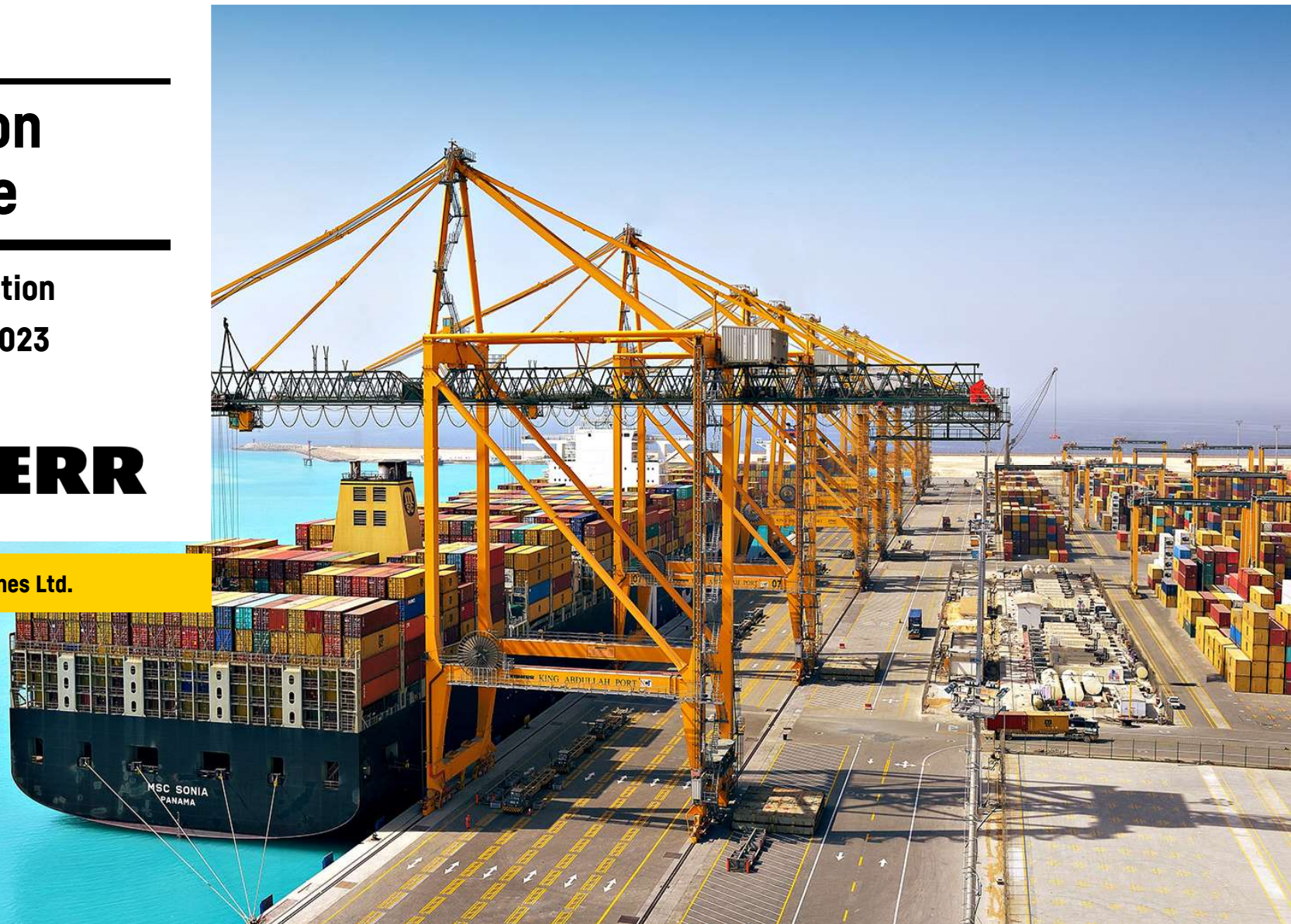

Innovation Exchange

Project Introduction
September 4th 2023

LIEBHERR

Liebherr Container Cranes Ltd.



