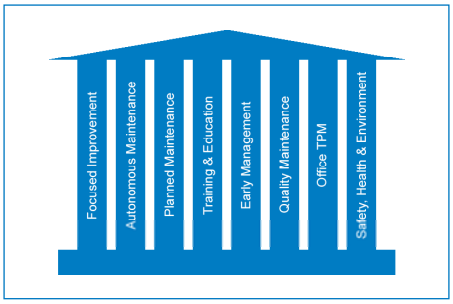
Total Productive Maintenance Services 2014

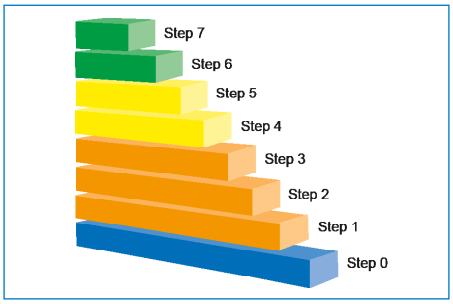
Industry Forum
Business Excellence Through Inspired People

Introduction

Industry Forum is recognised as one of the world's leading providers of Total Productive Maintenance (TPM) programmes. TPM is a comprehensive approach to eliminate all forms of loss both in the organisation and the value stream. This has been proven to dramatically improve business performance. TPM involves the capability of the whole workforce to ensure effective and sustainable improvements are implemented. Improvements to the organisation are made by enhancing the two core elements of people and equipment.



The Industry Forum approach to TPM is based on the 8 Pillars and 12 Step Deployment Model, which is closely aligned to the Japan Institute of Plant Maintenance (JIPM) awards. A deployment diagnostic is initially carried out to determine individual customer requirements. A master plan is then developed with the senior management team to ensure the programme is tailored to the organisational goals, culture and current performance levels.



The Industry Forum style is a 'Learn By Doing' approach to people development. We coach teams to develop their own solutions with guidance where appropriate. This develops the understanding and ownership of the improvement solutions. The Industry Forum approach to TPM allows a company to transform its strategic intent into delivery of results on the shop floor, in a way that other business improvement tools have struggled to achieve.

The Industry Forum team of expert practitioners have helped numerous companies grow their own capabilities in TPM and deliver sustainable, measurable results. Typical improvements of an Industry Forum TPM activity are:

- Productivity - OEE increase of 150-200%
- Quality - internal defect reduction of 90%
- Cost - manufacturing cost reduction of 30%
- Delivery - inventory reduction of 50%
- Safety - achievement of zero accidents
- Morale - tenfold increase in suggestions
- Environmental - reduction in use of resources

We offer a comprehensive range of TPM modules based on the 8 pillars which can be delivered as a complete TPM transformation programme, or in modular format to support existing TPM programmes.

Further information on our TPM services can be found at: **www.industryforum.co.uk** or by emailing **enquiries@industryforum.co.uk**

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Industry Forum is a Certified JIPM Associate Agency

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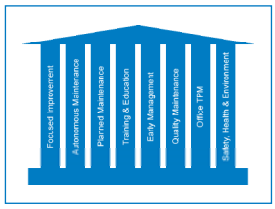
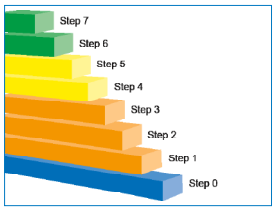
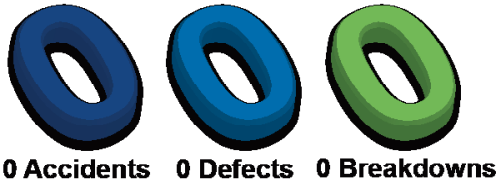


