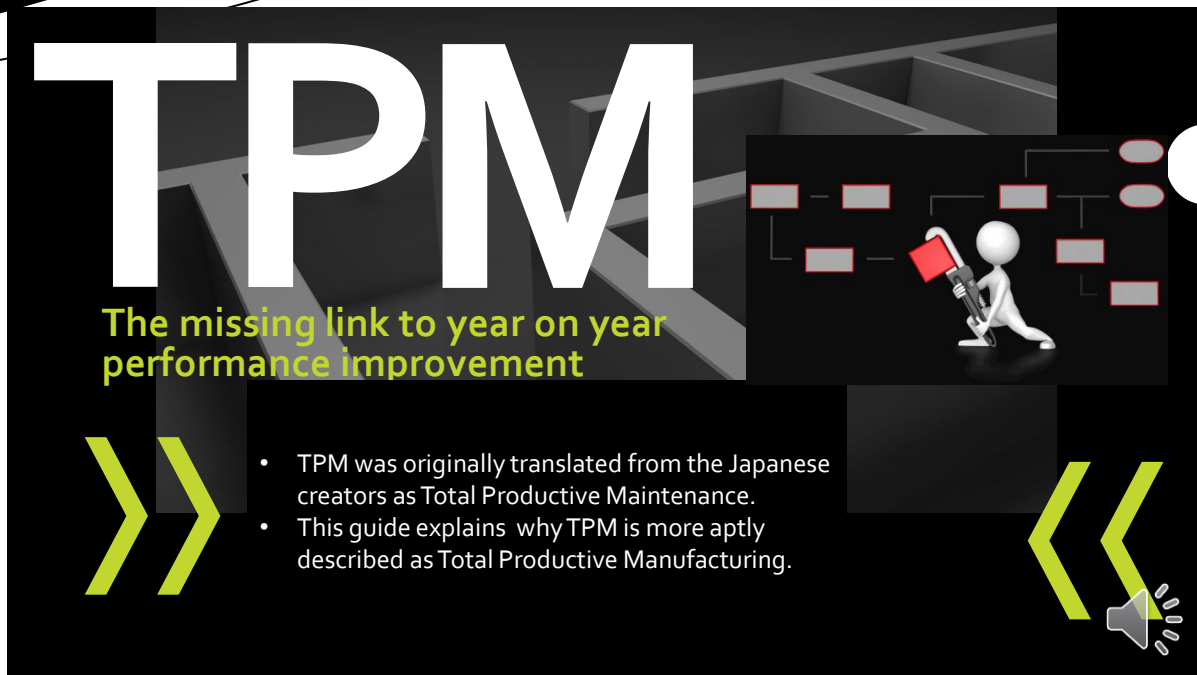


**TPM THE MISSING  
LINK TO YEAR ON YEAR  
PERFORMANCE  
IMPROVEMENT**

A video thumbnail for 'TPM The Missing Link to Year on Year Performance Improvement'. The title 'TPM' is in large white letters. Below it, the subtitle 'The missing link to year on year performance improvement' is in yellow. The background shows a 3D white figure holding a red key, standing next to a complex flowchart with red and grey boxes. Green double arrow symbols are on the left and right sides, and a speaker icon is in the bottom right corner.

**TPM**

The missing link to year on year performance improvement

- TPM was originally translated from the Japanese creators as Total Productive Maintenance.
- This guide explains why TPM is more aptly described as Total Productive Manufacturing.

A plain English guide, setting out why TPM delivers so much more than operator maintenance. The TPM road map is characterised by practical workplace activities leading to increased operational reliability and year on year gains in performance.

The practical nature of TPM increases shop floor problem ownership, develops skills and facilitates cross functional collaboration. That is why TPM is much more than a technique to reduce breakdowns. It is a blueprint for organisational development and cultural change.

TPM was originally translated from the Japanese creators as **Total Productive Maintenance**. This guide also illustrates why TPM is more aptly translated as **Total Productive Manufacturing**.

Based on an analysis of over 500 years of running time only around 15% of equipment failures are caused by design weaknesses alone.



That means that more than the causes of more than 85% of breakdowns can be easily prevented.

With the right level of vigilance to identify and improve weak components these causes can also be designed out.

That is how the TPM milestone of zero breakdowns can become a realistic and achievable goal.

To reduce breakdown risk and therefore prevent most unplanned stoppages due to component failure...

1. Ensure that equipment condition standards are set and sustained so that components can function as required. E.g. Correct bearing lubrication, replacement of worn parts before they fail.
2. Adopt working methods for routine tasks that are easy to do right, difficult to do wrong and simple to learn. e.g. standard routines that minimise accelerated wear and human error risk.



TPM locks in reliability gains from improved condition and working methods by engaging front line teams in systematically reducing the causes of Equipment Effectiveness losses.

Equipment Effectiveness is a compound measure of how well equipment starts when needed, how well it runs when producing and the level of right first time output.

Used correctly OEE is a powerful indicator of improvement potential and improvement trend.

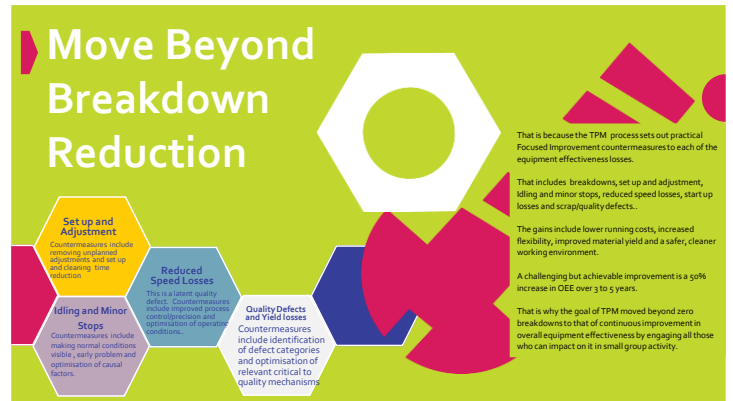
Linked to OEE are a set of TPM Focused Improvement tools designed to systematically reduce each type of equipment effectiveness loss. (Uptime, Performance when running or Quality Defects).

