

## **TOTAL PRODUCTIVE MAINTENANCE**

### **3-day workshop**

#### **1. Introduction to TPM**

The objective of TPM is to maintain plant or equipment in good condition without interfering with the daily process. This is achieved through collaboration between maintenance, production and engineering resources. The Lean Ireland TPM training programme is specifically tailored to clients' needs. The approach is to:

- establish an understanding of current maintenance program in the selected area;
- introduce the team to the basic concepts of lean thinking;
- introduce relevant lean tools that can be applied within a maintenance environment, including how tools such as 5S, standard work, SMED and error proofing can be applied to the programme;
- outline the core concepts of OEE and the 6 big losses as they are categorised, and
- develop a programme for the area that will embed TPM practices and enable the team to monitor progress on an on-going basis.

In addition to the 3-day workshop, if required, the Lean Ireland consultant will assist in developing a TPM programme which will meet the needs of the site.

#### **2. Learning Objective**

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

- understand lean principles and the importance of 5S and standard work in maintenance activities;
- understand the basic principles of TPM and associated tools such as quick changeover and overall equipment effectiveness (OEE);
- have a plan for further embedding TPM in the designated area, including objectives, responsibilities, goals and measurement methods, and
- have the ability and confidence to further improve and refine the TPM programme in the area.

It is important that the organisation designates a TPM facilitator/leader for the area in advance of the programme, and that this person is available to attend all of the training and consulting events.

#### **3. TPM programme outline**

<b>Day</b>	<b>Description</b>	<b>Objective</b>
Day 1	<ul style="list-style-type: none"> <li>• Introductions</li> <li>• Current production &amp; shift cycles</li> <li>• Review tools/equipment on site</li> <li>• Review of current maintenance systems &amp; strategy</li> <li>• Current performance measures and performance levels, alignment to business objectives</li> <li>• Introduction to lean thinking 5S, standard Work, error proofing,</li> <li>• Introduction to TPM principles Traditional maintenance practices &amp; effects of poor maintenance History of TPM</li> <li>• Gemba walk</li> <li>• Process map</li> </ul>	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

<b>Day</b>	<b>Description</b>	<b>Objectives</b>
Day 2 Workshop	<ul style="list-style-type: none"> <li>• Data collection on machine performance (safety, availability, utilisation, quality, yield, scrap, planned &amp; unplanned maintenance, breakdown, set-up, clean down, changeover)</li> <li>• The phases of TPM</li> <li>• Preparation for quick changeover exercise</li> <li>• Quick changeover (SMED) exercise on machine in area. Internal &amp; external activities, spaghetti mapping, standard work, goals, measurements and action list.</li> </ul>	<p>Provide team with overview of lean thinking and a clear understanding of the core elements of a TPM &amp; SMED programme</p> <p>Enable team to use quick changeover methods in area. Establish SMED targets for machines</p>
Day 3 Workshop	<ul style="list-style-type: none"> <li>• Introduction to OEE OEE data collection, representation &amp; analysis 6 big losses</li> <li>• First pass yield</li> <li>• Rolled throughput yield</li> <li>• Develop an overall TPM program for the organisation</li> <li>• Maintenance Schedule</li> <li>• Metric Selection</li> <li>• Maintenance excellence &amp; training methodology</li> <li>• Next steps and review interval with facilitator</li> </ul>	<p>Understand what part OEE plays in a lean program, and also gain a clear understanding of how standard lean tools are deployed as part of a defined TPM program</p> <p>Agree the details of the plan to implement TPM within the area.</p>
Day 5 Optional consulting Day	<p>Some weeks after above 3 days</p> <ol style="list-style-type: none"> <li>1. Review of action plans with team and facilitator, revision, actions and next steps</li> <li>2. Review of performance metrics with facilitator and management team, actions and next steps</li> <li>3. Plan to roll out TPM throughout the organisation, and next review date with facilitator, if required.</li> </ol>	<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. Contact**

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