Liebherr Container Cranes (LCC)



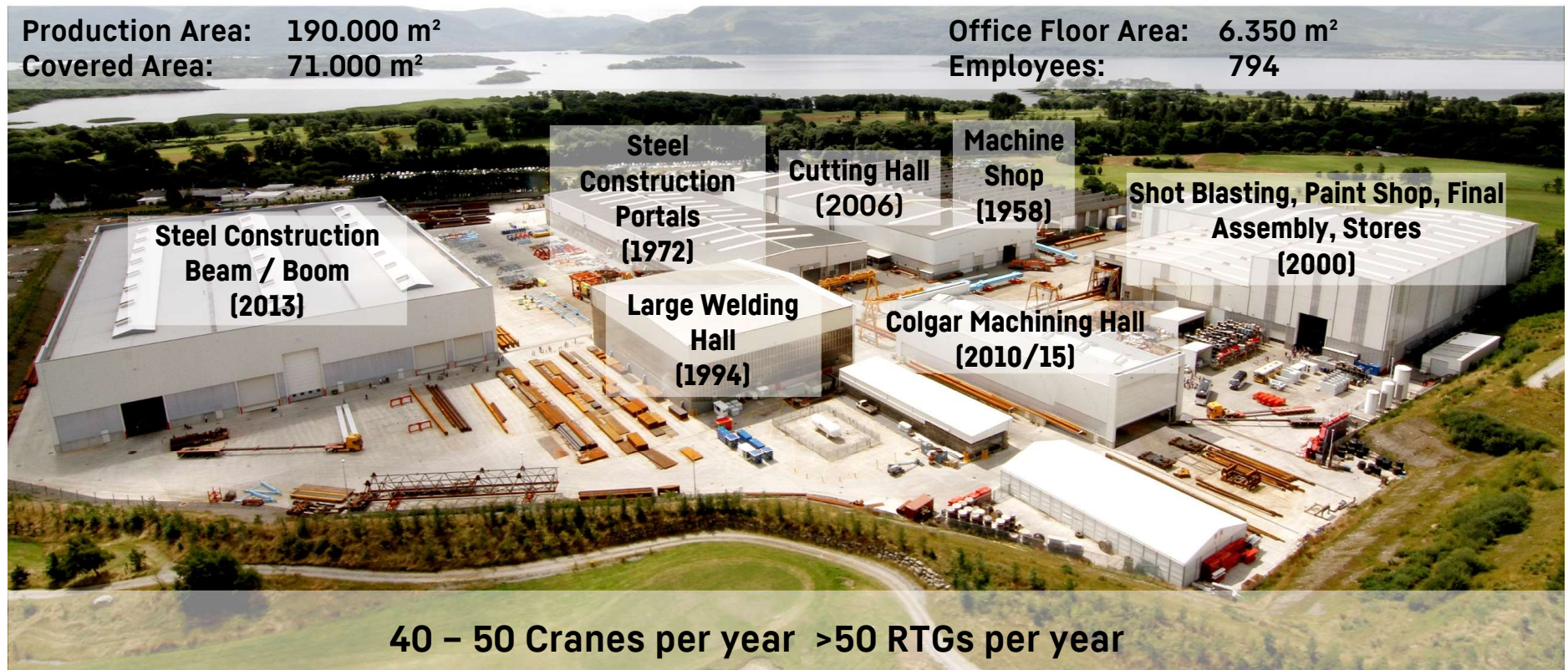
Liebherr Container Cranes (LCC)

- 1958 – Established in Killarney
 - First Liebherr factory set up outside of Germany (manufacturing tower cranes)
- 1967- Manufactured first container crane
- 1972 – Liebherr Container Cranes incorporated.
 - Since 1972 over 600 container cranes manufactured in LCC
 - Cranes from feeder service up to Megamax
 - Wide span stacking cranes
- 1999 - Commenced manufacture of Rubber Tyre Gantry (RTG) [>365 manufactured to date].
- Recent years automation and remote control