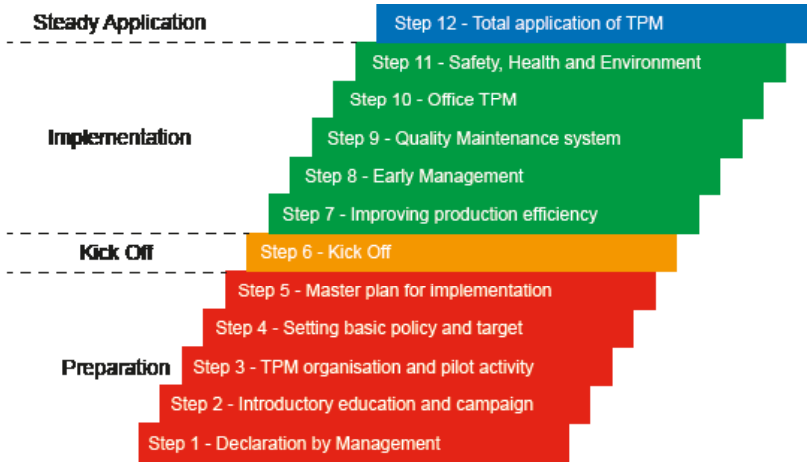
TPM Practical Solutions

As a globally recognised provider of Total Productive Maintenance (TPM) support, Industry Forum has developed a structured, practical programme specifically to meet the needs of any organisation. Based on the Japan Institute of Plant Maintenance (JIPM) standard 12 step approach, the programme can be refined specifically to meet the individual requirements of any facility.



Our Approach

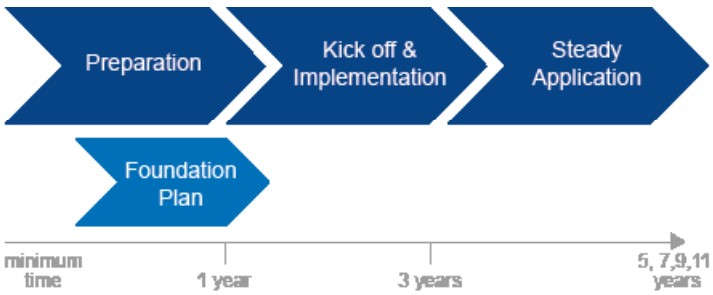
Industry Forum's highly skilled personnel work alongside an organisation's internal teams to transfer understanding and apply tools and techniques in a 'Learn By Doing' manner. This creates a critical mass of knowledge and capability which is able to sustain and continue the development of TPM.



A typical programme consists of four phases:-

1) Preparation
2) Kick Off
3) Implementation
4) Steady Application

The scope and scale of each phase would be defined during an initial assessment using the Industry Forum Management Diagnostic Process (See Industry Forum Management Diagnostic Section) leading to a detailed roadmap for deployment of the 12 TPM steps.



Introduction to Total Productive Maintenance (TPM)

This course gives an introduction to the concepts and methods that lie behind TPM. Using the tried and tested JIPM approach, delegates will learn that TPM is much more than a maintenance technique and how it can become an organisation-wide improvement programme.

The course combines presentations, worked examples and practical application. Using a normal everyday example, a bicycle, some basic TPM concepts and techniques are explained and applied using the Industry Forum 'Learning By Doing' approach.

Overview

The course is suitable for people who will be involved in the development, application and support of TPM within their organisation. It is aimed at all levels from junior staff to senior management.

Course topics covered include:

- Introduction to TPM
- 12 steps of deployment
- Overlapping small groups
- The 8 Pillars of TPM
- Basic concepts of TPM
- 16 Losses and OEE
- Deterioration and reliability
- Achieving Zero Losses - Accidents, Defects and Breakdowns

Duration

1 day

Advanced

The course is suitable for delegates wanting to gain a detailed understanding of the concepts, structure and approach to TPM. It is aimed at those directly involved in the application of TPM. Ideally the company will have decided it intends to adopt TPM and candidates will understand the roles and responsibilities at all levels in the organisation.

Course topics covered include:

- The concepts of TPM
- 12 steps of deployment
- Overlapping small groups
- The 8 Pillars of TPM:
  - Focussed Improvement
  - Autonomous Maintenance
  - Planned Maintenance
  - Training and Education
  - Early Management
  - Quality Maintenance
  - Office TPM
  - Safety, Health and Environment

Duration

4 days (on site or IF Learning Centre)

Industry Forum can develop a range of practical training solutions to support the implementation of the Training and Education pillar as part of the implementation of TPM

TPM Management Diagnostic

Establishing a clear master plan linked to business objectives is a critical factor in a successful TPM programme. This requires a clear understanding of the principles of TPM, the current situation in the facility and business objectives.