Together OEE and Focused improvement tools provide a practical leadership agenda to engage shop floor teams with performance improvement and problem ownership. An investment in time that typically delivers 6 to 8 times the cost in annual gains with a payback in months if not weeks.

The gains include lower running costs, increased flexibility, improved material yield and a safer, cleaner working environment.

Successful TPM programmes can achieve a 25% to 50% increase in OEE over 3 to 5 years. Typically, with 10% to 15% gains in the first 18 months.

That is why the TPM road map includes steps to move beyond zero breakdowns and has a goal of “continuous improvement in overall equipment effectiveness by engaging all those who can impact on it in small group activity.”



## 4. Develop Skills

- Operations Team**  
Reduce the causes of accelerated wear during start up, steady state operation and close down/clean out
- Maintenance Team**  
Improve quality maintenance to stabilise asset performance and improve process precision.



The TPM process delivers year on year improvement in effectiveness through practical team based activities that engage shop floor production and engineering teams in a shared improvement agenda.

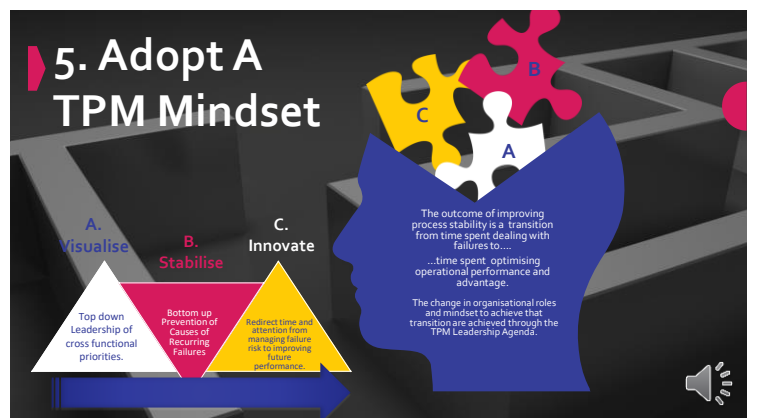
In addition to operational gains the outcome is increased knowledge, skills and flexibility. Operations learn how to reduce the causes of accelerated wear during start up, steady state operation and close down/clean out. Maintenance learn how to stabilise asset performance and extend process capability.

That includes how to benefit from using low cost automation, A.I. and Industry 4.0.

The outcome of improving process stability is the transition from time spent dealing with failures to time spent on optimising operational performance and delivering new value and advantage.

The techniques to deliver those gains are set out in the TPM Master plan. A route map that sets out a sequence of actions and the tools and techniques to release time to manage. Most important of all it sets out the Leadership agenda to deliver a change in mindset across the organisation.

A TPM mindset to underpin the TPM goal of “Continuous improvement in Effectiveness by engaging all those who impact on it in small group activity.”



TPM principles and techniques can enhance existing CI processes such as Lean and Six Sigma to accelerate year on year gains by actions to

## Overview

TPM principles and techniques can be applied alongside existing CI processes such as Lean and Six Sigma to accelerate year on year gains by actions to:

- 1. Understand the Causes of Lost Effectiveness**  
Understand the nuts and bolts of hidden losses and learn how to systematically reduce them
- 2. Reduce Breakdown Risk**  
Start by reducing breakdown risk by establishing basic equipment conditions and improving working methods so that they are easy to do right, difficult to do wrong and simple to learn
- 3. Move Beyond Breakdown Prevention**  
Use the time saved to invest in front line team focused improvement activities. This will typically return 8 to 9 times the cost and free up more time for more value adding activity
- 4. Develop Skills and Flexibility**  
The TPM journey is characterised by the continuous development of capabilities at all levels of the organisation
- 5. Adopt a TPM Mindset**  
Evolve a TPM mindset at all levels of the organisation to simplify working routines and release specialist and management time for higher value added activities.

- 1. Understand the Causes of Lost Effectiveness**
- 2. Reduce Breakdown Risk**
- 3. Move Beyond Breakdown Prevention**
- 4. Develop Skills and Flexibility**
- 5. Adopt a TPM Mindset**

Organisations that move past the challenging but achievable Zero Breakdowns milestone do so by engaging all those who plan, use and look after production processes with the journey from zero breakdowns to zero defects.

An approach best described as Total Productive Manufacturing.

# TPM

**Total Productive Manufacturing**

Organisations that move past the challenging but achievable Zero Breakdowns milestone do so by engaging all those who plan, use and look after production processes with the journey from zero breakdowns to zero defects.

For more information Check out the website or call +44 (0)1491 845504 [www.dakacademy.com](http://www.dakacademy.com)

DAK Academy short courses include a 3 day "Implementing TPM best practice" workshop designed to help organisations to apply TPM tools to improve asset reliability, raise operational effectiveness and establish a TPM mindset as part of the management routine.

We also provide training and coaching to back up in house **workplace learning programmes.**

If you would like more information, please check out the web site or call us for a no obligation discussion about your specific needs.