

# Your Guide to Successful Preventive Maintenance



# What is preventive maintenance?

Preventive maintenance (PM) is routine maintenance performed on equipment and assets in order to decrease their likelihood of failure. While the term “maintenance” may spark ideas like “breakdowns”, “repairs”, or “new parts”, PM should actually be performed on fully functioning equipment. Different types of preventive maintenance may include filter changes, equipment inspections, or vehicle oil changes.

## Preventive vs. Reactive Maintenance

In general, maintenance falls into two categories: reactive and preventive.

### Reactive Maintenance:

Reactive maintenance (also known as breakdown maintenance) occurs when assets or pieces of equipment are repaired after failure occurs.

### Preventive Maintenance:

Preventive maintenance focuses on avoiding repairs and asset failure through continuous care and upkeep of equipment and assets. This care leads to average savings of 12-18 percent for organizations when compared to reactive maintenance.

## Drawbacks of reactive maintenance

### Unnecessary expenses:

Reactive maintenance can be extremely costly due to overtime costs, unplanned downtime, costly parts and shipping, and the opportunity cost of your team's time.

### Inefficient processes (time management):

If a piece of equipment fails and stops production, your team will need to halt their current project to assess and repair the issue. This delays other projects and can often lead to overtime work.

### Asset life expectancy:

When assets and equipment aren't regularly maintained, their lifespan decreases. For instance, if you don't get your car's oil changed when necessary, many other issues will arise. Reactive maintenance leads to more frequent failures and shorter lifespans.

### Safety concerns:

When equipment malfunctions, it can cause safety hazards to you, your team, and the environment. Preventive maintenance ensures equipment is receiving the proper care it needs to mitigate these safety risks, whereas a reactive maintenance strategy increases these risks.

### Energy costs:

Equipment that is maintained regularly runs more efficiently, which means energy is saved. Without preventive maintenance care, efficiency decreases significantly. For instance, your furnace will produce more heat in the same amount of time if there is a clean air filter. These energy costs may not seem extremely significant, but if you are operating a large warehouse, they can add up quickly.

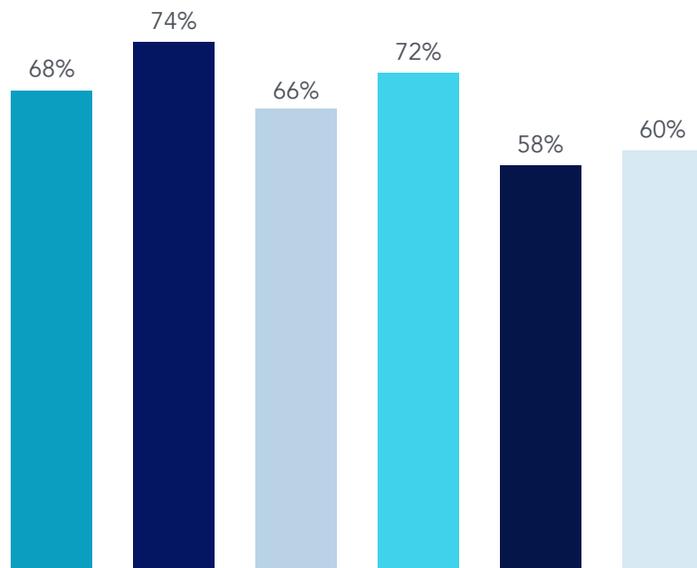


# The **benefits** of preventive maintenance.

Section 02

## Whether you're trying to improve efficiency, reduce downtime, increase asset performance, or cut costs, preventive maintenance is the answer.

In 2019, Advanced Technology Services conducted a study to see the results of preventive maintenance efforts. They found that preventive maintenance aided in decreased downtime, reduction in the probability of equipment failures, and increased productivity, amongst other things.



### Respondents reported the following after implementing preventive maintenance:

- Increased productivity **68%**
- Decreased downtime **74%**
- Increased equipment effectiveness **66%**
- Reduced probability of equipment failure **72%**
- Better safety conditions **58%**
- Increased efficiency **60%**

*\* Results from a study conducted in 2019 by Advanced Technology Services*



# Making the switch - **reactive** **to preventive** maintenance

Section 03

## **In order to choose the solution that works best for you and your team, it's important to lay out your objectives.**

Establishing these up front will help you prioritize solutions with your organization's end goals in mind. You should define your goals in terms of return on investment, cost savings, time savings, improvements in efficiency, compliance needs, downtime objectives, safety improvements, inventory management, event management, and preventive maintenance efforts.

Once these are outlined, you can begin to determine what your solution looks like.

## **Whenever you make a change within your organization, it can be difficult to get everyone on board and to see the results you hoped for immediately.**

To make the process easier, here are a few best practices you should consider when taking on a more proactive approach to maintenance.

**Start small:** You can't switch all of your equipment from a reactive strategy to a preventive strategy overnight. So, choose a few of the assets that have the biggest impact on your operations and implement a preventive maintenance plan for those first. You can then apply these strategies to other assets, using the knowledge you gained from the first round.

