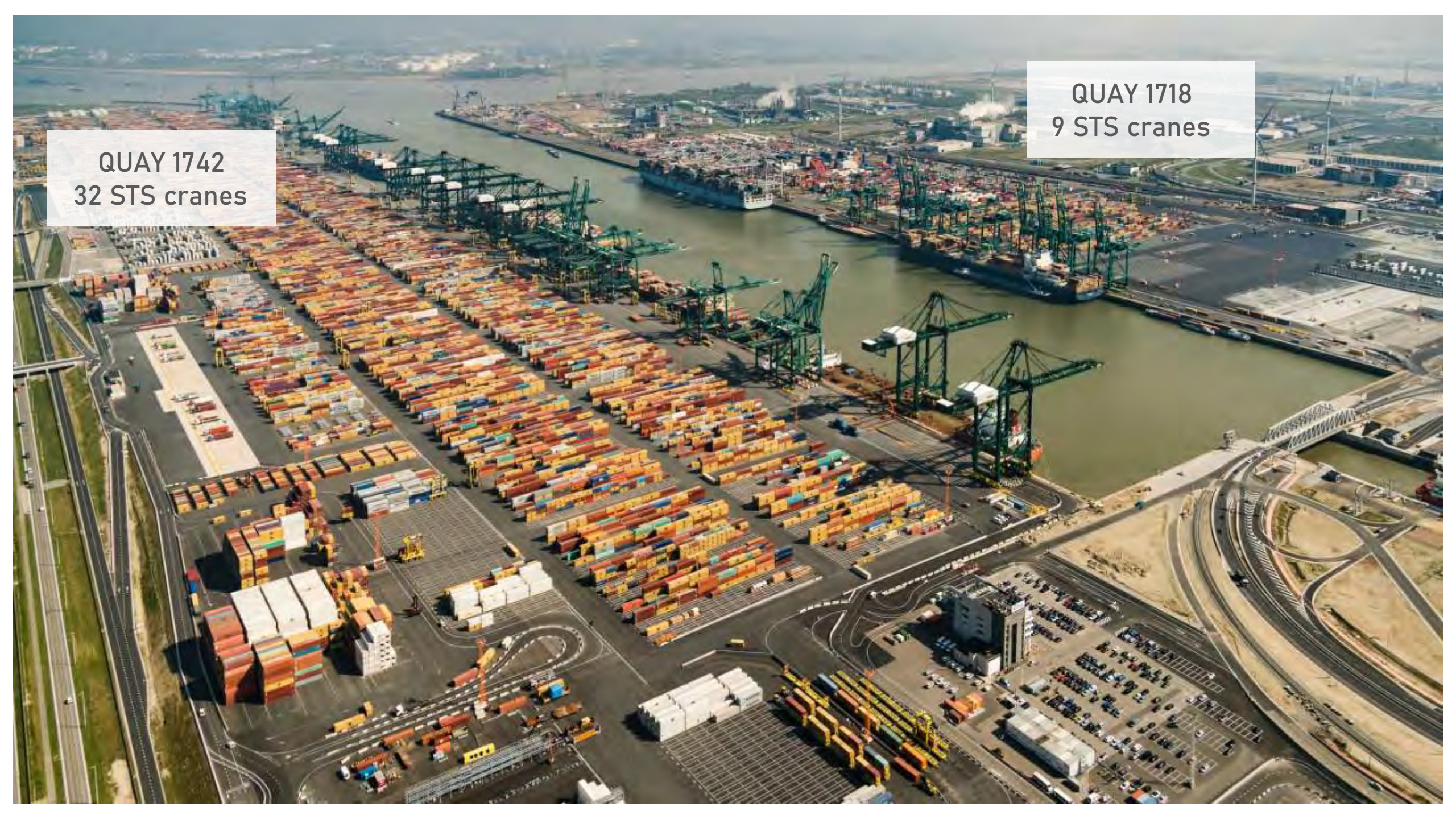


MSC PSA EUROPEAN TERMINAL

JOINT VENTURE BETWEEN PSA AND TIL

- Largest Container Terminal in Europe
- Relocated to new quays in 2015/16
- Capacity: 9 Million TEU/year
- 50% of total Antwerp container-volume
- Quay length: 3,700m - 9 berths
- Max draft: 17m - New Panamax vessels
- Quay cranes: 41
- Rail handling cranes: 2



An aerial photograph of a large port facility. The central area is filled with rows of colorful shipping containers (yellow, orange, blue, red) stacked in neat piles. Several large green gantry cranes are positioned along the waterfront, with one large ship docked nearby. The port is bordered by a highway on the left and a curved road on the right. In the background, there are industrial buildings and a city skyline under a clear sky.

