



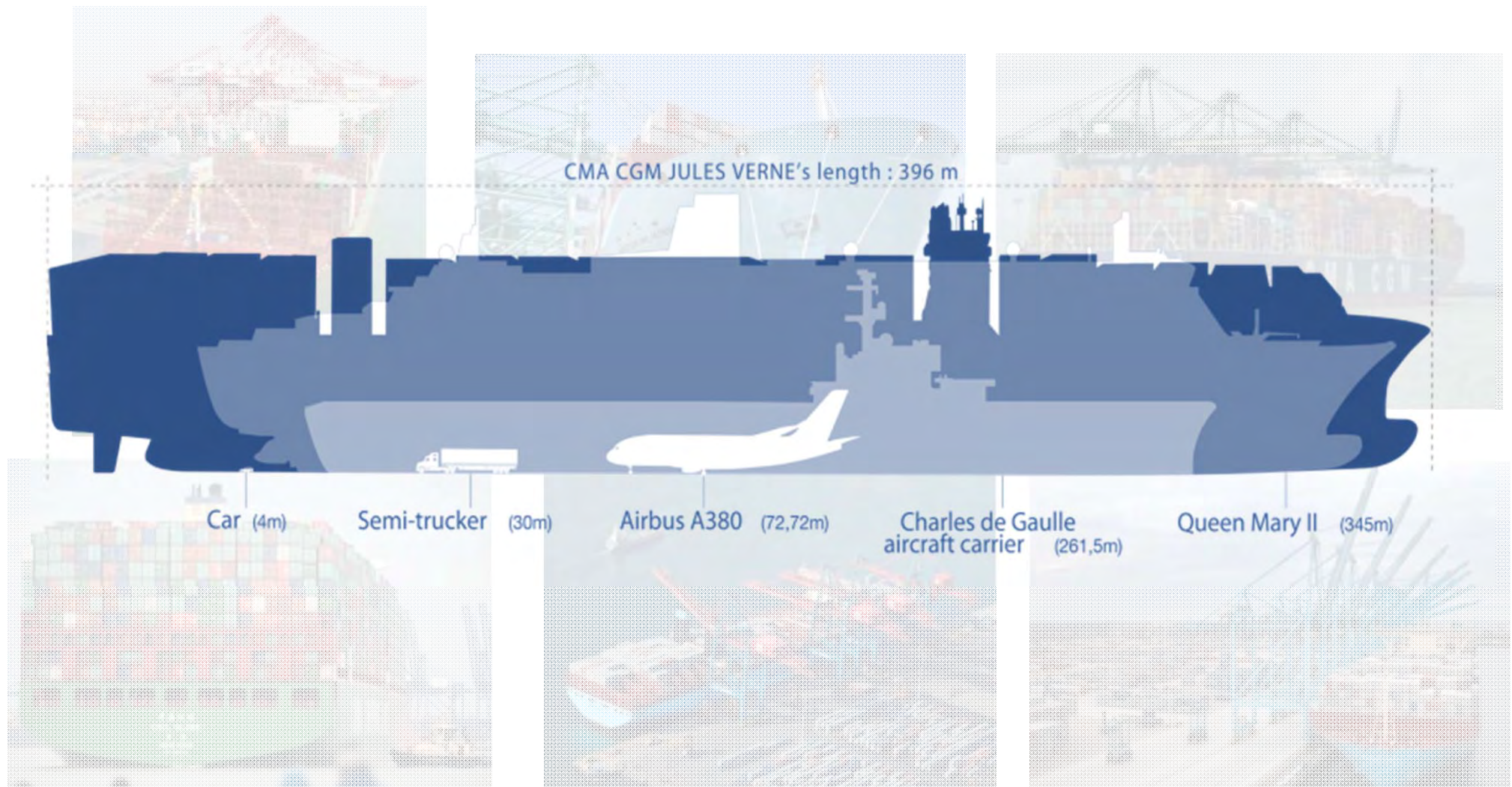
SIEMENS



Intermodal Africa, Lagos, Nigeria – November 25th – 26th, 2015

Integrated solutions for increased efficiency in port operations

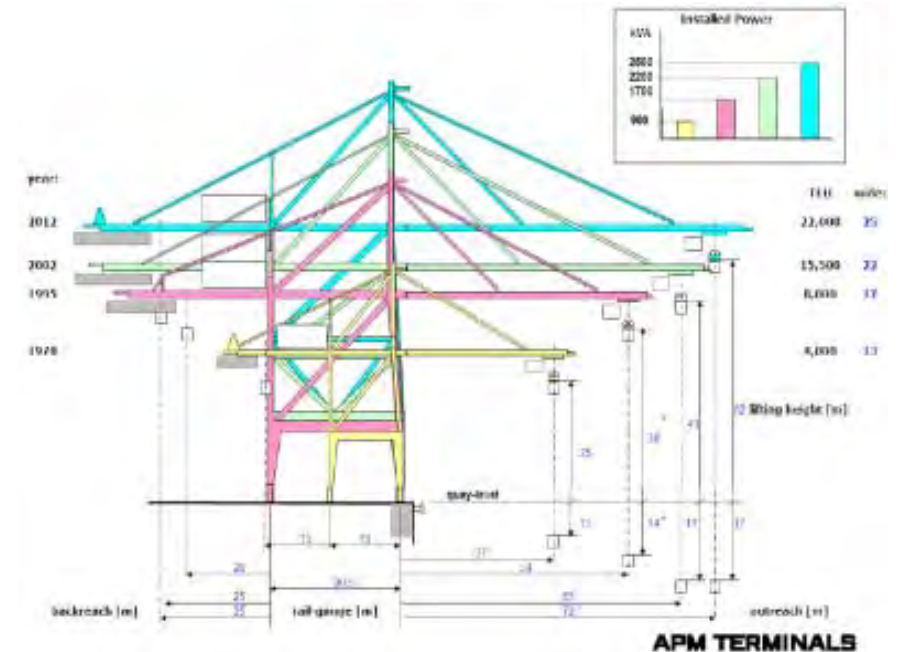
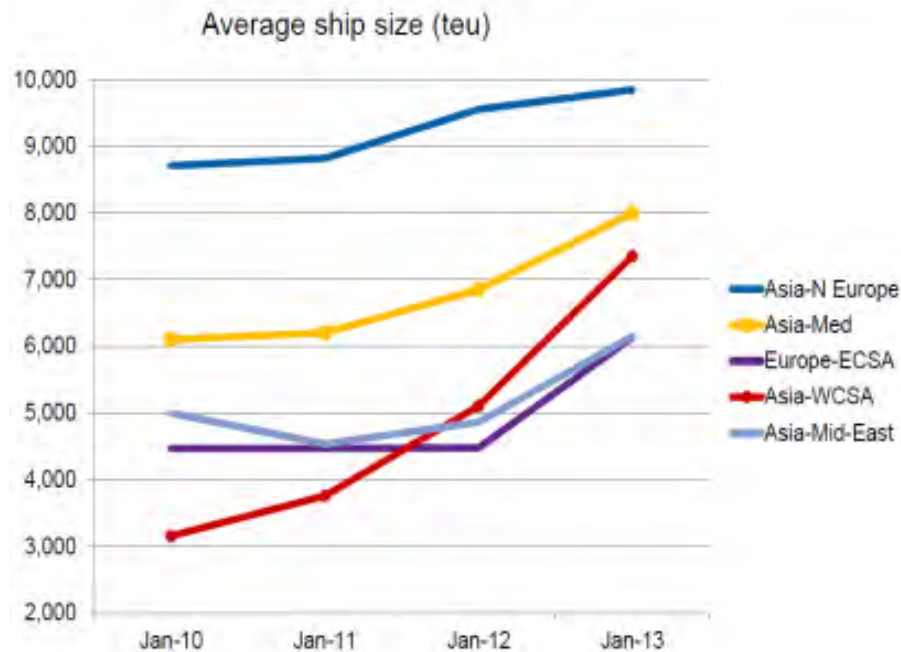
What do the names “Emma”, “Jules Verne”, “Globe” or “Oscar” have in common?



