

Container terminals deploy the latest technology

Last year the port of Antwerp set a new record for container freight with 8.66 million TEU, an increase of 6% on the previous year. Antwerp is now the third-ranking container port in Europe, a position it owes to its tidal terminals with their 3,994 m of berths, its high-performance equipment and its high productivity and consequent fast turnaround times. The latter in particular is particularly appreciated by shipping operators. The two big freight handlers PSA/HNN and DP World are continuing to invest in the latest technology, with a view to the economy picking up again after the present crisis.

BERNARD VAN DEN BOSSCHE

PSA HNN GOES FOR PRODUCTIVITY

PSA HNN operates several tidal terminals on the Scheldt and various non-tidal ones behind the locks on the right bank. Last year it handled 7 million TEU of shipping freight and 1.8 million TEU of barge freight, accounting for 80% of the port's total volume. The Deurganck Terminal including AIT (Antwerp International Terminal) accounted for 1,070,000 TEU of this volume and MSC Home Terminal 4,110,060 TEU, with the rest being handled by other tidal facilities: the Europa terminal, the Noordzee terminal and the terminal in the Churchill dock.

The company has already invested 200 million euros in the Deurganck dock terminal and 125 million (its 50% share) in the MSC Home Terminal. Tens of millions of euros have been put into renovation of the Europa ter-

terminal, and some 20 million into improvements to the terminal in the Churchill dock. The MSC Home Terminal has now reached full capacity, at between 4.5 and 4.8 million TEU per year. In the meantime the Deurganck dock is due to be further expanded with another 200 million euros being invested in it. However, there is no fixed timetable for this, as container sector manager Frank Kho explains: the work will be carried out to keep pace with the growth in volume, as and when necessary.

The company is currently investing in new handling technology in the shape of five new super-post-panamax gantry cranes. Three of these have already been delivered; they are now undergoing tests and will be put into operation during the course of the year. The two others are due to arrive in March. These cranes are specially designed for tandem lift (2x40' or 4x20')

and have a deck outreach of 22 TEU. Once they are installed the Deurganck dock will have a total of 13 gantry cranes. According to Frank Kho the additional productivity afforded by the tandem lift technology will depend on the types of container carriers, the stowing configuration on board and the ratio of 20-footers to 40-footers. However, it is expected to be between 10% and 15%. "We are testing the tandem lift spreaders on some of our old cranes, which should be ideal," he says. "As for the new cranes we are operating with two synchronised trolleys on two spreaders. It's a different concept."

In the case of the MSC Home Terminal, the tandem lift technique is not yet on the programme: the objective for the moment is to make the most efficient use of the existing equipment.

Tandem lift – and perhaps even triple lift at a later stage – will demand very careful communication with the shipping operators, with more precise technical information being exchanged more rapidly, in particular as regards the weight of the containers to be unloaded. This communication also concerns the shippers. PSA HNN and its commercial departments are gearing up for this in collaboration with the various customers. In other words, relations will become more professional, so as to work more efficiently.

As for the terminal logistics, the present set-up will be able to keep pace with the faster ship-to-shore and shore-to-ship handling. PSA HNN is sticking

to the concept of straddle carriers, which offer high productivity. "At the moment there is no question of introducing automation; instead there is a process of constantly improving the performance, which means working smarter and adapting the layout accordingly. As for the stacking areas, the ultimate aim is to automate them, but we're not in a hurry," explains Frank Kho. The performance achieved by PSA HNN on its four large terminals averages 35 containers per crane per hour and 25,000 TEU per hectare, and the objective is to improve this further.

In the meantime PSA HNN is preparing to handle the biggest ULCCs of up to 14,000 TEU. Vessels of 10,000 TEU already call at the Deurganck Terminal. Studies have shown that vessels with an LOA of up to 400 m could reach Antwerp under certain conditions. "For our part we are ready to handle them efficiently, as we are already equipped for this. And while the decision to assign these giant ULCCs to a particular service is not up to us, we hope that they will come," says Frank Kho. He is already thinking ahead to when the economy picks up again: "Here in Antwerp we have excellent management, highly efficient dockers and outstanding customer service. So far we have done very well thanks to our know-how and experience, which are particularly important in the present circumstances. As for the proposed Saefinghe dock, we will certainly be a candidate. Interest in this new facility has already been expressed on various sides."



At PSA HNN's Deurganck Dock terminal over 1 mln TEU were handled in 2008.



The new cranes at the PSA HNN terminal in the Deurganck Dock are capable of tandem lifts (2 x 40').

▶▶ DP WORLD: TANDEM LIFT AND LIMITED AUTOMATION

The other big freight handling company in Antwerp is DP World, which operates two specialised terminals. Last year it handled 1,385,000 TEU of shipping containers and 432,000 TEU of barge containers. The company's terminal in the Delwaide dock has five panamax gantry cranes operating on 800 m of quay, and last year

handled a shipping freight volume of 524,000 TEU. The large tidal terminal in the Deurganck dock, the Antwerp Gateway, for its part handled 861,000 TEU of shipping containers. The latter terminal is a partnership with the shipping companies, with DP World holding 42.5% and being responsible for operation. The terminal currently has 2 km of quay served by six post-panamax cranes with an outreach of 20 TEU. Three new-generation super-post-panamax cranes with an outreach

of 22 TEU are due for delivery in March or April and after a running-in period should be fully operational in August/September. Another three of the same type are on option, but whether this is taken up will depend on the economic developments. The company naturally uses the twin lift technique, but the new cranes equipped for double hoist with double spreader will enable it to adopt the tandem lift technique. Tests for this have already been carried out with a special spreader. The handling

performance on quay is already very high, at 35 to 37 containers per hour per crane.

However, DP World too plans to increase its productivity still further. According to managing director Eric Noterman it is still too early to give an actual figure for the productivity gains, but the tests so far have been very positive. For this purpose the company has already invested 170 million euros in the terminal, with the stacking areas having been automated in 2007.

Seven modules, each 9 TEU wide, 140 TEU long and stacked 5 + 1 high, are served by two fully automated RTGs without any human intervention. As for the logistics on site, this is taken care of by a new generation of straddle carriers.

Eric Noterman is also looking ahead to when the economy picks up again, while taking measures to weather the present crisis. The need for the moment is to cut costs in consultation with customers. He expects 2009 to be

a difficult year, as the results for January have not exactly been encouraging. In the meantime DP World is preparing itself for when the economy starts to recover, with the company being a candidate to operate a terminal in the future Saeftinghe dock.



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