QUAY 1742
32 STS cranes

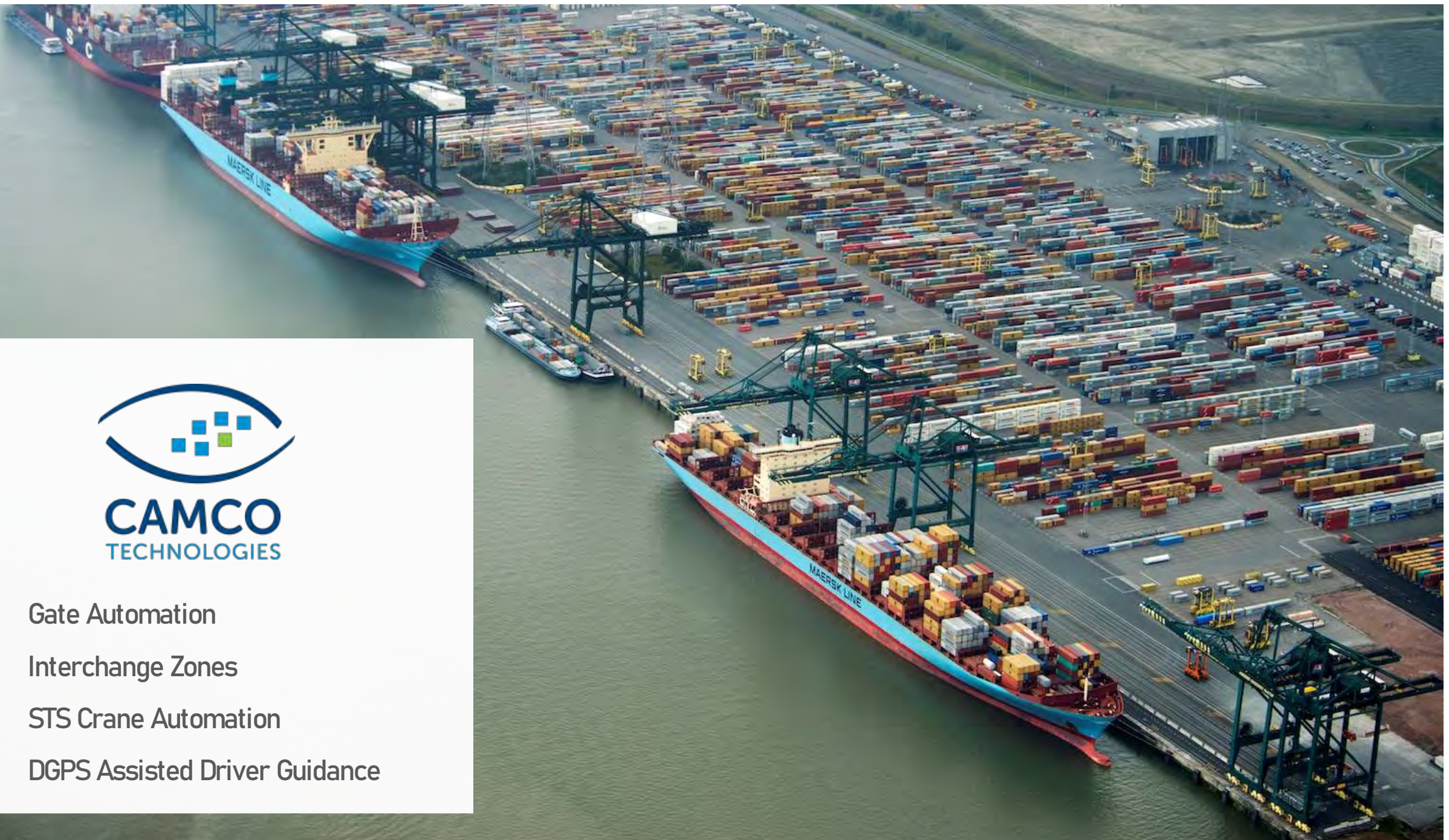
QUAY 1718
9 STS cranes



STRADDLE CARRIER OPERATED YARD : 243 SC



- Gate Automation
- Interchange Zones
- STS Crane Automation
- DGPS Assisted Driver Guidance



CAMCO TOTAL SCOPE AUTOMATION MPET TERMINAL

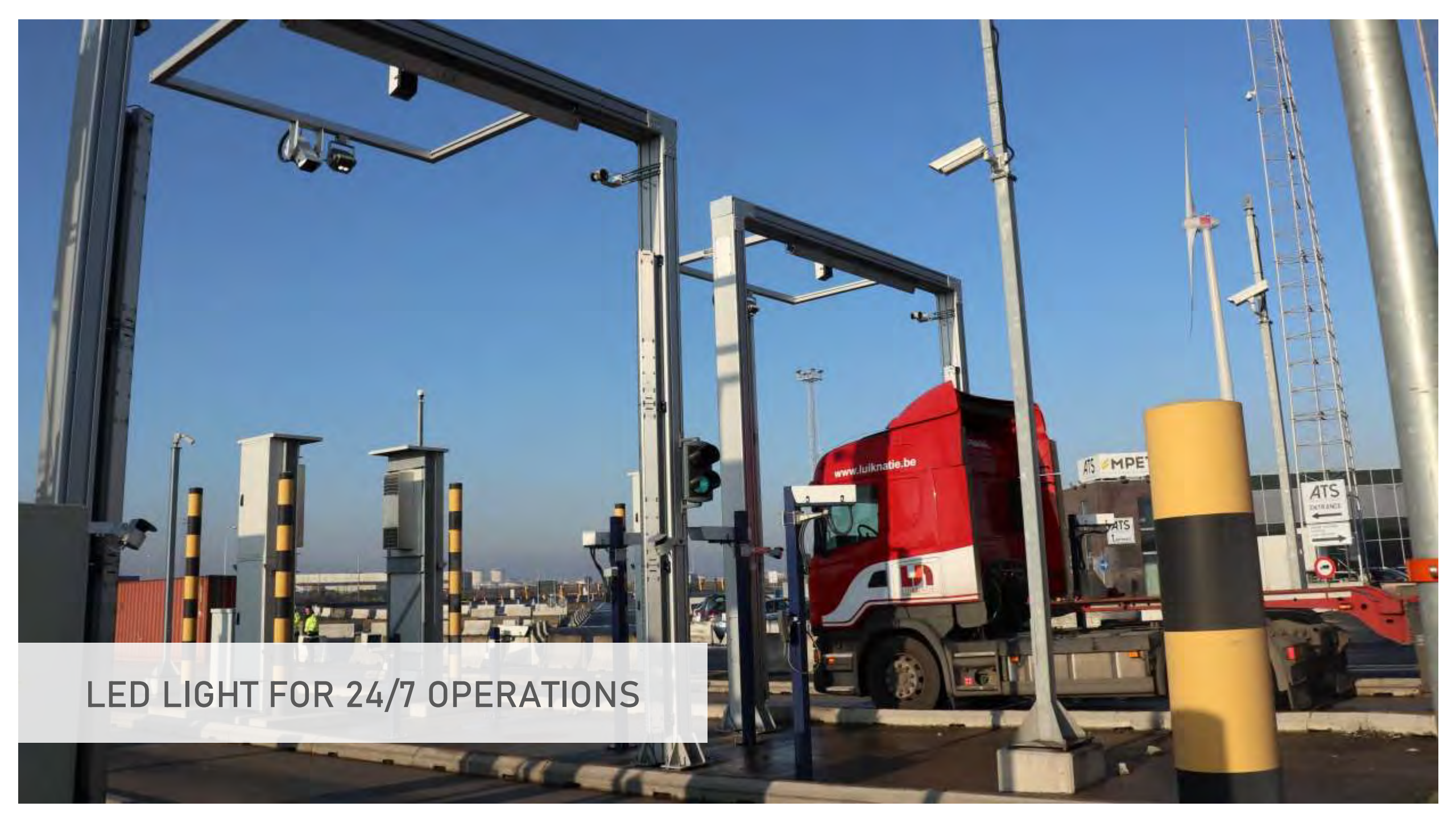
			OCR	SSD	Kiosk	IZ Console	BoxCatcher
QUAY 1742	IN	Visual Gate IN	3				
		Self Service Desks		14			
		Pre-Gate			12		
		Auto-Gate			12		
	OUT	Visual Gate OUT 1	2		4		
		Visual Gate OUT 2	2		4		
	Interchange Zone	IZ Zone A				28	
		IZ Zone B				27	
		IZ Zone C				27	
	Quay	STS crane					32
QUAY 1718	IN	Auto Gate IN			3		
		Self Service Desks		6			
		Auto-Gate OUT 3			3		
	OUT	Visual Gate OUT 3	2				
	Interchange Zone	IZ Zone D				15	
	Quay	STS crane					9
West-S11 corridor			2				
West-East corridor			2				
TOTALS			13	20	38	97	41

