



Digitalization & Automation

Sustainable crane operation

Black and Caspian Sea 2023, Ports and shipping, Istanbul

5th July 2023

SIEMENS



Regional Manager, Siemens AG

Alexey Zinovyev

Content

1 Automation & Remote Control

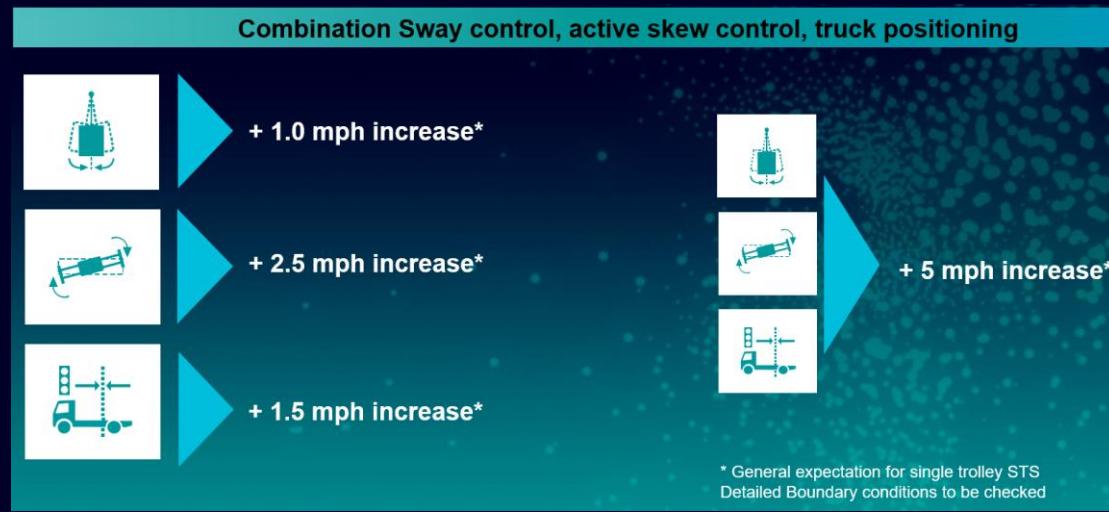
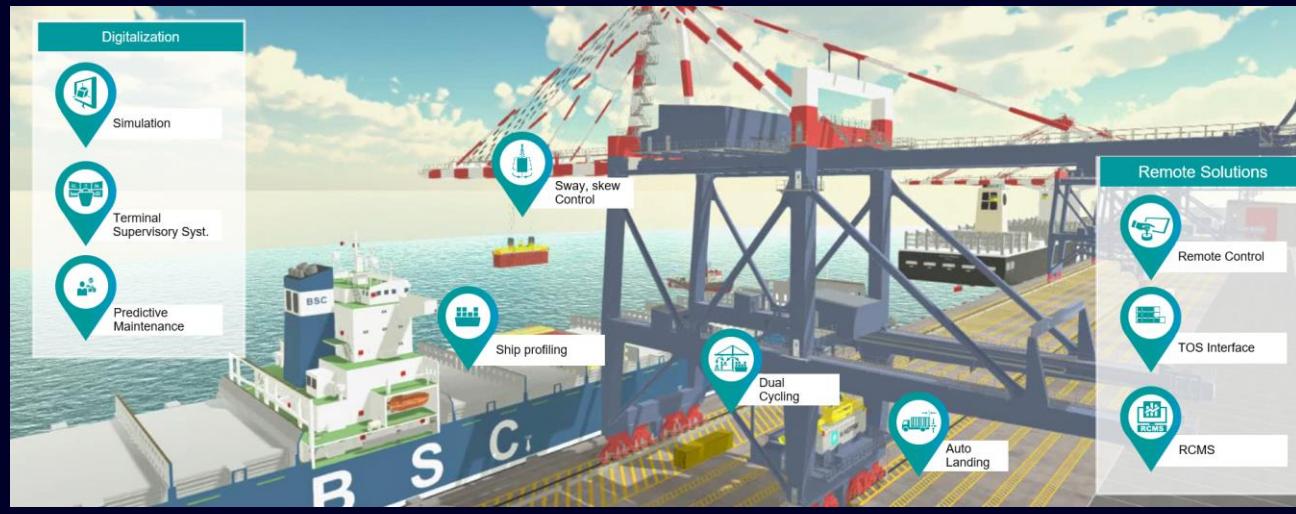
2 Digitalization

