



**IN 2025, VAHLE GETS
THE WORLD MOVING.**



 **> 200** Mio.

TURNOVER IN
EURO (2024)

 **> 825**

EMPLOYEES

 **14**

MARKET
ORGANIZATIONS

 **5**

PRODUCT
GROUPS

 **4**

TARGET
MARKETS

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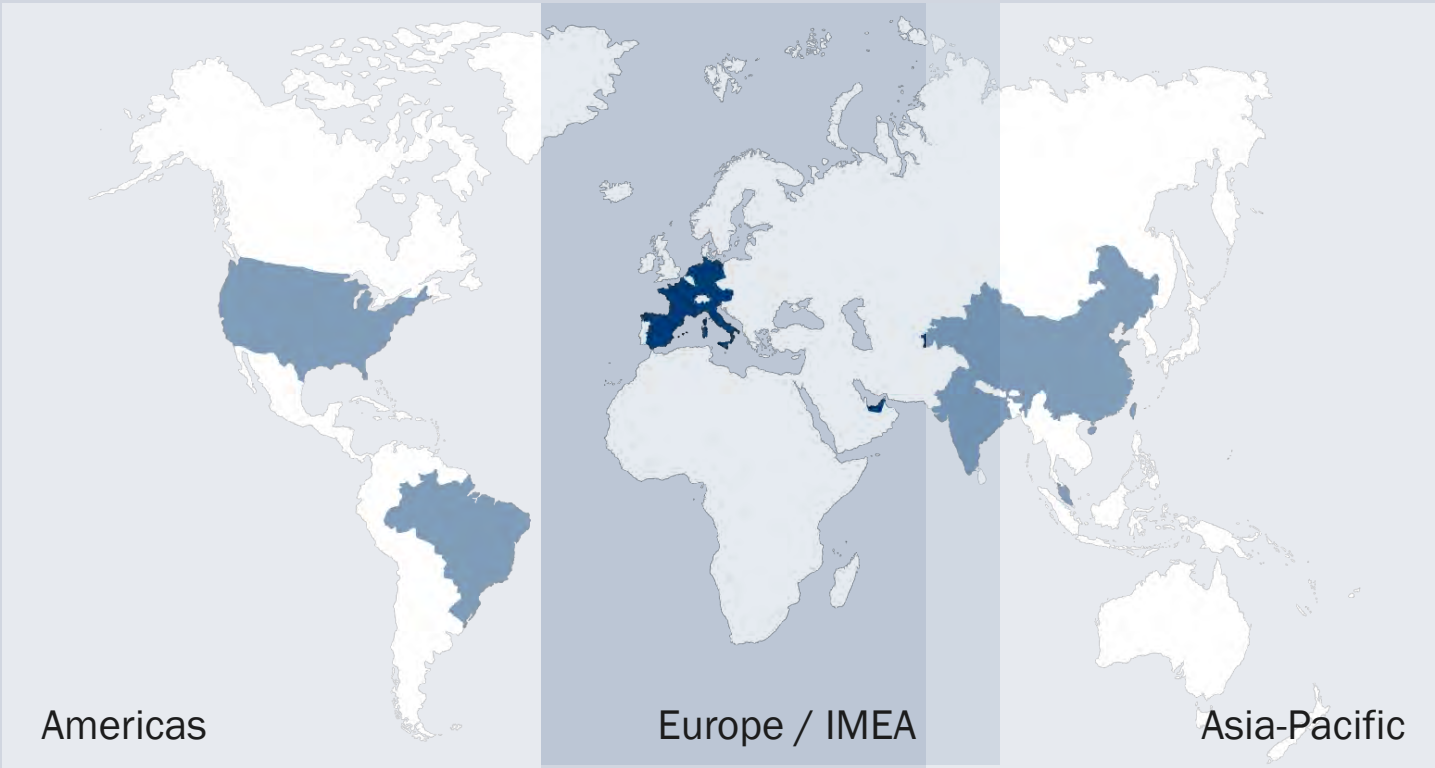
MARKET
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Energy Transmission