VISUAL GATE : 13 x TRUCK OCR





LPR +
LINE & AREA SCAN AI-CAMERAS

A photograph of a toll booth area. A red truck with "www.luiknatie.be" and a logo on its side is stopped at a toll booth. The scene is illuminated by several large, industrial-style LED light fixtures mounted on metal frames. In the background, there are signs for "ATS ENTRANCE" and "ATS MPE". A yellow and black striped bollard is visible in the foreground. The sky is clear and blue.

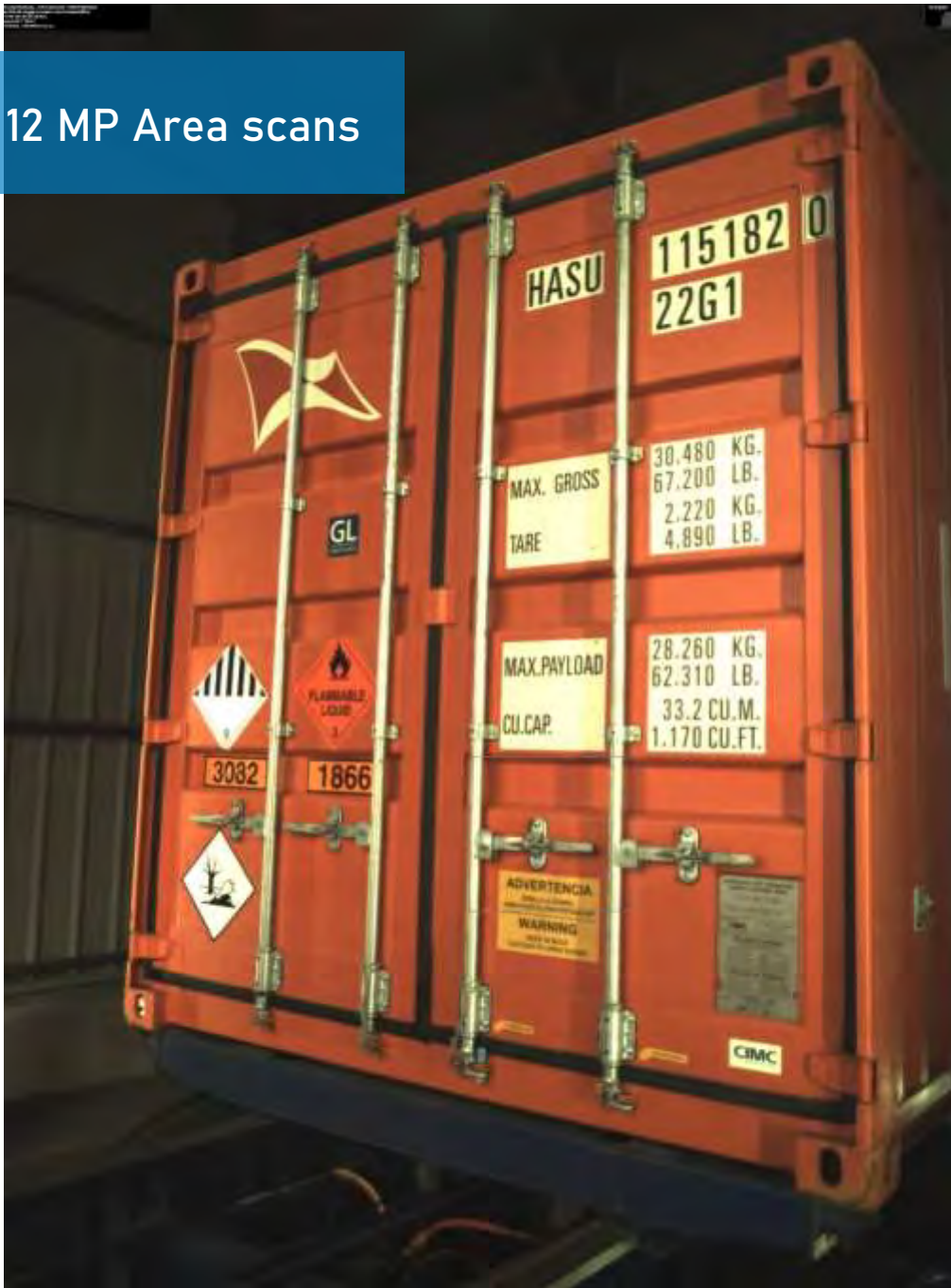
LED LIGHT FOR 24/7 OPERATIONS

CRISP IMAGES FOR BEST OCR/OFR PERFORMANCES

5 MP line scans:
2 sides & top



12 MP Area scans



Unmatched truck OCR/OFR accuracy rates keeping exceptions low



OCR	
Container number	> 98%
ISO code	> 98%
IMO placards : presence	> 96%
IMO placards : class	> 93%
License plate number	> 98%
UN number : presence	> 96%
UN number	> 90%
ILU number*	> 98%
Trailer license plate *	region specific
Non-ISO container number*	> 98%
Container weight* °	> 90%
Chassis number*	TBA
Fleet number*	TBA
° Not if container tank volume is > 10%	
* Extended feature	