3 Crane Modernization

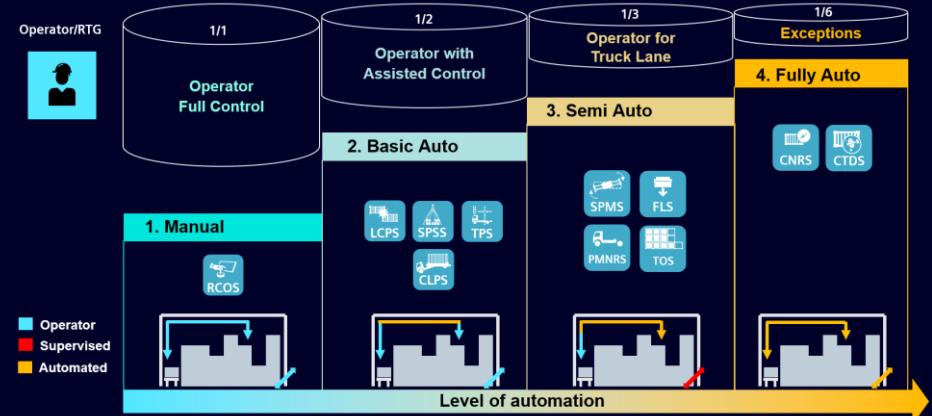
4 Decarbonization



Crane Automation



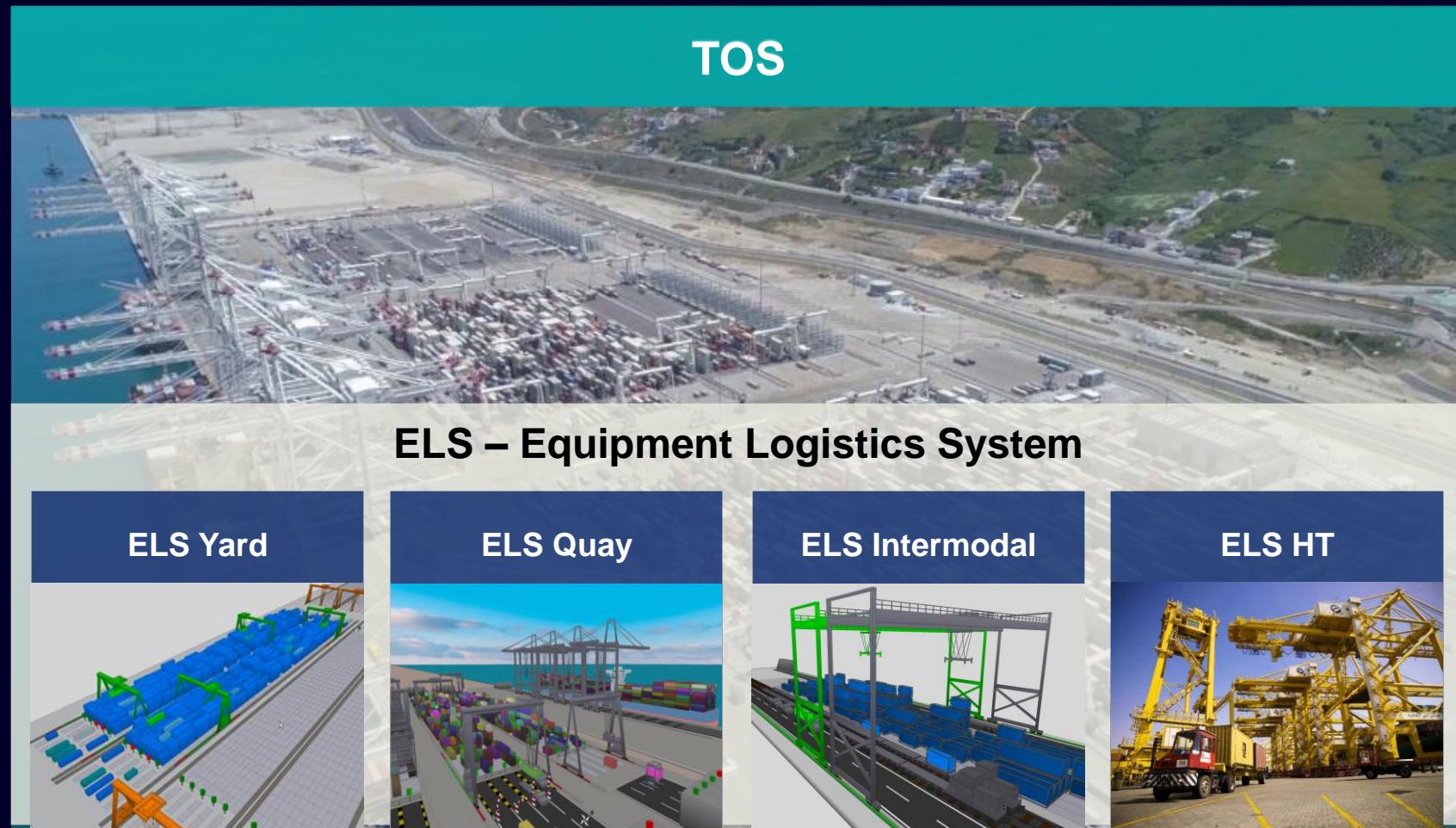
Automation steps ARTG



Equipment Logistics System (ELS)

Intelligent connection between TOS and equipment

- Increased terminal performance
- Manage (pool of) move instructions
- Scheduling and dispatch in ELS
- Optimal use of resources
- Reduced waiting times
- 2D/3D visualization
- Real time KPI / status Reporting
- Silent system
- Modular – Scalability for growth



Remote Control (RCOS) of a Crane



**Stress on human body
(neck/back)**



**Transportation from and to cranes
required**



**Reduced visuals due to increase
of ship size**



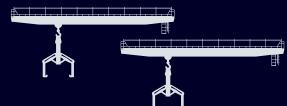
(Semi) Automation systems



Quay Crane



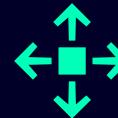
Industrial Crane



Stacking Crane



"Any to any" operator
connects to any crane from
any desk.