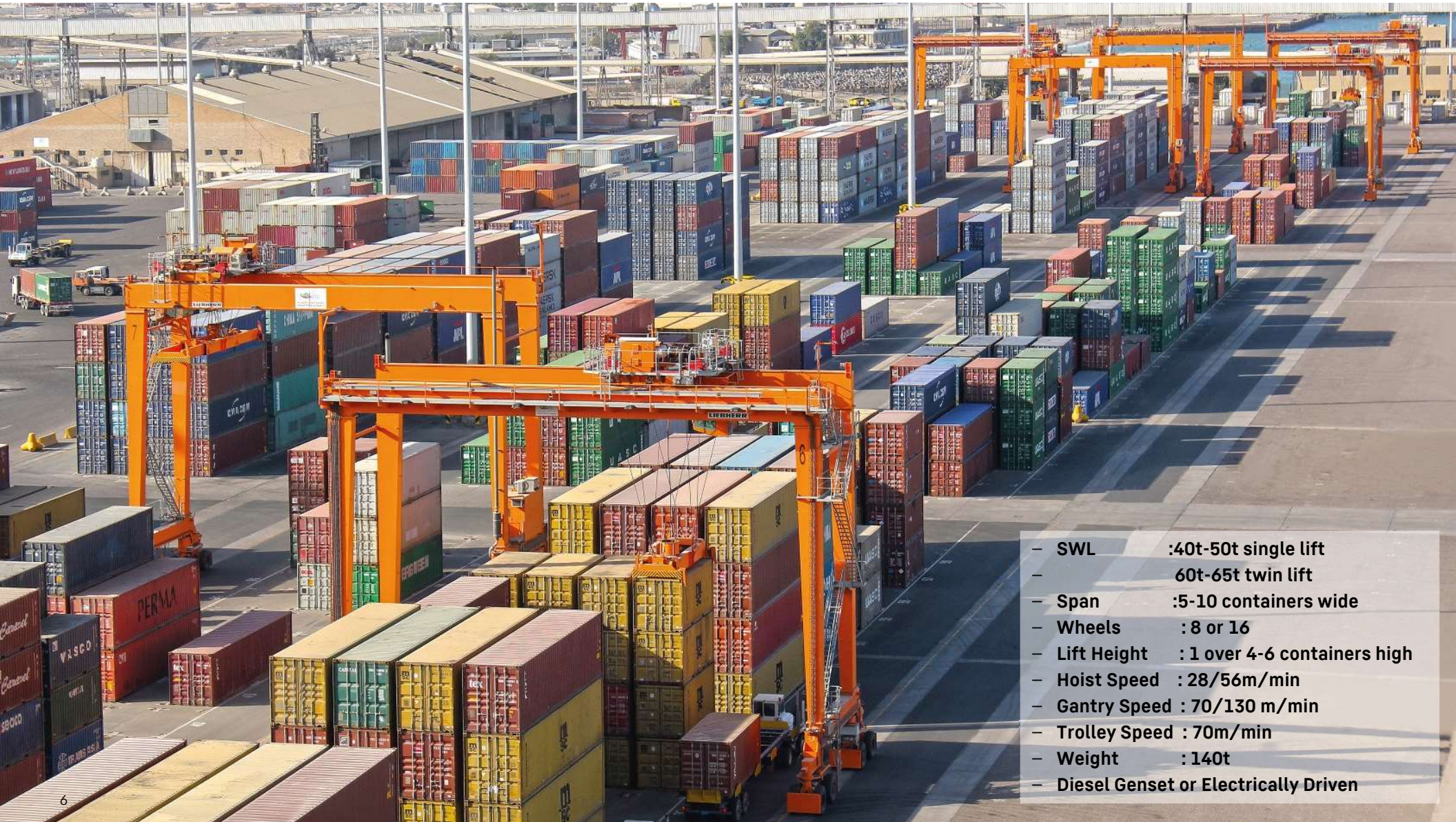
LIEBHERR

Liebherr Container Cranes – production facilities





- SWL : 40t - 120 t
- Outreach : up to 75 m
- Lift Height : up to 54 m
- Hoist Speed : 100/190 m/min
- Trolley Speed : 180 - 280 m/min
- Gantry Speed : 0 - 60 m/min
- Boom Speed : 4-5 min to boom
- Weight : 800t - 2200 t
- Electrically Driven HT Power Cable



- SWL :40t-50t single lift
60t-65t twin lift
- Span :5-10 containers wide
- Wheels : 8 or 16
- Lift Height : 1 over 4-6 containers high
- Hoist Speed : 28/56m/min
- Gantry Speed : 70/130 m/min
- Trolley Speed : 70m/min
- Weight : 140t
- Diesel Genset or Electrically Driven



- SWL : 40t-50t single lift
- : 60t-65t twin lift
- Outreach : up to 20 m
- Span : up to 70 m
- Backreach : up to 20 m
- Lift Height : up to 26.9 m (1 over 8)
- Hoist Speed : 40/80 m/min
- Trolley Speed : 150 m/min
- Travel Speed : 150 m/min
- Weight : up to 500 t
- Electrically Driven HT Power Cable