Bigger ships are being used to due lower cost per transported container

This trend has significant influence on the world's Cranes business

Vessel cascading

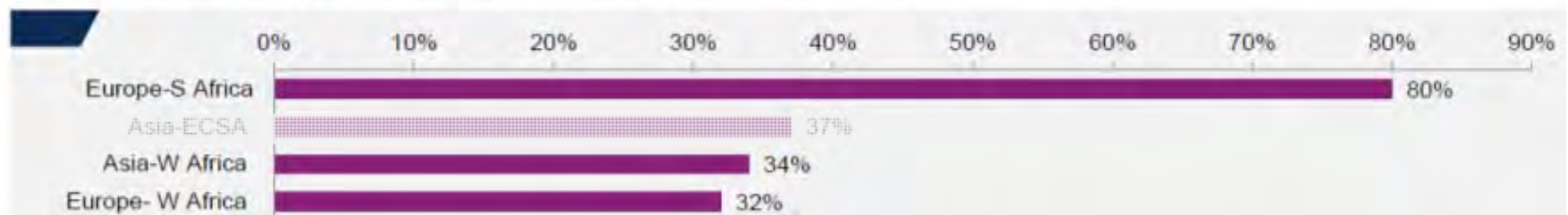


Terminals from all over the world need bigger cranes to handle bigger ships

Africa is experiencing the biggest relative increase

Vessel cascading

Increase in average ship size: 1Q 2013 - 1Q 2015



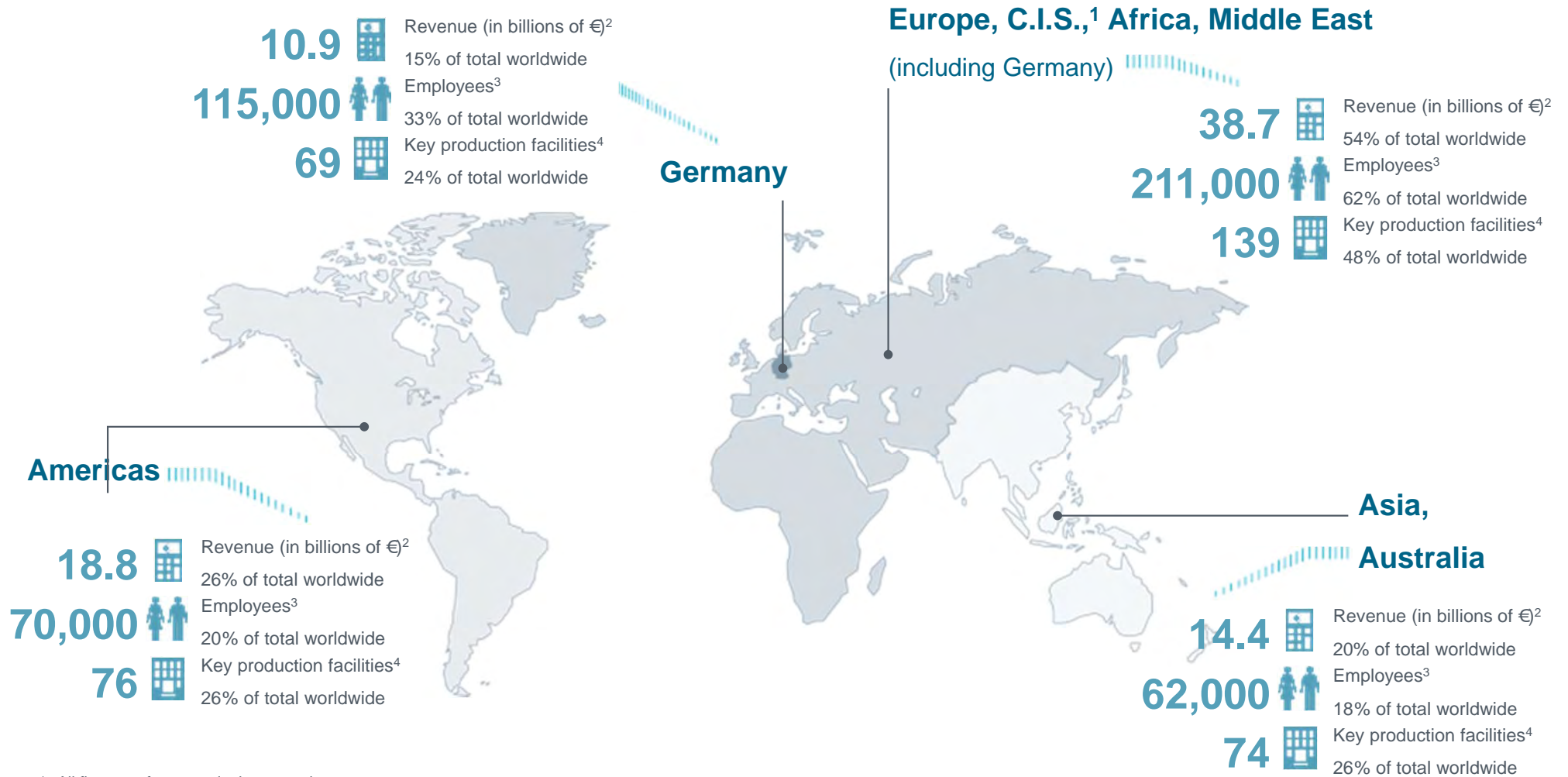
Source: Drewry Maritime Research

- Vessel cascading affects all terminals in the World
- Africa is experiencing the biggest relative increase
- Bigger Ships = Bigger Cranes !!



Siemens – Global presence

Close to customers all over the world



All figures refer to continuing operations.

1 Commonwealth of Independent States. 2 By customer location. 3 As of September 30, 2014. 4 Fifteen employees or more.

Siemens

Presence in Nigeria

Siemens Ltd.

