



“The new straddle carrier has proven to offer a more ergonomic work environment for our drivers.”

RANDY VERRESEN
TECHNICAL MANAGER
MSC HOME TERMINAL

Focus on sustainability

New hybrid straddle carrier sets the industry benchmark for fuel consumption and emissions.

Terminal

MSC Home Terminal, Antwerp, Belgium, is a joint venture between PSA and TIL. The terminal is the most important European hub for MSC, the second largest shipping company in the world. The container terminal has a capacity of 5.4 million TEU and is managed by 24 ship-to-shore (STS) cranes and 127 straddle carriers. The fleet includes 21 Kalmar STS cranes and 56 Kalmar straddle carriers. Kalmar delivered seven new straddle carriers in early 2014, including one new real hybrid machine introduced in autumn 2013. Since then, Kalmar has received an additional order for six electric straddle carriers to be delivered in 2014.

Challenge

The port focuses on developing the sustainability of its operations while striving to minimise the capital expenditure and operating costs.

Solution

MSC Home Terminal selected the Kalmar new hybrid straddle carrier to gain savings in fuel consumption, to decrease CO2 emissions and to improve usability and driver experience. The new Kalmar hybrid technology and innovation support the requirements of MSC Home Terminal.



Technology

The Kalmar hybrid straddle carrier's regenerative energy system converts electrical braking and spreader lowering energy into electric power that is stored by the state-of-the-art battery technology. An automated start-stop system chooses the optimal balance between engine and battery power. The new system can deliver a remarkable 40 percent decrease in fuel consumption compared to existing machines in the market while meeting the most stringent engine emission regulations worldwide. This not only adds up to significant cost savings for the terminal, but also improves the sustainability of operations. In the new hybrid, engine and generator lifetimes are extended.

The machine is equipped with a new active stability control system and ensures smooth and safe driving by continuously monitoring speed, turn radius and the spreader's position, slowing the vehicle automatically when needed. The redesigned cabin features improvements in ergonomics and safety, such as electrically operating rotatable chair and excellent visibility with less night time reflections.

Results

"Kalmar puts a constant focus on the innovation on their straddle carriers," says **Randy Verresen**, Technical Manager at MSC Home Terminal.

During one month of operation, MSC Home Terminal has reached a 37-percent decrease in fuel consumption with the new Kalmar hybrid straddle when compared to a conventional diesel-electric machine. The results show an average fuel consumption level of 12.3 litres an hour. This reduces the carbon dioxide emissions by 97 tonnes per year compared to a traditional machine.

"The new straddle carrier has also proven to offer a more ergonomic work environment for our drivers," Verresen continues.



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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