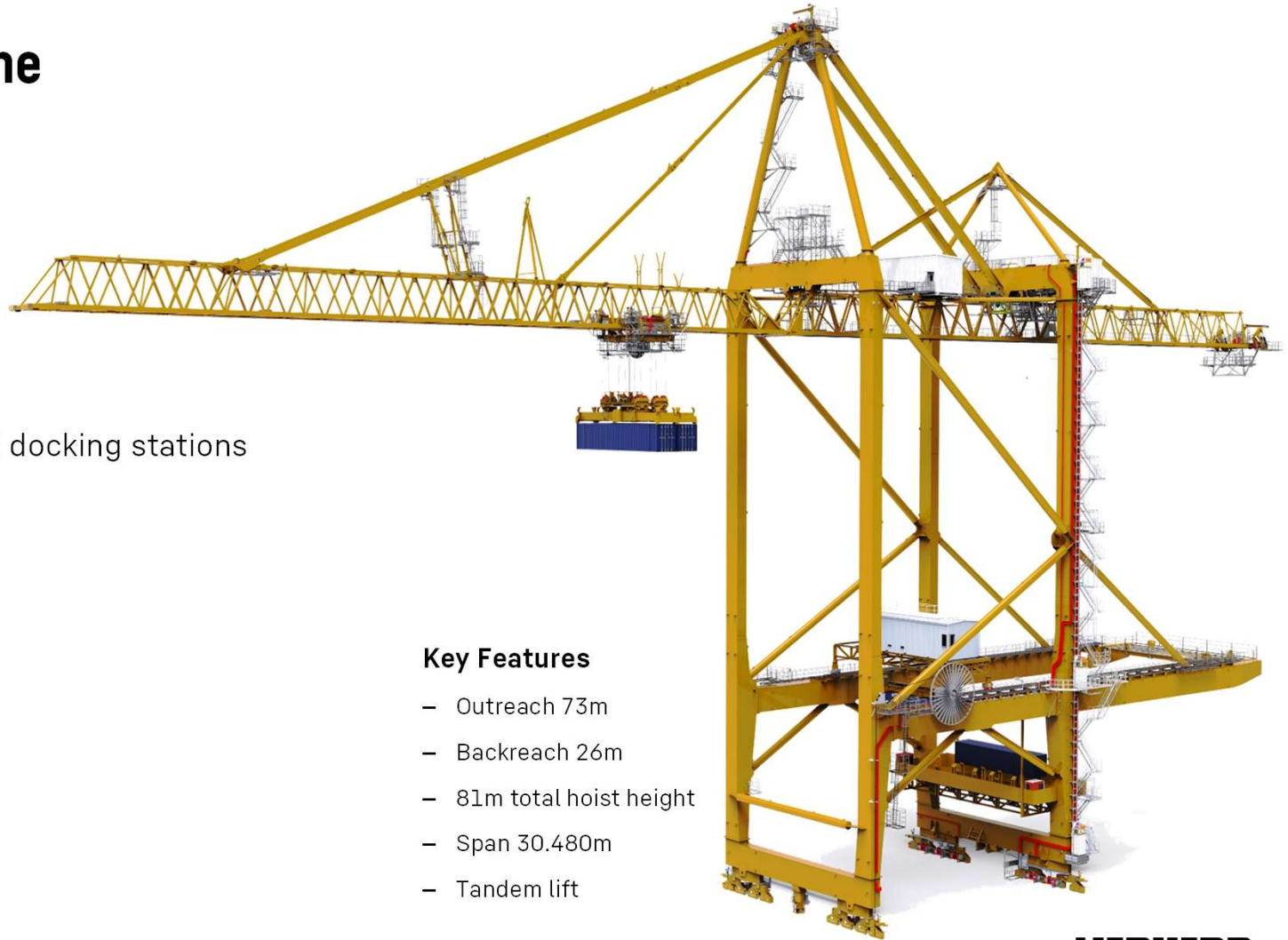
Liebherr Automation Systems

- Automation/semi automation for all container cranes
- Remote Operator Station (ROS) for operation/exception
- Fully flexible, tailored to your operation

Development Highlights

Dual Trolley STS Crane

- Ongoing project (2 No.)
- Cabinless
- Automated / remotely driven
- Dual trolley
- Tandem headblock
- Elevated pinning platform and docking stations
- Decouples land and seaside
- Increases productivity
 - Reduced cost per box move