Address Main Office:

100 Ajose Adeogun Street

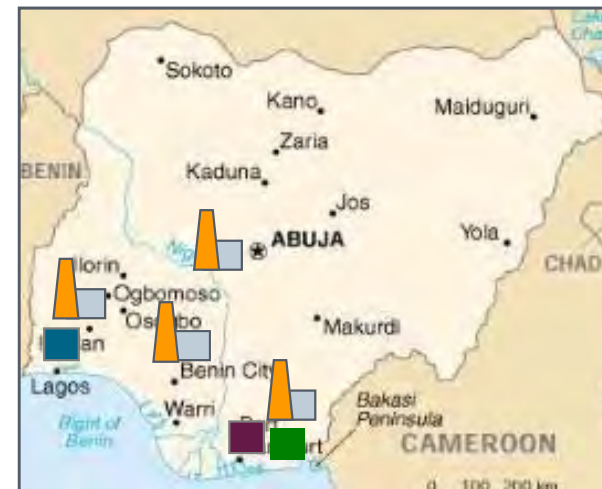
Victoria Island

Lagos 101241, Nigeria



Key Facts:

- Active in Nigeria since the 1950s
- First Office established in 1970
- Has currently about 90 employees
- Local offices:
 - Lagos (main office)
 - Port Harcourt (Service Hub/ Center)



