



# Metso: boost plant reliability and availability through planned activities

As every plant manager knows proper planning of maintenance and shutdowns can significantly improve plant profitability. The question, of course, is how best to organise these complex tasks when dealing with aging plants and their legacy. This is where Metso's team of experts can be of real service, helping plants to streamline maintenance, save money, and improve reliability and safety.

*By David Sear*

At one time, many process plants ran reactive maintenance programmes almost as a matter of course. Equipment would have been run until parts started to show obvious signs of wear and tear. Any such items would have been earmarked for maintenance or quite possibly even been allowed to run to failure. In today's climate, however, where both safety and profitability are paramount, such a strategy is unthinkable to many maintenance managers who are looking to predict and schedule maintenance to maximise plant uptimes.

The conundrum for the maintenance manager, of course, is in determining exactly how he or she can effectively maintain an installed base of field devices that can easily number in the thousands. The task can be even more complex when an aging plant is involved: not just because the devices themselves might be less modern, or sourced from various suppliers during intervening upgrades and expansions, but also because data may have been lost or become corrupted in the course of time.

This is an area where contacting the experts from Metso can be the right choice to take. Not just because Metso has been designing, manufacturing and maintaining field devices for several decades but also because it has developed an extensive service knowledge and portfolio. So if a maintenance manager calls Metso with a problem, it's highly likely that they will have already seen and resolved similar problems in comparable plants. As Mr. Timo Hänninen, the Vice President of Metso's Services business

indicates: "to help our customers achieve outstanding long-term process performance with high reliability and safety, we are continuously developing our service knowledge, capability and offering. Our flow control service networks are quite unique and enable good service levels for our customer globally."

### Installed base

When called upon to help a client streamline its maintenance activities, Metso Flow Control Services will normally recommend and execute an installed base analysis. As Mr. Hänninen succinctly puts it: "if you don't know which field devices you have, where they are located and the job they are doing, then how can you expect to improve equipment and plant reliability? And accurate device information is essential if you genuinely wish to streamline the ordering of spare parts for scheduled maintenance activities as well as to ensure fast recovery from an unexpected shutdown."

Asked why plants didn't keep more reliable records of their own devices, Mr. Hänninen explains how easy it is for process facilities to lose track of their installed devices. "The reasons are many and diverse. For example data update is a challenge in every company and over the years data gets corrupted. Therefore it's difficult to rely on data from asset and maintenance management systems."

Correctly identifying and understanding device details and lifecycle status, he continues, assists plants greatly when planning the needed maintenance activities and possible modernization or field device upgrade requirements. "The benefits are really twofold: plants significantly decrease the risk of excessive downtime due to unplanned device breakdowns and at the same time knowing that their inventories match to actual field device requirements and at the same time avoid tying up significant sums of money in unnecessary inventory."

Moreover, as part of the installed base analysis Metso can recommend relevant activities to further increase plant availability, maximize process performance and reduce risks. Their advice can range from simple maintenance activities on devices through to identifying obsolete products for



### *What's the life cycle status of your field devices?*

*Are you fully aware of your field device life cycles? How many items of equipment could be affected by limited parts availability? Are there any obsolete devices which can't be maintained anymore? Or is modernization a better alternative? If you are uncertain about any of these questions then Metso's life cycle services could be the right answer. They can help you plan for the inevitable, guaranteeing a better understanding of your equipment life cycles and providing short and long-term maintenance plans to ensure plant reliability and availability.*

replacement if the availability of spare parts could become an issue at a later date. Comments Mr. Hänninen: "our experts will assess the lifecycle status of the device and determine its criticality together with customer. This information is used to generate predefined action plans which indicates recommended steps and explains why they

are needed. This ensures downtimes are kept to a minimum."

Mr. Hänninen's words are echoed by Martin Karlsson, who as Head of Field Services knows all too well the benefits of performing a thorough device check. "Based on process and device criticality, and on the customer's availability and reliability needs, Metso

builds a comprehensive proposal with short and long-term development and maintenance roadmaps. This information helps to avoid surprises and ensures the availability of the correct materials and resources during and in between turnarounds.”

Mr. Karlsson continues: “after the installed base analysis, Metso provides customers recommendations for devices and spares kept in inventory. This usually lowers the inventory values but improves the critical spare parts coverage. A harmonisation plan for devices and spares is one of our key actions, it improves spare part management and enables faster reaction in urgent cases. Metso can also recommend device upgrades and modernisations which can lead to better productivity and profitability.”

