



The adventure

by Przemysław Myszka

The transport & logistics industry, including cargo handling, wants to 'clean up' after itself by partaking in the green transition. We are talking with Michel van Roozendaal, Kalmar's new captain and Member of its parent company's executive board, about the New Era of Logistics and electrification's special role in it.

■ *What has been the latest news about Kalmar?*

The company, an essential part of Cargotec, is very much committed to the journey of providing sustainable and innovative cargo flow solutions – as has been our path for many decades. After the 'no go' for the merger with Konecranes, we have decided to re-focus by uniting the, until now, two separate segments of our business: mobile solutions and automation. We have also concluded to discontinue the large crane unit because of too much cross-competition, resulting in the undervaluation of what we can supply. The future of Kalmar will therefore revolve around counterbalance machinery, like reachstackers, and horizontal and vertical equipment such as terminal tractors and straddle carriers, respectively. This portfolio should interplay nicely with our automation efforts. And, of course, all of this goes under the 'New Era of Logistics' umbrella, where we see electrification as the leading driving force. During the latest TOC Europe in June 2022, we presented our electric reachstacker. It is a modular design machine, meaning one can, for example, customise the battery pack size to suit their needs. Fast forward to end-July, and together with the Port of Helsingborg, we could announce that the Swedish seaport will be the country's first to run a Kalmar Electric Reachstacker as of this year's last quarter, featuring 587 kWh of battery capacity. The deal includes an option for an additional two.

■ *What stands behind the "New Era of Logistics" slogan?*

Experiencing the New Era of Logistics will come in different ways. Take, for instance, the reachstacker drivers and how the latest advancements in technology make it possible to coach them in optimising their driving. The modern experience isn't about putting the equipment together, dropping it on the customer, and running away, but being with the clients over the machinery's total lifecycle. The external setting changes the experience, too. There are different total cost of ownership comparisons one can go through. For instance, California will ban quay and yard machinery running on fossil fuel, so operators will have to look around for alternatives – greener ones in the mind of the regulators. In places where solutions won't be 'legislated out' in such a direct way, customers will follow their spreadsheets – and values. Companies are willing to pay the green premium, as sending containers through a more environmentally-friendly terminal reduces the clients' and their own emissions. Organisations are making commitments – these aren't empty gestures that will look nice in an ESG report. Kalmar is looking into reducing its foot- as well as hand- print, i.e., the emissions our machinery produces when used by customers. If the power generation mix is based on renewables, like in the Nordics, then the benefits of green machinery trickle down to what ultimately

lands on the grocery shelves. Kalmar doesn't want to be that company that tells others to go green while its own operations are dirty. Heavy-duty machines are our trade, so it makes perfect (green) sense to source less carbon-intense steel for making them. But it goes even further: one needs to have in place recycling logistics for batteries. The idea is to keep them in the loop, up and running after refurbishment. After all, manufacturing hi-end battery packs requires precious components and materials, and nobody would like to see rare-earth elements thrown away just like that. A wasteful economy is what deserves discarding in turn.

The experience with the equipment will also change as regards maintenance. An electric drive is, to a large extent, a different pair of shoes relative to a combustion engine. This will see many service people altering their skills, including safety issues while working with high amperage.

Moreover, I see electrification as a precursor for broader automation simply because you don't have all the mechanics of the traditional motor-driver relation you need to mimic. Instead, algorithms can sort out the nitty-gritty already from within, so to say. No laws of physics forbid the use of electric machinery – either in the full sun of Africa or in the depths of freezing Finland. Among others, our solution has built-in battery heaters to ensure the equipment works within the optimal settings. The challenge lies in organising the workflow to secure enough charging opportunities. There are



Photos: Kalmar



many options regarding the battery pack and the size of the charging station matrix. It isn't rocket science, so potential clients won't have too much difficulty picking the best configuration.

■ **What are the stumbling blocks that can put a break on the green transition?**

While the changeover is revolutionary at its core, down on the ground, the changes are evolutionary. We don't idle waiting for some magical switch to go from 'off' to 'on,' finally allowing us to start investing in eco-friendlier solutions.

Some limitations might suppress the pace at which things could go. One is

the availability of rare-earth elements or securing the grid capacity, as other industries also scramble to shift their gears onto the green level.

Another constraint is the power density of batteries; we had to wait a considerable amount of time to get our hands on battery packs that can store the required energy and be handy enough for mounting on a reachstacker.

Another factor was charging times; compact and powerful batteries would be useless if you had to spend an eternity 'filling them up' anew. Opportunity charging comes here as a sub-issue: for it to be sufficiently efficient since nothing good would come from charging the packs only a bit.

Apart from time, the transition will require trust building. The Kalmar Electric Reachstacker works – it can move containers all day long, just as its fossil fuel counterparts do. Data-wise, however, there are gazillion documented working hours of diesel reachstackers. From this angle, it will necessitate experimenting with the new technology, even though it's proven to work.

And that's all fine because it speaks to our openness for change, the adventure in seeking better ways of doing things. ■