



CHALLENGES

- Needed to meet and uphold the standards of automation being established across the shipping sector and demanded by carriers and shippers
- Former in-house system, was not scalable with the terminal's growth, and did not provide the necessary flexibility and visibility to operators
- Required TOS to interface with shipping and cargo line customers, meet demands of both port locations, and integrated with current billing system.

SOLUTION

- Navis N4 Terminal Operating System

RESULTS AT A GLANCE

- In the first four months of 2016, TEU cost decreased by 5% compared to the same period of 2015
- Total haulage productivity increased by 18%; total haulage costs decreased by 19%
- Improved quayside times and vessel rates
- Ability to control yard density with a preset target to ensure effective use of equipment resources

DaChan Bay Terminals Move Toward Automation, Embraces the Digital Era

CUSTOMER PROFILE:

- Strategically located terminals provide key trade access for South China; managing cargoes passing to/from all major manufacturing hubs in the Pan-Pearl River Delta (PRD) region
- Achieved 1.26 million TEUs in 2015 (full capacity of 5 million)
- Provides landway and waterway transportation solutions to customers – including its express barge network covering 8 major cities in West PRD and more than 50 terminals in Guangdong, Guangxi and Hainan

ABOUT DACHAN BAY

DaChan Bay Terminals, owned by Modern Terminals is strategically located in the Bao An District of Western Shenzhen. This location is 20 nautical miles north of Hong Kong, 40 nautical miles south of Guangzhou, and 10 kilometers south of Shenzhen Bao, an international airport. Due to its strategic access, DaChan Bay is the ideal spot for managing cargoes that pass to and from all major manufacturing hubs in the Pan-Pearl River Delta (PRD) region. The terminal achieved 1.26 million TEUs in 2015, with a full capacity of five million, providing operational excellence, customer-driven services, convenient and cost effective landway and waterway transportation solutions for customers, including its express barge network covering eight major cities in West PRD and more than 50 terminals in Guangdong, Guangxi and Hainan.

Towards the end of 2011, DaChan Bay recognized a need for change. Its former in-house system could not satisfy providing the scalable, flexible, sustainable service necessary to support a modern, automated infrastructure that would support future growth efforts. DaChan Bay required a terminal operating system (TOS) that specifically interfaced with its shipping and cargo line customers, provided enough flexibility to meet the demands of both port locations and integrated with its current billing system. DaChan Bay selected Navis' flagship N4 solution to achieve its goal of providing best-in-class customer service through optimized performance, improved productivity and cost-effectiveness.

As a result of successes from N4's capabilities, we are revitalizing container stacking to avoid unnecessary shuffling. We are also now able to control yard density with a preset target to ensure effective use of equipment resources, as well as set target performance metrics for each vessel to achieve maximum ROI.

— BARBARA ZHANG
Operation General Manager, DaChan Bay Terminals



DACHAN BAY'S SMOOTH TRANSITION TO AUTOMATION VIA N4

DaChan Bay was the first terminal in the Modern Terminals family to implement N4 in November 2013 – the project was completed in just eight months. During the aggressive project schedule, a range of terminal executives, from operation to finance to the commerce team were involved in implementing change management initiatives including: organizational review, job provisioning and process review. The Navis team worked to ensure that DaChan Bay was fully prepared for the results that would inevitably come with automation and the implementation of new technology.

Following DaChan Bay's N4 journey, from the planning phase to post-implementation, the port experienced a 57 percent cargo throughput increase. Within the first four months of 2016, the terminal continued to reap the benefits of N4, improving its TEU cost by five percent compared to the same period in 2015. In addition, total haulage productivity in the first four months of 2016 increased by 18 percent while unit costs declined by 27 percent. The terminal was also able to decrease its total haulage costs by 19 percent versus the same time frame of 2013, despite an 11 percent spike in volume and compound 21 percent increase in contractor rates. In addition to these tangible achievements, DaChan Bay experienced a shift in mindset, moving away from its previous "firefighting" mode towards a more strategic attitude when addressing challenges.

Looking towards DaChan Bay's future, Barbara Zhang, Operation General Manager says, "As a result of these viable successes from N4's capabilities, we are revitalizing container stacking by taking the entire cycle of containers, from arrival to departure, into consideration, in order to avoid unnecessary shuffling. We are also now able to control yard density with a preset target to ensure effective use of equipment resource, as well as set target performance metrics for each vessel in order to achieve a maximum return on investment."

In order to continue to provide optimal service to its maritime shipping customers, DaChan Bay will remain committed to building on its modernization efforts. "We understand the value of process automation and the importance of evolving with the times," explains Zhang. "We recognize that automation allows terminals to maintain a competitive advantage through an enhanced quality of service – in addition to other factors such as location and talent. For instance, with N4 we have improved quayside times and vessel rates. As we continue on our transformation journey, we are now implementing the QC OCR interface to automate hatch clerk's work in quayside operations and plans to remotely control the yard crane operation and automation technology, among other functions of our ports in the future, are currently being studied. The data that N4 provides allows for the transparency that we need to make informed decisions and be a market leader."



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Navis provides operational technologies that unlock greater performance and efficiency for our customers, the world's leading terminal operators. The Navis N4 terminal operating system (TOS) represents more than 25 years of experience and innovation that enables terminals to optimize their operations and move cargo smarter, faster and more efficiently. As an industry leading technology, more than 250 container terminals worldwide have partnered with Navis to improve performance, reduce costs and minimize risk.