



SAFETY AS A HIDDEN ENABLER

of sucessful container terminals
and maritime corridors

Introduction of AccuTrack



WHO ARE WE?

- Part of
 - **Lanco Group** (est. 1969), privately owned industrial group
 - **Mi-Jack Products**, industry leader in RTG cranes
- Specialized in Terminal Optimization
- European representation of the Mi-Star portfolio



OUR MISSION

To ensure every worker
returns home safely while
maximizing yard operations.



Trusted and installed worldwide by



WHAT DO WE DO?

- Workforce and Equipment Protection
- MHE / Crane Tracking
- People Tracking
- Digital Twin
- Fleet Management
- Inventory Management
- Inventory In-Cab Navigation



Workforce Protection through RTLS

MI-JACK
EUROPE

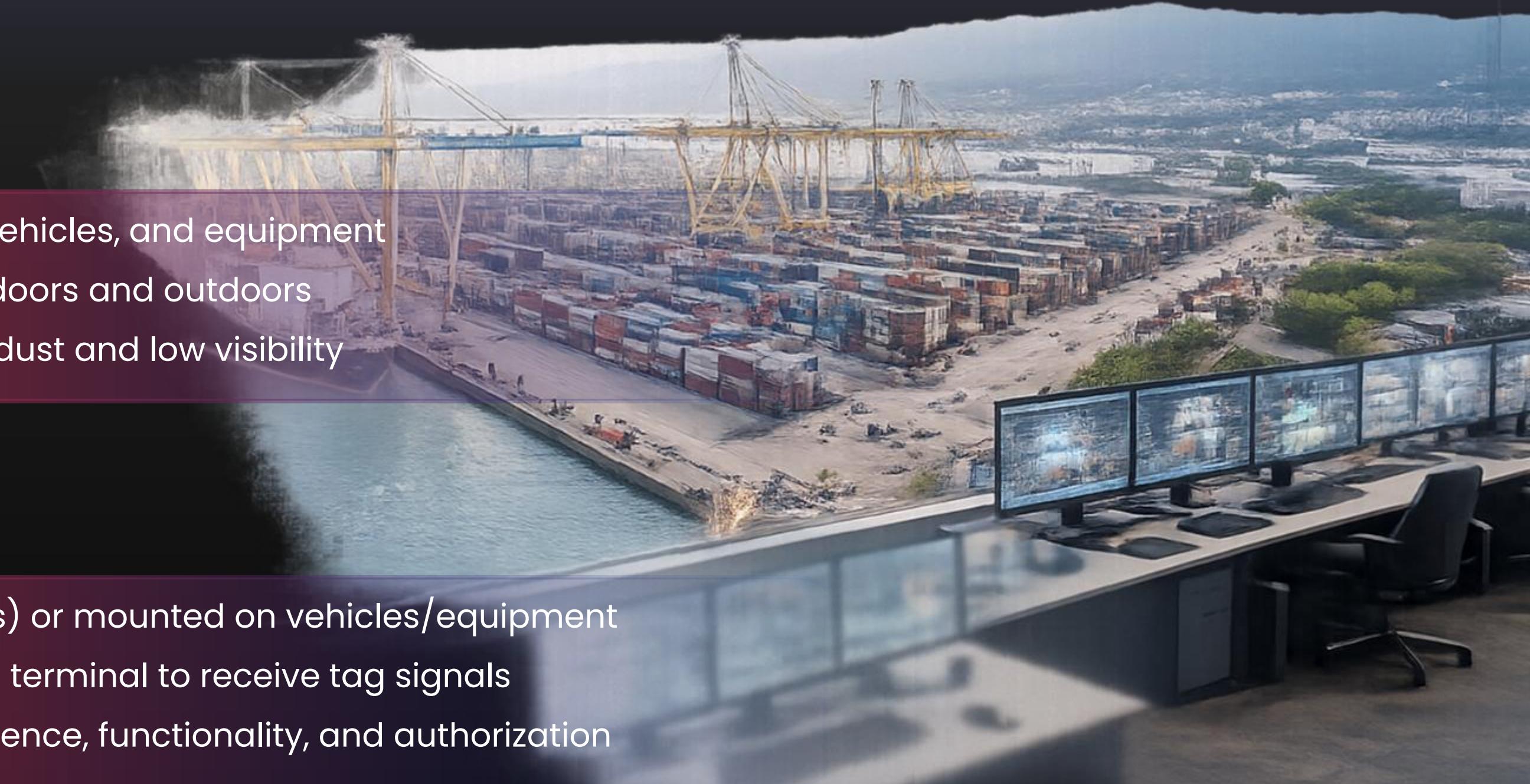
REAL-TIME LOCATING SYSTEM (RTLS)

Real-Time Tracking & Visibility

- **Multifunctional:** Tracks people, vehicles, and equipment
- **Any Environment:** works both indoors and outdoors
- **Reliable:** Resistant to rain, snow, dust and low visibility

