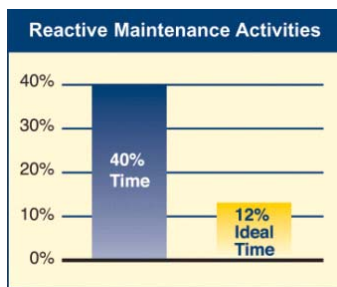


Maintenance on the Offense

Amid the massive changes that swept through the industrial sector in the last two decades - and changed it forever - one of the most spectacular is in maintenance. A move to embrace highly productive processes and cutting edge technologies has given birth to new techniques built around the science of predictive and reliability-centered maintenance. These proactive tools and approaches are producing visible bottom-line results.

Proactive maintenance affects profitability on both sides of the asset equation: It helps increase revenues by increasing equipment performance, and it boosts return on assets by reducing the need for expensive capital upgrades to increase output. It takes knowledge and experience of years of reactive maintenance activities and learns from them; then uses technology to monitor and predict maintenance needs more efficiently.



Manufacturers want to move away from the inherent inefficiencies of reactive activities. According to a recent survey by Rockwell Automation in conjunction with Maintenance Technology magazine, maintenance managers and technicians spend 40 percent of their efforts on reactive tasks, but view 12 percent as the ideal amount.

In other words, they spend more than three times as much effort on reactive maintenance as they believe they should. At the same time, they spend 15 percent of their time on predictive activities, but view 33 percent as the ideal amount. The desire for a more predictive approach is best explained by another key finding of the survey: More than two-thirds of respondents indicate that their primary measure of success is related to equipment performance. Specifically, 36 percent say the primary measure is uptime.

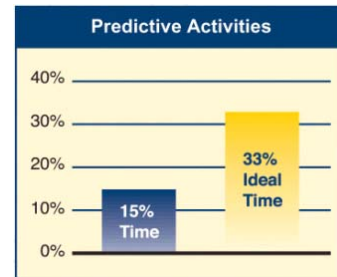
Having to fix a piece of equipment after it stops working is now seen by business as a failure twice over. First, the equipment is broken; second, the resulting downtime is quickly eroding profitability. Simply put, unplanned downtime disrupts production - or the delivery of services - and cuts sharply into the bottom line.

Proactive Tools and Technology

In recent years, advances in technology and a staggering array of new tools are dramatically improving maintenance functions and optimizing performance. Ever more powerful data collection and process tools are gathering information about machine status and are delivering spectacular gains in maintenance efficiency and dollar savings. Integrating modern condition-based moni-

toring systems into existing manufacturing processes is the key, and an emphasis on a distributed approach is enabling companies to achieve major savings in wiring, material, and labor costs.

Today, distributed monitoring and protection systems can be placed alongside machinery and sensors, cutting down on the need for dedicated wiring exclusively for condition monitoring. These modular systems help streamline system design and interface to digital communication networks to economically take measurements at multiple points.



Recouping the Cost of Prevention

Integrating maintenance functions with the rest of the enterprise is key for a proactive maintenance strategy and critical for long-term success. That is because scheduling maintenance tasks so that equipment uptime is least affected is as complex an activity as scheduling equipment for job execution.

For example, planning for capital repairs and long-term shut-downs requires long-term visibility into sales and operations planning. Likewise, the factory supply chain needs to consider and integrate the maintenance function to be responsive and proactive. This requires rethinking the way maintenance functions are executed in an organization, as well as providing support through robust, integrated systems that unite the data requirements across plant-wide systems and processes.

At the heart of the proactive maintenance philosophy is that a problem isn't fixed until the root cause has been identified and corrected. And that's refining the process to a level of problem-solving and bottom-line success that makes heroes of those who practice proactive maintenance. This article was excerpted with permission from AB Journal, Putman Media, Inc. The original appeared in the September 2003 issue and is available at www.abjournal.com.