OFR	
Container position on chassis	> 99%
Door direction	> 99%
Seal presence	> 95%
Cargo classification*	TBA
Genset presence*	> 95%
Tank container bars presence*	TBA
Tank valve detection*	TBA
Waste label detection*	> 95%
Wheel group count*	> 95%

OTHER READINGS	
Chassis TEU length	> 98%



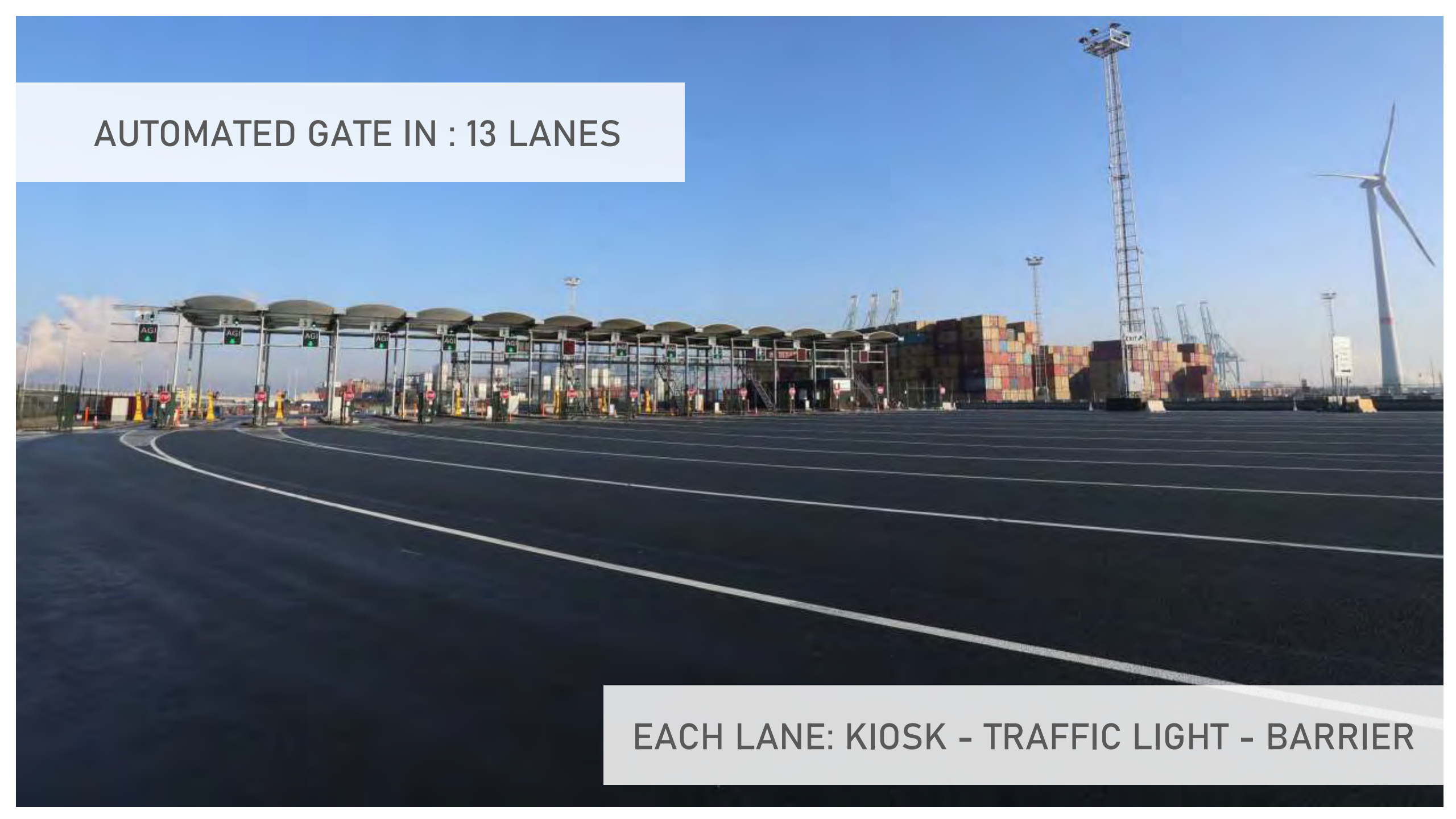
PRE-GATE IN : 12 LANES

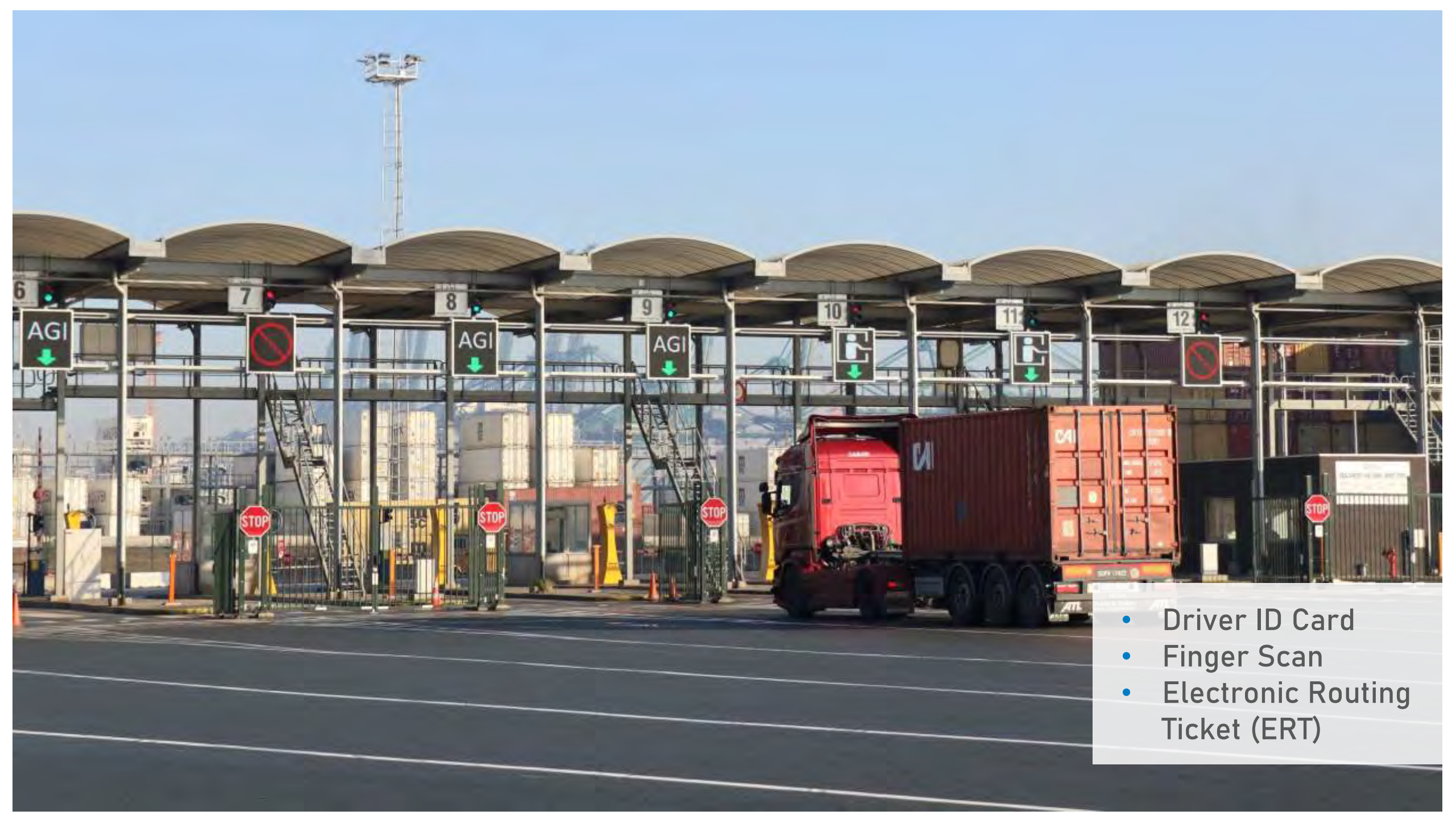
- LP Check
- Driver ID Card
- Finger Scan
- Container weight



AUTOMATED GATE IN : 13 LANES

EACH LANE: KIOSK - TRAFFIC LIGHT - BARRIER





- Driver ID Card
- Finger Scan
- Electronic Routing Ticket (ERT)