System Components

- **Tags:** Wearable (e.g., helmet tags) or mounted on vehicles/equipment
- **Anchors/Sensors:** Installed in the terminal to receive tag signals
- **Gate Access Stations:** Verify presence, functionality, and authorization





Workforce Protection through RTLS

MI-JACK
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REAL-TIME LOCATING SYSTEM (RTLS)

Key Customer Benefits:

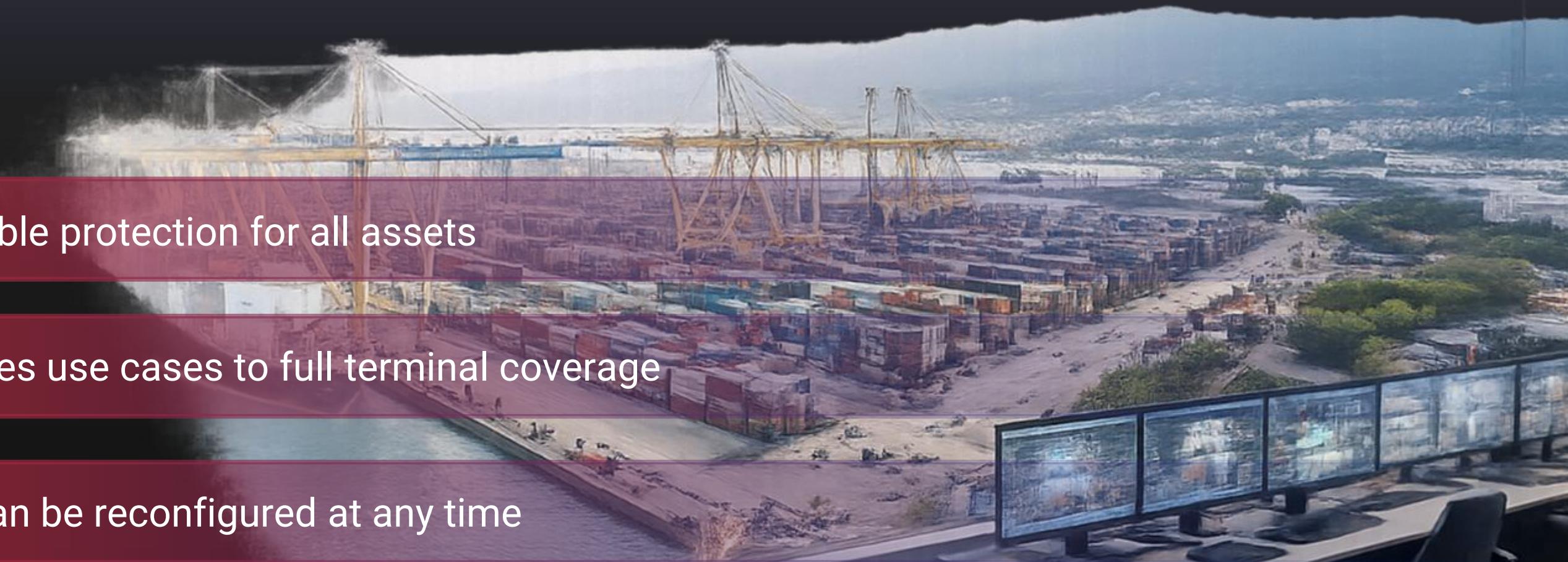
Full Flexibility: Customizable protection for all assets

