

Sociedad Portuaria Regional De Cartagena



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SPRC Replaces In-house System to Increase Productivity

In 1997, the Sociedad Portuaria Regional De Cartagena (SPRC) replaced its in-house system with the Navis™ SPARCS terminal operating system (TOS) to increase the port’s productivity. SPRC needed a TOS that provided real-time yard information to help port officials better position containers to prevent congestion and promote greater throughput, said Eduardo Bustamante, Director of Systems and Telecommunications at SPRC.

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Bustamante said the decision to replace their in-house system with the SPARCS TOS became paramount when executives at SPRC decided nearly 10 years ago to be a stevedoring company after years of functioning as a port authority.

“As a port authority, we had no input in terms of where the containers should be placed. We had no control,” Bustamante said. “When we became a stevedoring company, we got more involve with planning vessel loading and discharging. We decided that SPARCS would help us improve the planning, and we were right.”

BUSINESS RESULTS:

- Quadrupled TEU from 90,000 (handled in 1993) to 550,000 (estimate for 2005)
- Increased volume from 585 containers per vessel to 753 containers per vessel
- Reduced truck service time from 40 to 25 minutes
- Decreased re-handles by 40%
- Decreased quayside usage by 27%

THROUGHPUT:

- 468,864 TEU in 2004
- 8 vessels/day on average

NAVIS PRODUCTS:

- SPARCS TOS
- Expert Decking
- Quay Commander
- Auto Stow

IMPLEMENTATION PARTNER:

- Navis Professional Services

Software Quadruples Number of TEU without Additional Staff

SPRC quadrupled its throughput without hiring a single new employee. Since upgrading to the SPARCS TOS, the port increased throughput from 231,549 TEU in 1997 to 468,864 TEU in 2004, a 105% increase. Bustamante said SPRC is expected to reach 550,000 TEU by the end of 2005.

“We have become a securer port with SPARCS,” Bustamante said. “Before implementing SPARCS, we lost containers in the yard. We had security issues. We had contamination of containers. We were a big mess. SPARCS real-time reliability helped us improve our yard situation in a major way.”

The SPARCS TOS enables SPRC 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. SPARCS is the first TOS based on a real-time architecture.

“We were able to react and implement more strategic measurements using the software,” Bustamante said. “Now we have information in terms of where containers are being moved. We understand now what the problem was and fixed it. We now have control of the yard. The real-time information SPARCS provided was the key.”

Terminal’s Throughput Expected to Increase by 33%

SPRC has optimized its workload and increased its productivity without hiring any new employees, apart from those needed to operate the container handling equipments, Bustamante said. Today, there are 2,800 employees at SPRC, which include stevedores, terminal administration, and equipment operators.

“We are doing more with the same people,” Bustamante said. “We have not had to hire anyone to help in planning and control of all operations with the workload, in part, thanks to SPARCS.”

Port’s Average Vessel Volume Up by 168 Containers

SPRC has doubled its container handling now that the port has the information technology to help manage larger vessels that can accommodate more containers, Bustamante said. For example, the port serviced 753 containers per vessel for the month of August in 2005, which are 168 more containers per vessel it handled during that same time in 1997- the year SPRC got rid of its in-house system.

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“We are not doubling the number of vessels, but we are doubling the number of containers that we put on vessels,” Bustamante said. “With SPARCS, we know when the vessels will arrive. We demonstrated to our customers that we can plan and execute vessel operations and give the level of productivity they required. SPARCS has helped us in bringing larger vessels to the port because of our flawless work plans. We have proven that we can facilitate those vessels.”

Quay Commander Increases Productivity

Bustamante said SPRC’s quayside usage has plummeted since 1997. The quayside usage at SPRC is 27.8% as of August 2005, which is a significant decrease from 44.9% in August 1997.

“We are being more productive because the cranes and quay are being supported by Navis™ SPARCS Quay Commander,” Bustamante said. “Our success is because of our appropriate vessel planning.”

The SPARCS Quay Commander module fully automates quayside operations, acting as a real-time monitor of vessel work progress, crane schedules, and vessel labor assignments. Quay Commander tracks productivity, dynamically adjusting load and discharge time estimates for each container and generating automated crane sequences.

Re-handles with Expert Decking Reduced by 40%

SPRC decreased its average number of moves per container from 4.3 in July 2004 to 3.6 in August 2005 after implementing the Navis™ SPARCS Expert Decking module. The Expert Decking module enables SPRC to fully optimize yard positioning by automatically distributing containers throughout the yard based on user-defined constraints, preventing congestion and increasing throughput by reducing re-handles.

“The software helped us reduce reshuffling from 6 in the year 2000 to 3.6 in 2004, which is a 40 percent decrease,” Bustamante said. “Expert Decking truly helped us decrease movement and reduce cost in the yard side.”

Bustamante said even though container services have increased at SPRC from 11,609 in 2001 to 23,664 in 2005, reshuffling containers was down because Expert Decking helps optimize the positioning of the containers. “Usually, the number of reshuffles goes up when services increase and mistakes are almost destined to occur,” he said.

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Truckers Serviced 15 Minutes Faster with Equipment Control

SPRC uses equipment control to direct the movement of containers by issuing instructions for planned moves to clerks and operators of container handling equipment. The software sends plans to equipment via RDT and communicates in real-time with such host systems as Express.

“With equipment control we are able to communicate electronically with operators to service trucks and monitor them,” Bustamante said. “It now takes 25.3 minutes to serve a truck from the gate, and that is down from 40.49 minutes. In the past, it would take hours. Now we have the good service minus the voluminous paperwork.”

The Sociedad Portuaria Regional De Cartagena (SPRC) is considered a major logistic center for the Caribbean and for international transshipment. SPRC links the Caribbean with more than 420 ports in 110 countries.

Maritime officials at SPRC want to establish the port as the “main container terminal in the Caribbean.” SPRC is located in the city of Cartagena, which sits geographically in the South American Caribbean, near the Panama Canal and next to the large production and consumption centers of the Americas. The port’s mission is to provide port services that will promote foreign trade development and international tourism. It has state-of-the-art technology and equipment that enable port officials to be efficient and reliable in their operations. In 2001, SPRC was named “The Miracle of Cartagena” by Containerization International magazine for using its automated systems to help advance the port’s operations. In 2005, SPRC was awarded Caribbean Shipping Association’s (CSA) award for Best Container Terminal in the Caribbean region.

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