



Digitalization & Automation

Sustainable crane operation

Trans Middle East

26th Jan 2023

SIEMENS



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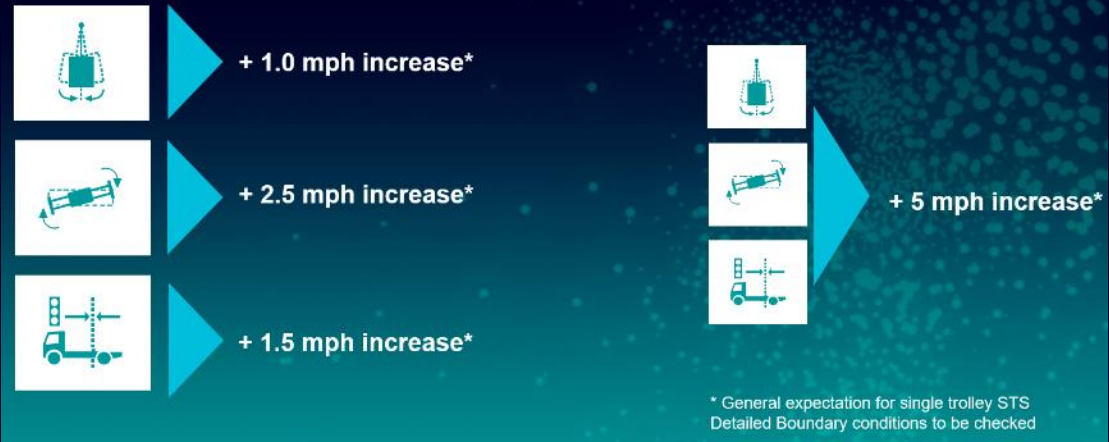
4 Decarbonization



