



By combining TPM (Total Productive Maintenance) with digital analysis, Tetra Pak helped a bottled water producer in China lower its cleaning-in-place (CIP) costs by 30% and halve implementation time



Customer

A large bottled water producer in China.

Challenge

The customer wanted to improve performance by introducing Total Productive Maintenance (TPM), without the added expense of manual data collection, analysis and visualisation.

Solution

Digital CIP Analysis saved on TPM implementation costs by automatically recording, consolidating and visualising detailed information. The producer was then able to optimise CIP (cleaning-in-place).

Results

By combining TPM and Digital CIP Analysis the customer was able to reduce CIP costs by 30%. The customer also halved the time normally required to implement TPM.

Customer challenge

Total Productive Maintenance (TPM) improves performance by identifying losses and waste, and then eliminating them. One of the methodologies it uses is cleaning-in-place (CIP) to optimise cleaning time. However, implementing TPM requires minute-by-minute data collection, and this can be time-consuming if done manually. Moreover, data has to be consolidated, so that the producer can take action and adjust parameters. A less labour-intensive way of introducing TPM was required.

Our solution

Digital CIP Analysis saves on the cost of TPM deployment by automatically recording, consolidating and visualising detailed information such as faults, alarms and process deviations. Moreover, information can be gathered second by second, and the digital tool then analyses the top five alarms that are stopping CIP. This improved data collection, analysis and visualisation is delivered without increasing the number of staff.

Results achieved

With improved information about CIP, the customer was able to reduce the number of alarms set off. This has decreased the time required for CIP, thereby increasing performance and reducing utilities consumption. As a result, CIP costs have fallen by 30%. Moreover, Digital CIP Analysis has reduced TPM implementation time by 50%. The customer now plans to deploy the solution in other parts of the world.

The key principles when implementing TPM are:

- Secure that the current situation in terms of performance, cost and risk is clearly defined
- High focus on the foundation, to enable deployment of methodologies in a sustainable way
- Use Daily Management System (DMS) to create people empowerment
- Involve the whole organisation, from left to right and top to shop floor
- On-site hand-in-hand coaching and audits by Tetra Pak



Customer case

A large bottled water producer in China.

Challenge: How to achieve the benefits of TPM without the added expense of manual data collection, analysis and visualisation.

Solution: Combining TPM with Digital CIP Analysis.

30%

Reduction in CIP
(cleaning-in-place) costs

50%

Reduction in time required
to implement TPM
(Total Productive Maintenance)



Production uptime
increased

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