Intralogistics



Data Communication



Crane Technology



Positioning



Automotive



Control Systems



Port Technology



System Solutions

PORT TECHNOLOGY CONTAINER HANDLING



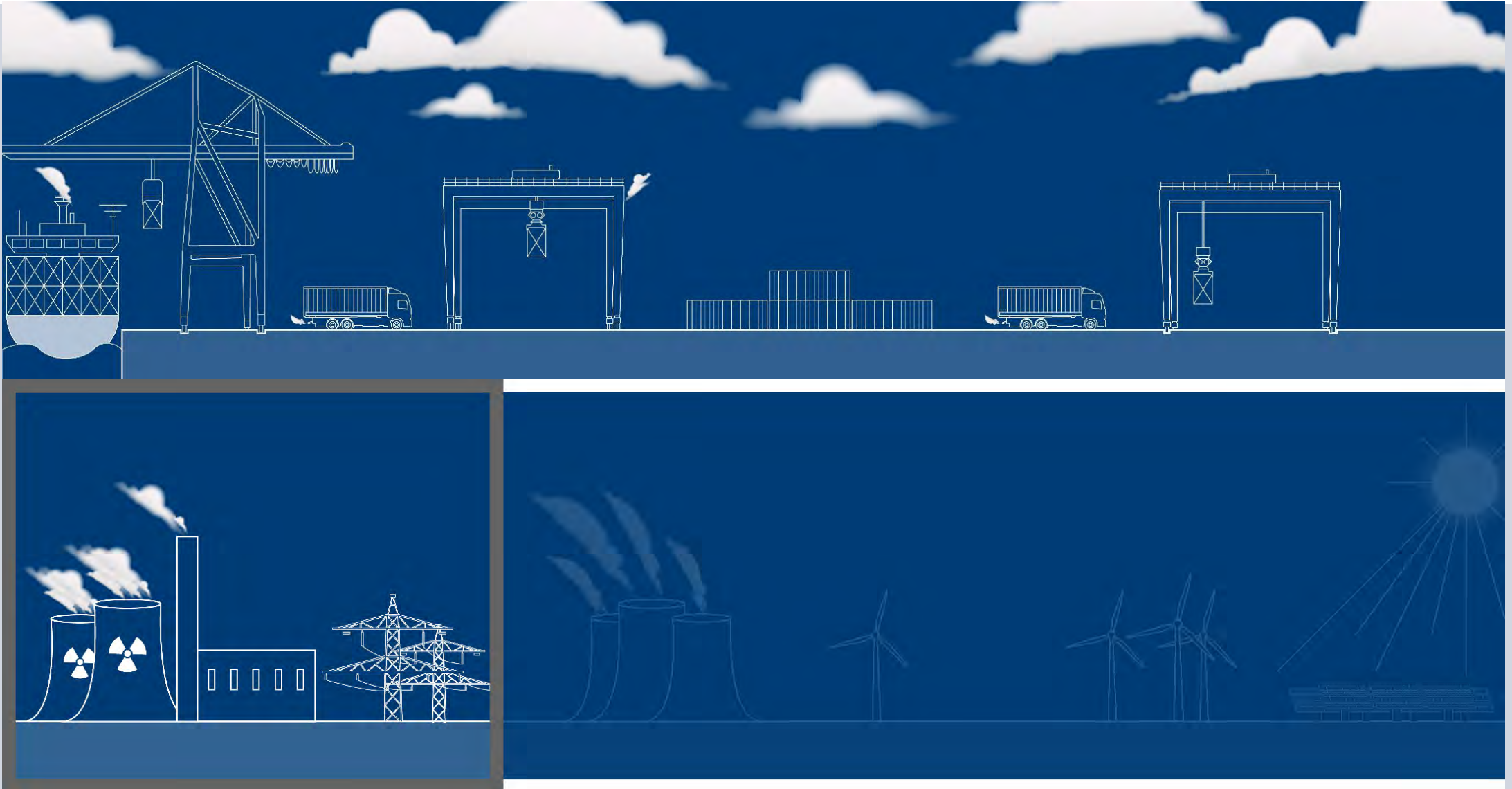
SPECIAL PROJECTS Ferris Wheels, ...



PEOPLE MOVER TRAMS, TRAINS, ...