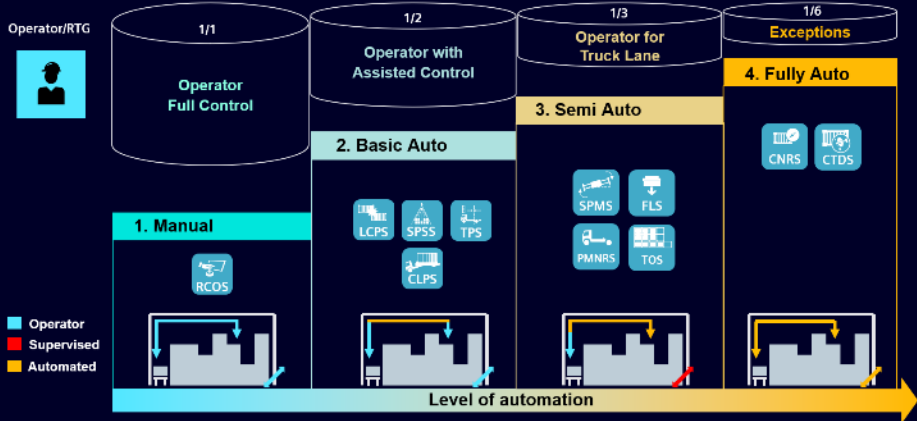
Crane Automation



Combination Sway control, active skew control, truck positioning



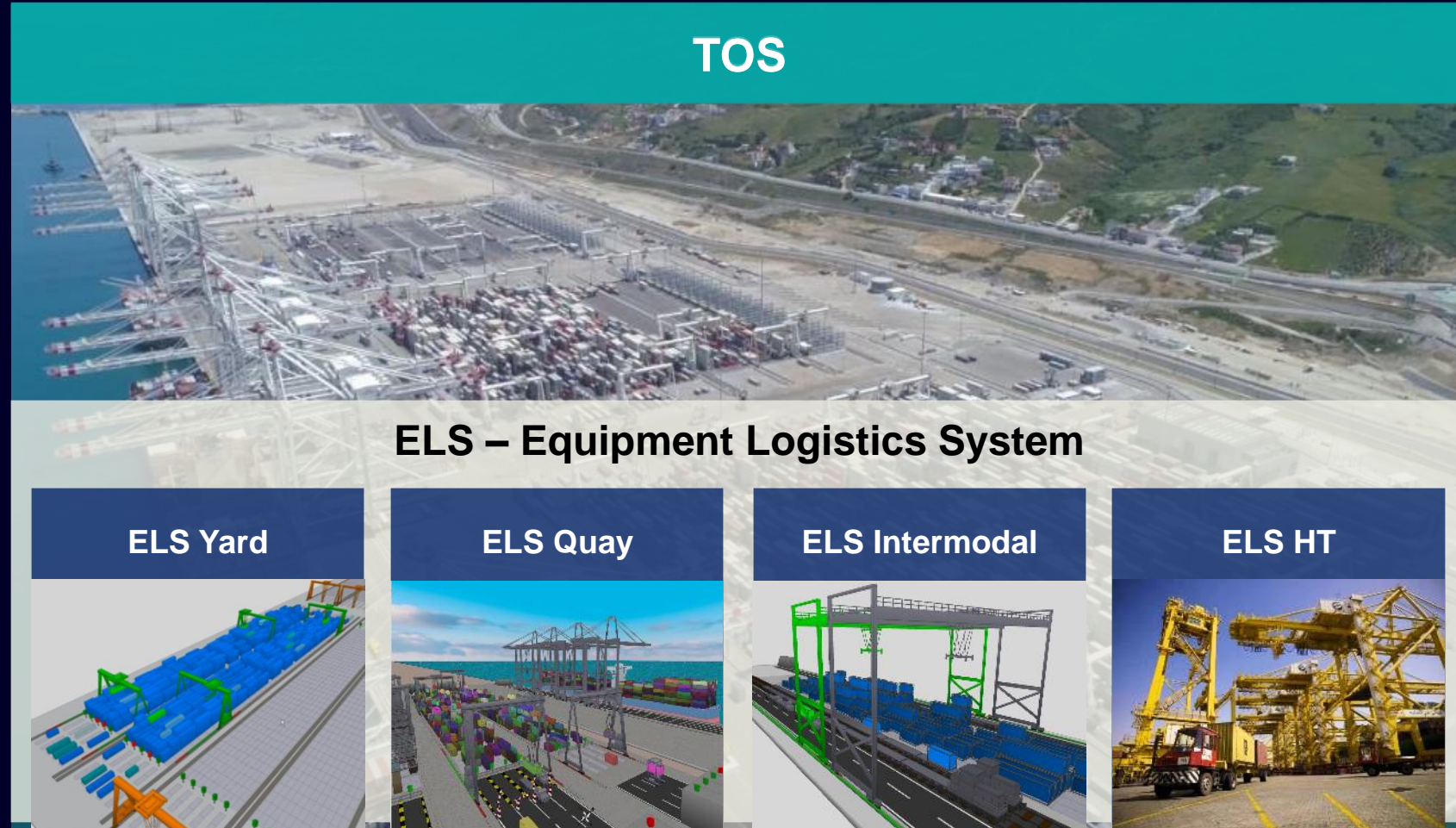
Automation steps ARTG




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



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

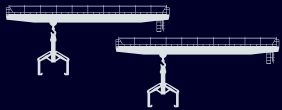
 "Pooling" connects crane to a free desk when assistance is needed

 "Integration & Interfacing"