Siemens Cranes

Over 100 Years of Experience



Hamburg 1891

Cranes

Our competence

Automation solutions for Cranes



Ship to shore



Intermodal



Stacking



Bulk handling



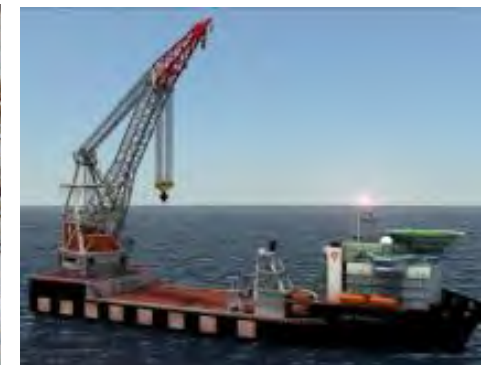
Coil handling



Shipbuilding



Steel



Offshore

Siemens Drive Train Portfolio For Cranes

Drives & Motion Controller

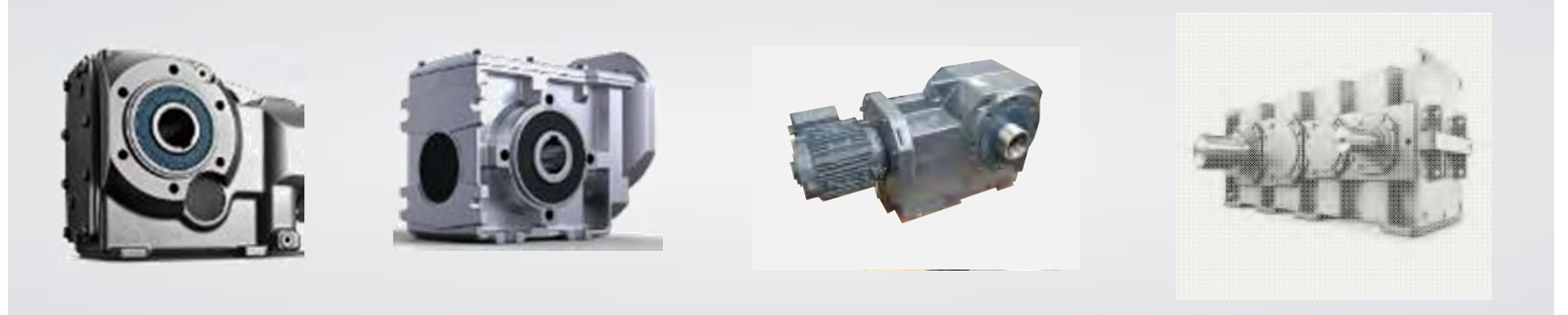
Inverters **High Performance Motion**



Motors

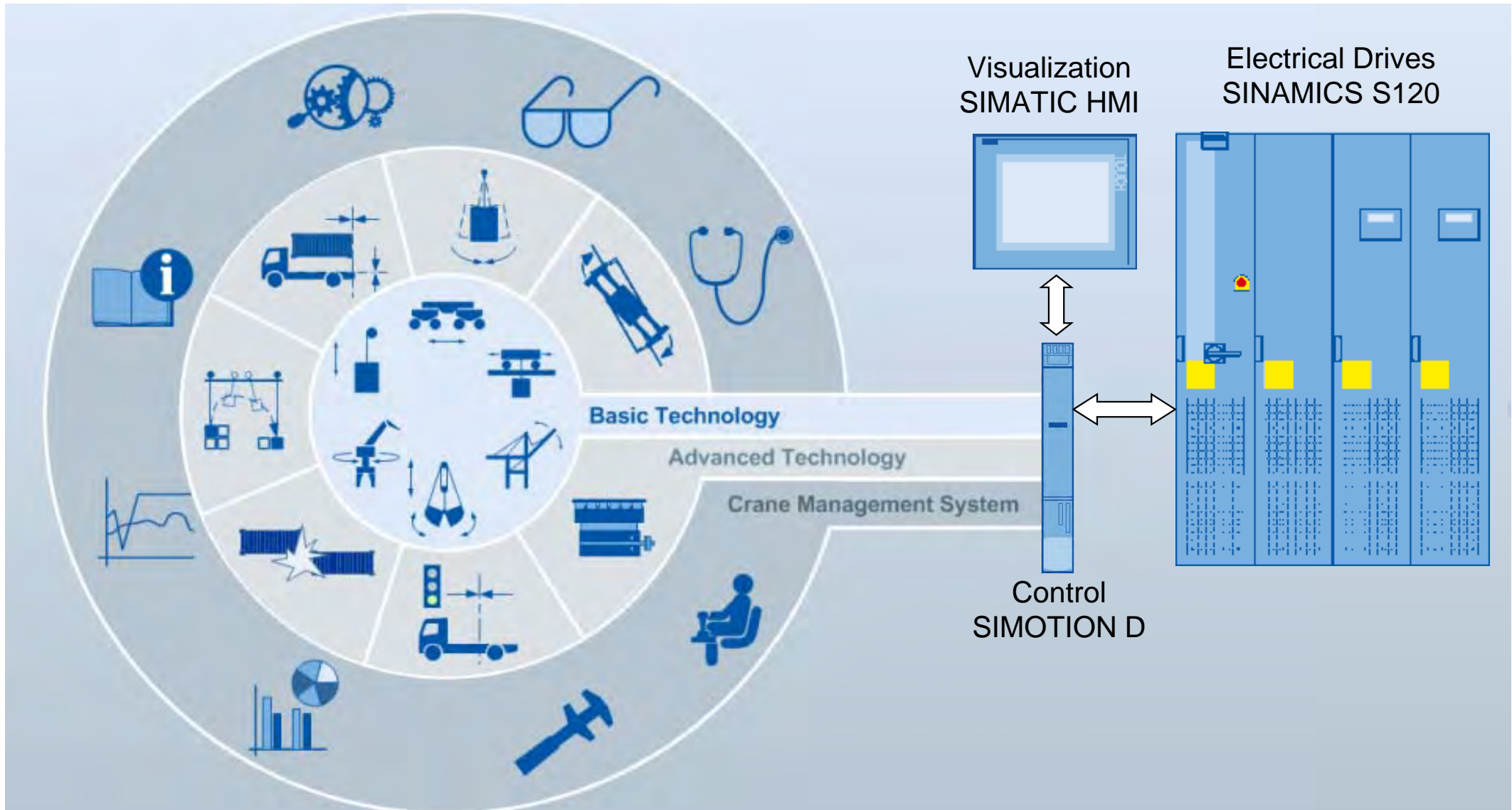


Gears & Geared Motors



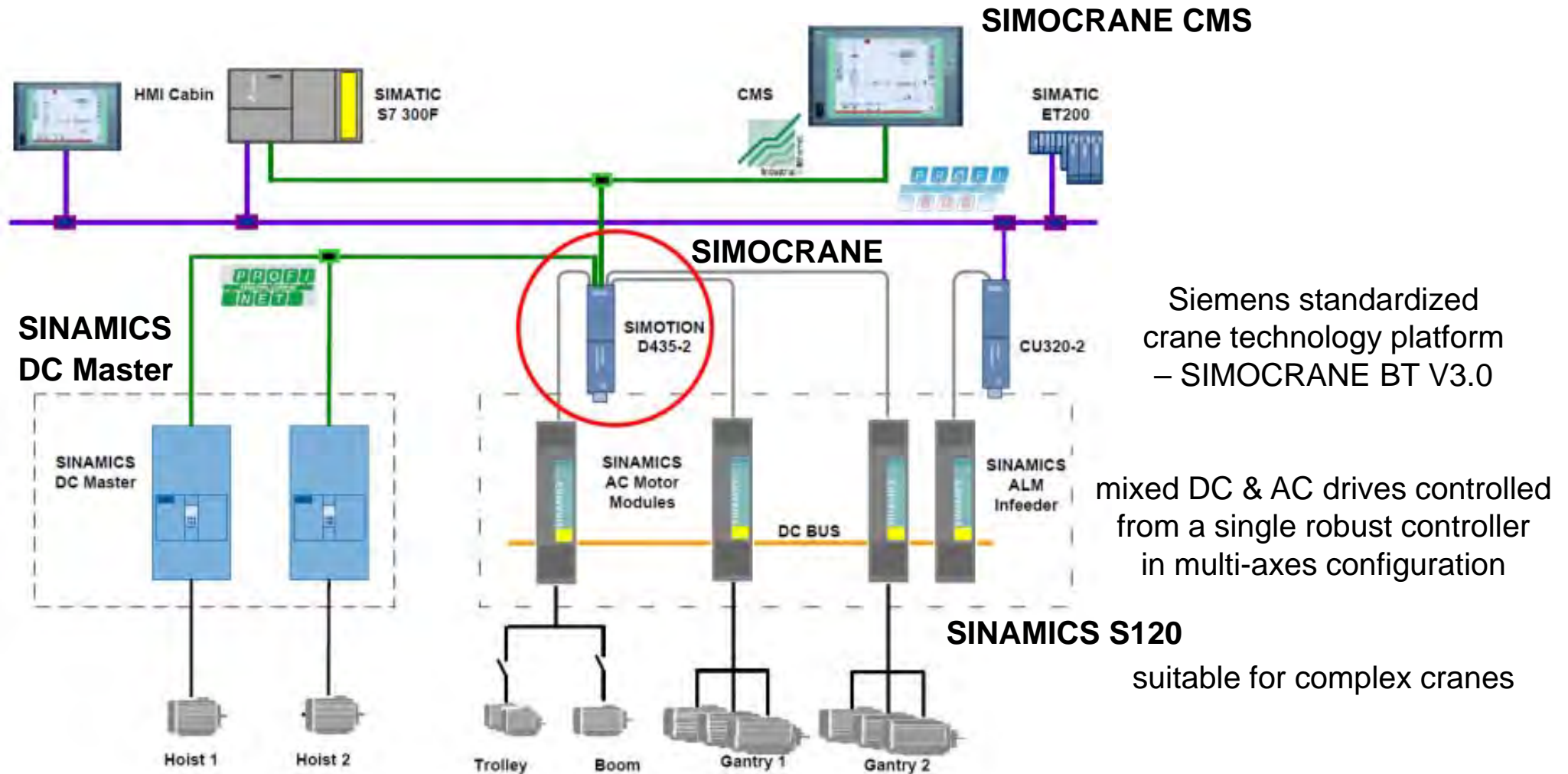
SIMOCRANE Technology

Standardization with a modular software architecture



SIMOCRANE with SINAMICS

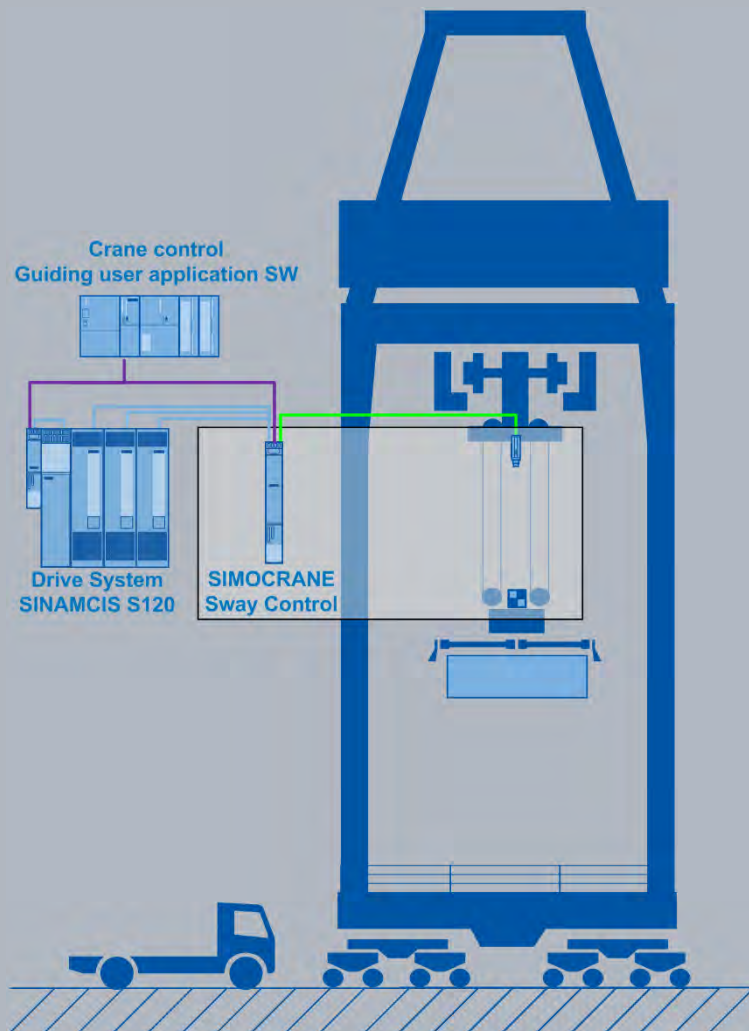
Multi-axes configuration with AC and DC Technology



