

# LEARNING & DEVELOPMENT

Institution of  
**MECHANICAL  
ENGINEERS**

## MANAGE YOUR ASSET LIFECYCLE AT ANY STAGE.

Implement and sustain an effective  
asset management and maintenance  
programme.



Improving your asset performance and profitability.

[imeche.org](http://imeche.org)

# ASSET MANAGEMENT AND MAINTENANCE.

The way in which physical assets are acquired and deployed can have a considerable effect on the success, profitability and sustainability of a business.

Industrial businesses, for example, often highly utilise their assets, many of which are critical to their operations and employed over an extended period. These can consume financial resources from the moment that they are acquired or, in some cases, even before they are purchased, and the expenditure can continue for many years.

This is why effective asset management is so important. Asset management is the coordinated activity of a business to realise value from its assets. It is concerned with all stages of the asset lifecycle, considering several factors, including how costly is the asset to replace, how crucial it is to the business, and the overall reliability of the asset in question.

## IMechE's Learning and Development Portfolio



## ISO 55000 and its relevance to asset management



ISO 55000 is the international standard for the management of physical assets throughout their whole lifecycle.

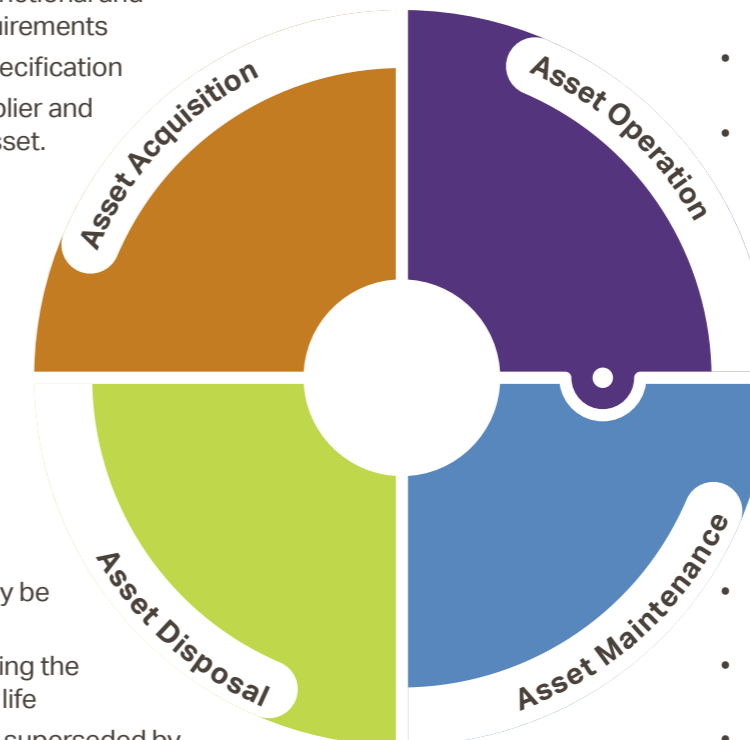
Businesses that apply best practice asset management, as defined by the standard, will ensure that they achieve the best financial return on assets (ROA) and return on capital employed (ROCE) by ensuring that assets acquired, deployed, operated and maintained by the company support the objectives of the business by providing the levels of performance, reliability and operating costs required.

By achieving ISO 55000 accreditation, an organisation demonstrates to its shareholders, stakeholders and customers that it acquires, deploys, operates and maintains its physical assets professionally and effectively.

# FOUR STAGES OF THE ASSET LIFECYCLE.

An asset lifecycle is the series of stages involved in the management of an asset. It starts with the planning stages when the need for an asset is identified and continues all the way through its useful life and eventual disposal.

- Justifying the purchase of the asset
- Installation and commissioning
- Identifying its functional and operational requirements
- Developing a specification
- Selecting a supplier and procuring the asset.
- Developing and implementing operating methods and procedures
- Training and deploying operators
- Continuously improving processes
- Measuring and monitoring operational effectiveness.



The final stage, may be required due to:

- The asset reaching the end of its useful life
- The asset being superseded by new technology or processes
- The asset no longer being able to comply with regulatory or statutory requirements.

- Developing and carrying out planned maintenance tasks
- Fitting replacement parts when required
- Measuring and monitoring asset reliability and performance.



# HOW OUR MAINTENANCE MANAGEMENT PORTFOLIO CAN HELP AT EVERY STAGE OF THE ASSET LIFECYCLE.

## PROBLEM 1

I need to get more maintenance tasks completed but I don't have enough staff and I don't know what structure is best?

## ACTION

To tackle the challenge of completing more maintenance tasks with limited staffing and uncertain structure, the key action is to enhance your team's efficiency and productivity directly. A strategic approach involves implementing Maintenance Planning and Scheduling techniques that focus on maximising proactive work to ensure safety, equipment reliability, and overall performance improvements.

### Maintenance Planning and Scheduling



[View course](#)

#### The benefits include:

- Improves maintenance efficiency and timing
- Applies a proven framework to optimise processes
- Increases productive work time, minimises downtime
- Enhances resource coordination, raising productivity and equipment availability
- Reduces overtime, balances workloads by forecasting tasks and staffing needs.

## PROBLEM 2

I need to understand how to manage the physical assets of my business.

## ACTION

Align asset management with organisational goals to prevent misaligned objectives, inefficient lifecycle management, high operating costs, low morale, and poor profitability. An effective asset management strategy, compliant with ISO 55000 best practices, addresses these issues.