**Create a strong pitch for your team:** Your pitch should convey the rationale behind switching from a reactive plan to a preventive plan. Communicating the value this will bring to your team early on is a huge factor in its effectiveness. If they don't feel empowered to participate, or that this change will impact them, it will not be as successful.

**Find champions:** Seek out team members who will naturally be comfortable with preventive maintenance concepts, and encourage them to advocate on its behalf. Early adoption is a vital part of every strategic rollout.

**Consider a CMMS:** A CMMS enables you to proactively approach all of your maintenance efforts. You can set up time-based or meter-based tasks and automatically assign these to the appropriate technician. You can also set up step-by-step instruction sets so that each member of your team can successfully execute preventive maintenance tasks. Cut costs, save time, and preserve your assets with a CMMS.

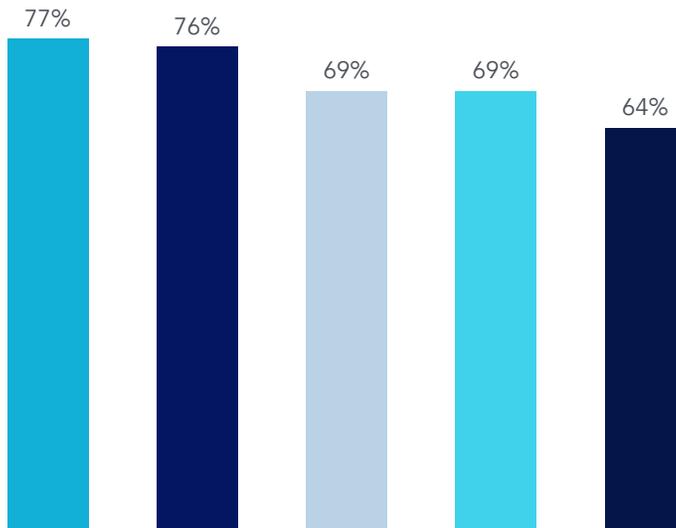


# The solution: a **CMMS.**

Section 04

## A CMMS helps you take control of your preventive maintenance efforts.

In fact, the five largest benefits organizations gain from a CMMS are outlined in the diagram below.



### The largest benefits gained from a CMMS:

● Decreased downtime	<b>77%</b>
● Reduced probability of equipment failure	<b>76%</b>
● Overall equipment effectiveness	<b>69%</b>
● Better productivity	<b>69%</b>
● Cost effectiveness	<b>64%</b>

*\* Results from a study conducted in 2019 by Advanced Technology Services*

When it comes down to it, a CMMS equips you with all the tools you need to effectively manage your maintenance.

- Reduce equipment failures and cut costs
- Gain insight into all of your most important equipment
- Plan and prioritize preventive maintenance initiatives and determine when to replace aging equipment
- Equip your team with the tools they need for success

# Measuring success.

Initiating a preventive maintenance plan is the first step to success, but monitoring its effectiveness is crucial as well. Keeping a close eye on the following metrics and looking for trends can help you determine if your preventive maintenance efforts are successful.

## Metrics to measure

### Total annual preventive maintenance

Measuring your annual preventive maintenance time is imperative to ensure you're spending enough time keeping critical assets up-and-running. In order to see an improvement in your operations, this number should be increasing.

### Percentage of preventive labor

This is the percentage of the overall maintenance budget or time spent on preventive maintenance versus corrective labor. If a greater percentage of the whole is preventive, that means the corrective side of the budget will be smaller. Thus, the organization can now become more cost-efficient while reducing unwanted downtime.

### Mean time between failure (MTBF)

This is the predicted elapsed time between inherent failures of a mechanical or electronic system during normal system operation. This helps teams work around a potential problem before it exists, or have a plan of action in place when it does occur. This metric should be increasing as preventive maintenance efforts increase.

### Average annual maintenance cost

Calculated and benchmarked annually, measuring the average annual maintenance costs enables organizations to baseline how they're doing over time. You should see a decrease in total costs once preventive maintenance is implemented.

### Overall equipment effectiveness (OEE)

This is a measure of how well a manufacturing operation is utilized compared to its full potential during the periods when it is scheduled to run. An OEE of 100% means that only good parts are produced, at the maximum speed, and without interruption. As your percentage of preventive labor becomes greater, you should reach an OEE closer to 100%.

If you find that these metrics aren't improving, don't throw in the towel. Not every organization's operations are alike, and changing small things in your preventive maintenance plan, such as frequency or assigned team member, could improve these metrics drastically.

## About FMX

FMX is a Computerized Maintenance Management System (CMMS) that enables organizations to successfully plan preventive maintenance for their facilities. In turn, this decreases downtime, increases productivity, cuts costs, and more for organizations all over the world.

Interested in learning more about how FMX can help you successfully tackle preventive maintenance?

[Schedule a demo with one of our product experts!](#)



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