Quay Crane



Industrial Crane



Stacking Crane



Digitalization

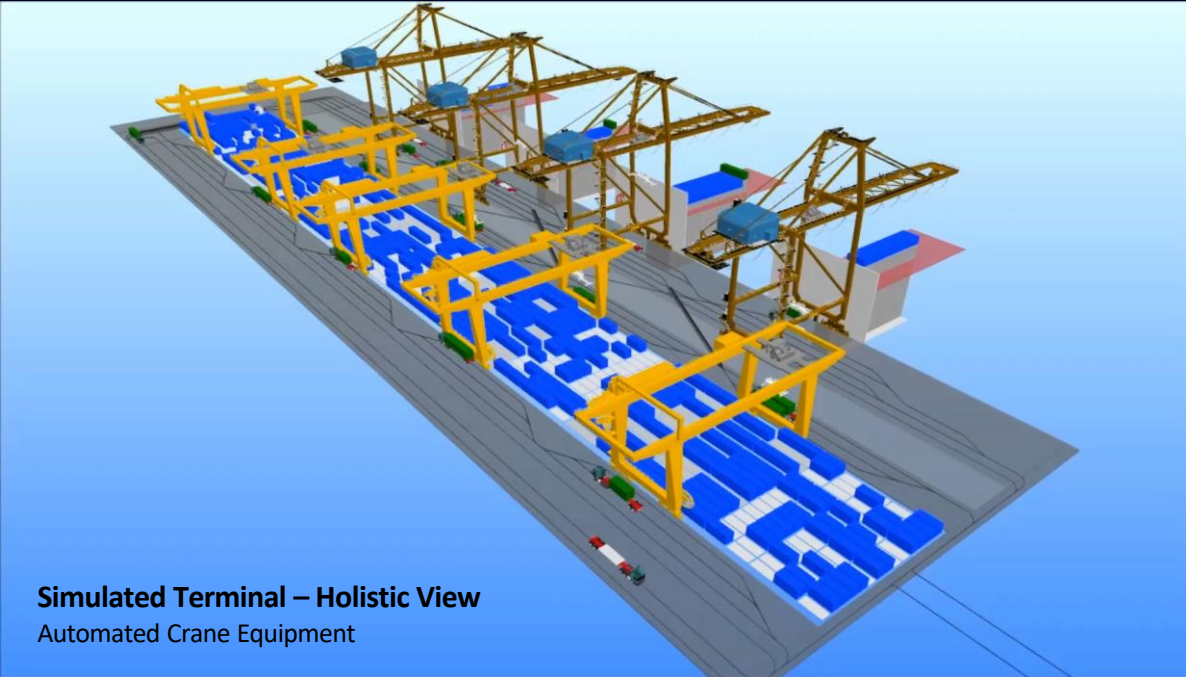
Digital Twin & Cranes simulation

Virtual commissioning, sensors on crane, operator training simulator



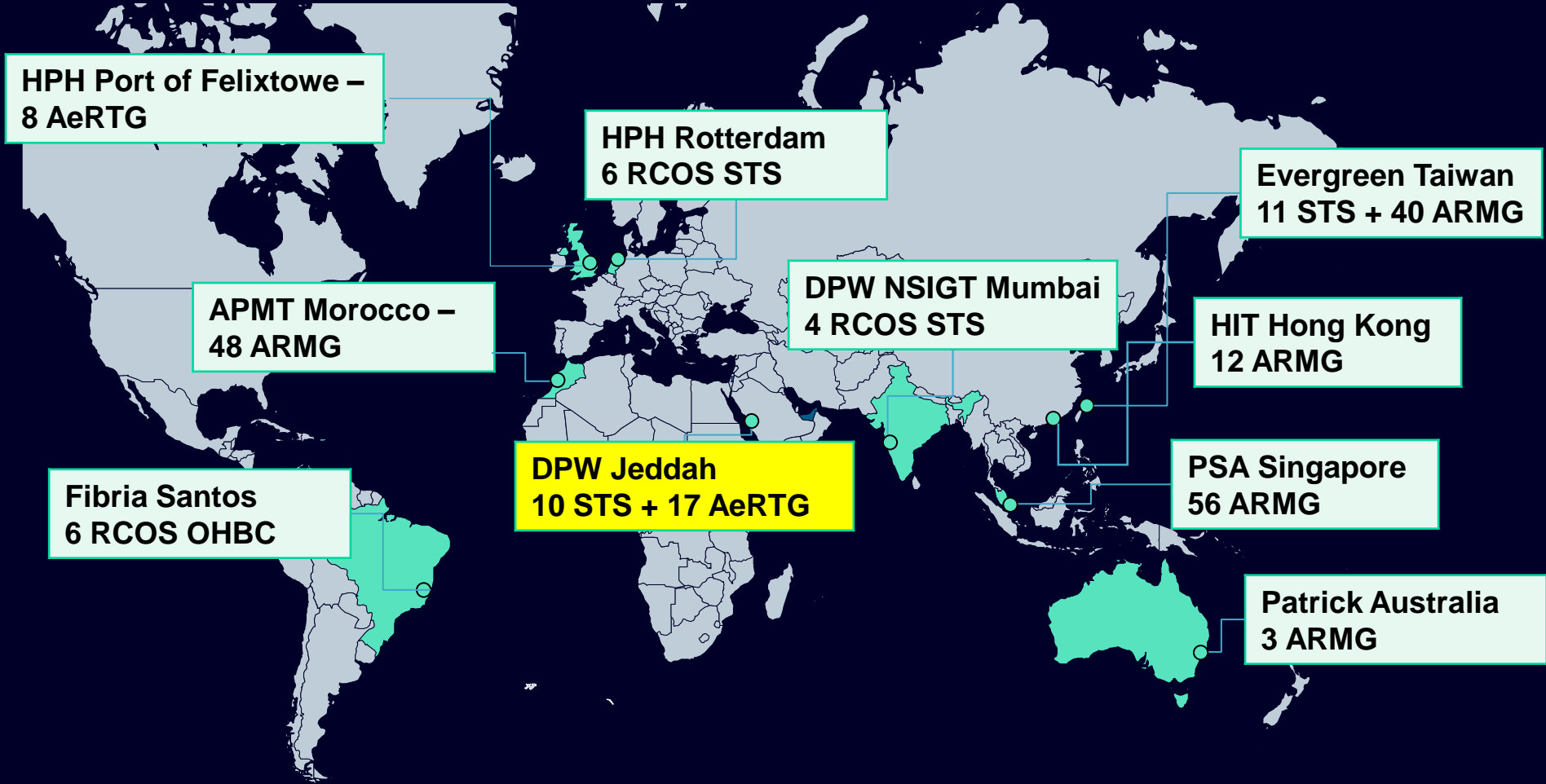
Logistic simulation

Optimize container flow throughout the terminal



Simulated Terminal – Holistic View
Automated Crane Equipment

Reference Projects



Modernization

Phase out

Start phase out

Begin spare part phase

P.M400

P.M410

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SIEMENS Industry

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

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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 (DCC) 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.