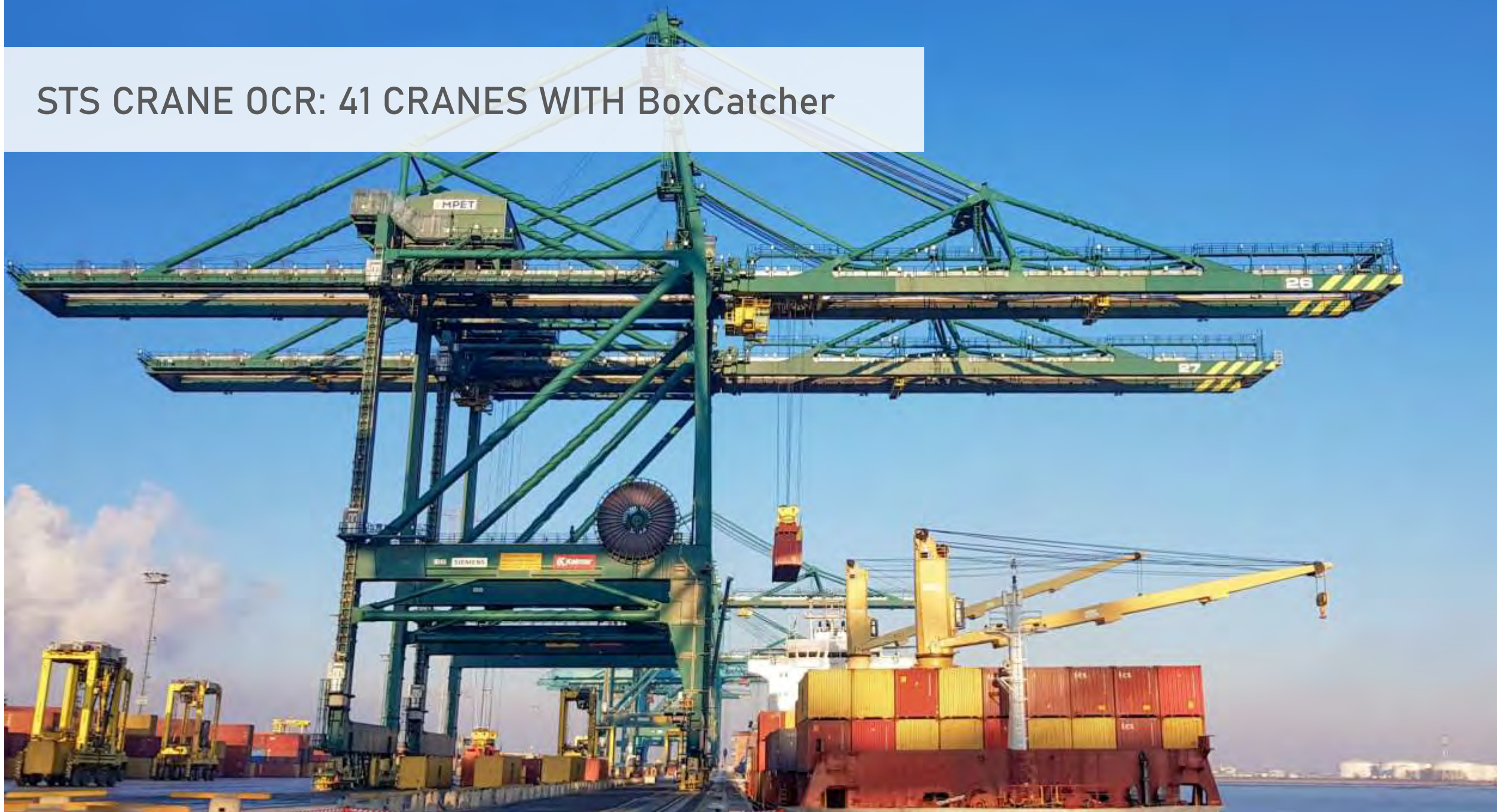
Interchange Zones – IZ Consoles



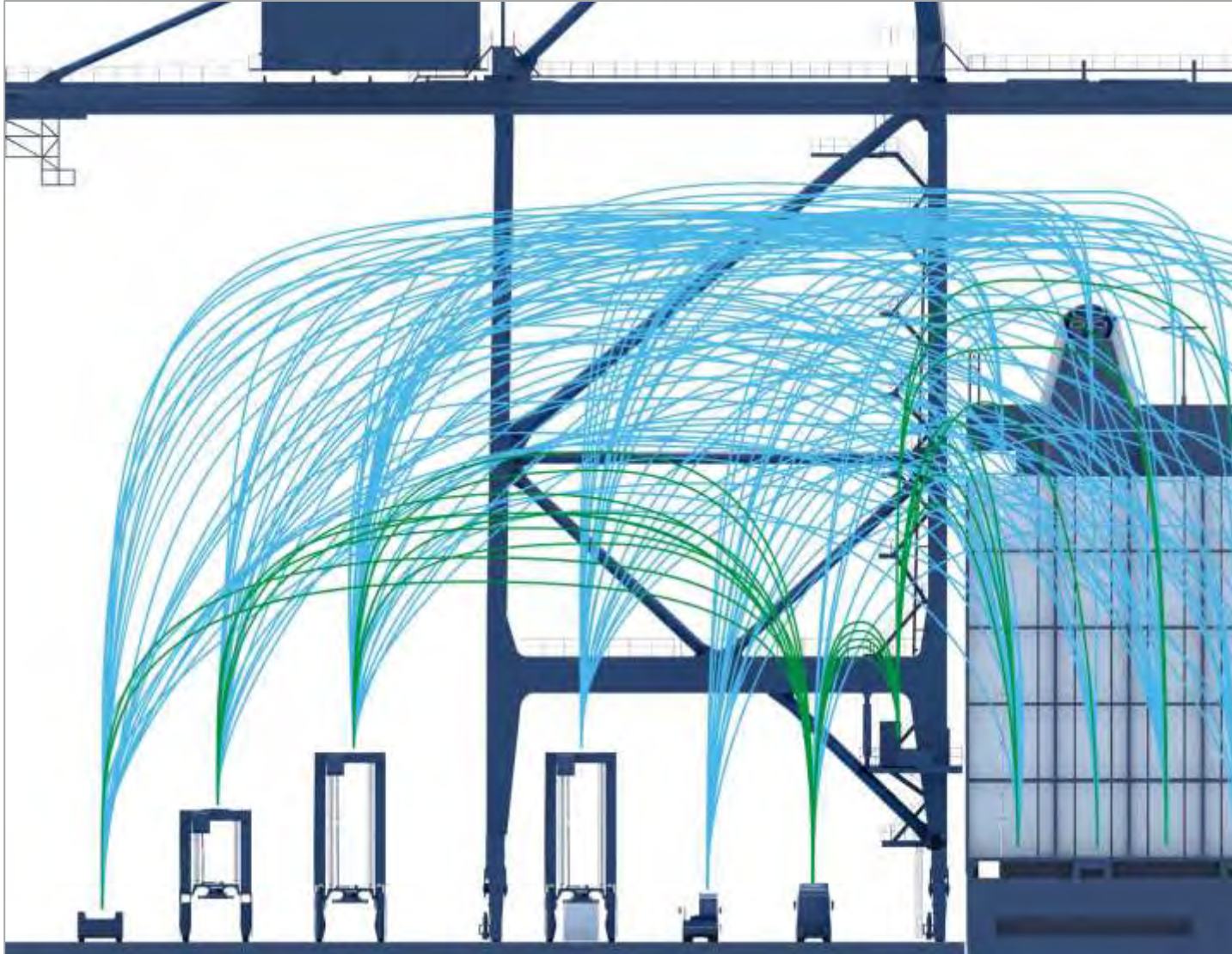
Landside Transfer Points



STS CRANE OCR: 41 CRANES WITH BoxCatcher



STS CRANE CHALLENGE : HOW & WHERE TO REGISTER CONTAINERS MOVES