Integrated full solutions

SIMOCRANE Advanced technology

Sway Control



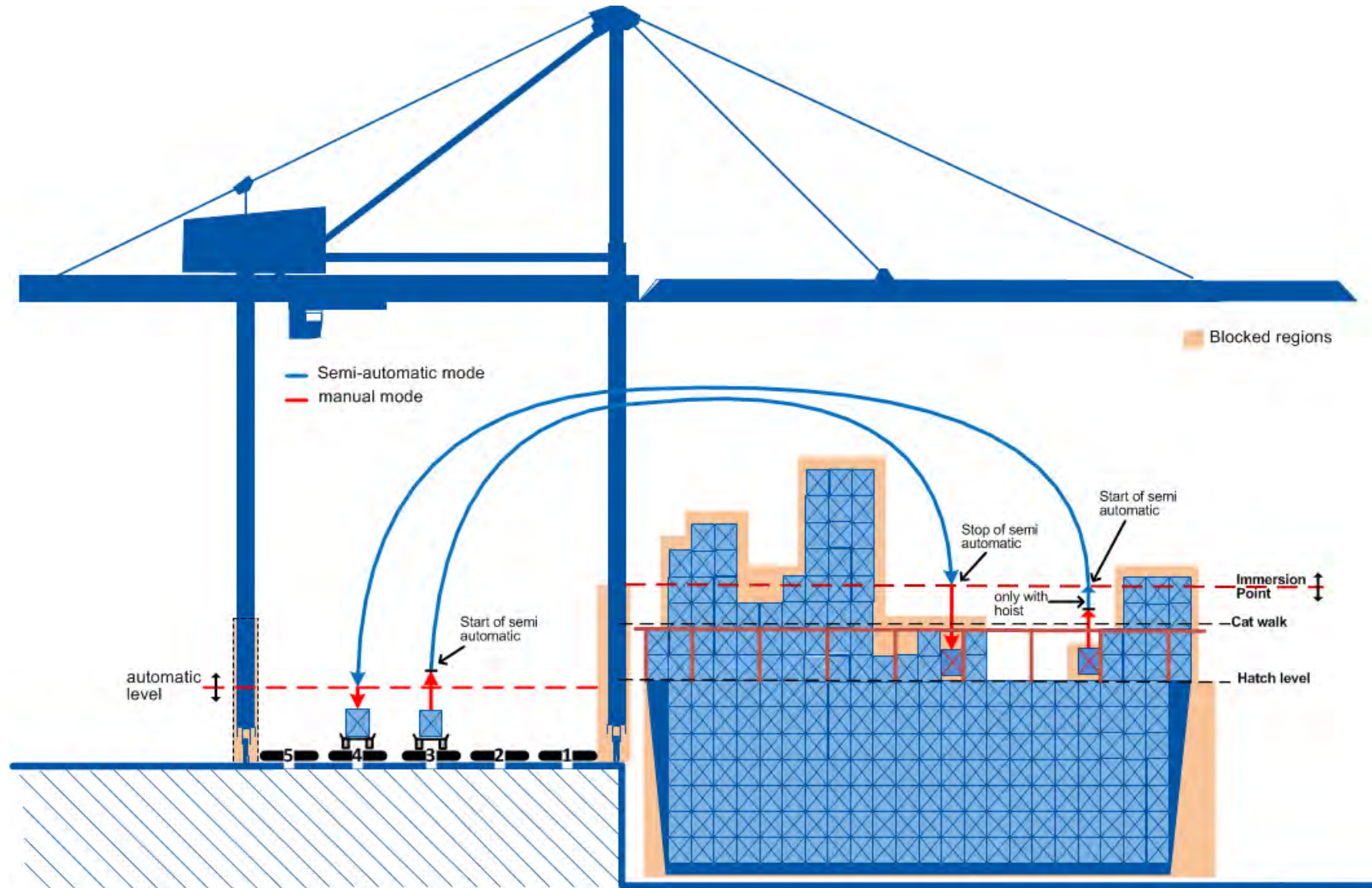
Functions:

- Control of the load sway angle
- Positioning of the load
- (semi) automatic crane operation
- Smooth operation
- Trim, list and skew control

Benefits:

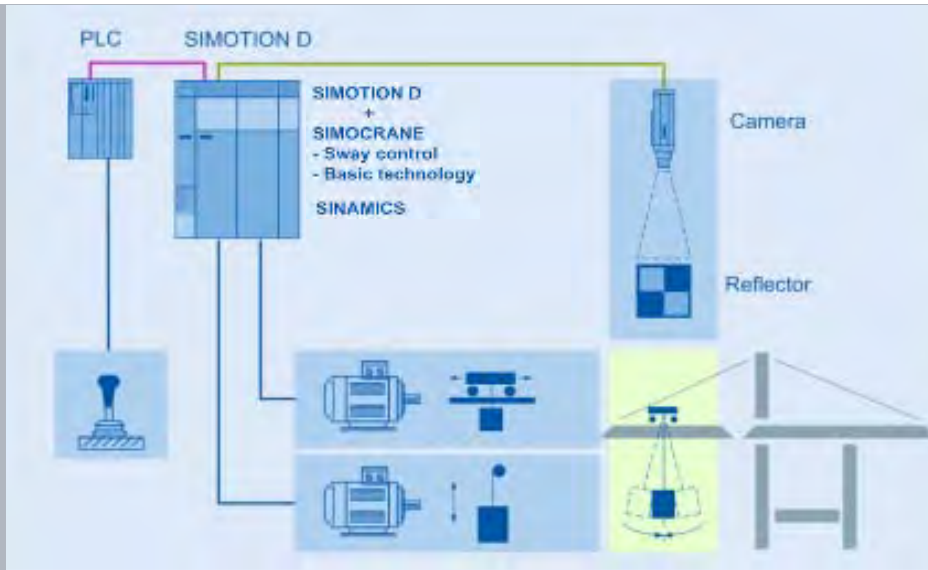
- Control of load trajectory
- Pre-requisite for remote control
- Reduction of the stressing on mechanical transmission elements