"Pooling"
connects crane to a free
desk when assistance is
needed



**"Integration &
Interfacing"**

Digitalization

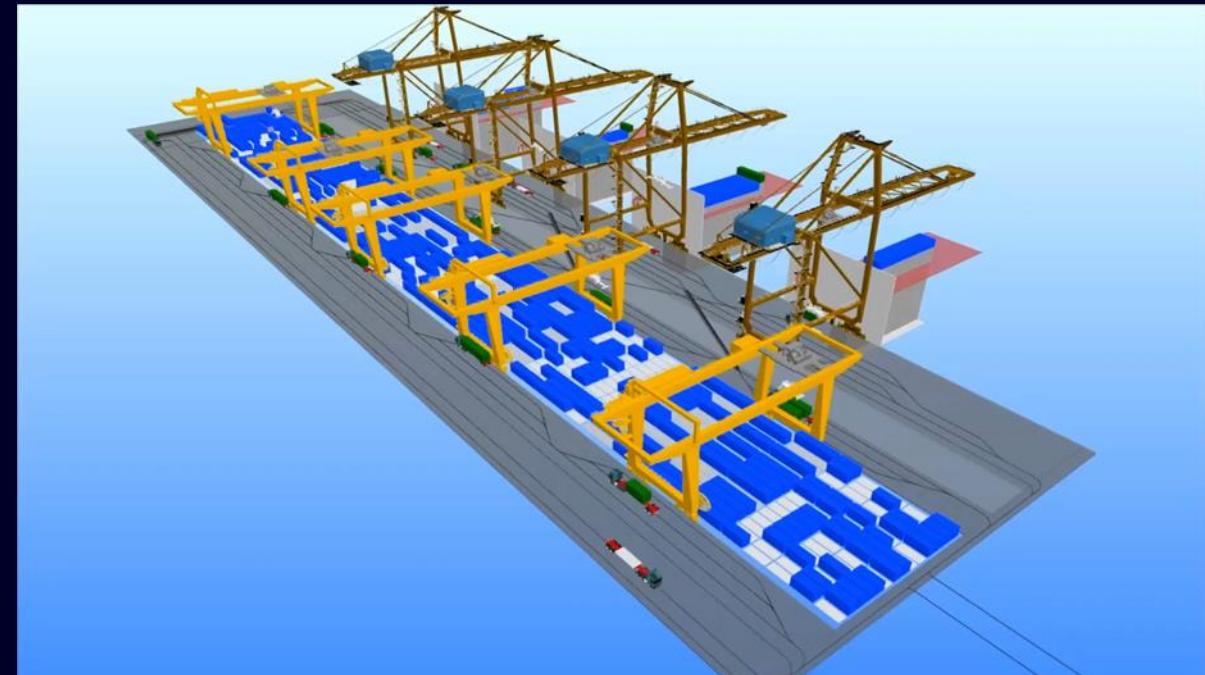
Digital Twin & Cranes simulation

Virtual commissioning, sensors on crane, operator training simulator

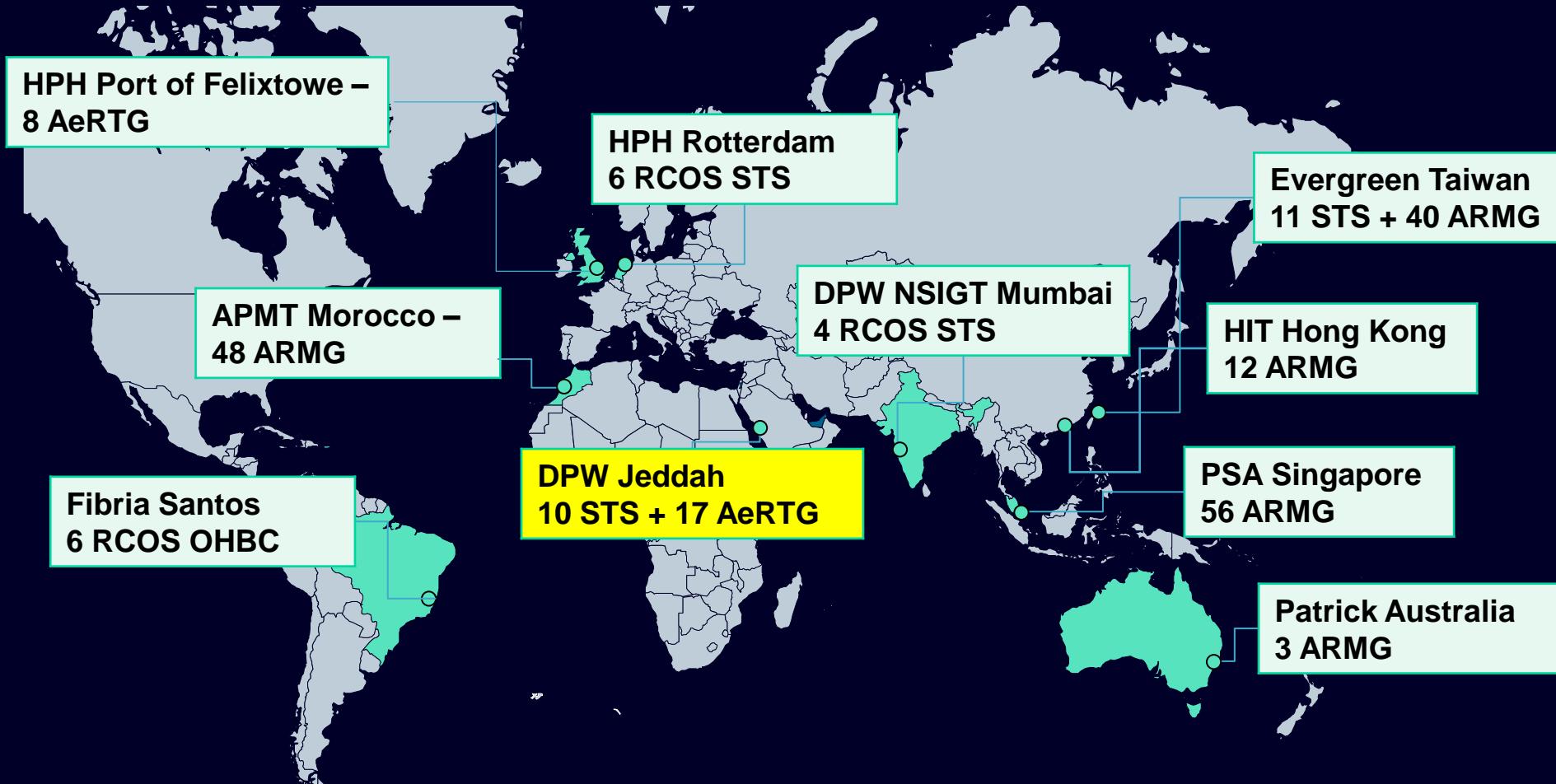


Logistic simulation

Optimize container flow throughout the terminal



Reference Projects



Modernization

SIEMENS

Industry

Phase out

Start phase out

Begin spare part phase

P.M410

P.M400

10 11 12

Siemens AG, I DT MC GMC / I DT LD P

Name Department Stefan Brueckner / Roland Ehrl
I DT MC GMC-BD / I DT LD P S

Tel. +49 9131 99-4257 / +49 911 433-6682

Fax

Mobile

E-Mail stefan.brueckner@siemens.com / roland.ehrl@siemens.com

Our ref. July 2010

Product life cycle MASTERDRIVES – Notification of product phase-out

With its functionality, performance range and flexibility MASTERDRIVES has for years been a highly successful system for single and multiple motor applications for production machines, in general mechanical engineering and in all industries.

We wish to continue the success story with the new drives family SINAMICS. With SINAMICS you have a drive system with expanded modularity and functionality, e.g. Safety Integrated functions, or Drive Control Chart (CCC) for graphics configuration and extension of device functionality by means of freely available control, arithmetic and logic blocks.

As our partner and customer we wish to inform you of our plans for the coming years, in order to allow you as a user of MASTERDRIVES sufficient time to complete your migration to SINAMICS.

We are therefore giving notice, effective October 1, 2010, of intended product phase-out.

On October 1, 2011 active marketing of the MASTERDRIVES range will cease. As from that date our comprehensive spare parts, repairs and after-sales service support will remain fully available. This way we wish to ensure availability of the drive systems installed in the field.

The product will then be finally and completely discontinued as from October 1, 2020.

Our aim is to provide you with sufficient investment security for equipping your machines, and to ensure support for the drives installed in the field. Furthermore we wish to offer you an innovative successor product in the form of the new SINAMICS drive system.

14.07.2010

Uwe Frank
I DT MC

Dr. Jürgen Brandes
I DPLD

At the end of any guarantee

CP

P.M500

22 23 24

'26/27

Siemens AG
Industry Sector: Management: Siegfried Russwurm
Drive Technologies Division: Management: Rainer Helmrich
Motion Control Systems: Management: Uwe Frank

