

INTERFERRY 2025

Innovations in Vessel Charging



Rainer Altmeyen
Director Electrification Segment

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/// WABTEC / Who we are

WABTEC (Westinghouse Air Break Technology) out of Wilmerding (Erie), PA, USA. NYSE: WAB

Stemmann-Technik GmbH Schüttorf, Germany

Industries: Transit, Ports & Maritime, Bus & Truck

27.000 Employees, 8.8 bill USA turnover

>90 Land-side Ferry Chargers with
>160 ship sides recepticals installed since 2015

GLOBAL IMPACT

\$10,4 B

2021 REVENUES

~23k

GLOBAL LOCOMOTIVES
INSTALLED BASE

~30k

GLOBAL EMPLOYEES

7K

PATENTS

~50k

COUNTRIES WITH
WABTEC OPERATIONS

100

COUNTRIES WITH
WABTEC TRANSIT APPS



/// Solutions we provide for the marine world

Spreader Cable-Reels

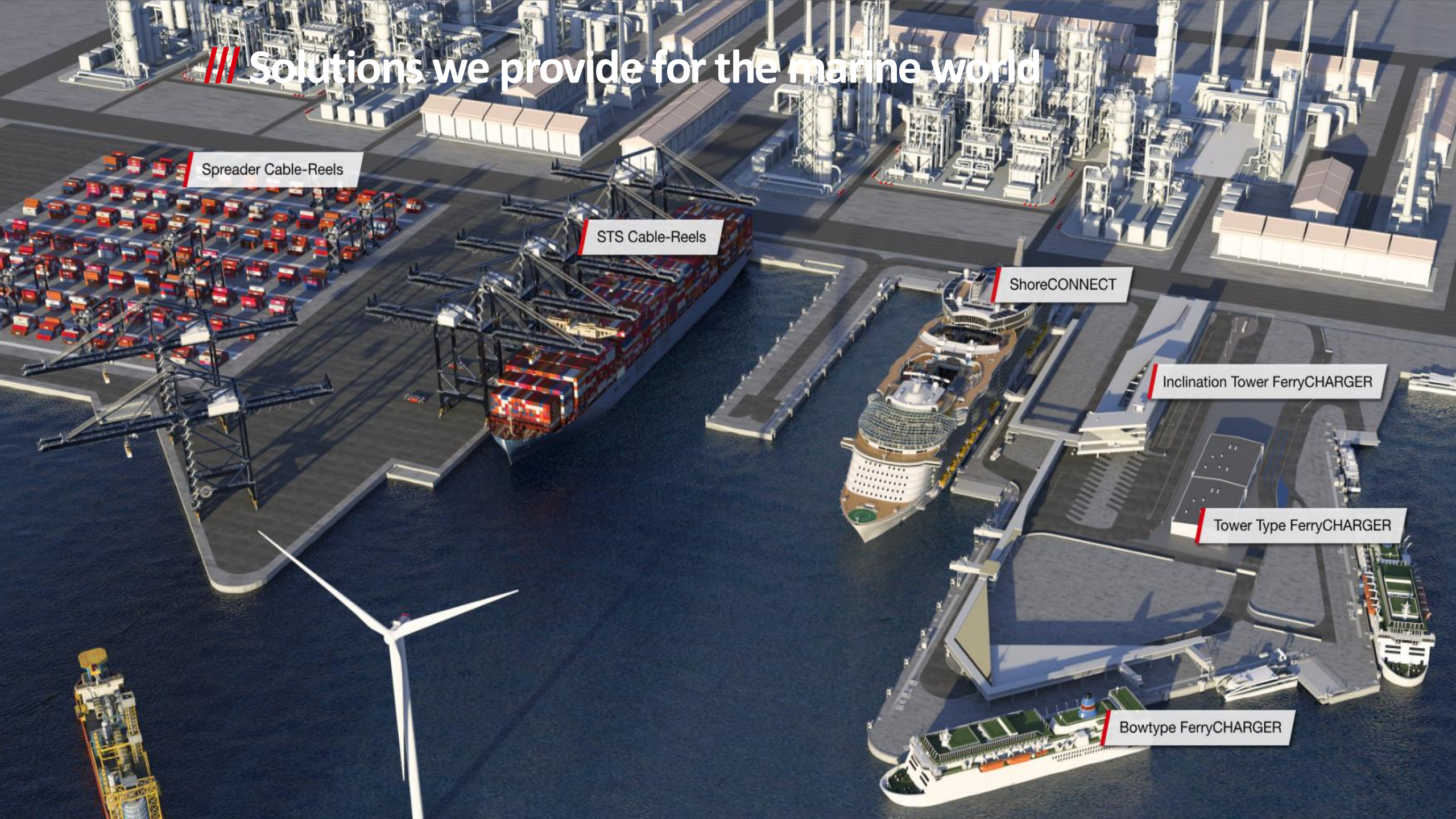