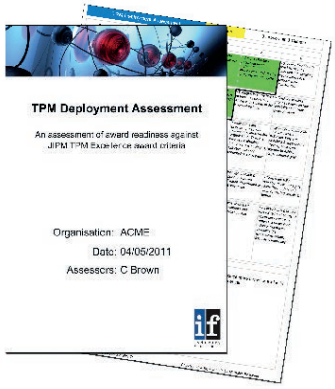
Overview

The Industry Forum TPM Management Diagnostic is a structured five day programme focussing on the following key deliverables:-

- Establishing the current situation using the Industry Forum TPM Deployment Assessment
- Providing management with an awareness and understanding of TPM principles
- Developing a detailed master plan for TPM deployment

The programme covers the following key topics:-

- TPM Principles
- Forced Deterioration
- Loss Analysis
- Daily Management
- Focussed Improvement
- Autonomous Maintenance
- Planned Maintenance
- Training & Education
- Early Management
- Quality Maintenance
- Office & Administration
- Safety, Health & Environment
- TPM Effects and Results



The programme is facilitated in a practical manner and is suitable for organisations considering embarking on a TPM programme or those who already have a programme in progress.

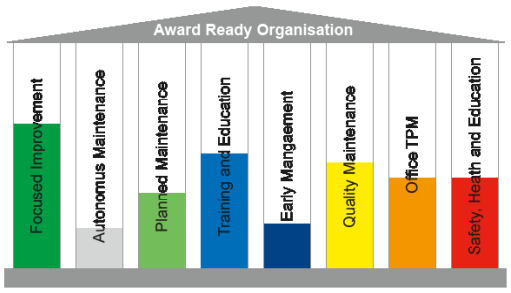
Duration

5 days

Industry Forum can develop a range of practical training solutions to support the implementation of the Training and Education pillar as part of the implementation of TPM

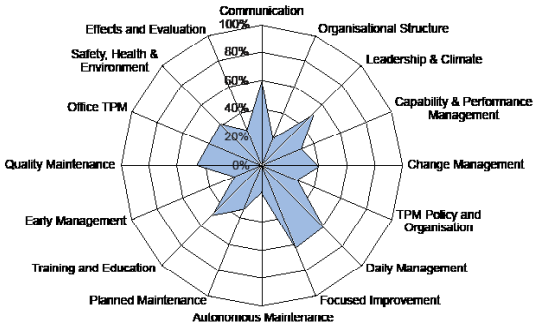
TPM Health Check

It is essential to continually benchmark progress when deploying any business improvement strategy. As a globally recognised provider of TPM Services, Industry Forum can help organisations understand their current level of TPM deployment and progress against Industry Standard JIPM criteria.



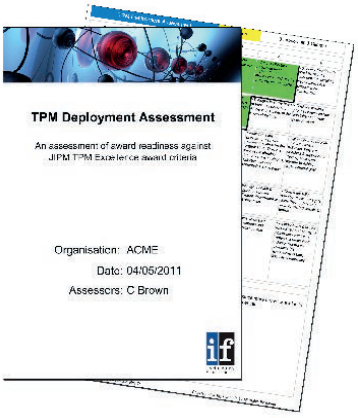
Overview

The Industry Forum TPM Health Check allows an organisation to clearly understand the current situation within their business, the progress made to date and the gaps which may need to be closed. Utilising a structured assessment process based upon JIPM criteria the Health Check covers the following topics:-



- Communication
- Organisation Structure
- Leadership
- Capability & Performance Management
- Change Management
- TPM Policy
- Daily Management
- Focussed Improvement
- Autonomous Maintenance
- Planned Maintenance
- Training & Education
- Early Management
- Quality Maintenance
- Office & Administration
- Safety, Health & Environment
- TPM Effects and Results

The Health Check will provide a detailed feedback to the management team and guidance on how to progress.



Duration

3 days

Industry Forum can develop a range of practical training solutions to support the implementation of the Training and Education pillar as part of the implementation of TPM

Focussed Improvement

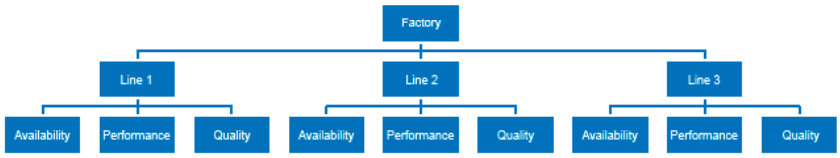
Focussed Improvement is one of the key pillars of TPM. It aims to improve efficiency through improvement of technical capabilities. This will help to eliminate losses in manpower, machine, material, method and energy.

Focussed Improvement is an ongoing series of practical, team-based activities to eliminate losses through a data-driven structured approach.This is driven through a detailed understanding of losses linked to the objectives of the business.