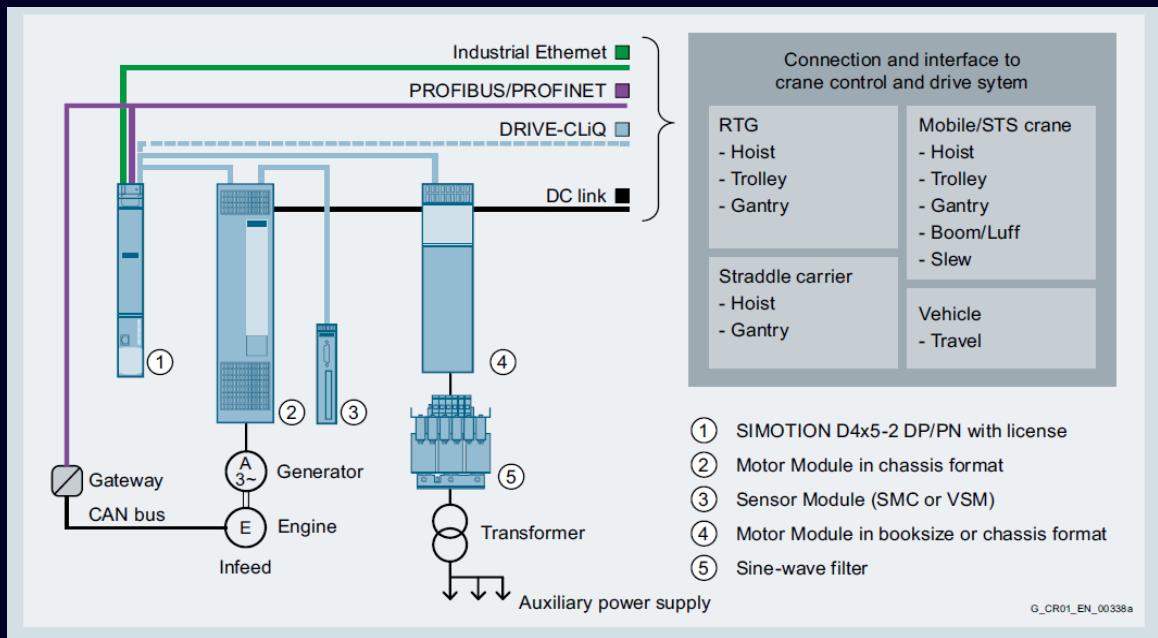
Siemens Aktiengesellschaft: Chairman of the Supervisory Board: Gerhard Cromme;
Managing Board: Peter Loscher, Chairman, President and Chief Executive Officer; Siegfried Russwurm,
Joe Käser, Barbara Kux, Hermann Requardt, Brigitte Ederer, Peter Y. Solmsen
Registered Office: Berlin and Munich, Germany; Commercial Register: Berlin Charlottenburg, HRB 12300, Munich, HRB 6564
WEEE-Reg-No. DE 2389152

Frauenauracher Str. 80
91056 Erlangen
Germany
Tel.: +49 (9131) 99 0
Fax: +49 (9131) 99 2330