BEFORE

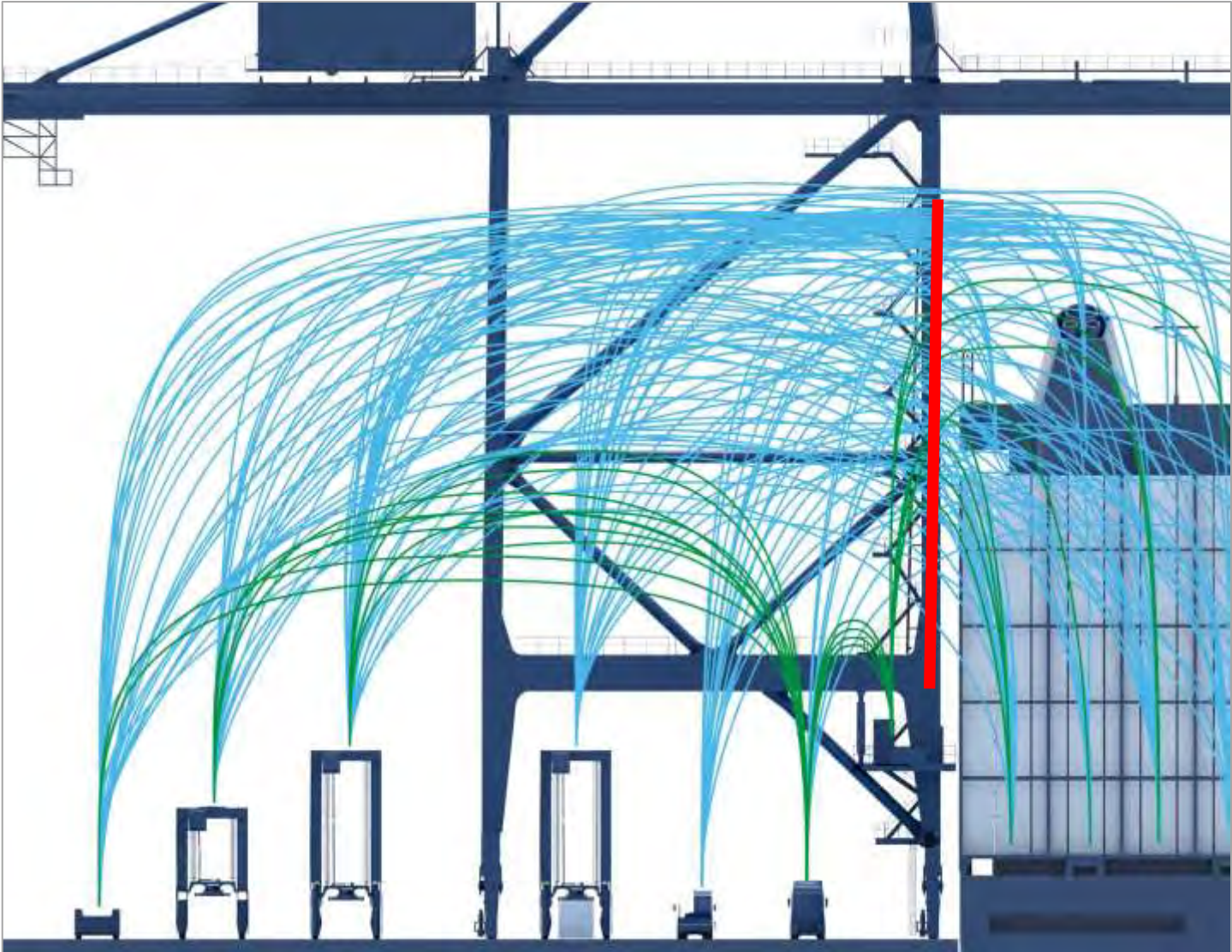
- Tallyman holding handheld device and manually registering container ID & ISO, IMDG, seal presence & max gross weight
- Many accidents, inaccurate data

SOLUTIONS

PTZ or CCTV Camera set-up?

