

ABB maintenance increases reliability for Malaysian port operation

Crane & Harbour
Case Study

Improve asset condition and performance

With about 8,000 ships, Northport (Malaysia) Berhad is a major shipping hub which handles about 60% of Malaysia's trade. This places stringent demands on the maintenance function to provide consistently reliable cranes 24/7, as they need to sustain the port's capacity of over four million shipping containers every year.

"Partnering with ABB has lifted us from a plateau to a substantially higher level of maintenance excellence"

*Ir. G.Sundaraja Perumal,
Chief Engineer,
Cranes Equipment
Maintenance Department,
Northport (Malaysia) Bhd.*



Benefits

- Increased Mean Time Between Failure by 10%
- Introduced maintenance best practices
- Achieved cost savings for Northport due to fewer spare parts and less repairs

Features

- 24/7 technical support for crane control systems
- ABB's Reliability Centered Maintenance (RCM) streamlined maintenance planning
- Performance-based reliability improvement
- Skills development through crane driver simulator training
- Upgrades and retrofits
- Spare parts management

Poor reliability had caused increased costs and lost time for the port operator and its customers, so Northport asked ABB for a solution to improve the reliability of the cranes. In 2007, ABB launched a reliability maintenance program at Northport to improve the asset condition and performance of the ship to shore cranes.

Partnership between Northport and ABB

ABB developed a reliability maintenance program for Northport's maintenance team, which started with conducting asset health checks and fault analyses to get an initial status report. The first few months were spent on root cause failure analysis and other improvement projects. A major part of the effort concentrated on Container Terminal 2 cranes due to its record of numerous breakdowns. After six months, the terminal's Mean Time Between Failure (MTBF) increased by 10% from 75 to 83 hours. Overall, the MTBF at Northport continues with an uptrend surpassing the 80 hours average.

ABB's team of reliability and maintenance specialists worked alongside Northport Crane engineers in daily tasks including root cause failure analysis, management of improvement projects, quality assurance and preventive maintenance. The team utilized ABB's web-based knowledge portal to access best practices from its global network of reliability and maintenance specialists.

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Northport maintenance team members learn about best maintenance practices from Dominic Kamaraj, a Technical Service Engineer for ABB Malaysia.

The Northport maintenance team also received Reliability Centered Maintenance (RCM) training, which included ABB's web-based reliability software tool that is designed to optimize maintenance strategies.

The close co-operation between ABB and Northport engineers has contributed to improved performance and excellent teamwork. ABB's new methods and maintenance practices have been highly valued and have transformed Northport's maintenance techniques.



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