

Effective implementation of TPM boosts production through a 70% increase in OEE combined with reduced labour costs and improved quality.



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The TPM programme has gone exceptionally well and has been a fantastic learning experience for our TPM manager and team.

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Group Engineering Manager

Challenge

The client was struggling to meet daily production targets as the overall efficiency of one of their lines was at an unacceptably low rate.

A significant amount of overtime and weekend shifts had been employed to keep up with demand and this was having an adverse effect on costs. When Coriolis were called in it was reported that the overall efficiency of the line was 65%, although when OEE was measured it was in fact found to be at just 37%.

Operators were frustrated with the condition of the machinery and reported that production often had to be moved between lines because of frequent breakdowns. The client asked for Coriolis' help to deliver a robust system to measure, record and improve performance.

It was clear that changes would have to be implemented at multiple levels in the company to ensure the change initiative was permanently embedded.

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The TPM programme has provided a stable, and necessary platform for expansion and growth.

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Group Operations
Director

Coriolis can help to improve your manufacturing and planning systems

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Transformation

A strategy was rapidly developed to introduce 3 pillars of Total Productive Maintenance (TPM) that would improve performance: Autonomous Maintenance, Professional Maintenance and Focussed Improvements.

Coriolis assembled 3 cross functional teams to run these pillars, each with a dedicated supervisor and senior manager as sponsor. Any improvement would have to meet the requirements of ISO 13485 Quality Management Systems, so QA were involved in the process from the beginning. The Autonomous Maintenance team tackled all running issues. This kicked off with a red tag day, which highlighted over 75 issues ranging from seized bearings to poor cleaning access. The maintenance department were supported in auctioning the tags and creating appropriate clean and check routines.

The Professional Maintenance team worked closely with Operations fitting in planned maintenance activities to suit production requirements. A Sunday night maintenance slot helped with good operational starts on Monday mornings; this was managed visually on the PM board. The Engineering Work Request (EWR) system was also synchronised with the tagging system to reduce manual administration. The Focussed Improvement team tackled changeovers and all Major Problems found during the OEE analysis. Changeover improvement followed the principles of SMED and kept validation in focus as per ISO 13485. The FI team also tackled specific high-hurt quality issues such as product creasing.

A 7 step creative problem solving approach gathered inputs from a whole range of levels within the business. The measurement system was improved to allow operators to see live OEE figures. Any losses/deviations could then be analysed and EWRs could be raised through the tagging system. Team representatives met daily around the line-side communications board to study the previous day's performance and agree improvement plans.

Impact

- **OEE increase of 73%**
- **£150k annualised savings in Labour**
- **Changeover time reduced by over 25%**

With the improved rate of quality output, production could be rescheduled accordingly, almost entirely eliminating overtime and weekend work. Product quality improved driving scrap rates down to world-class levels for the industry.

In addition, changeover times were reduced from 65 to 46 minutes and printer ribbon changes saw savings totalling over 30 minutes per week. Operators and maintenance teams were left with a better understanding of the equipment and the confidence to ensure that the improvements continued.

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