STS Cable-Reels

ShoreCONNECT

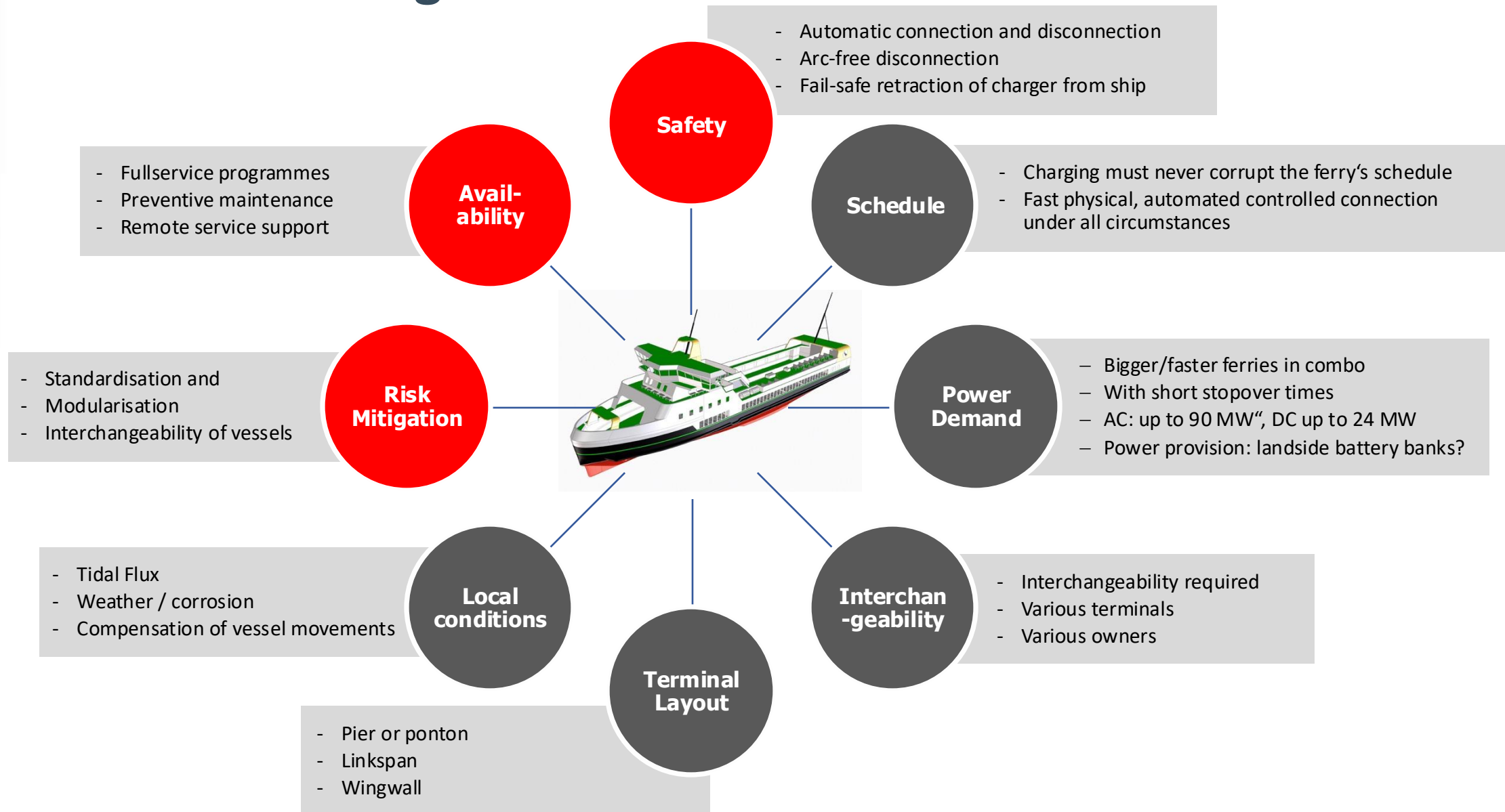
Inclination Tower FerryCHARGER

Tower Type FerryCHARGER

Bowtype FerryCHARGER



/// Forces driving Innovation



/// Safety

- Hands-free operation
- Controlled arm movements
- Automatic connection
- Automatic disconnection
- Arc-free separation
- Fail-safe disconnection
- Emergency stops
- Safety distances



/// Availability

- Ensure continuous, trouble-free operation to secure operator's ability to move Pax and Cars in a CO2-free manner
- The objective is to have > 98% availability for this critical infrastructure
- Four main pillars:
 - Preventive maintenance
 - Corrective maintenance
 - Overhauls and Repairs
 - Technical support, 24/7 on-call service and Remote monitoring
- @fixed monthly costs