U. Frank
Uwe Frank
I DT MC

J. Brandes
Dr. Jürgen Brandes
I DT LD
14.07.2010

At the end of any guarantee

P.M500

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26/27

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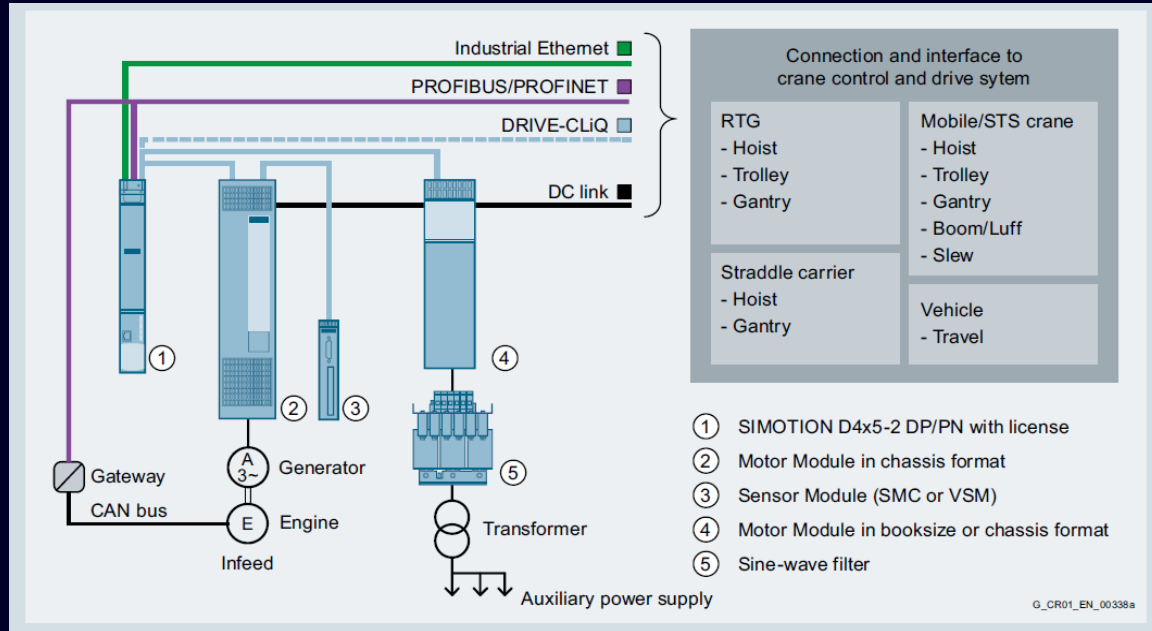
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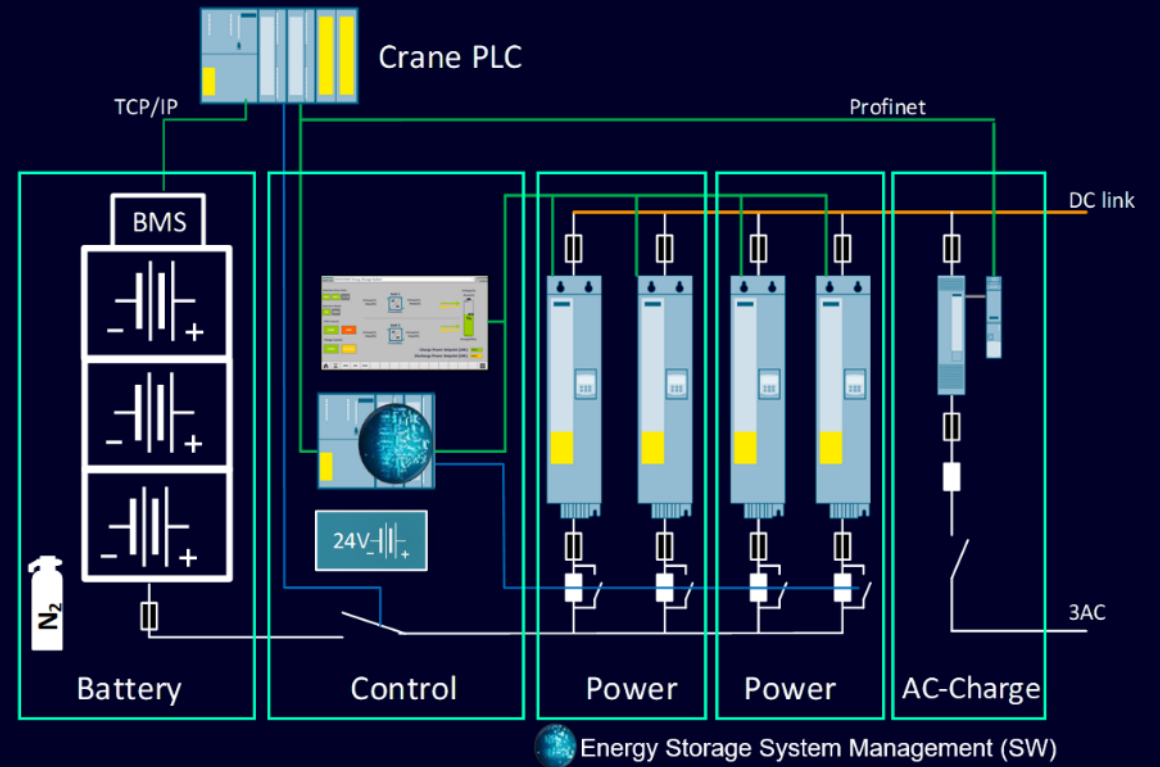