Typical Semi Automatic operation with Sway Control

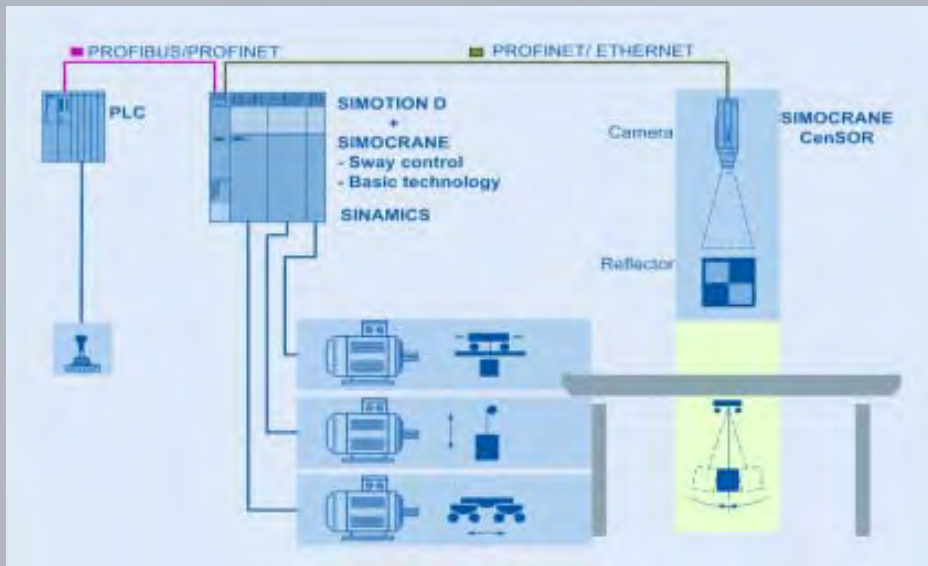


SIMOCRANE Sway Control System SC Integrated

STS, GSU



OHBC, Gantry crane



SIMOCRANE SC Integrated



STS, GSU

- Hardware: No (precondition BT)
- Version: V2.0 HF3



OHBC, Gantry crane

- Hardware: no (precondition BT)
- Version V4.2 SP1

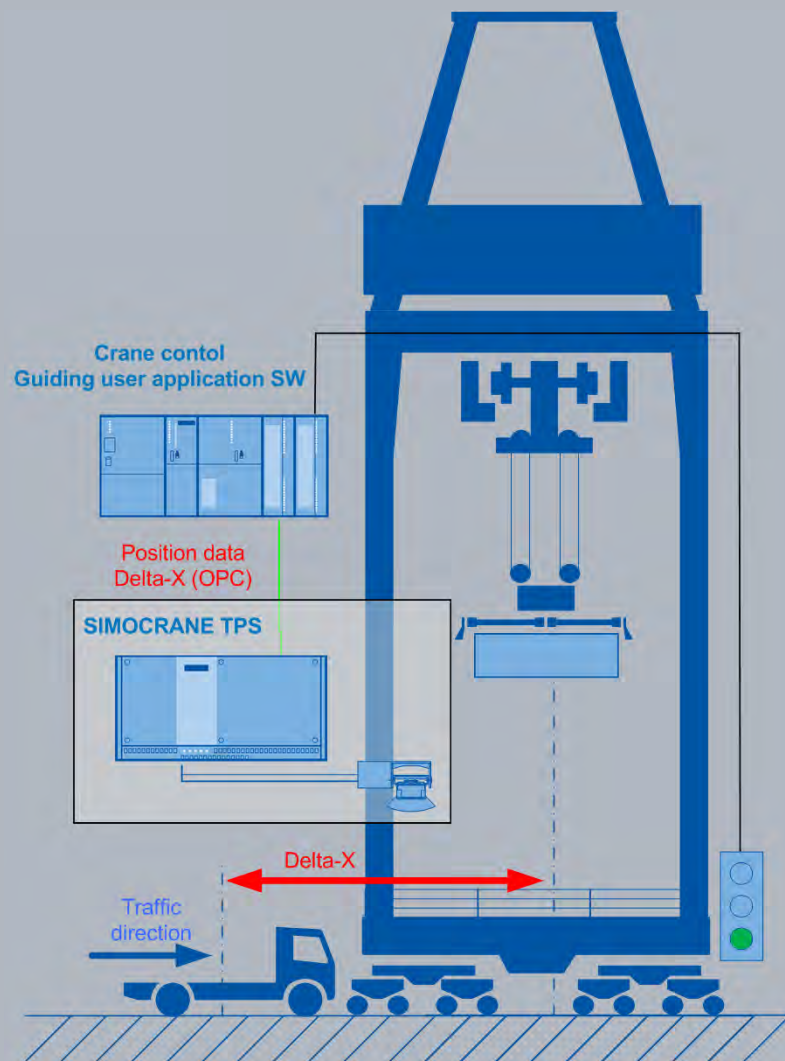


Scope of delivery

- Delivery CD (Documentation, SW.....)
- Sway control Licence

SIMOCRANE Advanced technology

Truck Positioning System (TPS)



Functions:

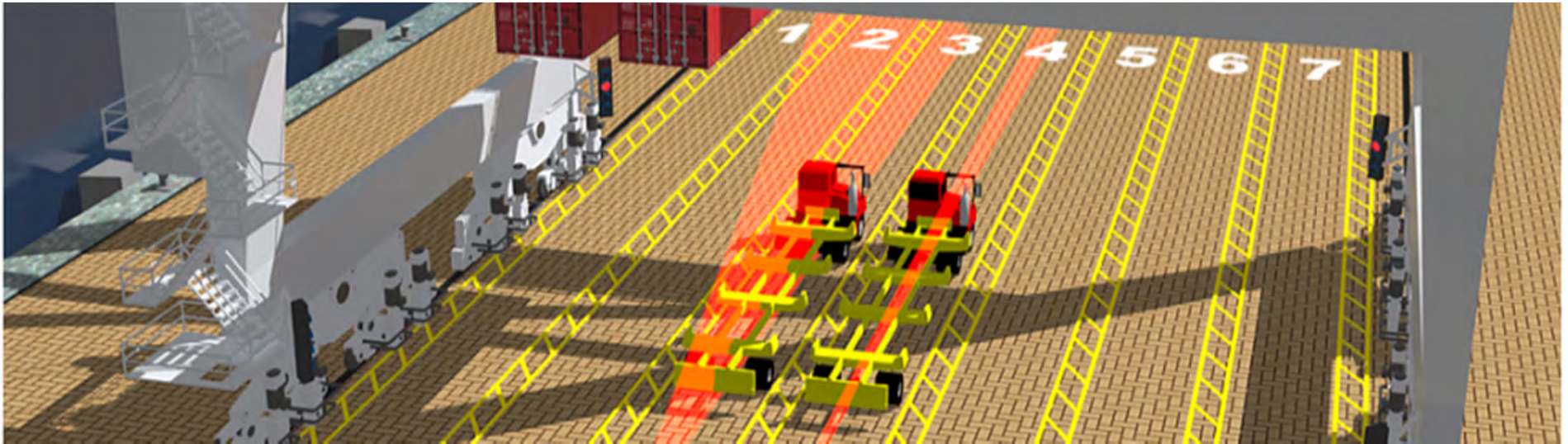
- Scan max. 2 working lanes
- Recognize parameterized objects
- Provide high precision position data of parameterized objects in 2D and 3D.
- Automatic system calibration

Benefits:

- Productivity boost (up to 10%)
- Increase safety, less interaction with personnel in the container hand-over zone