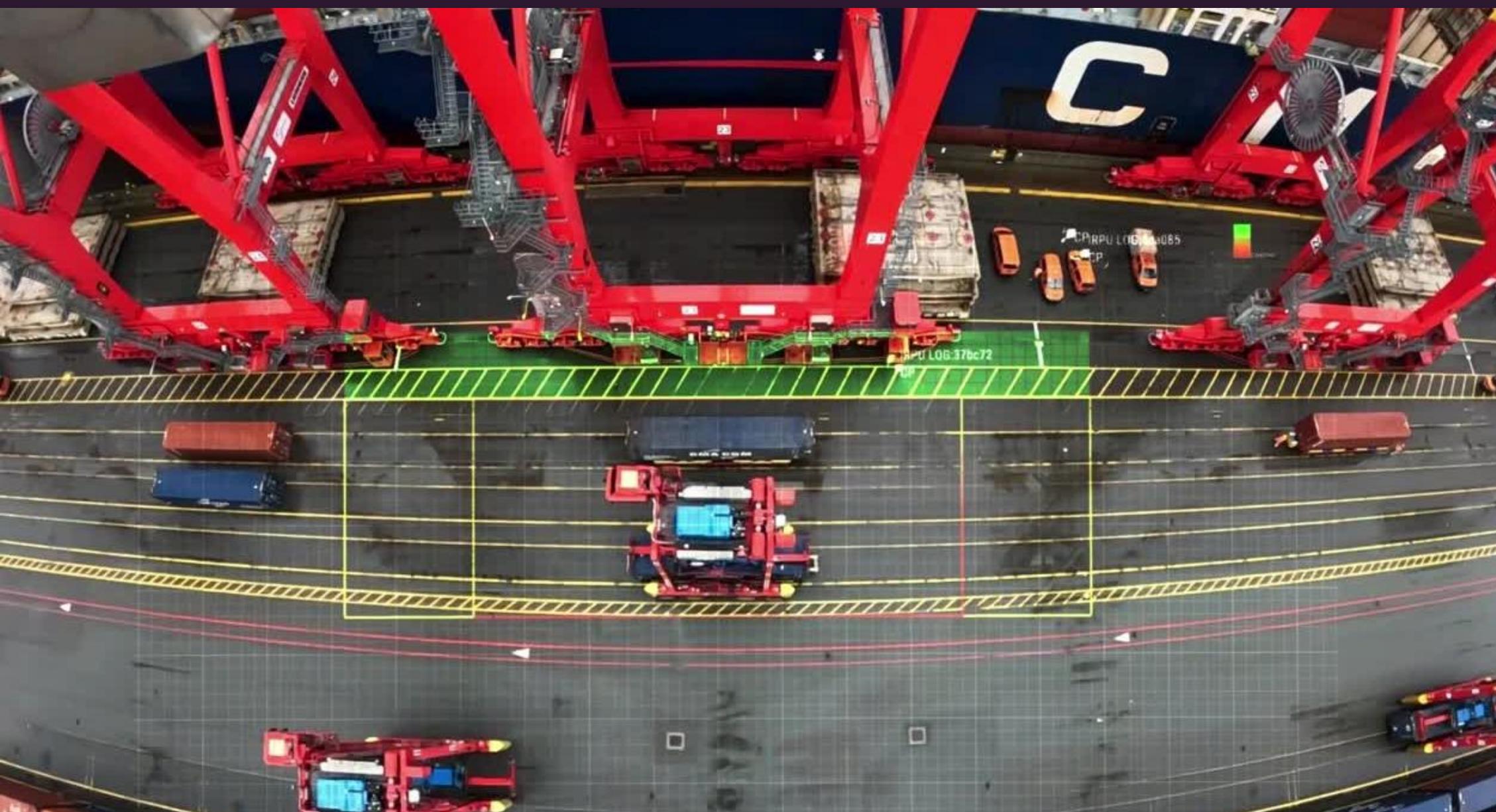
Scalable: From small-scales use cases to full terminal coverage