Focussed Improvement - Overview

To equip personnel with the knowledge, understanding and awareness of Focussed Improvement and how it can be used to benefit the business as part of a Total Productive Maintenance programme.

Construct a Loss Tree



The programme will include:-

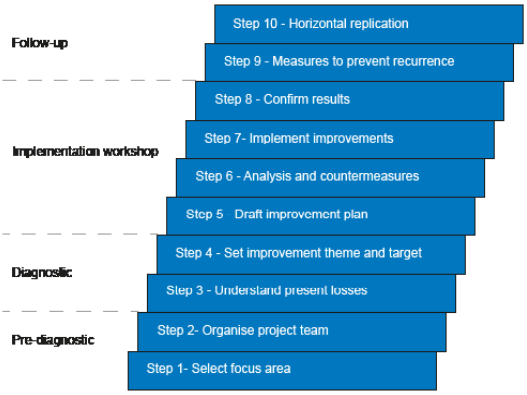
- Introduction to basic TPM principles
- The relationship with other pillars
- Overall Equipment Effectiveness (OEE)
- Losses & Loss Analysis
- Focused Improvement Approach

Duration

1 day

Focussed Improvement - Advanced

To equip personnel with the knowledge, understanding and ability to apply a structured Focussed Improvement approach through the identification, analysis and reduction of a specific loss within the business. The programme will utilise the capabilities of a cross functional team combining new skills in a practical 'Learn By Doing' manner. The programme follows the Industry Forum 10 Step approach and consists of the following key phases:-



Duration

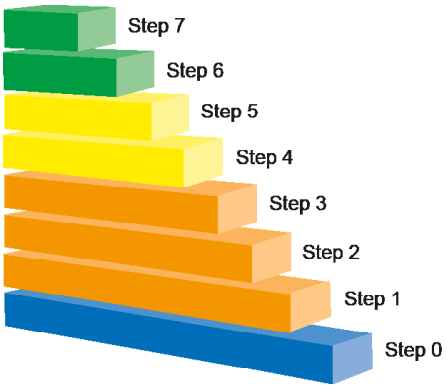
15 Days

Industry Forum can develop a range of practical training solutions to support the implementation of the Training and Education pillar as part of the implementation of TPM

Autonomous Maintenance

Autonomous Maintenance is a fundamental pillar of TPM. Autonomous Maintenance aims to achieve optimal conditions by focussing on raising the skill of personnel to understand, own, manage and improve their equipment and processes using a structured technique.

The establishment and maintenance of optimal conditions is critical to the elimination of forced deterioration and subsequent losses.



Autonomous Maintenance - Overview

To equip personnel with the knowledge, understanding and awareness of Autonomous Maintenance and how it can be used to benefit the business as part of a TPM programme.

The programme will include:-

- Introduction to TPM - Basic Principles
- Losses
- Forced Deterioration
- Autonomous Maintenance Introduction
- Autonomous Maintenance 7 Steps
- Autonomous Maintenance Tagging
- One Point Lessons

Duration

1 day

Autonomous Maintenance - Advanced

To equip personnel with the knowledge and practical understanding of Autonomous Maintenance and how to apply these steps of Autonomous Maintenance as part of a TPM programme in a modular approach. Utilising practical shop-floor training, the programme is facilitated in a 'Learn By Doing' manner.

The programme will include:-

Module 1 - Autonomous Maintenance Steps 1-3

- Introduction to TPM - Detailed Understanding
- Losses & Loss Elimination
- Forced Deterioration / Natural Deterioration
- Autonomous Maintenance Introduction
- Practical Activity (Application of Steps 1-3)
- Autonomous Maintenance Step Audits

Module 2 - Autonomous Maintenance Steps 4-7

- Practical Activity (Application of Steps 4-7)
- Autonomous Maintenance Step Audits

Duration

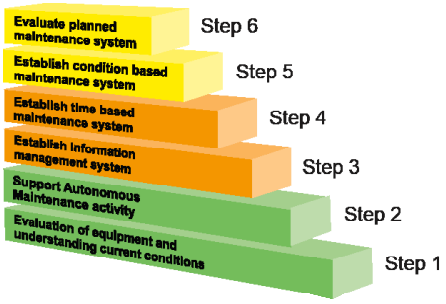
Module 1 - 3 Days On Site

Module 2 - 2 Days On Site

Industry Forum can develop a range of practical training solutions to support the implementation of the Training and Education pillar as part of the implementation of TPM

Planned Maintenance

Planned Maintenance is a fundamental part of TPM. By focussing on raising the skill of the maintenance personnel, and their understanding of the equipment, it aims to achieve zero breakdowns of critical equipment at minimum cost both in terms of time and parts.