Simplified Container Terminal Overview

In a changing world – 20 years ago



Simplified Container Terminal Overview

Nowadays and in the future



Simplified Container Terminal Overview



Container Terminal Automation

Step by step approach

1.0 ELECTRIFICATION

Insulated conductor rails 1000V, 1000A with aluminium/stainless steel

2.0 POSITIONING

Precise position feedback with a contactless reading head

3.0 DATA COMMUNICATION

Interference-free and safe data & video

2020 - 300 Mbps

2023 - 600 Mbps

2025 - 1 Gbps

4.0 - AUTOMATION

Combination of electrification, positioning and data communication for remote control



Case study – Great Britain, HPH UK – Port of Felixstowe

Innovations and Milestones

2014 – today



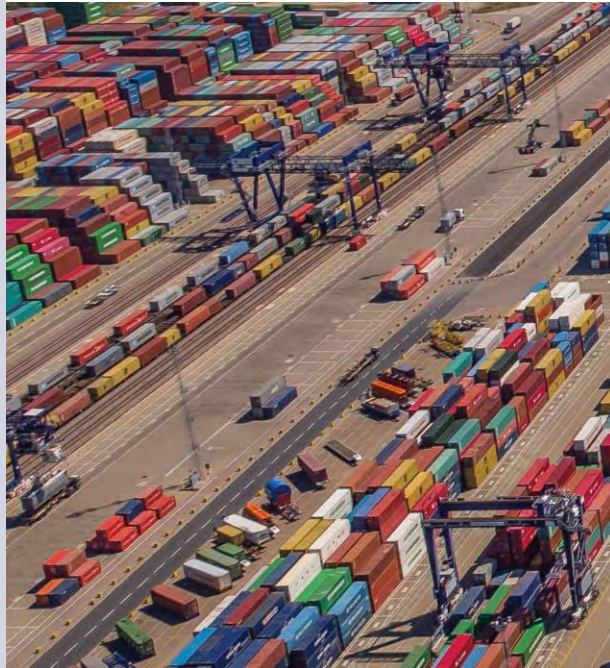
Brownfield

66 ZPMC RTGs



RTG Retrofit

59 blocks (15,3 km)