Adaptable: Safety logic can be reconfigured at any time

Efficiency: Increased equipment uptime

Safety: Greater Transparency in daily operations





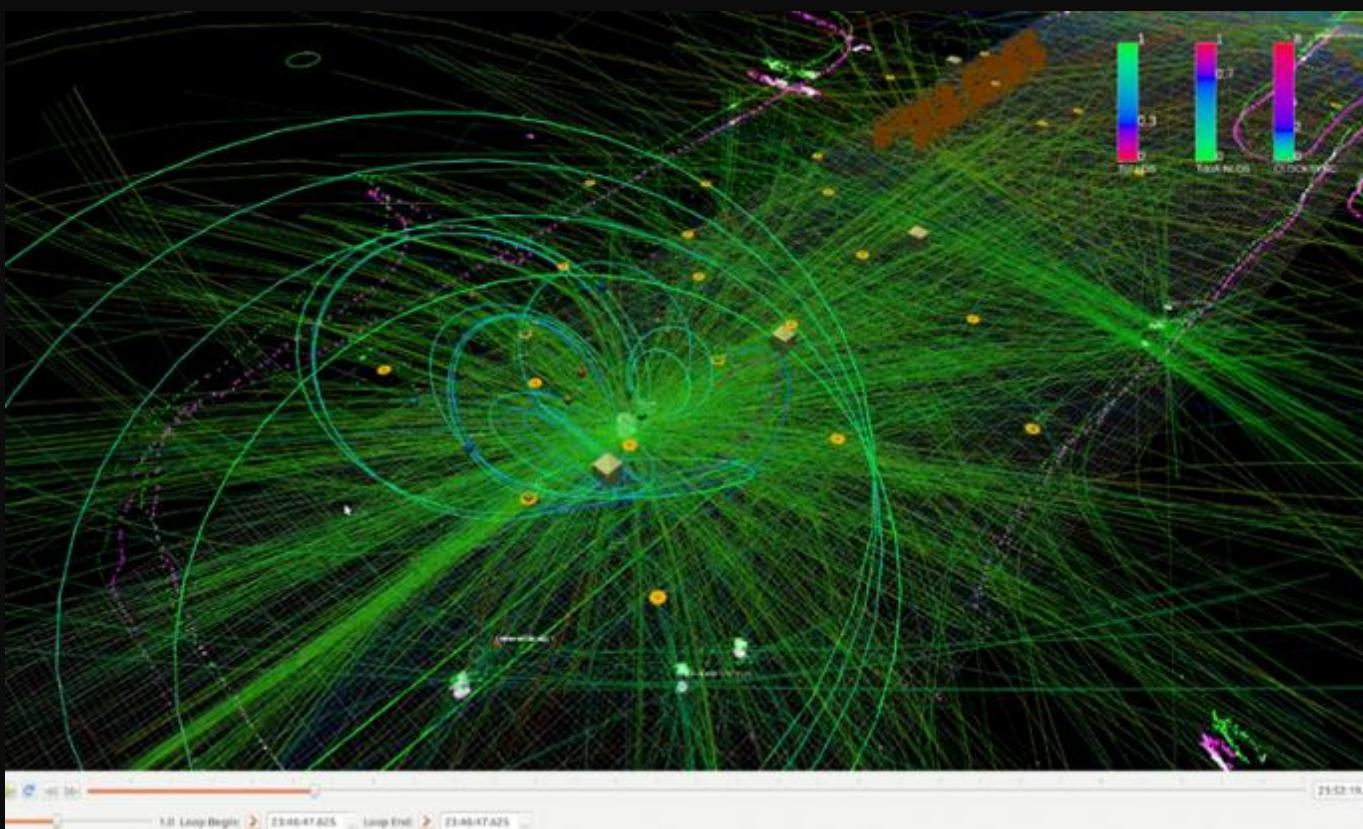
PROTECT PERSONNEL

in manual operations

Safe and Unsafe Zone Concept

- Division of the working area into safe (green) and unsafe zones (red)
- Personnel equipped with helmet tags and tracked in real time.
- Straddle carriers receive a signal indicating the zone personnel are located.
 - Red signal: straddle carriers not allowed to enter
- ✓ Crane and straddle carriers can operate safe and simultaneously with personnel present