### Asset Management Strategy



[View course](#)

#### The benefits include:

- Develops and implements a strategic plan enhancing business support
- Streamlines asset management processes
- Improves return on capital and reduces lifecycle costs
- Optimises equipment purchasing and installation, enhancing operational readiness
- Improves budgeting for capital and operational expenses, cutting costs
- Ensures compliance with regulatory standards.

## PROBLEM 3

I need to apply the very best maintenance approaches, tools and techniques to ensure that my assets are reliable and perform well.

## ACTION

To advance your maintenance practices and ensure your assets reach their highest levels of reliability and performance, stepping beyond traditional methods is necessary. Adopting world-class maintenance is a proactive strategy that targets the root causes of unplanned downtime, inefficiency, and the significant expenses tied to suboptimal machinery reliability.

### World Class Maintenance



[View course](#)

#### The benefits include:

- Enhances asset reliability and productivity, improving profitability
- Implements effective, proactive maintenance processes
- Organises structure to support and promote proactive maintenance
- Trains a flexible, motivated workforce aligned with business goals
- Optimises maintenance resource use
- Ensures compliance with regulatory standards.

## PROBLEM 4

I need to ensure that my maintenance plans and resources are employed effectively, maintaining my assets in the most cost-effective way and reducing business risks.

## ACTION

By adopting and implementing Reliability Centred and Risk Based Maintenance (RCM and RBM) methodologies, your organisation can leap ahead in optimising maintenance operations. This strategic move not only streamlines resource allocation and cuts down on unnecessary expenses but also significantly mitigates operational risks, enhancing both reliability and performance.

### Reliability Centred and Risk Based Maintenance (RCM and RBM)



[View course](#)

#### The benefits include:

- Develops a risk-based maintenance strategy to manage consequences
- Improves machinery reliability and availability through proactive approaches
- Develops asset condition appraisal tools and systems and applies them within your organisation
- Applies the most appropriate tasks to establish optimised maintenance plans
- Inspires your team to embrace risk-based approaches.

# BUSINESS VALUE, BENEFITS AND DELIVERABLES.

These case studies highlight the successful application of Maintenance Management strategies in fostering cultural change, enhancing performance, and driving profitability across various organisations.

## ► Enhancing maintenance efficiency at Budweiser UK

Kieran McKeown at Budweiser UK&I led a revamp in maintenance planning and scheduling for can and keg production, introducing a structured approach that improved role clarity and operational efficiency. This initiative resulted in enhanced pre-planning, reduced downtime, and better support for technicians through an online information centre.

## ► Advancing maintenance reliability at Lenzing Group

Wayne Rowbotham, a Mechanical Engineer at Lenzing Fibers, transformed their maintenance strategies by focusing on reliability and efficient shutdown planning. By employing failure curves, he adjusted maintenance schedules to minimise equipment failures, resulting in savings on spare parts and improving operational efficiency. His strategy promotes a culture of reliability and informed decision-making across the company.

## ► Transforming maintenance strategy at the Environment Agency

Josh Jordan at the Environment Agency applied RCM and RBM principles to innovate flood defence equipment maintenance. His initiative, including oil sampling, marked a shift towards more efficient, cost-effective, and sustainable practices, challenging conventional schedules and promoting evidence-based resource allocation.

Below are some related organisational positions that we have found benefit the most from each course. There are including but not limited to:



Creating a complete programme to improve your organisation's performance and profitability incorporates the engagement and involvement of the work force at all levels.

For guidance on which course would suit your requirements, call our experienced training advisors on **+44 (0) 207 304 6907** or email [training@imeche.org](mailto:training@imeche.org).



### Is this of interest for several people?

Tell us your team's CPD needs and we'll come to you with a specialised training programme, customised for your industry sector.

# WHAT YOU HAD TO SAY.



“““

The course helped clearly define what the roles and responsibilities are between different people and different stakeholders. This has allowed us to look at our existing structure, and using the framework provided by the IMechE, to see where improvements can be made.

**Kieran McKeown, Budweiser Brewing Group UK&I**

Maintenance Planning and Scheduling



Case Study



“““

You are with like-minded people who have very similar hopes and fears. It is so useful to share and listen to what people outside of your own business are doing.

**Nick Gill, Network Rail**

Asset Management Strategy



Case Study



“““

It certainly deepened my knowledge in terms of things to consider when selecting a maintenance strategy.

**Wayne Rowbotham, Lenzing Group**

World Class Maintenance



Case Study



“““

We all took a lot from the course. The overview I gained from the course is quite refreshing and the Environment Agency can see a new way of looking at things. It gave us an appreciation of RCM especially.

**Josh Jordan, Environment Agency**

Reliability Centred and Risk Based Maintenance



Case Study



## MEET THE TRAINER: MATTHEW LASKAJ

Matthew is the chair of the Institution of Mechanical Engineers Scottish Region and director of a successful engineering consultancy.

Starting his career in Australia, Matthew worked in manufacturing plants, refineries and offshore oil rigs. He now lives in Aberdeen and loves to help engineers develop their skills and improve their business.

[imeche.org/maintenance](http://imeche.org/maintenance)

# DID YOU KNOW?

Our courses support Continuing Professional Development – our training helps engineers meet the standards required of professionals registered with the Engineering Council.

## ► Call our experienced training advisors

Get more information and discuss your training needs on **+44 (0)207 304 6907** or email **[training@imeche.org](mailto:training@imeche.org)**

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