

Terminal Automation for Next-Gen Ports

Recent developments on all port applications



825 employees worldwide

100 %

Family owned since 1912



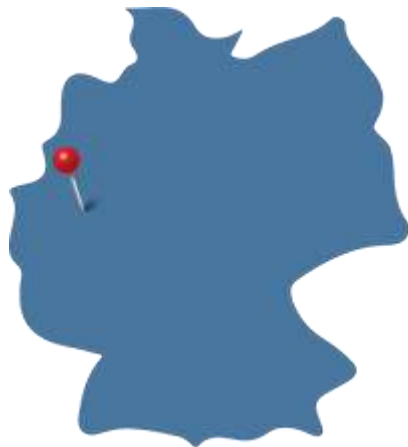
12 VAHLE subsidiaries worldwide and representations in 52 countries



€ 140 mil. in sales

Headquarter Kamen, Germany

- Engineering
- Production
- Sales



Technology Center Automation Schwoich, Austria

- Engineering
- Trend Scouting
- Training



AMUSEMENT RIDES

ROLLER-COASTER



PORT TECHNOLOGY

CONTAINER HANDLING



PEOPLE MOVER

APM, CABLELINER, TRAMS



AUTOMOTIVE

EMS, SKILLET



CRANE TECHNOLOGY

STANDARD- AND PROCESS



INTRALOGISTICS

AS/RS, SORTER





CONCEPTS

- Requirement analysis
- Think tank
- Feasibility studies
- System designs



HARDWARE

- Design
- Layout creation
- Electrical verification
- Quality control (FMEA)