HARDWARE EXAMPLE PERSONNEL TRACKING



Personnel Tag

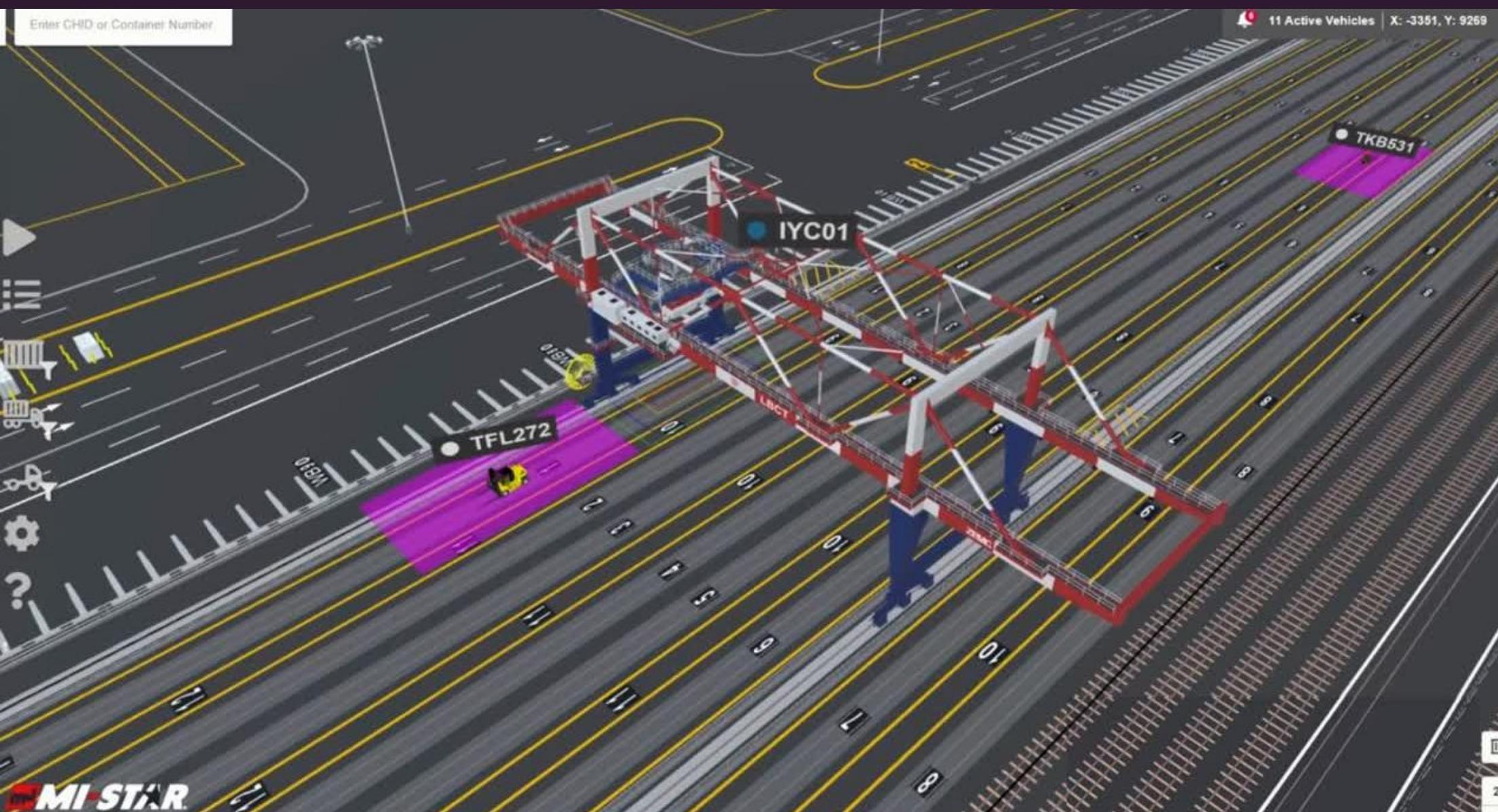


Anchors





Long Beach
Container
Terminal



MI-JACK
EUROPE

ENABLE SIMULTANEOUS OPERATION

of automated and manual equipment

Collision Avoidance MHE vs. Crane

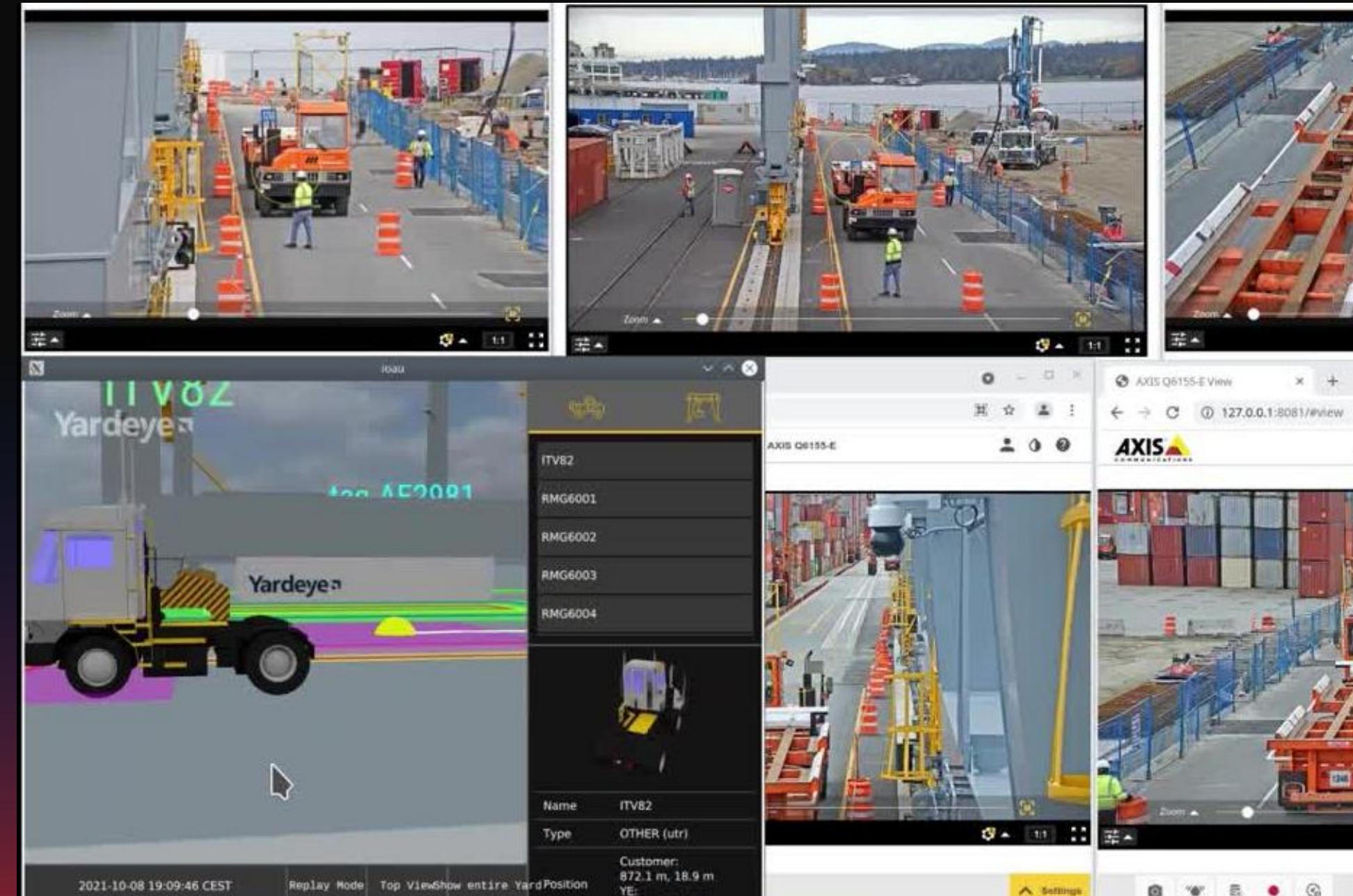
- Safety zones around the vehicle and beneath the spreader
- Depending on zone overlap, the crane triggers:
 - automatic slowdowns
 - automatic safety stops
 - followed by controlled obstacle avoidance
- During loading and unloading, safety zone is reduced to the vehicle cabin
- Safety redundancy: Vehicles are actively alerted, increasing driver awareness

