

Manzanillo Container Terminal reaps the benefits of a virtual world in which personnel can control the flow of cargo visually and interactively. WPD reports...

Success as a terminal operator hinges on the ability to move cargo as quickly, safely and cost effectively as possible. At the average container terminal, container handling equipment like rubber tyred gantries (RTGs) and terminal tractors serve a dedicated quay crane with the help of yard clerks who dispatch work assignments to equipment operators on a first-come, first-serve basis. This process utilises sizable labour and equipment resources, often requiring equipment operators to chase container moves up and down the terminal, wasting fuel, increasing emissions, causing congestion, and delaying operations. This was once the case for one of the largest container trans-shipment hubs in Latin America, Manzanillo International Terminal (MIT) Panama. However, with the help of some innovative technology the 1.4 million TEU per annum terminal transformed this resource-intensive work order dispatch process into a seamless, automated one with the help of Tideworks Technology. The company's 'Traffic Control' software dynamically controls the terminal's container handling equipment by automatically dispatching container move instructions via wireless computers to the optimal container handler at the optimal moment. Using zoning and pooling strategies, the system creates, sequences and dispatches work instructions that minimise equipment travel time and maximise equipment utilisation. Terminal staff run operations from a command centre that features Terminal View, a three-dimensional live rendering of terminal activity that helps manage every aspect of the operation — more efficiently, cost effectively and safely say Tideworks. Tideworks worked closely with the team at MIT to implement the new system without disrupting ongoing operations while seamlessly integrating with existing technology and tools. During the implementation, Tideworks partnered with MIT to refine the solution to meet the specific and unique needs of the terminal and address any challenges. One early challenge the team faced and overcame was to ensure the new system was able to accommodate dramatic fluctuations in the volume of equipment. It was imperative for the terminal that the system remained highly responsive and did not drop devices during periods of significant traffic. The Tideworks



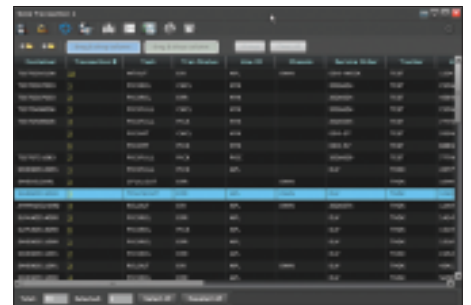
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solution met these challenges and effectively positioned MIT for future growth and expansion.

Valuable efficiency gains

Unlike other terminal visualization tools that render the terminal using two-dimensional drawings, Terminal View is an immersive virtual world in which personnel can control the operation visually and interactively. Users of Terminal View can pan from left to right, up and down, and zoom in and out to view equipment, inventory, move status, vessels and trains. They can apply temporary colour coding to areas of the yard or container subsets to identify potential issues. They can also forecast the operation's status at different time intervals using a Look Ahead feature, which, according to MIT's Vice President of Operations, Robert Ahern, "provides an immensely helpful picture of where the equipment and containers are, where the operation is going, and where it will ultimately end up." This revolutionary approach to running terminal operations yields sizable cost savings and service improvements for MIT and its customers. "In addition to the safety improvements we made by removing clerks in small vehicles from the yard, the efficiency gains have been huge. We were able to add 160,000 container moves to our operation without needing to purchase additional lifting

equipment or hire new workers," says Ahern. The savings have been especially helpful



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during these tough economic times. Meanwhile, as business begins to pick up, MIT is positioned to handle volume increases smoothly and cost effectively thanks to this innovative software. [TID](#)