CONSTRUCTION

- Construction 2D/3D
- Calculation
- Production handover



SOFTWARE

- Regulation
- Control
- Visualization
- Communication



ENGINEERING

- Samples
- Prototype
- Control, verification
- Series production

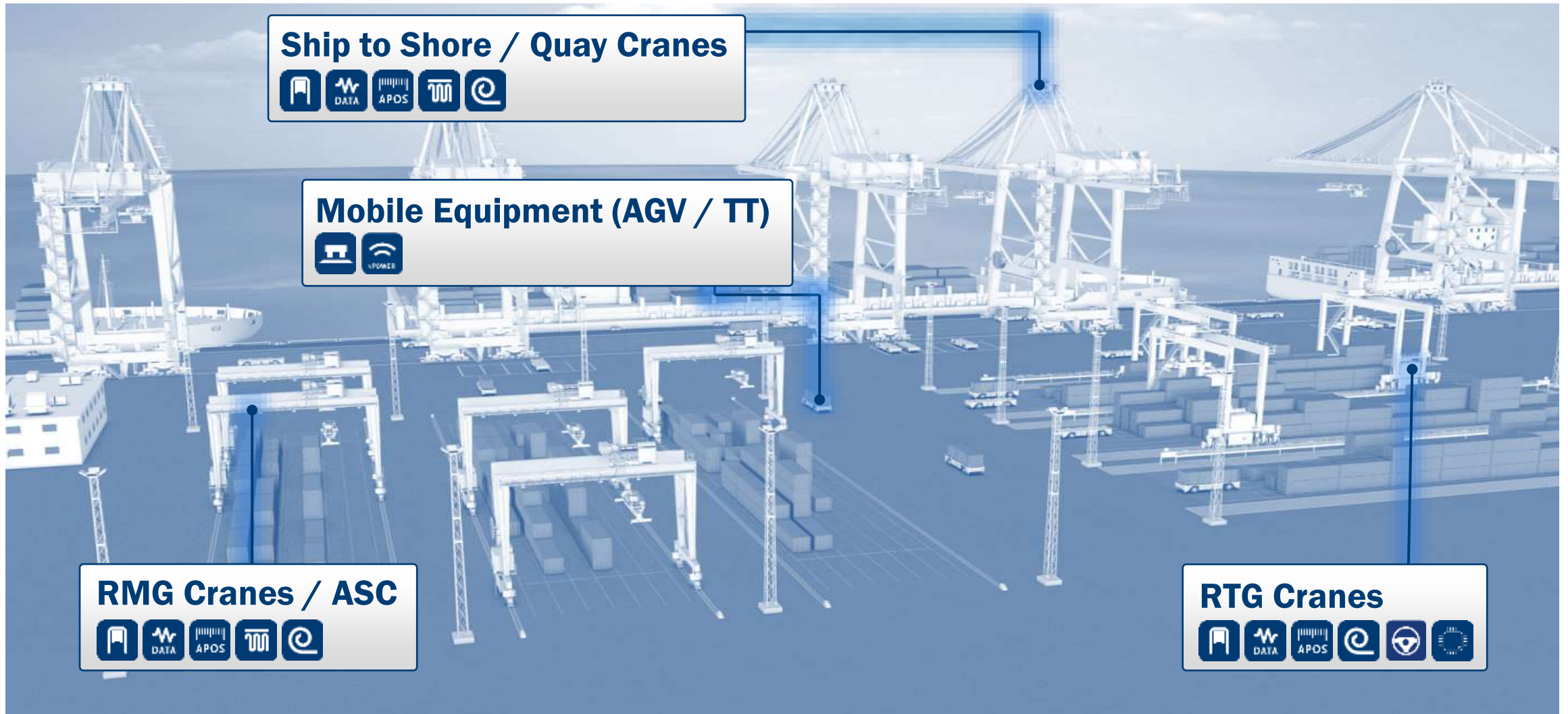


AFTER SALES

- Maintenance support
- Spare parts support
- Remote system checks

Simplified Container Terminal Overview

Portfolio of Equipment





In operation since 2011



104 RTGs (retrofit & new cranes)



Electrification of 66 container blocks



Great Britain, HPH UK – Port of Felixstowe

Brownfield & Greenfield project success stories



2015 – today



Retrofit

66 RTGs

Greenfield

Berth 9: 8 new remote eARTGCs



Retrofit

59 container blocks

Greenfield

Berth 9: 8 container blocks



Automation ready with **SMGX data communication** and positioning



2017 - today

World's
first fully
automated
terminal



Remote operation with 20 new eARTGCs



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



Including **SMGX data communication system**





In operation since 2020 - today



double automatic electric arms for
10 new RTGCs



Upgrade of existing infrastructure and third-party systems

**Game
Changer**



Benefits of VAHLE Automation Solution



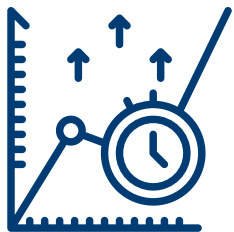
ECONOMIC

- Reduction of OPEX
- Personnel costs are saved
- Productivity is increased



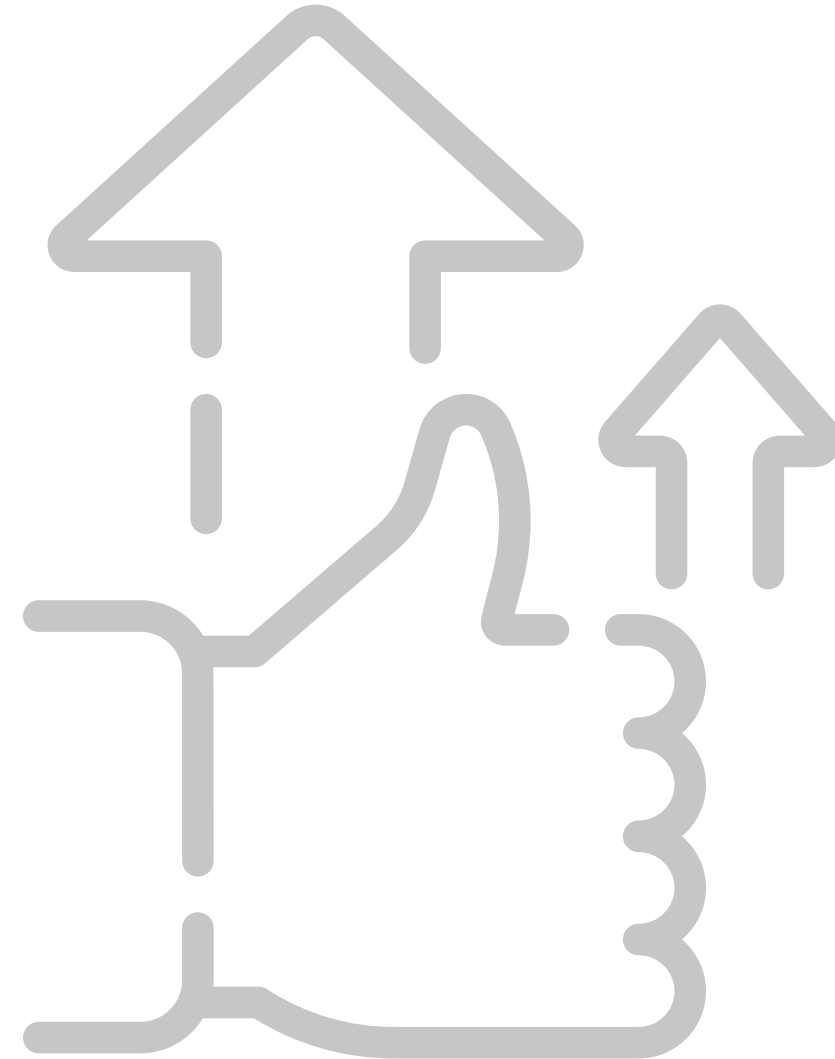
ECOLOGIC

- Reduction of CO₂ emissions and noise pollution
- Greenification



EFFICIENT

- Simplification of work
- Increasing efficiency
- Human Safety



www.vahle.com



Sebastian Alves
Commercial Pre-Sales
VAHLE Port Technology
Tel.: +49 2307 704 319

Sebastian.alves@vahle.de
Port-Technology@vahle.de



**THANK YOU FOR
YOUR ATTENTION**

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