

CASE STUDY: LI-ION BATTERY AUTOMATED GUIDED VEHICLES

HAMBURGER HAFEN UND LOGISTIK AG, GERMANY



LI-ION BATTERY AGV**HAMBURGER HAFEN UND LOGISTIK AG**

HHLA Container Terminal Altenwerder (CTA) is already leading the way for container handling of the future with its high degree of automation, to which the AGV technology of Konecranes has made a major contribution. With the entry into lithium-ion (Li-ion) battery drive technology from Konecranes, HHLA is continuing to develop consistently in terms of eco-efficient container handling.

The first AGVs were supplied to Hamburg in 2001. These were equipped with diesel-hydraulic drives, but in 2006 there followed AGVs with a diesel-electric drive train and, in 2011, AGVs with lead-acid batteries were delivered. At the time, these were the first battery-driven AGVs on the market. To date, a total of nearly 100 AGVs have been delivered to CTA.

With the Li-ion batteries, Konecranes offers HHLA a battery drive with even greater efficiency at lower deadweights and up to three times the number of charging cycles in comparison to lead-acid batteries. Since the Li-ion batteries can be charged around four times faster, it is also possible to charge in the vehicles in connection with automated quick chargers.



Konecranes Gottwald Li-ion Battery AGV being re-charged with an automated quick charger

Customer:	Hamburger Hafen und Logistik AG (HHLA)
Timeframe:	Delivery scheduled for spring 2018
Project scope:	<ul style="list-style-type: none"> • 25 Konecranes Gottwald Li-ion Battery AGVs • 6 fully automated quick chargers
Special features:	<ul style="list-style-type: none"> • Long and successful track record in AGV technology with HHLA • We have supplied diesel-hydraulic, diesel-electric and lead-acid battery drives • Mixed fleet operation of these is possible • To date, nearly 100 AGVs supplied since 2001
Customer benefit:	<ul style="list-style-type: none"> • Thanks to continuous improvements, eco-efficiency has improved in container handling • Less complex than other drives applied in the terminal; maintenance costs noticeably reduced • Greater efficiency at lower deadweights • Up to three times the number of charging cycles compared to lead-acid batteries • Charged around four times faster compared to lead-acid batteries • Possible to re-charge batteries in the AGV in connection with automated quick chargers