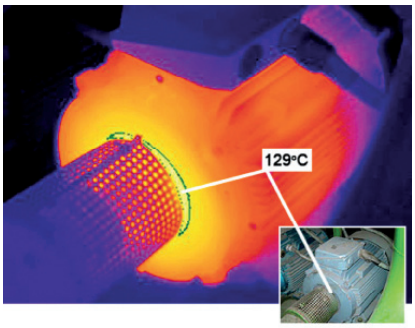


Planned Maintenance - Overview

To equip personnel with the knowledge, understanding and awareness of Planned Maintenance and how it can be used to benefit the business as part of a TPM programme.

The programme will include:-

- The relationship with other pillars
- Criticality ranking of processes, machines and equipment
- Losses
- Planned Maintenance Measures
- Forced Deterioration
- Planned Maintenance Introduction
- One Point Lessons



Duration

1 day

Planned Maintenance - Advanced

To equip personnel with the knowledge and practical understanding of Planned Maintenance and how to apply these steps as part of a TPM programme in a modular approach. Utilising practical training, the programme is facilitated in a 'Learn By Doing' manner.

The programme will include:-

- Planned Maintenance Steps 1 to 3
- Introduction to TPM – Detailed Understanding
- Losses & Loss Elimination
- Forced Deterioration / Natural Deterioration
- Critical equipment selection
- Creation of measures for Planned Maintenance progress measurement
- Lubrication rationalisation objectives

Duration

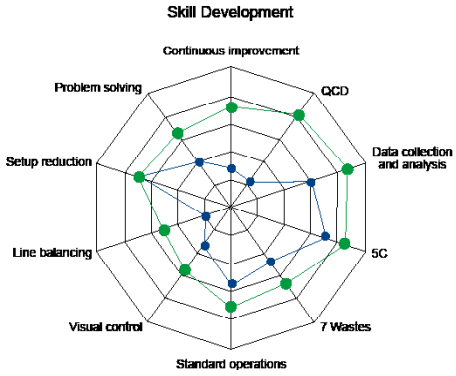
3 Days On Site

Industry Forum can develop a range of practical training solutions to support the implementation of the Training and Education pillar as part of the implementation of TPM

Training and Education

Training and Education is a fundamental part of TPM. It should ensure the training of internal teams in skills identified as essential for their development and the successful implementation of TPM in line with the company goals and objectives.

Increased skills and performance of all personnel throughout the organisation is essential to successful TPM implementation.



Training and Education - Overview

To equip personnel with the knowledge, understanding and awareness of Training and Education and how it can be used to benefit the business as part of a TPM programme.

The programme will include:-

- Introduction to basic TPM principles
- The relationship with other pillars
- Skill Definition
- Skill Identification
- Skill Training Methods
- Skill Measurement
- Training Methods
- Training Equipment

Duration

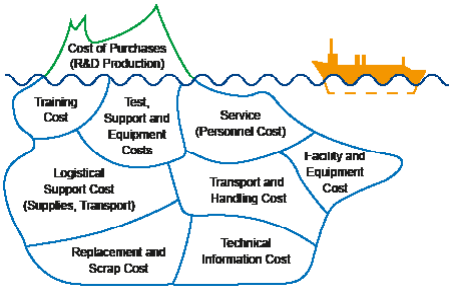
1 day

Industry Forum can develop a range of practical training solutions to support the implementation of the Training and Education pillar as part of the implementation of TPM

Early Management

Early Management is usually a later pillar of TPM deployment in that it relies upon capturing the learning from other pillar teams and incorporating it into the next generation of product and equipment design.

Early Management is essential to achieve vertical start up of new products or processes and reduce inherent losses throughout their subsequent life.