Case study – Great Britain, HPH UK – Port of Felixstowe

Innovations and Milestones

2020 – today



Greenfield



8 Remote ZPMC
AeRTGCs

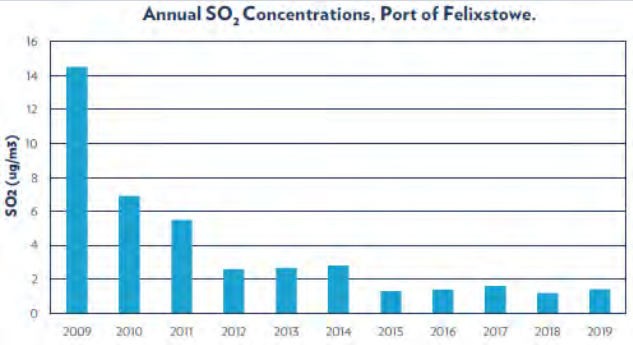
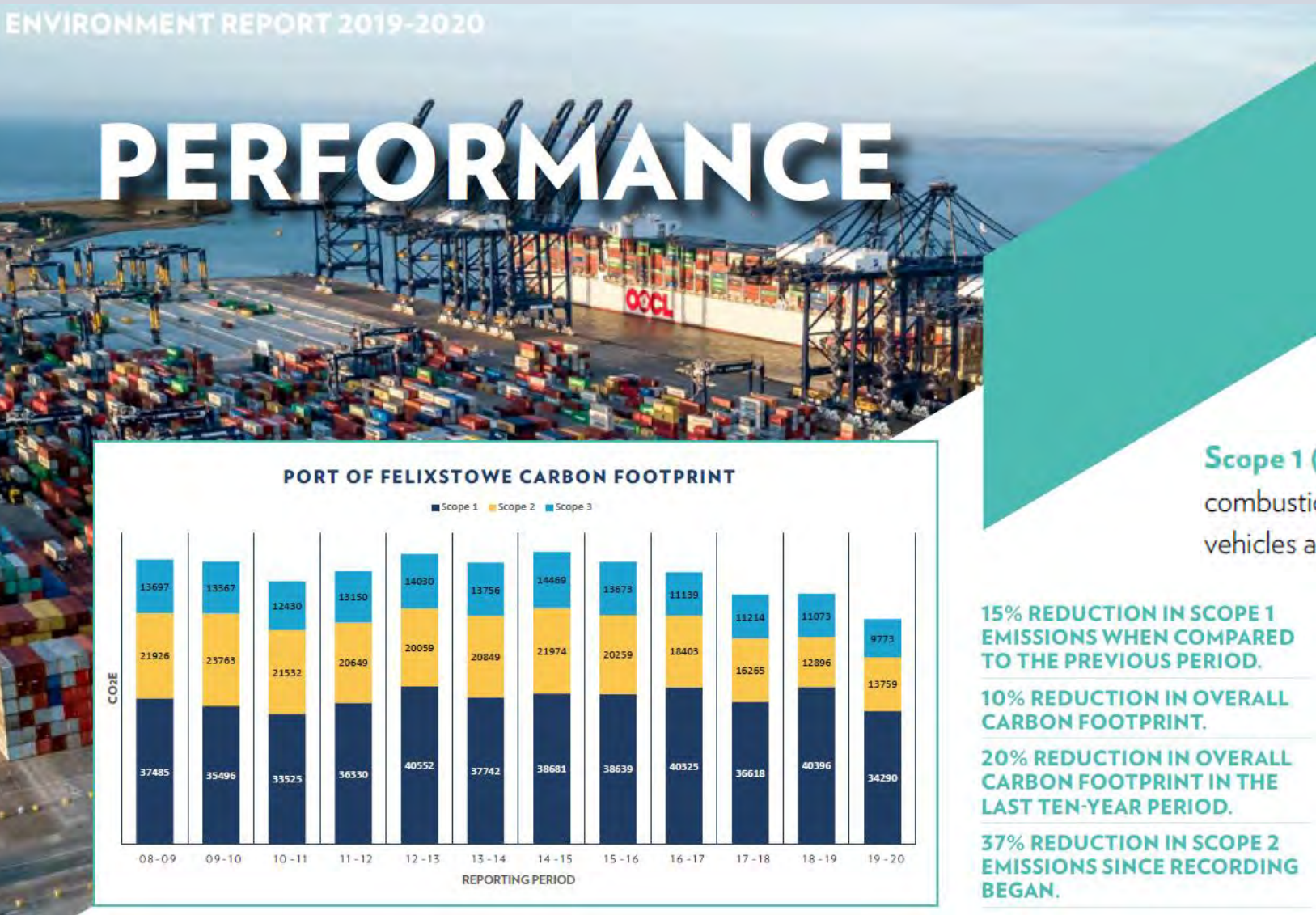
17 Remote KC
AeRTGCs

Container Blocks



18 blocks (5,2 km)





Scope 1 (direct) emissions produced on-site by fossil fuel combustion; mainly by RTG cranes, internal movement vehicles and port vehicles.

- 15% REDUCTION IN SCOPE 1 EMISSIONS WHEN COMPARED TO THE PREVIOUS PERIOD.
- 10% REDUCTION IN OVERALL CARBON FOOTPRINT.
- 20% REDUCTION IN OVERALL CARBON FOOTPRINT IN THE LAST TEN-YEAR PERIOD.
- 37% REDUCTION IN SCOPE 2 EMISSIONS SINCE RECORDING BEGAN.

Total savings since 2015-2020:

89.620 tons CO₂

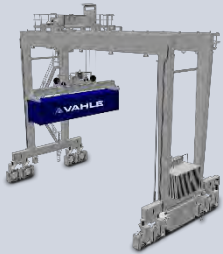
Source: PoF Environment Report 2020

USA, Gulftainer Wilmington

Project Success Stories



2021



9 new Konecranes AERTGCs



Automation of 6 container blocks
in phase 1 – 1,316 m

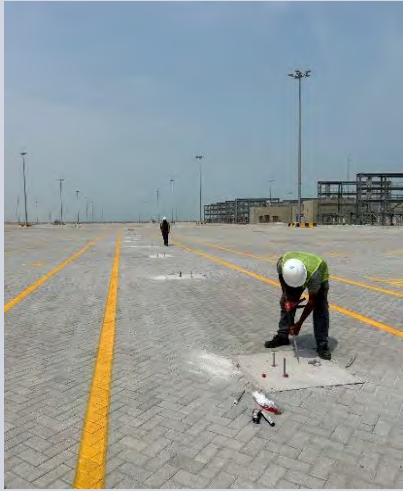


Including **SMGX data communication system**



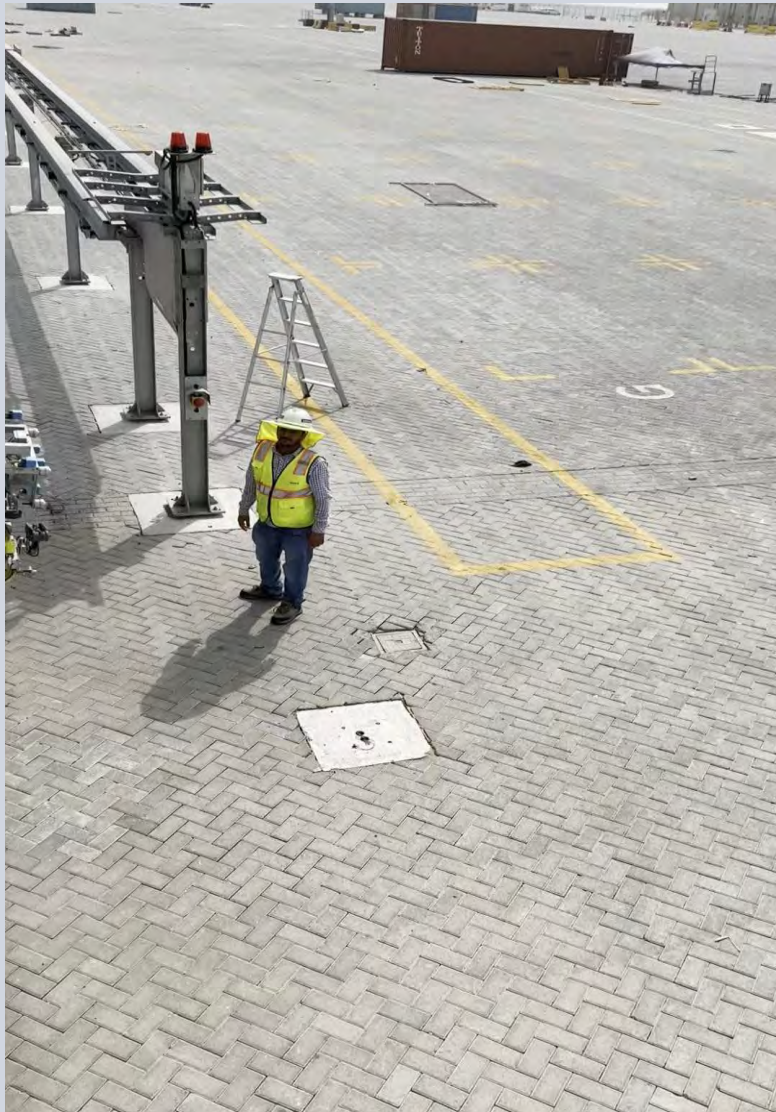
Project study - Khalifa Port | Abu Dhabi