- Large quantity of cameras needed
- Blind spots
- Complex system integration
- Downtime during maintenance
- Low MTBF expected

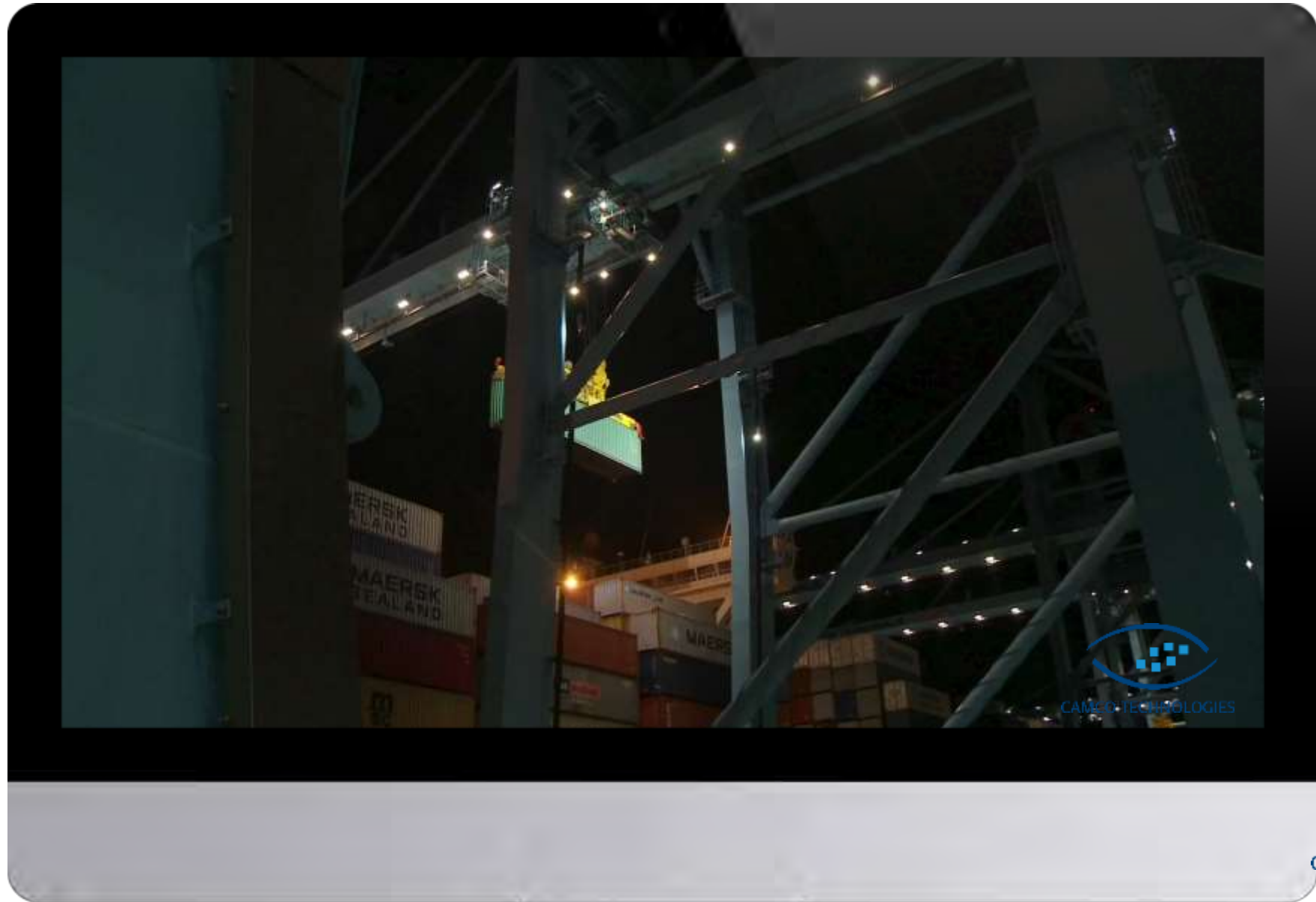
BoxCatcher : CAMERA HOVERING OVER CRANE MOUNTED RAILS