AUTOMATED PROTECTION

against operations above personnel

No line of sight required

- Personnel equipped with a helmet tag = tracked
- Safety zone is placed around the person
- Depending on zone overlap, the crane triggers:
 - automatic slowdowns
 - automatic safety stops
 - followed by controlled obstacle avoidance
- Requirement: Personnel without a tracking tag are not permitted to enter the terminal (test situation shown in video)
- Tractor position transmitted to TOS; driver's cab protected by a safety zone during loading and unloading.

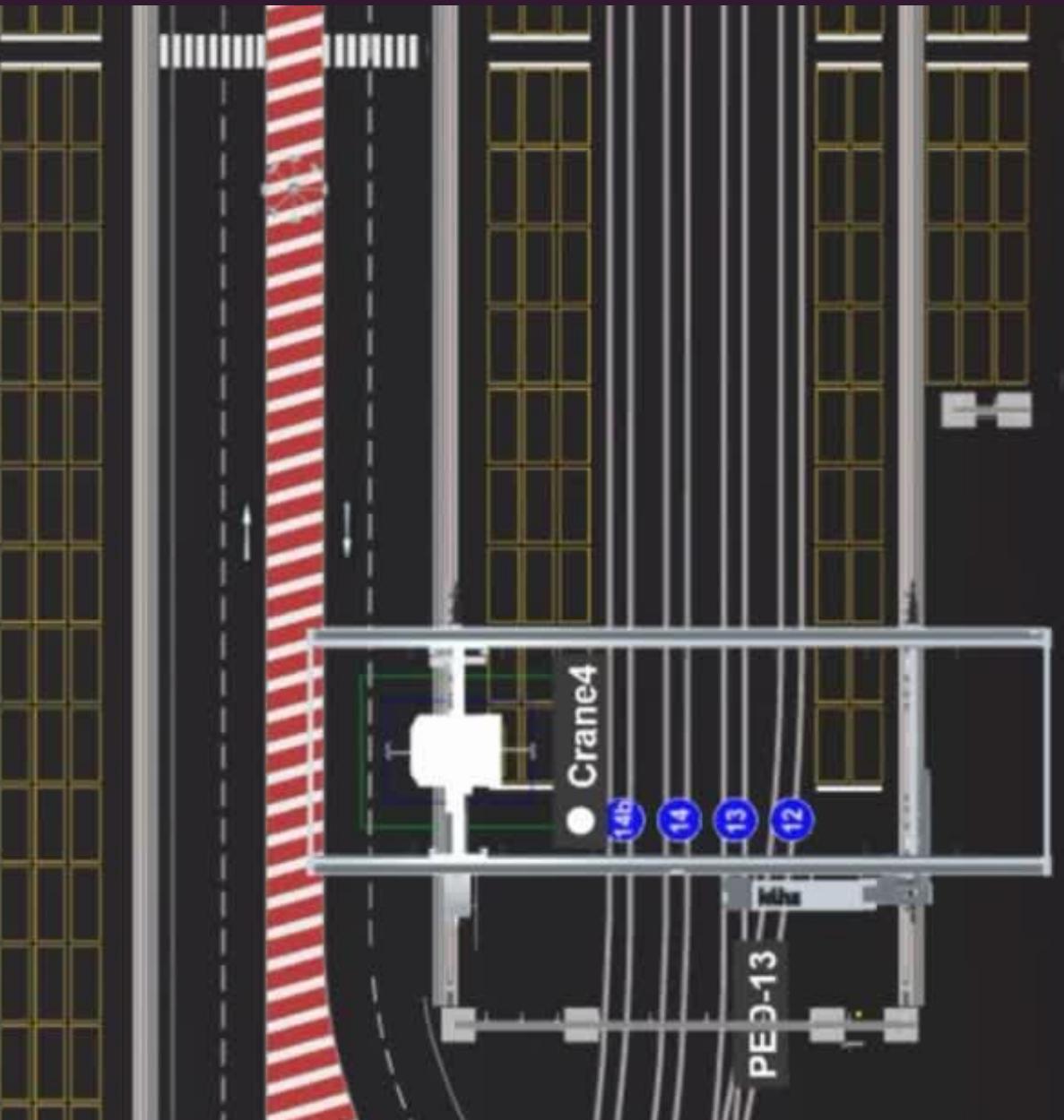




ALLOW TERMINAL ACCESS

only for tracked and authorized personnel

Personnel working next to 6 new automated cranes



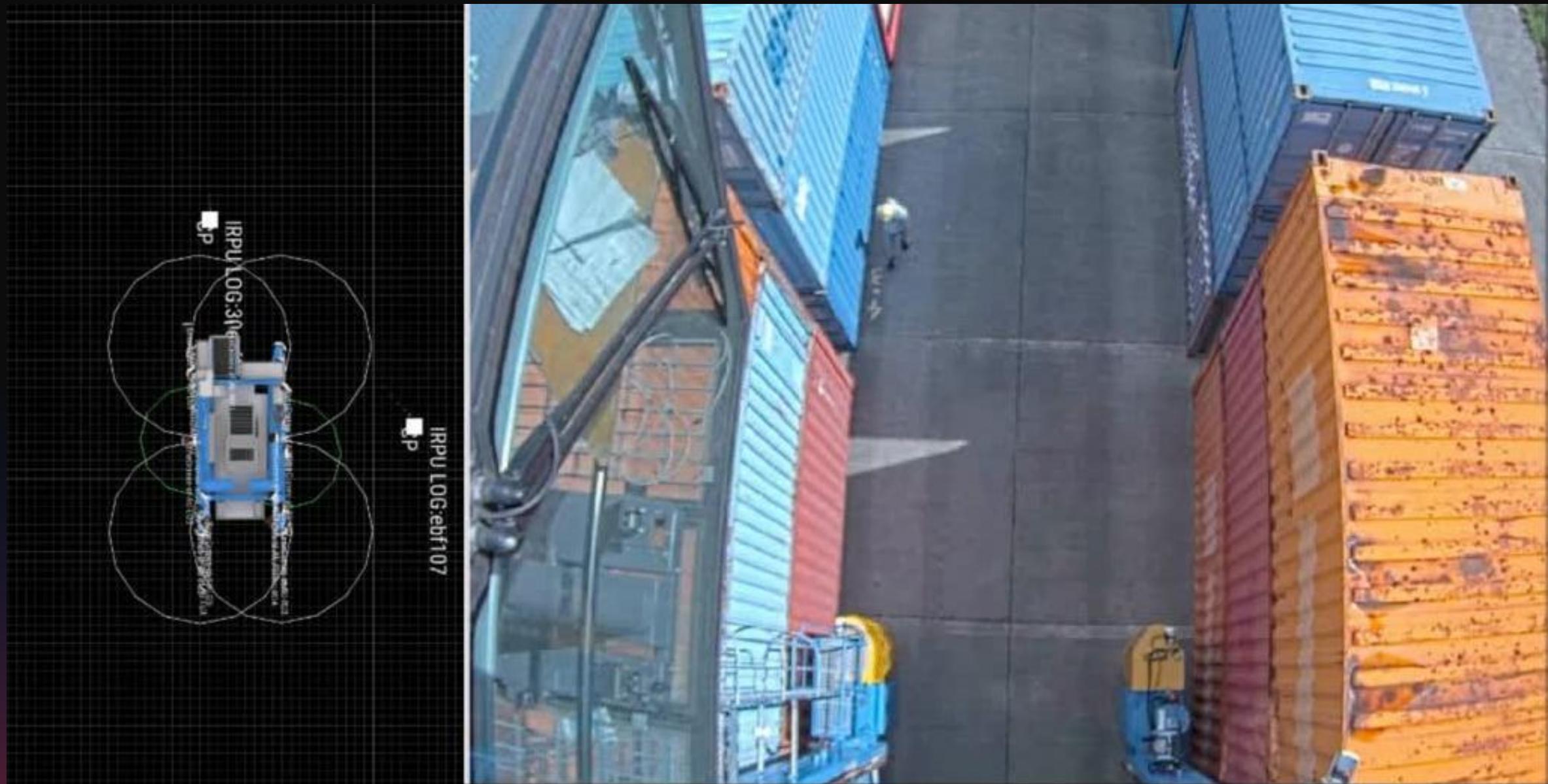
- Personnel are equipped with tracking tags#
- The Gate Access Station verifies:
 - helmet tag functionality
 - authorization, granting access via the selected access system (e.g. turnstile)
- Tag is registered in the digital twin, creating a dynamic safety zone around the person
 - ✓ This safety zone prevents spreader operations above personnel, enabling human-machine interaction without stopping operations
 - ✓ All events will be reported to the TOS

SEE YOUR PERSONNEL

beyond line of sight

No line of sight required

- Early detection of personnel in the vicinity of automated equipment using personal tags
- Automatic stopping of the straddle carrier as soon as a potential hazard is detected
- ✓ Protection even without line of sight
- ✓ Prevention of hazardous situations before personnel enter the vehicle's driving path



ACCU TRACK

ONE SYSTEM. MULTIPLE USE CASES.