Impressions – Trimotion compact – Installation and comissioning



PRODUCT OVERVIEW

eRTG CRANES– Trimotion Compact



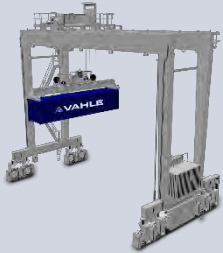
Thailand, HPT Laem Chabang – Terminal D

Greenfield Project Success Stories



2017 - today

World's
first fully
automated
terminal



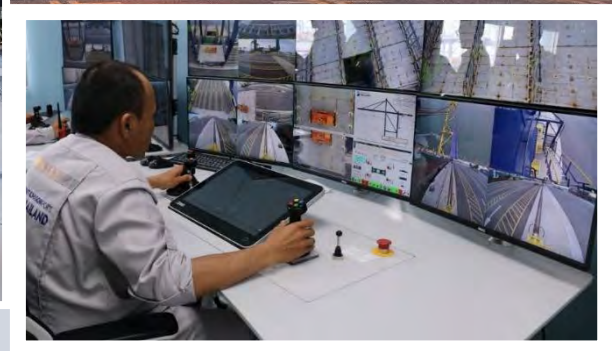
Remote operation with 20 new AERTGCs



Automation of 20 container blocks
in phase 1 – 5,040 m

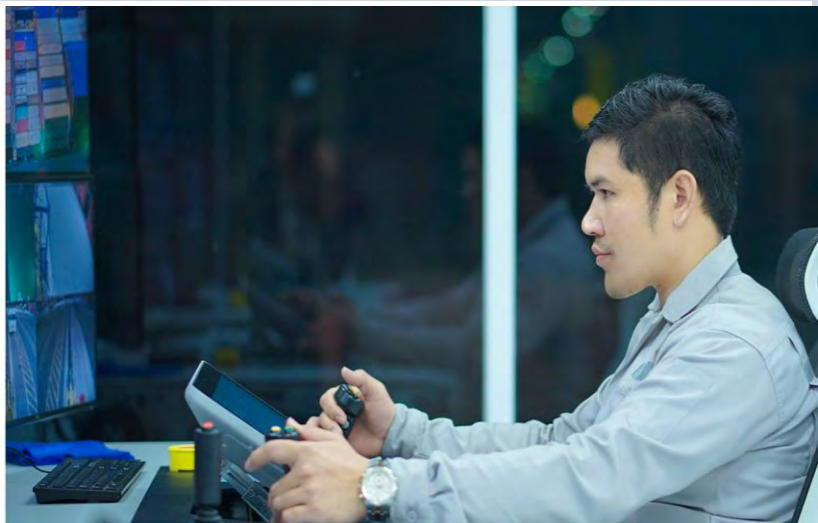


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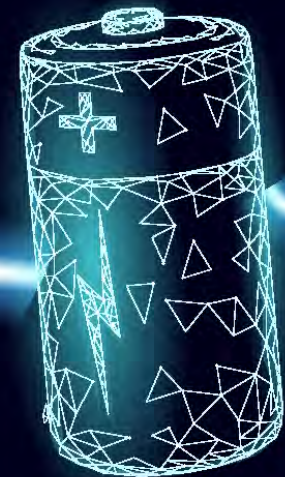
Case study – Thailand, Laem Chabang – HPT Terminal D

Container Terminal Automation



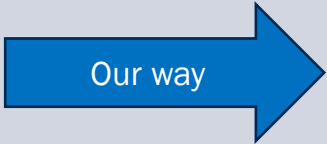
VAHLE Truck Charging

SAFE | EASY | RELIABLE



Park + Opportunity - Charge vs Manual Charging

Conventional / Manual EV Charging	Park + Charge - Advantages
Manual DC-Adapter coupling	Fully - semi automated charging process for maximum comfort
Manual release of charging process	Plug & Play - Easy to connect to your DC Chargers
Manual DC-Adapter uncoupling	For all electric driven Trucks, Buses & XL Fleet Vehicles
Cable: trip hazard/tangling	High safety & efficiency
Personnel: Forgetful (Start/Stop) / Unnecessary operator times are cost-intensive. Avoid labor responsibilities	Staff-less operation & low maintenance



VAHLE Park & Charge

SAFE | EASY | RELIABLE



Benefits of VAHLE Electrification & Automation Solutions



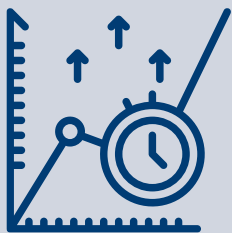
ECONOMIC

- Optimized OPEX by reduced fuel cost and idle time
- Reduced dependency on fossil fuel supplies
- Reduced GenSet maintenance cost
- Smart / remote maintenance
- Personnel costs are saved
- Productivity is increased
- Optimized Total Cost of Ownership



ECOLOGIC

- Reduction of CO₂ emissions and noise pollution
- Sustainable and green – at best with renewables



EFFICIENT

- Flexible yard operation
- Automatic connection system
- Autosteering
- Seamless synchronization
- Human Safety

**YOUR VISION COUNTS:
WE ARE READY**

**MEET US AT:
BOOTH #16**