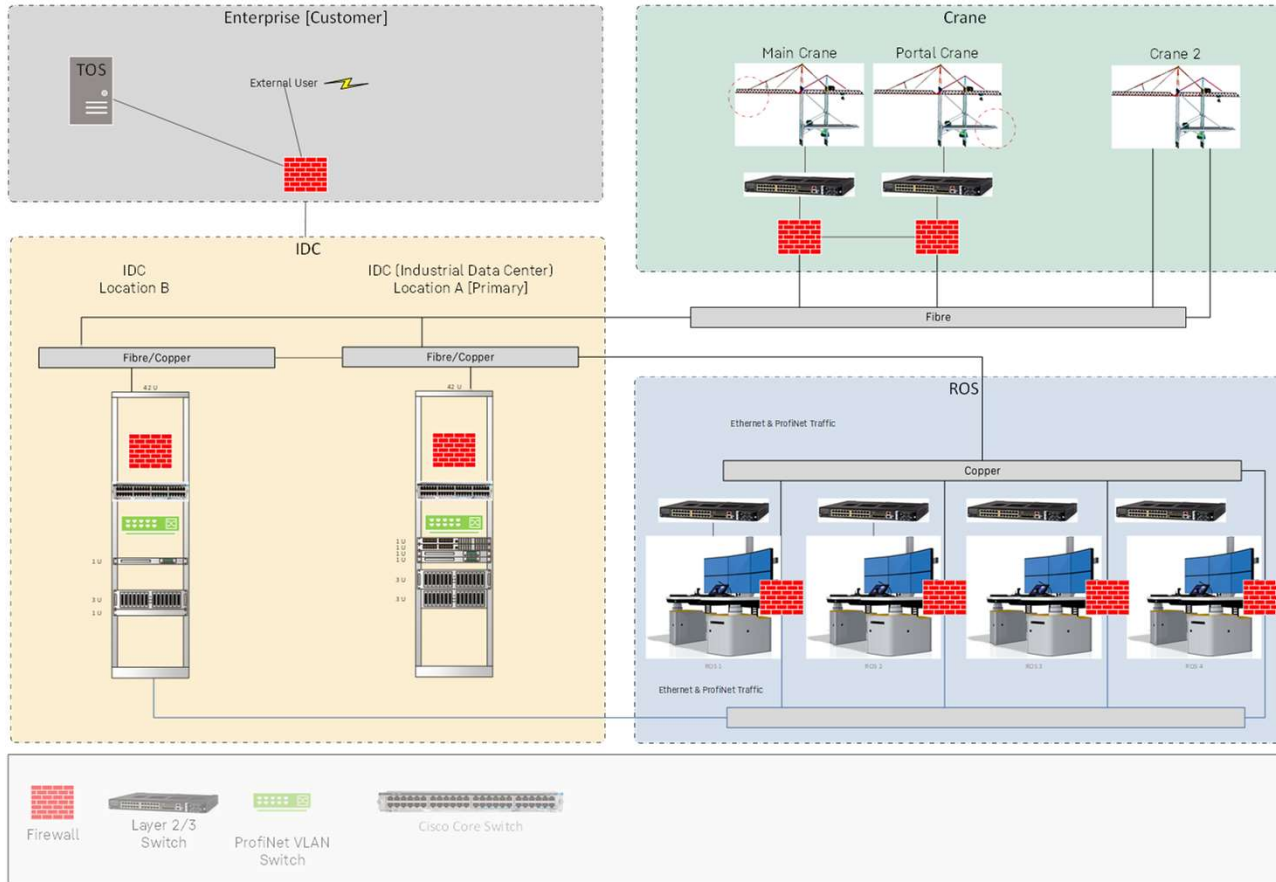


Key Features

- Outreach 73m
- Backreach 26m
- 81m total hoist height
- Span 30.480m
- Tandem lift

Automation Systems on Our Cranes

Example Project Scope for LCC



600 + Container Cranes | 365 + RTGs | 50 + Countries | 100 + ports

Liebherr container cranes at work



Challenge Summary

The challenge is:

How to best formulate Service Level Agreements for a relatively small number of highly complex systems and how to manage and resource these in a way that delivers and is commercially viable for LCC and our Clients

SLA Services

The SLA shall include the following services:

Support Service

- The Support Service shall be provided during the Support Hours and shall comprise of:
 - A help desk contactable by telephone and e-mail/portal to provide first level technical support to users of the Supported Systems and Software
 - Where possible, remote diagnosis and correction of faults
 - Access to second level technical support for resolution of incidents or hardware repair / replacement

Updating Service

- The updating service shall provide Modifications of the Software as and when required to maintain the use of the Software
- The Updating Service shall include the supply to Purchaser of all revisions to the Documentation

Supported Software

The Supported Software is:

- All Software products, including Modifications
- Any other software which the Contractor and Purchaser agree should be Supported Software

- make Maintenance Releases available to Purchaser without any additional charge

- In relation to New Versions:
 - Provide any New Versions and integrate
 - Test New Versions to best industry practices or such other agreed test criteria