SIMOCRANE TPS

Aligning the vehicle/container with the crane



Vehicle alignment (STS)

Vehicle recognition based on 2D model mapping.
(*On the fly measurement*)



Tracking vehicle or ISO container(s) in gantry direction (X), max. 2 lanes simultaneously.
Computing gap between twin 20' containers
Transfer position data (X) to the crane control (PLC) via OPC.
Traffic control via crane control (PLC)

SIMOCRANE CMS

Crane Management System

SIMOCRANE CMS

- Crane Management System from SIEMENS based on SIMATIC WinCC
- Advanced crane diagnosis
- Playback function
- Condition monitoring
- Retrofitting projects



SIMOCRANE CMS – User Interface

The screenshot displays the SIMOCRANE CMS WinCC-RunTime interface. The main area shows a crane overview with a 3D model and various data points. The interface is annotated with several callouts:

- Crane overview**: Points to the central 3D crane model.
- Navigation/Status sub-systems**: Points to the top right navigation icons.
- Details/Status sub-systems (e.g. drives, motor, brackes, drum, PLC, crane components, etc)**: Points to the hierarchical tree view on the right side.
- Status technology functions**: Points to the bottom right navigation icons.
- CMS Replay (Playback)**: Points to the play button icon at the bottom right.
- Error status bar (accumulative error)**: Points to the top left status bar.
- Navigation Main functions**: Points to the left side navigation icons.
- Status bar Operation data**: Points to the bottom status bar.
- Actual fault messages**: Points to the bottom left fault message area.

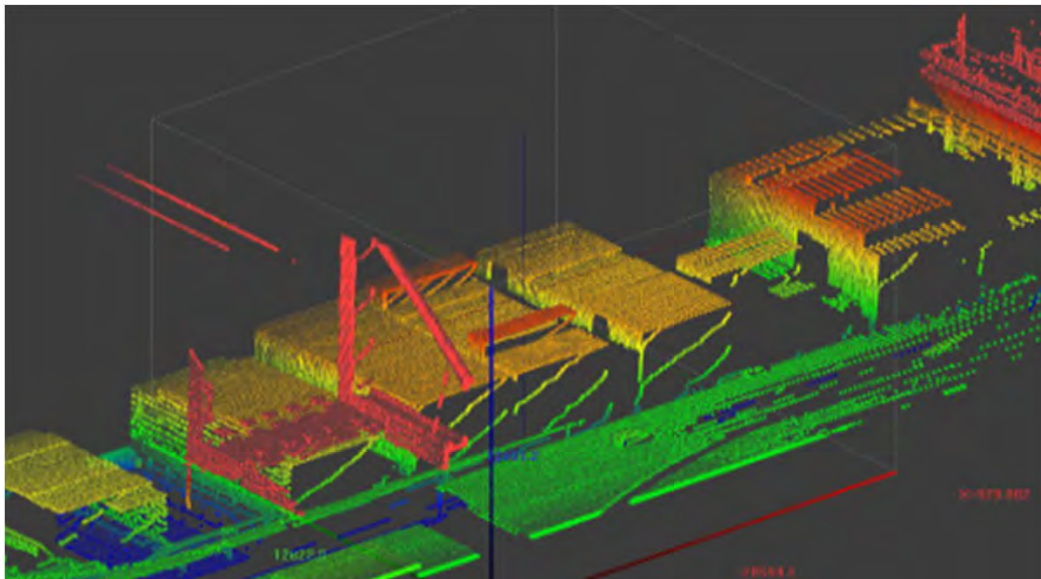
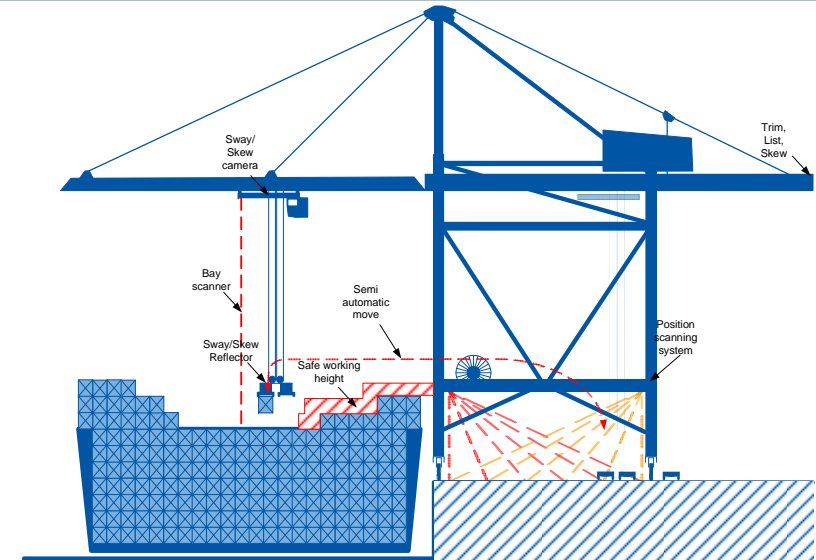
The bottom status bar contains the following data:

173	11.05.10	05:26:15.584 PM	HO2 - Hoist Drive 2	HO2
13	11.05.10	05:26:16.334 PM	Group message of Hoist	HO

Remote Control Operation System (RCOS)

