

Port of Tauranga

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Growth Strategy Extends Beyond the Bay of Plenty

In 1999, the Port of Tauranga established MetroPort in South Auckland as part of its multi-port growth strategy to extend operations beyond the Bay of Plenty. The dry port is operated through an integrated transport system that travels to and from the Tauranga Container Terminal to ship cargo internationally.

“MetroPort is an inland terminal that provides us the strategic advantage to realize the significant percentage of our growth over the past three to four years,” said Mike Pohio, Terminal Manager at the Tauranga Container Terminal.

“This growth was achieved with the Navis™ SPARCS terminal operating system (TOS) by extending the existing data model from one terminal to two terminals, linked by rail, with minimal effort and investment on the part of Tauranga. Having an integrated Navis solution has been the key to managing our business and growth.”

Getting MetroPort connected to the Navis SPARCSTOS was important, as customers could know where their containers were without having to contact Tranz Rail, the former rail operator that was recently purchased by Toll of Australia. In 1998, the idea of an inland port was still a bit novel, and Tauranga showed it could be successful if properly integrated with the port and the Navis SPARCSTOS.

“The transport system relies on the Navis SPARCSTOS train module to track containers between the two ports,” Pohio said.



BUSINESS RESULTS:

- Increased yard capacity by 319,000 TEUs
- Increase volume by at least 1,300 containers
- Increase crane rate to 30 moves/hour

THROUGHPUT:

- 394,403 TEUs/week
- 15 vessels/week

NAVIS PRODUCTS:

- SPARCSTOS
- Express
- AutoStow
- Expert Decking
- Quay Commander

IMPLEMENTATION PARTNER:

- Navis Professional Services

Navis TOS Supports a 319,000 TEU Increase in Throughput

The Tauranga Container Terminal increased throughput from 35,000 TEU in 1998 to 354,000 TEU in 2004, an increase of 319,000 TEU after the Navis SPARCS TOS was implemented. Additionally, the Tauranga Terminal's 2004 throughput represents more than the majority of the 438,000 TEU at the Port of Tauranga. Navis SPARCS TOS enables the Tauranga Terminal to fully automate and optimize vessel and rail planning, yard allocation, and equipment dispatch with minimal human interaction, which means faster, more efficient load and discharge.

"The Navis SPARCS TOS allows us to manage the influx of trucks. We can plan vessels. We can operate our yard using the Navis software. We can weight containers. We can optimize the movement and placement of containers. We can provide visibility," Pohio said.

Forestry, kiwifruit, dairy and steel exports account for about 70% of the annual cargo throughput at the port. A majority of the cargo is destined for customers in Japan, South Korea, South East Asia, Australia and the Pacific Islands.

Imports are also an important and expanding sector of the Port's business, which includes petroleum, fertilizer, dry bulk and other products. Pohio said imports of containerized cargo have grown rapidly over the past 15 years, and will be developed further through the integrated inland port at MetroPort Auckland.

"The scalability of Navis SPARCS TOS has been noteworthy," Pohio said. "We did very little work from an IT perspective when we expanded to Auckland, because the Navis software allowed us to grow without any significant further investments."

Average Vessel Volume Increases by At Least 1,300

In 2003, the Tauranga Terminal merged its container volumes with an independent terminal the Port of purchased from P&O Ports. Before the merger, the volume at P&O Ports was between 200 and 300 containers per vessel. Today, volume has increased to 1,500 containers per vessel, or, by at least 1,300 containers since the Navis SPARCS TOS was implemented. The Navis TOS is the first and only terminal operating system used at the Tauranga Terminal.

"The Navis SPARCS TOS provided a relatively simple and investment free solution to extend our volumes," Pohio said. "Any other facility looking similarly to expand its business by acquiring neighboring terminals or land will be happy to know that they have a software system, which, aside from user training, would expand easily to take on new business."

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Pohio said the real challenge of the transition was the people, retraining and assimilating them into the Tauranga Terminal at the port. However Navis SPARCSTOS helped the planners quickly and easily determine the best way to optimize the terminal through yard allocation and vessel loading plans. The planners can see where containers are located and what equipment is available.

The Tauranga Terminal operates in a competitive environment and has established itself as a service of choice by consistently achieving productivity rates among the highest in the world. The Terminal operates a fleet of 14 straddle carriers linked by the Navis SPARCSTOS, ensuring the efficient movement of containers and allowing customers to track their cargo through every step in the process.

“We can now have one planner to plan 3 vessels at once,” Pohio said. “Navis helped us achieve a higher level of productivity with a great degree of certainty. The ability to grow and increase productivity has come without question through the use of the Navis system. We are better able to utilize capacity.”

Expert Decking Reduces Required Moves and Re-handles

The Tauranga Container Terminal relies on the Navis™ SPARCS Expert Decking module to fully automate yard positioning by distributing containers throughout the yard based on user-defined constraints, preventing congestion and promoting throughput.

“If a container is used, the Expert Decking module puts it in a stack location that is closest to the gate,” Pohio said “Expert Decking allows us to manage the yard efficiently. As the system looks for a location, it will recommend a preferred location.”

The Expert Decking module finds the best position without mixing stacks and reduces re-handles and yard shifts. Pohio said the Navis SPARCSTOS automatically assigns containers to optimal positions across the yard, maintaining compliance with hazardous container segregation rules, ensuring proximity to the scheduled loading berth or rail track, and distributing for efficient multi-crane vessel operations.

“The Expert Decking module allows us to load the vessels in sequence with how the containers are positioned in the yard without having to re-handle containers,” Pohio said. “Expert Decking, in effect, reduces the number of moves and the number of re-handles, which contributes greatly to our bottom-line.”

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AutoStow Reduces Vessel Planning and Optimizes Stow Plans

Pohio said the planning system at the Tauranga Terminal was an extremely slow and arduous process regarding vessel and yard integration operations before Navis™ SPARCS AutoStow module was implemented. The AutoStow module enables the terminal to stow one bay at a time or the entire ship by combining stowage factors like type and weight with yard constraints and operating strategy to select the best container to load in real-time.

“AutoStow module gives us the ability to preplan and provide a service that satisfies the demand of logistics,” Pohio said. “If we had a slow system, the trucks would have to wait hours for the information to be transmitted, which would be unacceptable in today’s time.”

Tauranga Terminal’s average crane rate is 30 moves per hour, which is about 10 more moves than the average crane rate in New Zealand and Australia, according to an Australian productivity report. “It is a substantial difference, one that has allowed us to be recognized as a port that gets vessels through quickly,” Pohio said. “Navis reduced the period of time to collect the container and moves it to the yard and berth location.

The AutoStow module reduces planning time, improves vessel stow plans, and adapts quickly to any vessel scheduling or berthing changes.

“The ability to transact in a very short time is quite beneficial,” Pohio said. “The software deals with complexity in a user-friendly way in terms of how it manages the yard and set up allocations in the yard, which is a hell of a lot more efficient process for the Tauranga Terminal.”

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