

Preventative Maintenance

Maintenance, Testing and Troubleshooting

ICTSAS308

Contents

- *Define* **Prevention** and **Maintenance**
- *Identify* **benefits** of preventative maintenance
- *Compare* preventative maintenance vs. **troubleshooting**
- *Identify* useful **resources**
- *Examine* how to **develop a maintenance plan**

Prevention

- Prevention is the **act or practice** of *hindering something from happening*
- Prevention aims to:
 - **Avoid problems** from occurring in the first place
 - **Detect problems** early to address ASAP
- In the case of ICT problems, prevention saves organisations *time & money*



Maintenance

- Maintenance is the **upkeep** of *property or equipment*
- Keeping property or equipment in **good condition** by *detecting problems early, making repairs and correcting problems*
- Aims to **reduce the likelihood** of failure



Types of Preventative Maintenance

- **Calendar-based** maintenance
 - *Recurring work is scheduled after a specified time interval*
- **Usage-based** maintenance
 - *Meter readings used*
 - *Recurring work scheduled after specified usage reached*
- **Predictive** maintenance
 - *Maintenance managers schedule PM based upon historical data*
- **Prescriptive** maintenance
 - *Similar to predictive maintenance*
 - *Uses machine learning software to assist predictions*



Benefits of Preventative Maintenance

- **Reduce** amount of *unplanned downtime*
- **Extend** asset *lifetime*
- **Increase** *safety* and reduce *injury risks*
- **Reduce** corrective *repair costs*
- **Increase** *margins/profits* due to less downtime



Troubleshooting

- A **troubleshooter** is someone skilled at *solving or anticipating* problems or difficulties
- Troubleshooting is a type of **reactive maintenance**
 - It takes place *after* a problem has occurred
- A *troubleshooting guide*:
 - Assists in **analysing symptoms**
 - Used to **deduce** the root **problem**
 - May also **recommend suggestions** to *resolve the problem*

Preventative Maintenance vs. Troubleshooting

- Preventative Maintenance is:
 - Scheduled
 - Performed **before** problems arise
- It aims to:
 - **Sense/Measure symptoms** to detect problems early
 - **Avoid problems** by keeping systems healthy

Preventative Maintenance vs. Troubleshooting

- Troubleshooting is:
 - **Unscheduled**
 - Performed **after** problems arise
- It aims to:
 - **Analyse symptoms** to diagnose problems
 - **Correct problems** to restore normal behaviour

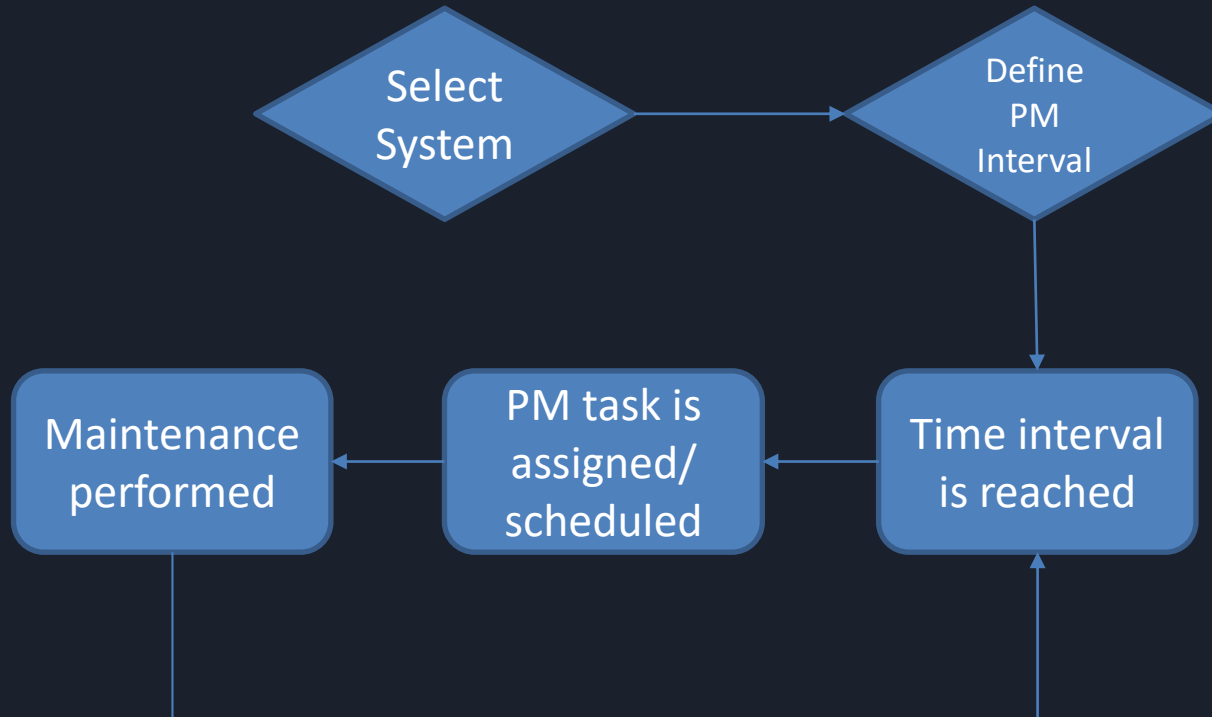
Maintenance & troubleshooting resources

- Online & printed **manuals** and service documents
- Manufacturer **websites**
- **FAQs** and guides
- **Online forums** and other communities
- Experienced **personnel**

Developing a plan

- **Research** maintenance & troubleshooting resources
 - Use manufacturer recommendations
- **Identify & select** appropriate testing & preventative maintenance techniques
 - By considering the common problems/symptoms under scrutiny
- **Provide actionable steps**
 - Simple steps defining a single action
 - Someone can understand and follow
- **Guide the resolution** for any identified problems

Preventative Maintenance Workflow



Summary

- *Defined* Prevention and Maintenance
- *Examined* the benefits of Preventative Maintenance
- *Compared* Preventative Maintenance vs. Troubleshooting
- *Identified* maintenance & troubleshooting resources
- *Examined* developing a maintenance plan

References

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Further Reading

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