BoxCatcher CONNECTED WITH CRANE PLC

PERFECT PICTURES 24/7



HIGHEST OCR HITRATES – LOWEST EXCEPTIONS

BoxCatcher OCR	%
Container ID	98
Container ISO code	98
IMO placards presence	96
IMO placards class	93
Container UN number presence	96
Container UN number	90
Container Weight	85

BoxCatcher OFR	%
Container seal presence	95
Door direction	99

20, 40, 45 FT, SINGLE, TANDEM, QUAD



CAMCO TECHNOLOGIES

41 CRANES – 82 BoxCatcher
HOW DID WE FIX THIS?





TEMPORARY ON-SITE CAMCO PRODUCTION HALL

INSTALLING 2 CRANES EVERY 2-3 DAYS





BRACKETS BY MPET STS CRANE WELDERS

CAMCO FIXING RAIL ONTO BRACKETS

41 STS CRANES, 82 BoxCatcher INSTALLED IN 1 YEAR



INCREASING OVERALL TERMINAL PERFORMANCE

NEW GATE PROCESS

- Less paperwork
- Less errors/better data quality
- Less queuing
- Safer tallying
- Less physicals checks in lanes
- Only manual exceptions handling
- Better truck-turnaround
- Reduced need for parking
- Increased safety and security

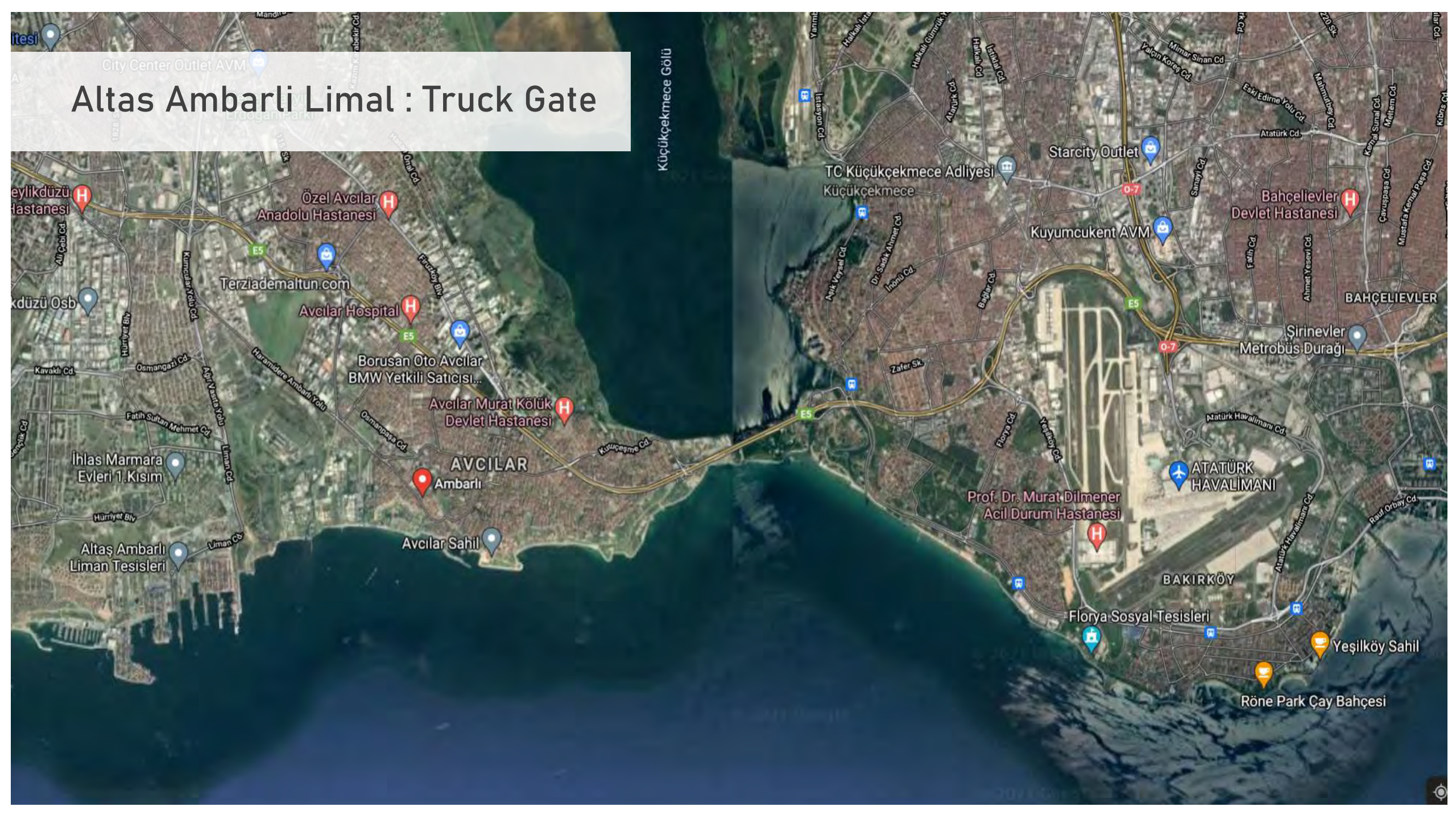
NEW IZ PROCESS

- Less paperwork
- Increased safety
- Better truck-turnaround

CRANE AUTOMATION

- Increased data accuracy
- Increased speed
- Increased safety
- Increased crane performance:
more moves per hour

Altas Ambarlı Limal : Truck Gate











Entry Ticket

THANK YOU!