### Shutdowns & turnarounds

Shutdowns are complex events requiring specialised planning and efficient

***“Metso can give plant managers a much better understanding of their installed base of field devices, with accurate and confirmed information about device types and their life cycle statuses. Potential issues and safety risks can also be flagged. All of these aspects are of great value in upgrade, replacement and maintenance planning.”***

execution. And, as many plant and maintenance managers can testify, an unexpected event can have a major effect on materials, schedules and resources.

This is where the enormous experience of Metso flow control service teams really does come into its own. And enormous really is the right term here, for Metso performed over 100 shutdowns and turnarounds in 2016 alone! So they have amassed a wealth of experience. Says Anne Hassinen, Manager, Shutdown Business Management: “with Metso on board you have the ideal partner for crucial shutdown planning to ensure the cor-

rect scope with the needed activities, materials and resources for effective execution and a smooth start-up. All maintenance activities are implemented following Metso safety and quality standards and are thoroughly documented. Key information can therefore be used in future maintenance to improve safety and reliability.” Metso’s wide-ranging field of competence includes refineries, petrochemicals, natural gas, biofuel plants, pulp mills, paper mills, etc. “Such industries and more have seen the benefits and therefore are increasingly choosing our strong service knowledge and unrivalled capabilities. Our scope of



### Control performance supervision enhances revamp/start-up

Metso’s digital performance solutions provide deep insights into the condition of valves, instruments, and controls. Acquiring smart positioner information, as well as Big Data from the control system and historian, performance solutions pinpoint the root cause of poorly-performing equipment, and suggest proper corrective actions. This allows clients to make the best use of their time, while returning the process to optimum operation in a fast and efficient manner.



### Digitalized efficiency

Digitalization is making strong inroads into valve maintenance. Metso is in a process digitalising all information it has. Metso is in process to implement field device management system to all its service centres to follow-up, manage and report all service related work. This will bring local Metso service to new levels and improve customer experience.

offering today includes tailored solutions related to shutdowns, in-depth shutdown knowledge and professional services," adds Mrs. Hassinen. In addition, Mrs. Hassinen points to the extensive support that is readily available via a global network of local service centres. "Today, Metso offers flow control services through more than forty service centres strategically located close to our largest customers. On-site services at customer plants are available, too. Both local and on-site presence ensures continuous production and high productivity. Service agreements and partnership with Metso mean that the necessary and specified materials as well as expert support are available with short delivery times." Summing up, Mrs. Hassinen stresses again that proper planning is key to any shutdown as delays might mean losses of millions of euros per day. Moreover, if the maintenance activities are not done correctly the safety of the plant is jeopardized. This is why she recommends that clients should

involve Metso in the project as early as possible as that is the best way to ensure that the correct materials and resources are available on site when needed.

Mrs. Hassinen concludes: "as an OEM, Metso has built up a wealth of knowledge about our products but also about our customers applications. This means we are ideally placed to

understand what can happen to field devices and how best that device should be maintained and refurbished, ready for many more years of trouble-free service. With us on board, maintenance managers can be reassured their devices are in tip-top condition, whilst plant owners will have the satisfaction of knowing their plant is running smoothly and profitably."

### Metso to speak on plant reliability at MAP Conference

At the upcoming MAP Conference in Düsseldorf Metso's Mr. Jarkko Rätty will be delivering a presentation on "Plant reliability improvements by valve performance measures"

As a Service Solutions Manager he knows that valves are key elements in control and that their reliability can be affected by issues such as wearing, stress and shocks. During his presentation he will therefore give update on ways to maximise device performance, such as outlining an easy approach to condition based maintenance, considering excessive valve movements and listing some common mechanical valve damage types.

In effect, he will be explaining how to recognize those valves which need to be added to the shutdown list and how plant reliability can be improved through valve performance measures.

For more information about the MAP Conference click the "Events" tab at [www.managingagingplants.com](http://www.managingagingplants.com).



### About Metso

Metso is a world leading industrial company serving the mining, aggregates, recycling, oil, gas, pulp, paper and process industries. Metso can help customers improve operational efficiency, reduce risks and increase profitability thanks to its our unique knowledge, experienced people and innovative solutions to build new, sustainable ways of growing together. Metso's products range from mining and aggregates processing equipment and systems to industrial valves and controls. Customers are supported by a broad scope of services and a global network of over 80 service centres and about 6,400 services professionals. Metso has an uncompromising attitude towards safety.

Metso is listed on the NASDAQ OMX Helsinki, Finland, and had net sales of about EUR 2.9 billion in 2015. Metso employs over 12,000 persons in more than 50 countries.