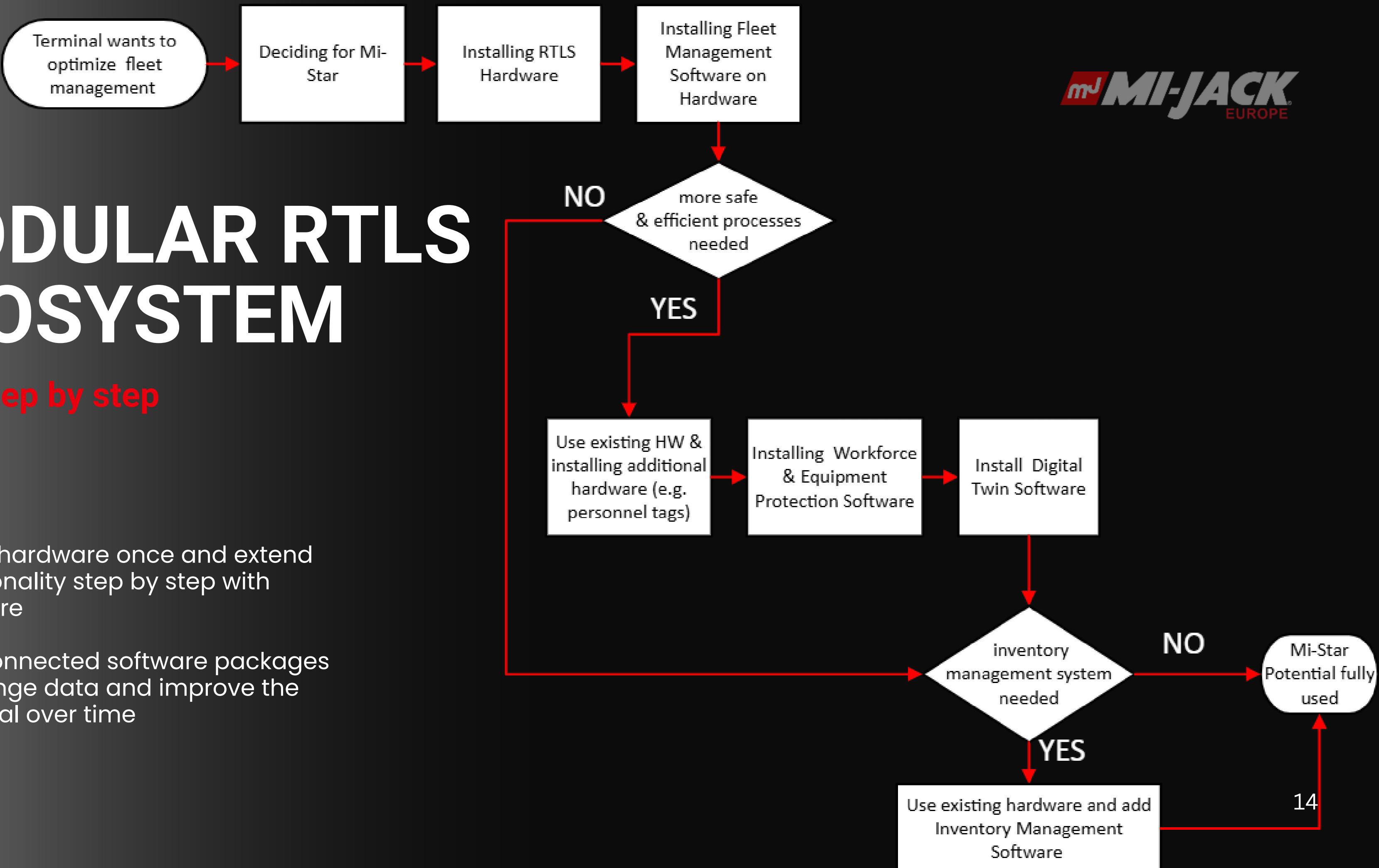


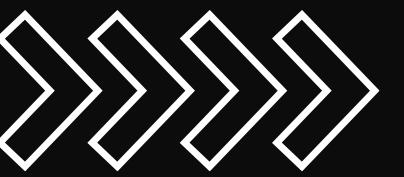
- › Enables safe operation from manual to automated environments, including mixed-traffic.
- › Detects and warns of personnel and vehicle near cranes and material handling equipment (MHE)
- › Prevents collisions between personnel and MHE/Crane
- › Prevents MHE-to-crane & MHE-to-MHE collisions

MODULAR RTLS ECOSYSTEM

Grow step by step

- Install hardware once and extend functionality step by step with software
- Interconnected software packages exchange data and improve the terminal over time





THANKS FOR YOUR ATTENTION!

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EUROPE

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