

# How DP World Vancouver decreased container topples without sacrificing productivity



Alan Peterson, TMEIC Global Sales Leader - Crane Systems

With more than 65 terminals spread across six continents, DP World is one of the largest marine terminal operators in the world. Container handling generates more than three quarters of its revenue, representing the company's core business.

Located on the south shore of Burrard Inlet, in the inner harbour of downtown Vancouver, Canada, DP World Vancouver is a key gateway port for the trans-Pacific trades between Asia and the Pacific Northwest. Not only does the terminal serve the local market for British Columbia, it also provides direct daily intermodal rail connection to the important markets of eastern Canada and the midwestern US.

DP World's Vancouver Terminal was the company's first operation in North America and is part of Canada's largest and most diversified port, Port Metro Vancouver – one of the fastest-growing container ports on the continent. As a result of this remarkable growth, container cargo through Port Metro Vancouver is expected to more than double over the next 10 years from 2.8 million TEU handled last year.

In March 2004, DP World Vancouver invested \$148 million in a now finished expansion. Because of this expansion effort, the terminal has more than doubled container-handling capacity to almost 800,000 TEU, added three super post-Panamax container cranes, doubled on-dock rail to 8,000 feet and added 19 rubber-tired gantries (RTGs).

In an effort to reduce operator error and damage to containers, DP World

Vancouver enlisted the help of TMEIC, a leader in safe and efficient port automation, to supply the Maxview Smart Move System on two of the aforementioned RTG cranes in October 2013.

## How Maxview Smart Move System works:

The Maxview Smart Move System is a laser-based stack profile and operator landing assist system tailored to RTG and RMG cranes. By efficiently regulating hoist and trolley speeds during operation, the system reduces the need for spreader repair and the chance of container stacks toppling over, both of which can be costly and time consuming. According to common industry experience, up to 40% of crane maintenance costs and downtime are attributed to spreader repair.

In automated stacking environments where this technology is employed on RMGs, spreaders can go for years without damage due to hard impact. The same is now available for RTGs, and has quickly proven to be very effective.

Maxview Smart Move reduces damage and operating noise as well as improves yard crane productivity. To do so, the system creates a slowdown envelope around the spreader, and limits the hoist and trolley speeds when hard contact is imminent. A laser scanner and Maxview software modules are used collectively to observe the area under the crane and update the profile of containers and possible other obstructions that could

cause hard contact or container topples.

"My personal objective for this project was to have it be invisible to the operators. I didn't want them to even know it was there. It's basically there to keep an eye on the situation and only intervene when the operator isn't looking or slips up. The system's primary objective is to prevent container topples and the two upgraded RTGs have not had any such incidents since the system has been live," DP World Vancouver manager, engineering and maintenance, Joel Werner, said.

In addition to the profile of containers and obstructions under the crane being updated constantly, the Maxview system also tracks the spreader position (hoist position and sway), and continuously compares the distance between the spreader plus load and all objects in the stored profile.

The profiles can be made available to the crane operator on the Maxview Smart Move Crane Management System (CMS) screen. Or as in the case at DP World Vancouver, CMS can be accessed by maintenance personnel from the E-house or remotely. This simple interface is provided to the crane operator in order to increase his or her visual awareness of containers and objects below the crane. Along with the visual of the profile, the CMS screen also indicates the status of the system.

Easy to install and maintain, the Maxview Smart Move System benefits ports by reducing container damage claims as well as wear and tear on the



Top: Port photo: DP World Vancouver; Insert: TMEIC's Maxview Smart Move™ system is a laser-based stack profile and operator landing assist system designed to reduce damage and operating noise, and increase your yard crane productivity.

spreader, head block and wire ropes. The system has a proven, flexible, open design and helps to decrease operating noise level at the port.

DP World takes a customer-centric approach and is constantly investing in terminal infrastructure, facilities and people, working closely alongside customers and business partners, striving to provide quality services when and where they are needed. By working with partners like TMEIC, they are realising their goal to provide quality services while also achieving safer terminal operation.

"DP World Vancouver has had a long-term partnership with TMEIC and has been utilising their laser scanning systems for over six years on our quay cranes. The TMEIC team has a proven track record in delivering innovative technologies that are supported well and make sound commercial sense," Werner said.

Werner also revealed that DP World Vancouver is happy with the success of the two RTG cranes and now has plans

to outfit the whole fleet of RTGs with the Maxview Smart Move System.

TMEIC is quite pleased with the acceptance that DP World in the Americas has given Maxview Smart Move, and it looks forward to continuing a strong vendor/partner relationship with DP World.

DP World's choice of TMEIC's crane automation expertise for several of the world's newest terminals will give it tremendous potential for advancements in efficiency and safety in Vancouver.

#### About the author

Alan Peterson has been involved in technical sales since 1978, joining first Westinghouse and then GE in 1989. Initially responsible for supporting heavy industry, container port and shipbuilding in Virginia, US, Peterson transitioned to TMEIC in 2006, and has since been working full-time in the marine terminal marketplace. Container terminal automation and advanced lifting equipment technologies are his speciality.

Currently acting as Global Sales Leader for the Material Handling Business Group within TMEIC, his responsibilities include managing a global sales force and helping to shape the strategic direction of the business.

#### About the organisation

TMEIC Corporation's Material Handling business based in Roanoke, Virginia, US, has a long, successful history in the crane industry through its supply of equipment and systems throughout the world. Through engineering, experience, and cutting-edge technology, the company continually improves industrial motor and drive systems by developing the latest equipment, and integrated solutions in response to industry needs.

#### Enquiries

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