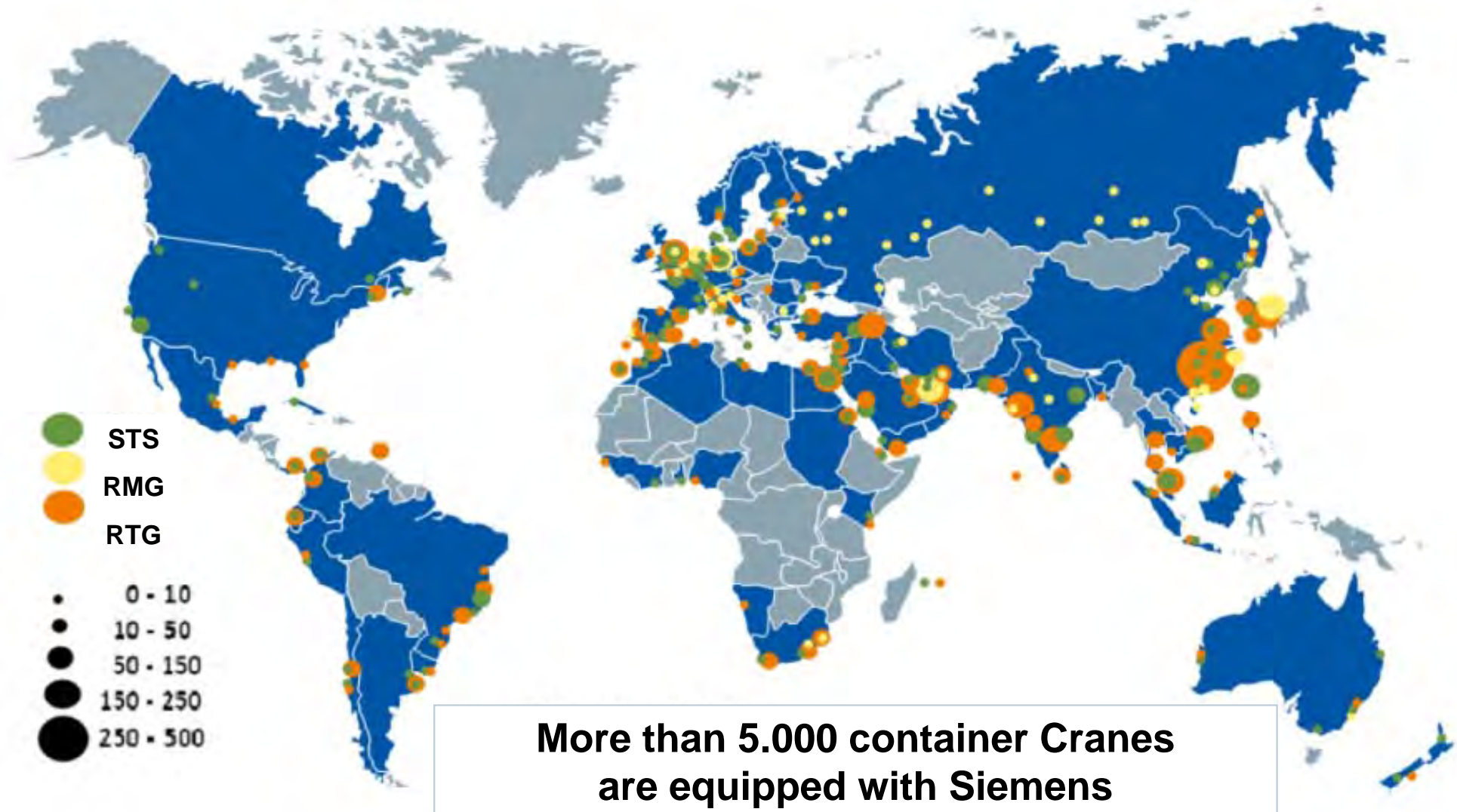
Higher productivity with STS Remote Control

- Full use of available power for trolley speed and acceleration
- Full use of sway control
- Shift changes quicker and more flexible
- Close to operations
- Better work conditions => less sickness absence
- Diversity in operators



Siemens Cranes

Installed Base - Worldwide



Siemens Cranes

Installed Base – West Africa

Key facts West Africa:

Higher, larger and longer Cranes brought into operation
> Vessel cascading effect

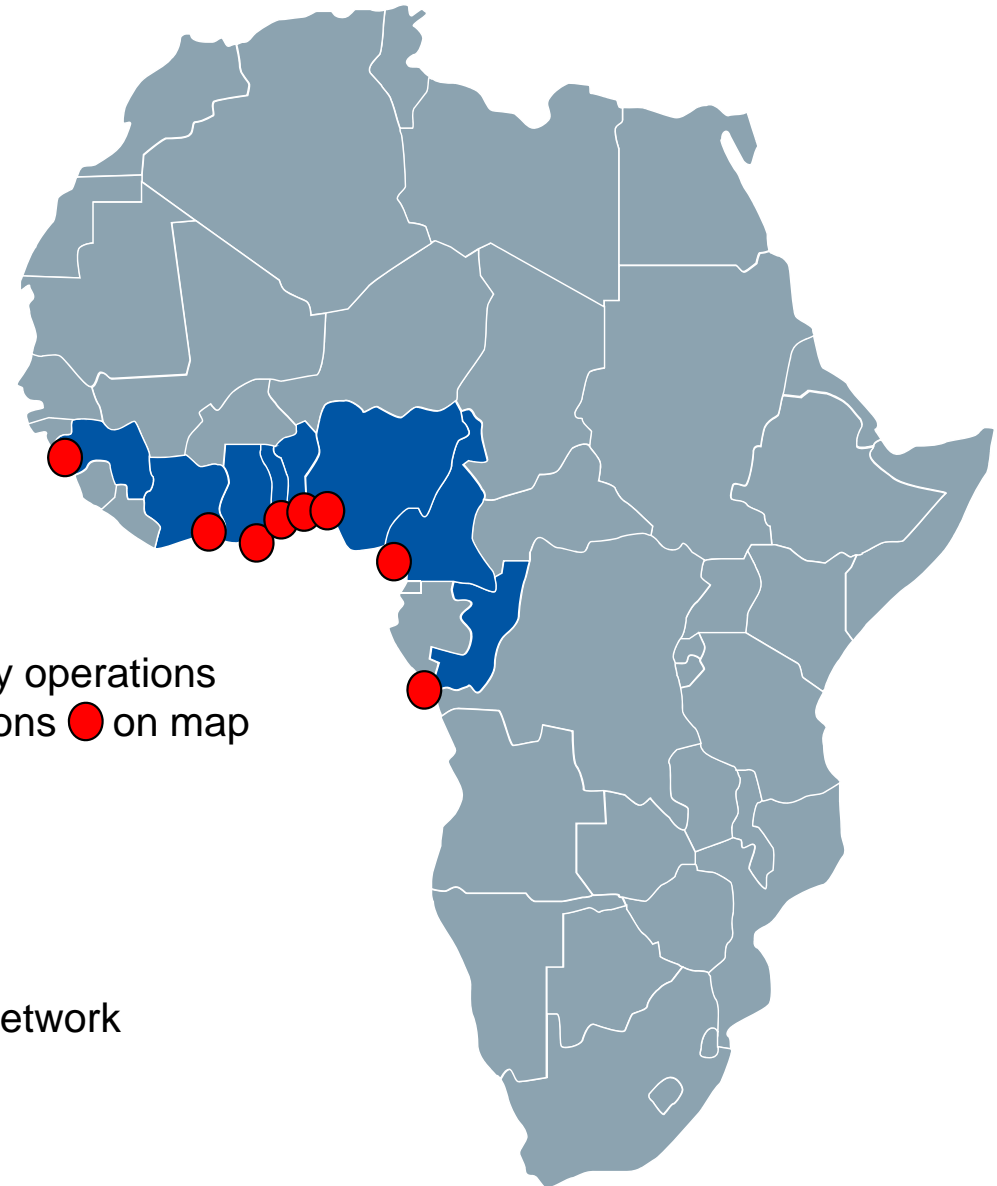
New and some modernized terminals are STS operated
> Higher productivity required

Installed Base:

- > ca. 30x Siemens equipped STS handle quay operations
- > Harbour Cranes installed base as per locations ● on map

Most Cranes were ordered in the last 3 years

- > Local Service presence
- > Local know-how and repair capabilities
- > Support from the Global Siemens Service Network



Siemens Cranes

Proven experience and competence

More than 100 years of experience in Cranes

Technical Competence in Crane Automation

Local presence in more than 190 countries

Largest installed base

State of the art Crane products and systems

Project execution competence

Thank you!



Pay us a visit at Stand 34



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