



maintenance managers mentioning everything from improved cost controls and better purchasing processes, to automated, error- and omission-free work order generation and real-time reporting.

They invariably also mention spares shortages and, equally, obsolescence becoming things of the past and comment on the value of enabling the department to move more onto preventive, instead of reactive, maintenance. That alone, they say, reduces downtime, but also improves plant productivity, as a result of the maintenance team having time to focus on improving standard operating procedures and engage plant operators in 'lean maintenance' (Plant Engineer, November/December 2011, page 8).

So, if you haven't already gone down this path, CMMSs sound well worth investigating, don't they? Take flooring manufacturer Forbo: its Ripley, Yorkshire plant reports that installing an Agility CMMS, from SoftSols, helped to reduce plant breakdowns from 90 to less than 20 per month, increasing plant availability from 89 to 97%. But that substantial prize was only realised when Steve Green, who came from an aviation background, was appointed as engineering manager and instantly recognised the requirement

"I was used to having detailed working records on an asset management system, and the paper-based 'system' I found was outdated and inadequate for our needs," states Green. "If there were 100 paper work requests per month, I would estimate that only 70% were ever actioned." Why? Because paper is a

Image Source: SuperStock

Managing

Anything that can help maintenance managers realise cost and time-savings has got to be worth considering. Brian Wall looks at modern CMMSs in action

CMMSs (computerised maintenance management systems), designed to help asset-intensive plants function more efficiently – mostly by automating and optimising logistics and spares inventory management for maintenance teams – mostly enjoy an excellent reputation. Yet, probably because management still regards maintenance as a necessary evil, rather than an opportunity to improve plant operations, investment in such systems remains relatively low.

Benefits cited by system vendors and enthusiastic plant users alike typically revolve around compelling cost and time savings, as well as knock-on increases in plant availability and OEE (operational equipment effectiveness). Fleshing those out usually leads to

recipe for poor communications, he says. It also lacks tracking and accountability.

"I was trying to achieve visibility for the maintenance effort in the organisation. But we had nothing to base our improvements on: no history. I needed a system that gave us data and traceability. It needed to be easy to use and to integrate into our processes – and we needed to see results quickly." Hence the system, which Green justified on the promise of driving improvements in plant reliability, productivity and availability, as well as product quality.

To bear down on plant breakdowns, he explains, Forbo first needed to record them appropriately, using the CMMS. The data then needed to be presented in useful reports that identified problems and highlighted

improvement priorities with appropriate measures. "We needed the system to enable the maintenance and engineering department to use hard data to identify and justify capital projects and modification programmes," comments Green. "I wanted to prioritise maintenance work based on reliable data, removing the emotion around resource allocation. Before Agility, we had limited data to back up decisions, so we couldn't be sure we were making the right ones."

Forbo now uses Agility to identify and track plant performance and improvement KPIs. The system also provides visibility of task status to operators, with indicators of maintenance work schedules, priority and detailed status/completion information. It also enables the team to track performance of individual plant units, to optimise maintenance activities.

And as far as maintenance engineering itself is concerned, the most obvious improvement is increased productivity. Following installation of the system, says Green, the same team, with the same resources, now completes over 200% more logged maintenance requests and actions.


Crucial assets

Elsewhere, another CMMS has brought similarly impressive benefits to DP World Southampton, which operates the second-largest container terminal in the UK. Its site covers more than 200 acres, with four deep-water berths, one short-sea berth, 14 ship-to-

them. "In discussion with [DP World Southampton], we realised that, if they could find a way to be more proactive in their maintenance work, they could keep the terminal fully operational for longer periods – reducing delays and boosting efficiencies."

David Bowers, engineering planning and quality manager at DP World, says that Maximo enabled the move from 'break-fix' maintenance towards prevention. "We don't have to wait for something to go wrong before we take action," he states. "Maximo ... gives our technicians the tools they need to record, plan and fix problems before they happen."

Maximo now sits at the heart of the company's maintenance management regime, says Bowers. "It enables a proactive approach to maintenance. We have already achieved a 10% reduction in breakdown-related work and a corresponding increase in planned maintenance – helping to keep our assets in working order and deliver a rapid, reliable service."

For Driver, the project is confirmation that the workflow-based processes, for which Maximo is renowned, are key to tightening up on maintenance scheduling and costs. "Also, the traceability and reporting functions it delivers help simplify regulatory compliance," he adds. "Maximo has been set up to help manage both the maintenance processes themselves, and associated processes, such as procurement and inventory management for spare parts and equipment." 



maintenance

shore gantry cranes, one mobile harbour crane and over 100 straddle carriers to load and unload containers to and from ships, and onto trucks and trains. Two large workshops handle maintenance.

When the company needed to improve maintenance performance, increase plant efficiency and reduce operating costs, it implemented an IBM Maximo CMMS. Steve Driver, director at IBM business partner SRO Solutions, outlines the challenges. "They had used an old CMMS for a number of years, but it had never been properly configured. As a result, they found it difficult to manage their workload intelligently. DP World wanted to ensure they were servicing their equipment often enough to meet ISO 9001:2000 quality standards and to comply with health and safety regulations, but not so often as to create unnecessary work."

In fact, 80% of maintenance work was being consumed fixing breakdowns, rather than preventing

Loaded question

One more thought: picture lifting gear attempting to lift a container heavier than its maximum load – plant that has neither been tested using a calibrated load cell nor maintained properly. The outcome might well prove disastrous, with the machine collapsing. It doesn't bear thinking about, does it? And yet it happens. So what should any safety conscious plant engineer be doing?

One way is to install RFID tags on equipment, including in this case the load cell, to flag that maintenance and calibration are up to date.

"CMMSs overcome such issues, reducing the reliance on human beings and manual systems," comments David Ayling, managing director of Straightpoint (UK), "by automating systems. The result is increased reliability of testing, and improved efficiency and reliability."

