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Course ID: S18

TOTAL PRODUCTIVE MAINTENANCE (TPM)

Onsite course: 3-day onsite workshop with online support

1. Introduction to TPM

The objective of TPM is to maintain plant or equipment in good condition and at the same time optimise process output. This is achieved through collaboration between maintenance, production and engineering resources. The overall effect is a reduction in stoppages, an increase in process yield, and a reduction in cost i.e. no Breakdowns, no Small Stops or Slow Running, no Defects and no Accidents

Operations personnel are more in control of their working environment, as their knowledge of how to manage machines is deepened. Maintenance personnel are freed from routine tasks to engage in more creative and value adding work e.g. tool design.

The Lean Ireland TPM training course is an interactive onsite workshop designed to empower operations, maintenance, engineering and quality personnel in the workplace. It is tailored to meet clients' needs. Course content is adapted to suit the sector and equipment type used in the process value stream.

2. Learning Objectives

At the end of this 3-day workshop, participants will

- understand Lean principles and the significance of good workplace layout in the effective management of equipment and machines;
- Understand the definition of the 6 big losses in manufacturing and know how to quantify them;
- understand the basic principles of TPM and associated foundations such as workplace organisation, quick changeover and standard work;
- understand the definition of overall equipment effectiveness (OEE) and know how to calculate it;
- have an action plan for embedding TPM in the designated area, including objectives, responsibilities, goals and measurement methods;
- Understand how to establish and manage performance metrics for the area, and
- have the ability and confidence to further improve and refine the TPM programme in the area.

In advance of the course, the client will designate a TPM facilitator/leader for course participants. This person may also attend the training course. It is the responsibility of the TPM facilitator to select a piece of equipment or area, in which the training participants will carry out practical work, in parallel with the webinars. The Lean Ireland consultant is available to discuss the training course and selection of a project area, with the TPM facilitator in advance of the course commencing.

3. TPM programme outline

Day	Description	Objective
Day 1	<ul style="list-style-type: none"> • Introductions • Current production & shift cycles • Review tools/equipment on site • Review of current maintenance systems & strategy • Current performance measures and performance levels, alignment to business objectives <ul style="list-style-type: none"> • Introduction to lean thinking: 7 wastes, 5S, standard Work, error proofing, • Introduction to TPM principles <ul style="list-style-type: none"> Traditional maintenance practices & effects of poor maintenance History of TPM • Gemba walk • Process map 	Gain a clear and common understanding of current practice and performance of maintenance within the organisation such that workshops can be tailored to suit organisation's needs. Provide team with overview of lean thinking and good workplace organisation.
Day 2 Workshop	<ul style="list-style-type: none"> • Data collection on machine performance (safety, availability, utilisation, quality, yield, scrap, planned & unplanned maintenance, breakdown, set-up, clean down, changeover) • The 8 pillars of TPM – detailed review of current performance measures (KPIs) and performance levels • Review of current maintenance strategy & systems, tools & equipment on site 	Provide team a clear understanding of the core elements of a TPM. Enable the team to evaluate current practices using the 8 pillars of TPM as a guide.
Day 3 Workshop	<ul style="list-style-type: none"> • Introduction to OEE <ul style="list-style-type: none"> OEE data collection, representation & analysis 6 big losses • First pass yield • Rolled throughput yield • Develop an overall TPM program for the organisation • Maintenance Schedule • Metric Selection • Maintenance excellence & training methodology • Next steps and review interval with facilitator 	<p>Understand what part OEE plays in a lean/TPM program, and also gain a clear understanding of appropriate process performance measurements.</p> <p>Agree the details of the plan to implement TPM within the area.</p>
Day 4 Optional mentoring Day	<p>Some weeks after above 3 days</p> <ol style="list-style-type: none"> 1. Review of action plans with team and facilitator, revision, actions and next steps 2. Review of performance metrics with facilitator and management team, actions and next steps 3. Plan to roll out TPM throughout the organisation, and next review date with facilitator, if required. 	<p>Progress review, issues discussion and corrective action.</p> <p>Develop plan to roll out TPM throughout the organisation</p>

4. Who should attend?

The TPM programme is designed for a cross functional team of personnel, principally maintenance, operations and engineering, who operate the equipment and act as team leads in the area. One attendee should be given overall responsibility for the on-going facilitation of TPM implementation in the area. This person should be identified and appointed in advance of the programme commencing.

5. Tailor your course

The TPM course is customised to meet client needs. In advance of and during the webinars, data from the client's selected area or machine, will be collected and reviewed. If the client would also like to incorporate assignments, or additional features (e.g. data analysis in Minitab, SPC charting) that can also be arranged.

6. Where can I find out more?

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