Decarbonization

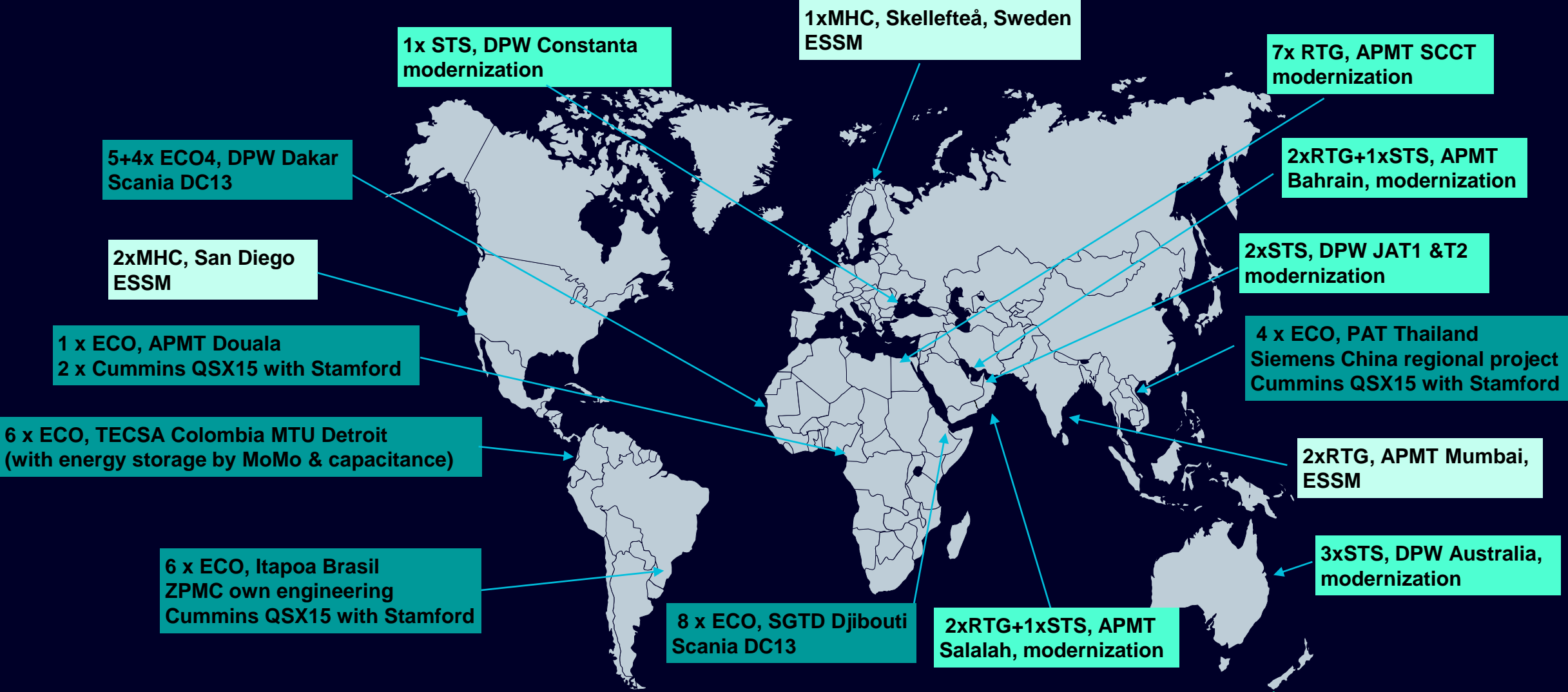
SIMOCRANE ECO4



SIMOCRANE ESSM



Reference projects



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