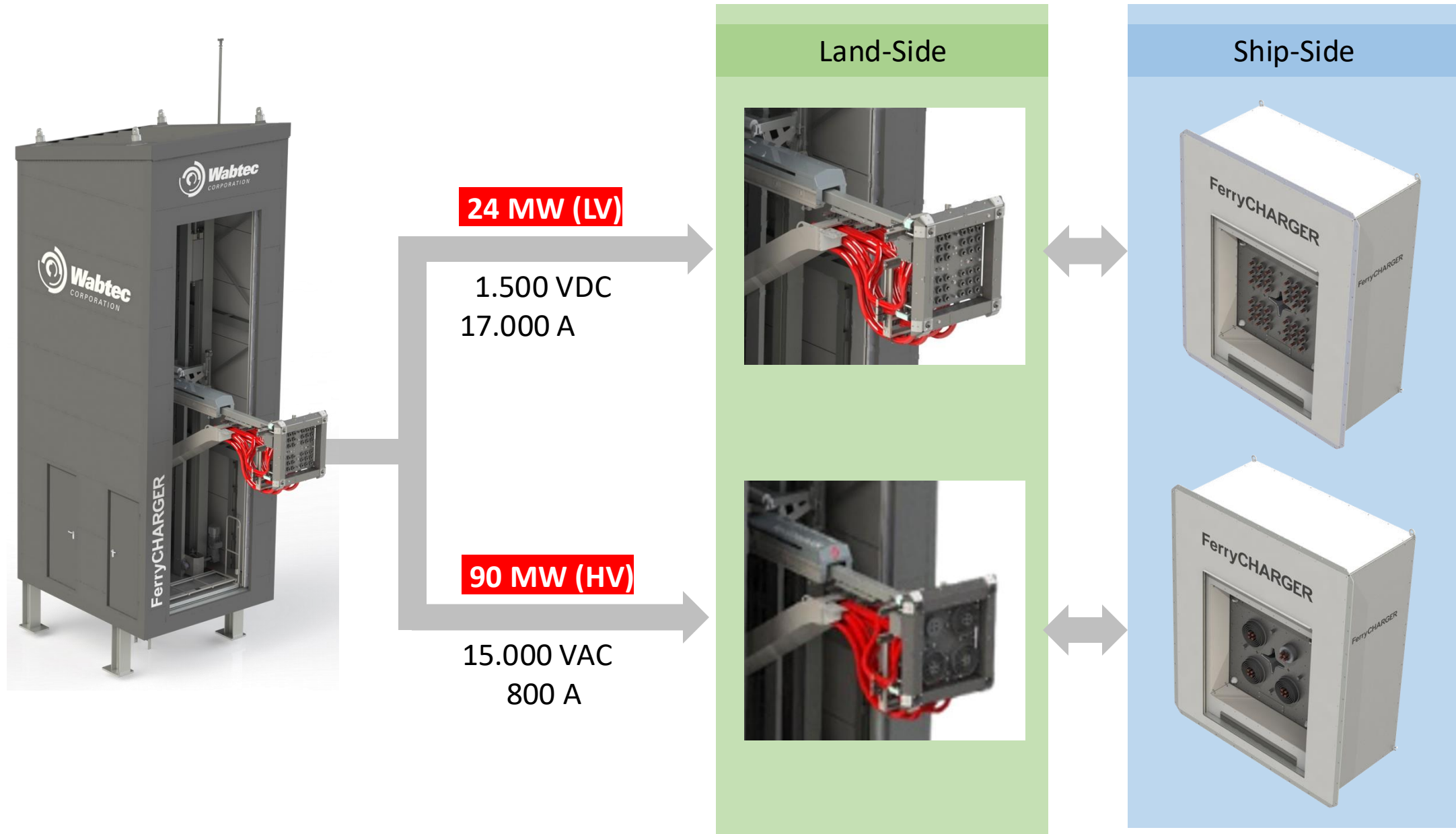
/// Commercial and operational Safety



- Hyper powered vessel battery charging system (HYPOBATT)
- MCS-Charging Protocol
- Up to 5 MW charging power (AC or DC) for 2 batteries at a time
- The goal is a megawatt charging standard for ships of different sizes, owners, purposes
- Digital Twin surveillance
- Demonstrator in Norddeich, Germany from Nov 2025 onwards



/// Risk-Mitigation by Standardisation



/// Risk-Mitigation by Standardisation



Ultra-flexible work envelope allowing for interoperable / cross-company ferry operations

Up to 9 m / 30 ft tidal compensation

One structure for
- LV up to 5.000 kW
- HV up to 15.000 kW

Telescopic reach to serve vessels of different berth

Pre-manufactured and pre-tested components for easier commissioning



FerryCHARGER Tower-Type

Denmark, Rödby-Puttgarden, MV FUTURA, 15 MW (HV)

/// Increased Power Demands



From 2 MW in 2015 (AMPERE)
to 90 MW in 2026

Energy transfer shore to ship
is possible by:

- LV (AC or DC) up to 24 MW
HV (AC) up to 90 MW
- Power supply to terminal
remains a challenge
- Landside battery
banks(second-live) and
cable crossngs can help to
solve the problem



FerryCHARGR Tower-Type

Denmark, Kattegat route: Århus-Sjælland Odde, 90 MW (HV)



/// Take Away

- Customized solutions to be replaced by more harmonized and modular solutions
- The operator's individual requirements are taken into account
- Standardized solutions to lower entry barriers available
- No compromises on safety and reliability of overall system
- Transfer: 90 MW with AC Systems
24 MW with DC Systems.
- Joint effort to overcome power supply problems required.



/// **THANK YOU**

FOR YOUR ATTENTION

Rainer Altmoppen
Dipl.-Ing. (FH), B. Eng, MA

Stemmann-Technik GmbH
Niedersachsenstraße 2
48465 Schüttorf, Germany
Phone: +49 170 484 0090

rainer.altmoppen@wabtec.com

www.WABTEC.com