Early Management - Overview

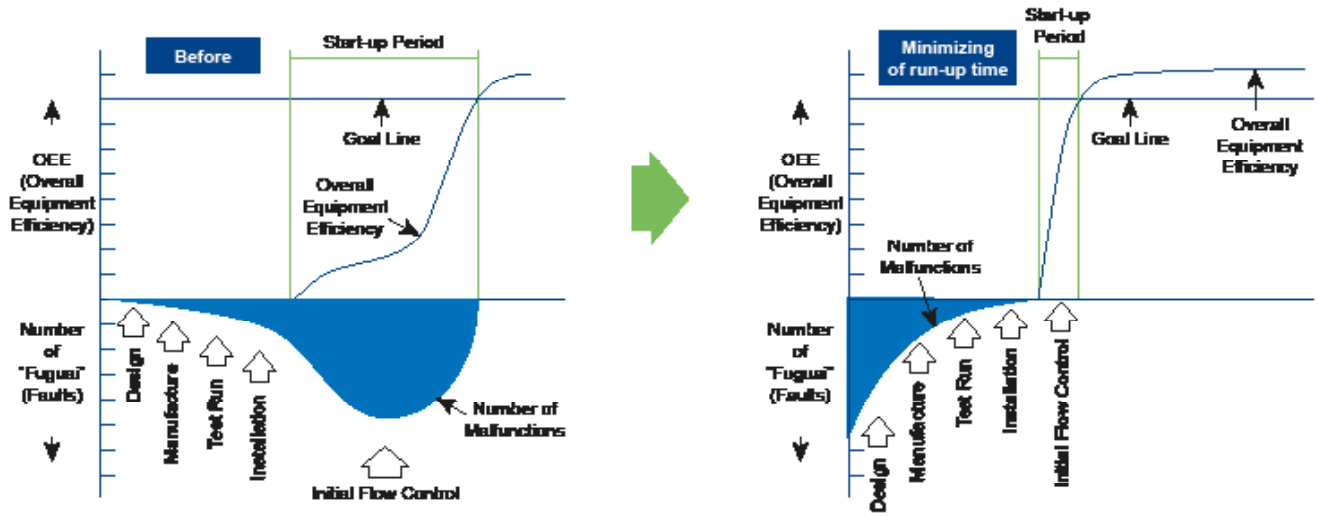
To equip personnel with the knowledge, understanding and awareness of Early Management and how it can be used to benefit the business as part of a TPM programme..

The programme will include:-

- Introduction to basic TPM principles
- The relationship with other pillars
  - Early Product Management / Early Equipment Management Principles
  - Approach to Early Management (4 Steps)
  - Assessment of current system (to JIPM Criteria)
  - Practical workshop activity

Duration

1 day

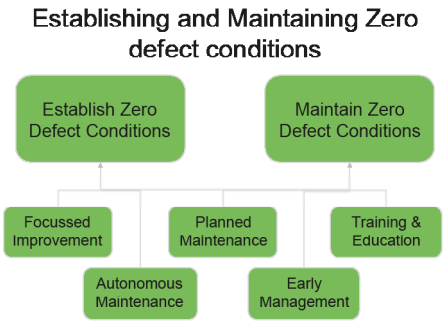


Industry Forum can develop a range of practical training solutions to support the implementation of the Training and Education pillar as part of the implementation of TPM

Quality Maintenance

The aim of Quality Maintenance is to establish conditions for zero failures to prevent defects and establishment of systems for maintenance and management.

Zero loss in terms of quality is a fundamental principle of TPM.



Quality Maintenance - Overview

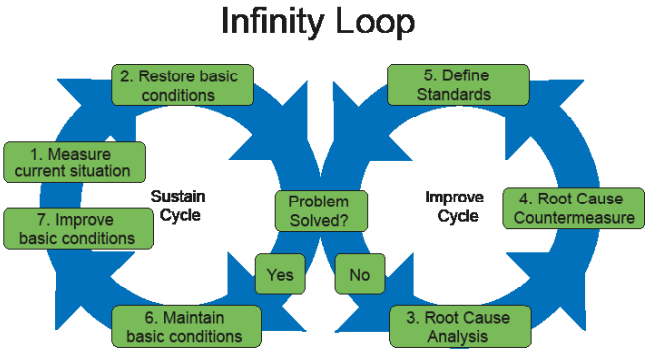
To equip personnel with the knowledge, understanding and awareness of Quality Maintenance and how it can be used to benefit the business as part of a TPM programme.

