PM: How can asset management help reduce operating costs?

The business case for reliability is based on lowering maintenance and spares costs coupled with improved uptime. The bottom line savings potential is too large to ignore. The main barrier is the site culture. Change management is key and absolutely necessary. Technical solutions by themselves are not enough. Old habits interfere with achieving the goal.

Emerson has seen a huge interest from Middle East companies pursuing some form of asset management. The days of pioneering are behind us. Doing things in a planned manner reduces costs and impacts the bottom line.

PM: How can asset management software help maximise productivity and reduce downtime?

Utilising asset management software combined with field predictive intelligence provides users with valuable time to make decisions. The cost to address an emergent problem without planning is 4-20 times higher than if it were planned into the future by 2-6 weeks. Our customers win when they execute their asset management work in a planned manner. Most of the industry globally achieves about 40 per cent planned maintenance. The world class target is 80 per cent or greater.

Something that Emerson has focused on during the past six years is the level of integration between the real time and transactional domains.

Emerson has comprehensive asset management software that provides visibility on both mechanical, instrument, and valve assets – the ones most key to process uptime.

PM: What is your outlook for the asset management business in the Middle East in the next few years?

Emerson’s acquisition of MRG means that we are committed to helping our customers achieve first quartile reliability performance. MRG has substantially improved our ability to have someone come in and do a full turn-key study all the way to the implementation of the technology, and then in the ongoing maintenance and facility of the plant.

THE VISUAL APPROACH TO ASSET PERFORMANCE MANAGEMENT

Meridium and AVEVA partner to deliver increased value from asset performance data, writes Paul Cooper vice president, Partnerships and Strategic Alliances

Asset Performance Management (APM) solutions provide asset operators with the required information to support risk-reducing and profitability-enhancing decisions, leading to better overall performance of production assets. AVEVA and Meridium have jointly developed visualAPM, an innovative asset performance management solution which delivers a new class of decision support software, enabling improved use of available information when developing maintenance and asset management strategies.

VisualAPM allows this data to be viewed in context using a navigable 3D model of the plant, offering an intuitive means of distinguishing critical from non-critical information. This visual representation of asset information means that engineers can now make improved decisions on how to manage

A visualAPM rendering showing the comparative health of two adjacent pumps
their production assets quickly and easily.

A complement to visualAPM, Meridium’s enterprise APM solution supports all aspects of asset performance management to enable asset owners and operators to achieve predictable production at the lowest cost. visualAPM augments this solution and makes use of the capabilities of AVEVA NET by visualising and contextualising information, and provides the asset performance or maintenance engineers with an improved navigation platform for key APM data. This allows users to better understand and interpret the health and risk status of an operating plant. Better understanding, of course, means better decisions: the team can take corrective action and perform maintenance to increase efficiency, safety and return on investment, reduce operating risks and more easily ensure regulatory compliance.

Visualising asset health

VisualAPM can enable a significant increase in the overall health of a facility. For example, with visualAPM an engineer can quickly compare the health of two adjacent pumps. Where a non-visual system would identify them separately (and their proximity and location would not immediately be apparent), engineers using visualAPM could not only see that the pumps were adjacent, they could also see immediately the relative health status from colour coding on the 3D model.

Reference to the relevant P&ID (available by extending visualAPM to include additional AVEVA NET functionality) reveals the roles of both of the pumps in plant operation, and a drilldown to the Meridium APM data shows the underlying problems: one has a leak, whereas the other shows excess vibration. An informed decision can now be made to apply best practices and schedule repairs to both.

Visualising mechanical integrity

VisualAPM can also display the key mechanical integrity criteria of a selected area of plant pipework using the configurable colour-coding system, which is based on Meridium-derived data for the pipe’s thickness, wall loss, corrosion and replacement date. These metrics are calculated using Meridium’s powerful predictive algorithms from data obtained during plant inspections. Using visualAPM, the asset performance engineer can identify the proximity of areas of concern on the 3D model (for example, understanding the mechanical integrity of a particular section of pipe by highlighting critical areas) and then make appropriate decisions for corrective action.

The engineer can now see the status of nearby equipment, so that all outstanding issues in the surrounding area can be addressed in a prioritised and well-managed manner. This approach can make possible a dramatic reduction in the cost of asset ownership, as more efficient use of maintenance resources reduces direct OPEX costs, while minimising the need for downtime reduces the payback period on capital-intensive assets.

Owner Operators (OOs) seeking to reduce operational risk and total cost of ownership can use visualAPM to make better informed asset maintenance decisions. The solution is an invaluable tool in helping innovative OOs with mature APM strategies to achieve the next level in asset performance management.

Engineers can see the visual context of key data from the Meridium system and, rather than treat each alert as a separate occurrence, can identify important interdependencies, and therefore immediately spot opportunities for preemptive intervention or prioritisation of work packages.