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SVEIN OLAV LUNDE
DIRECTOR
OF THE TECHNICAL DEPARTMENT
AT THE PORT OF OSLO

Making RTG history

The world's most advanced RTG crane automation takes efficiency to a new level at Norway's largest freight port.

Terminal

Over 125,000 containers are unloaded each year at the Port of Oslo in Norway. Together with a yearly throughput of one million tonnes of dry cargo, including grain, sand, cement and salt, the volumes are big – and will soon grow even bigger, with the Sjursøya Container Terminal in the South Harbour planning to increase container throughput from 210,000 to 450,000 TEU annually. The Sjursøya Container Terminal has been designed specifically to operate around RTG, straddle and shuttle carrier systems.

Challenge

As the Port of Oslo is located in a highly populated urban area, environmental considerations were important issues in the evaluation process. Furthermore, expanding in a densely populated urban area posed a seemingly insurmountable challenge: how could the port double its capacity by 2030 without increasing traffic noise, pollution and energy consumption?

Solution

In a turnkey project, Kalmar will deliver eight revolutionary all-electric, 50-tonne rubber-tyred gantry cranes (RTGs), making the Port of Oslo the world's first terminal to deploy the sophisticated combination of automated positioning technology and process automation available to date. The port ordered its first RTGs from Kalmar in 2002 and was the first to adopt cable-fed RTGs.

“The Port of Oslo is proud to be the first terminal to deploy this revolutionary technology in RTGs that makes our operations more sustainable, safer and quieter. Through these innovative features that Kalmar is delivering us, our RTG drivers will be among the most efficient RTG operators in the world,” says **Svein Olav Lunde**, Director of the Technical Department at the Port of Oslo.



Technology

Kalmar's all-electric, 50 tonne capacity RTG cranes will be the most advanced in the world. They will be the first to benefit from the automated positioning functionality, realised within the Kalmar Terminal Logistic System software platform already applied for Kalmar automated stacking cranes (ASC), Kalmar AutoStrads™ and AutoShuttles™. This will be supported by a number of Kalmar SmartPort process automation solutions. To eliminate the risk of knocking down containers from the stack to the truck lane, the cranes will be provided with a container stack profiling system. The RTGs will also feature a complete data transmission system between the control room and the cranes, allowing the terminal to provide an optimum maintenance regime for the equipment, and transfer of any other operational data for future purposes. Productivity and efficiency are further improved through Kalmar SmartStack, which reports the container moves to the terminal operating system (TOS) without any actions from the driver, automatically keeping track of the inventory.

Added value

Safety is one of the most important assets offered by enhanced automation. Kalmar's Stack Profiling system eliminates the risk of containers being knocked down.

Space optimisation is another key value delivered with Kalmar's technology.

In addition, automation allows the drivers to optimise productivity as they can fully concentrate on picking and placing of containers only.

Kalmar's cranes are Zero Emission RTGs with significantly lower operating and maintenance costs when compared to diesel-electric cranes

Results

"Semi-automation offers us greater flexibility for the future, allowing us to take automation to the next level. We also pride ourselves on being the world's most space-efficient terminal," says Lunde.

Choosing Kalmar Zero Emission RTGs over diesel-electric RTGs, CO₂ emissions are reduced by over one million kilograms (>1,000,000kg) per year for the fleet of eight RTGs.

Contact

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Kalmar is the industry forerunner in terminal automation and in energy efficient container handling, with one in four container movements around the globe being handled by a Kalmar solution. Kalmar is part of Cargotec.

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