The programme will include:-

- Introduction to basic TPM principles
- The relationship with other pillars
- The aims of the Quality Maintenance pillar
- Loss Analysis
- Understanding and mapping the work
- Quality Assurance Matrices
- Planned Maintenance Analysis
- Measuring the progress/results

Duration

1 day



Industry Forum can develop a range of practical training solutions to support the implementation of the Training and Education pillar as part of the implementation of TPM

Office TPM

The aim of Office TPM is to establish an efficient office where work loss is eliminated.

Office TPM is usually a later pillar of TPM because deployment on the shop floor usually involves more people and the results are often more easily visible.

Office TPM - Overview

To equip personnel with the knowledge, understanding and awareness of Office TPM and how it can be used to benefit the business as part of a TPM programme.

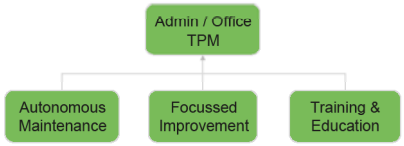
The programme will include:-

- Introduction to basic TPM principles
- The relationship with other pillars
- The aims of the Office TPM pillar
- Loss Analysis
- Understanding and mapping the work
- Tools to improve
- Measuring the progress/results

Duration

1 day

Office TPM – TPM for the Office!



Industry Forum can develop a range of practical training solutions to support the implementation of the Training and Education pillar as part of the implementation of TPM

Safety, Health and Environment

The aim of Safety, Heath & Environment is to create plants where the safety and security of everyone is actively pursued and the impact to the environment from the company's activities is minimised.

Zero loss in terms of accidents is a fundamental principle of TPM.

Safety Heath and Environment - Overview

To equip personnel with the knowledge, understanding and awareness of Safety, Heath and Environment and how it can be used to benefit the business as part of a TPM programme.

The programme will include:-

- Introduction to basic TPM principles
- The relationship with other pillars
- The aims of the Safety, Health and Environment pillar
- Loss Analysis
- Lowering the tolerance to "unsafe"
- Measuring the progress/results

Duration

1 day

Industry Forum can develop a range of practical training solutions to support the implementation of the Training and Education pillar as part of the implementation of TPM

TPM Glossary

4 M Condition

Ensuring product is manufactured under optimum conditions for the machine, material, method and man.

Condition Based Maintenance

A Condition Based Maintenance approach looks to understand the current condition of components and how close to failure those components are to determine when physical maintenance should take place. Non-invasive techniques such as thermography, vibration analysis or lubricant analysis are used to measure parameters that directly indicate the level of wear..

Maintenance Prevention (MP)

This term means designing and building equipment that is excellent in reliability, maintainability and economy from the outset.

Makigami Analysis

Makigami Analysis is a method of concentrating on business processes and seeks to improve process efficiency by eliminating waste in the flow.

Mean Time Between Failures (MTBF)

MTBF is calculated by dividing the total number of operation hours by the total number of failures.

Mean Time To Repair (MTTR)

MTTR is defined as the average repair time.

OEE (Overall Equipment Effectiveness)

OEE is a performance metric compiled from three data sources of the machine (or process) being measured. The three data sources are Availability, Performance and Quality.

Availability - Compares the actual time a piece of equipment is actually available to produce parts in comparison to the planned available time..

Performance - Compares the actual amount of product processed relative to the maximum amount that could be processed within the available production time..

Quality - The proportion of the product from a process that is right first time with no scrap, rework or concession to accept outside process tolerances.

PM Analysis

PM Analysis is an advanced problem solving tool that focuses on understanding the Phenomenon (P) and the Mechanism (M) of a defect or failure.

Time Based Maintenance

A Time Based Maintenance approach triggers the maintenance of components at a set frequency defined by component history and is managed using a maintenance calendar. The calendar is updated as improvements are made and maintenance data increases.

TPM

Total Productive Maintenance.

Useful Contacts

Industry Forum

www.industryforum.co.uk

Industry Forum
Business Excellence Through Inspired People

JIPM

www.jipm.or.jp/en/index.html

The Japan Institute of Plant Maintenance (JIPM) are the founders of the Total Productive Maintenance system and are solely responsible for accreditation and certification of external TPM agencies throughout the world. Each year JIPM, through themselves and their certified agencies, recognise the achievement of companies who have successfully implemented varying levels of TPM at their premises through the rigorous TPM Award process.

SMMT Industry Forum Ltd
2680 Kings Court, The Crescent
Birmingham Business Park
Birmingham B37 7YE

T +44 (0)121 717 6600
E enquiries@industryforum.co.uk
W www.industryforum.co.uk