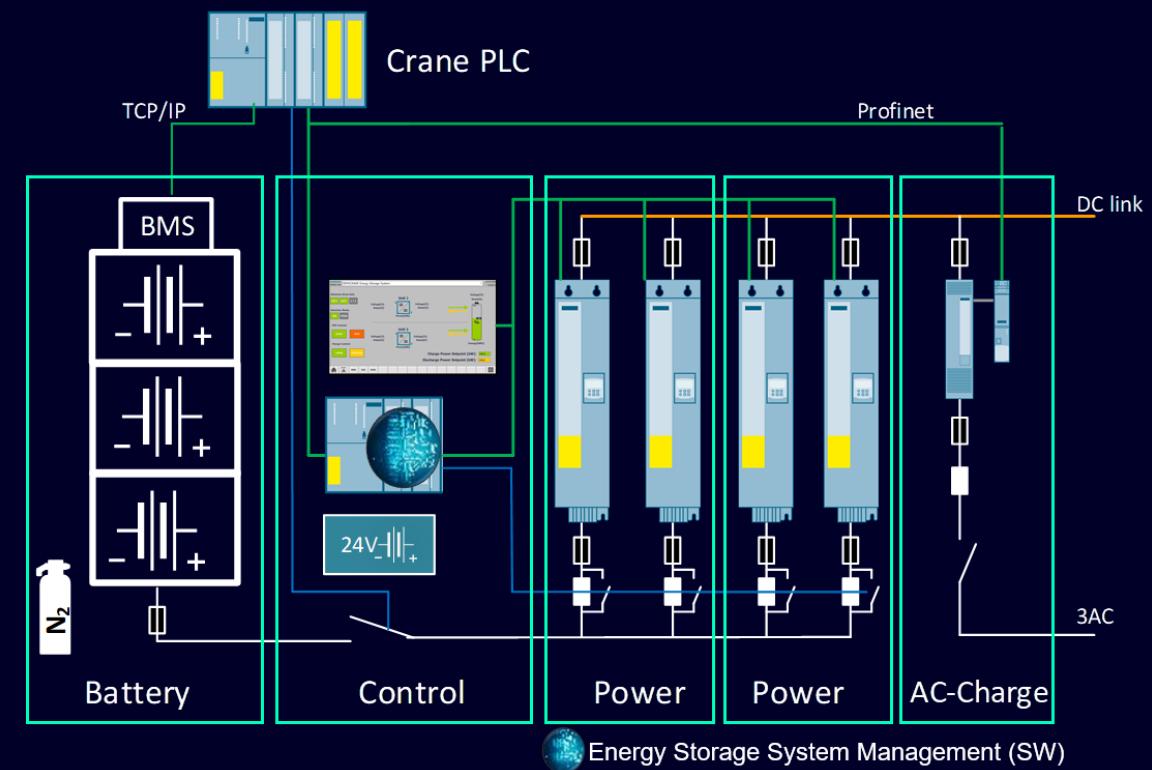


Decarbonization

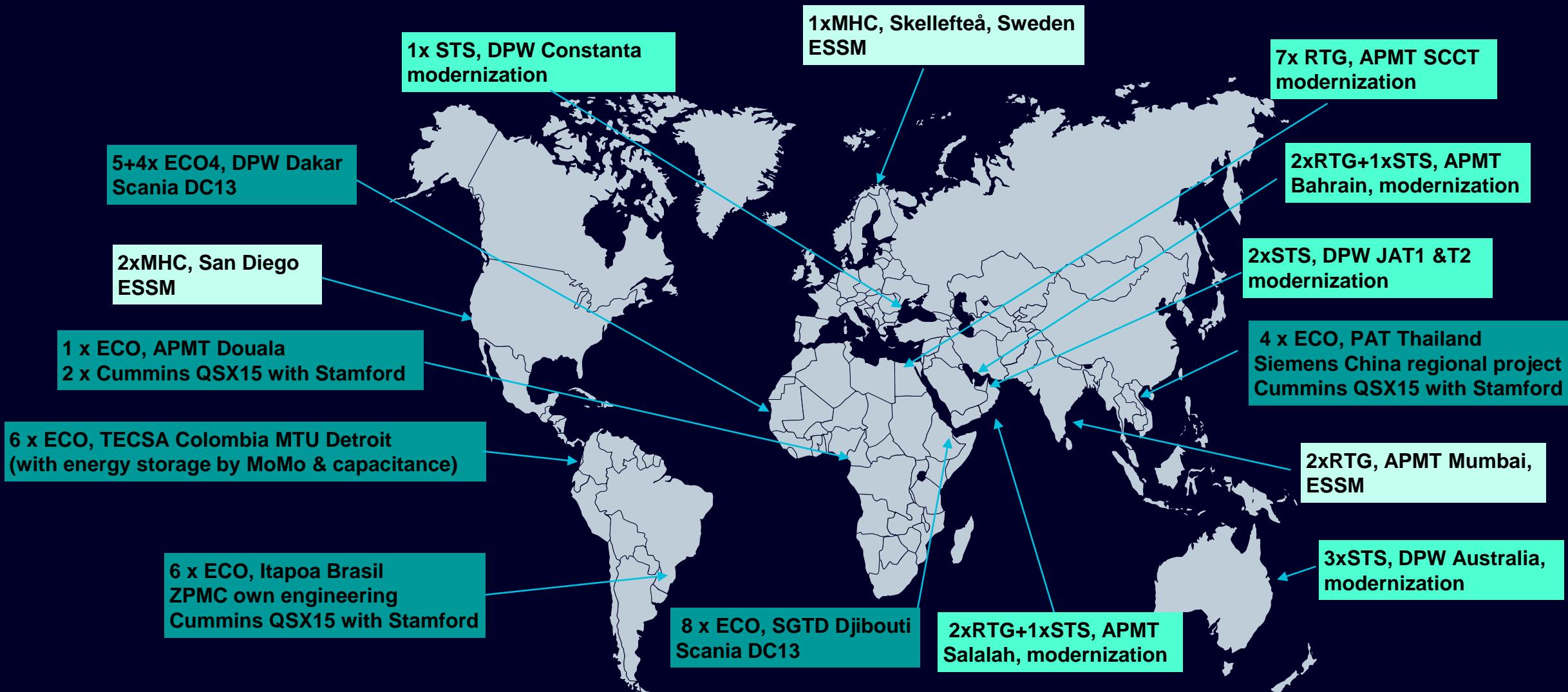
SIMOCRANE ECO4



SIMOCRANE ESSM



Reference projects



| Contact

Alexey Zinov'yev
Siemens Cranes

E-mail alexej.sinowjew@siemens.com
www.siemens.com/cranes

