THE SHORT GUIDE TO

Preventive Maintenance

Fiix

Table of Contents

CHAPTER 01

INTRODUCTION: What is preventive maintenance and why do I need it?

Let's start with a question:

How many hours a day do you spend on unplanned maintenance?

If the answer is "too much!" you're not alone. So many organizations— from mom and pop shops, to large multinationals, to our global infrastructure— are suffering from too much unplanned (and not enough proactive) maintenance.

"Maintaining physical assets is not always the top priority as compared to various other functions."

MarketsandMarkets *Enterprise Asset Management Market Global Forecast to 2021*

"Officials in federal, state and local government do not allocate the resources necessary for preventive maintenance."

The Maintainers *Let's Get Excited About Maintenance*

"Since 1998, America's infrastructure has earned persistent D averages, and the failure to close the investment gap with needed maintenance and improvements has continued."

ASCE *2017 Infrastructure Report Card*

Unplanned maintenance: Why is it a problem?

It costs more

Unplanned maintenance can cost you big time — up to three to nine times more than planned maintenance. These costs can come from lost production as your team hurries to get things back up and running, higher costs for parts and rush shipping, or lost time responding to emergencies and diagnosing faults.

It’s inefficient

Unplanned repairs take longer, suck up resources, and interfere with existing planned work, because too much time spent diagnosing the problem and determining what should be done to fix it. Furthermore, if a problem is not repaired correctly, the issue could re-occur and cause even more downtime.

It’s unsafe

When unplanned maintenance is needed, technicians are often under pressure to get things up and running quickly. This can cause workers to take risks they wouldn’t take if the work was scheduled with enough time to review the standard operating procedures and safety requirements to complete the job effectively.

The alternative: Planned, proactive maintenance

Planned maintenance: a definition

Planned maintenance is an umbrella term that refers to any maintenance activity that is documented, scheduled and carried out.

It may seem counterintuitive, but planned maintenance can include scheduled maintenance types like preventive, total productive maintenance, and predictive maintenance as well as unscheduled maintenance like run-to-failure.

The difference between planned, unscheduled maintenance and detrimental unplanned maintenance is that in a planned, proactive maintenance approach only certain assets—likely low-cost ones that aren't essential to production— will be allowed to run to failure. A good example of this is planning to replace a light bulb whenever it stops working, instead of proactively replacing it.

PLANNED MAINTENANCE TYPES

Preventive
As the name suggests, preventive maintenance is maintenance that is regularly performed on a piece of equipment to prevent asset failure and unexpected downtime. It is performed while the equipment is still working (rather than after it's broken down). Preventive maintenance is planned on a time, meter, or usage-based trigger.

TPM
Total productive maintenance (TPM) is the idea that everyone in a facility should participate in maintenance. This approach uses the skills of all employees and seeks to incorporate maintenance into the everyday performance of a facility. Employing an effective TPM approach results in fewer breakdowns, a safer work environment, and better overall performance.

Predictive
The aim of predictive maintenance (PdM) is to predict when equipment failure might occur and prevent the failure by performing maintenance. Ideally, predictive maintenance allows the maintenance frequency to be as low as possible to prevent unplanned reactive maintenance, without incurring costs associated with doing too much preventive maintenance.

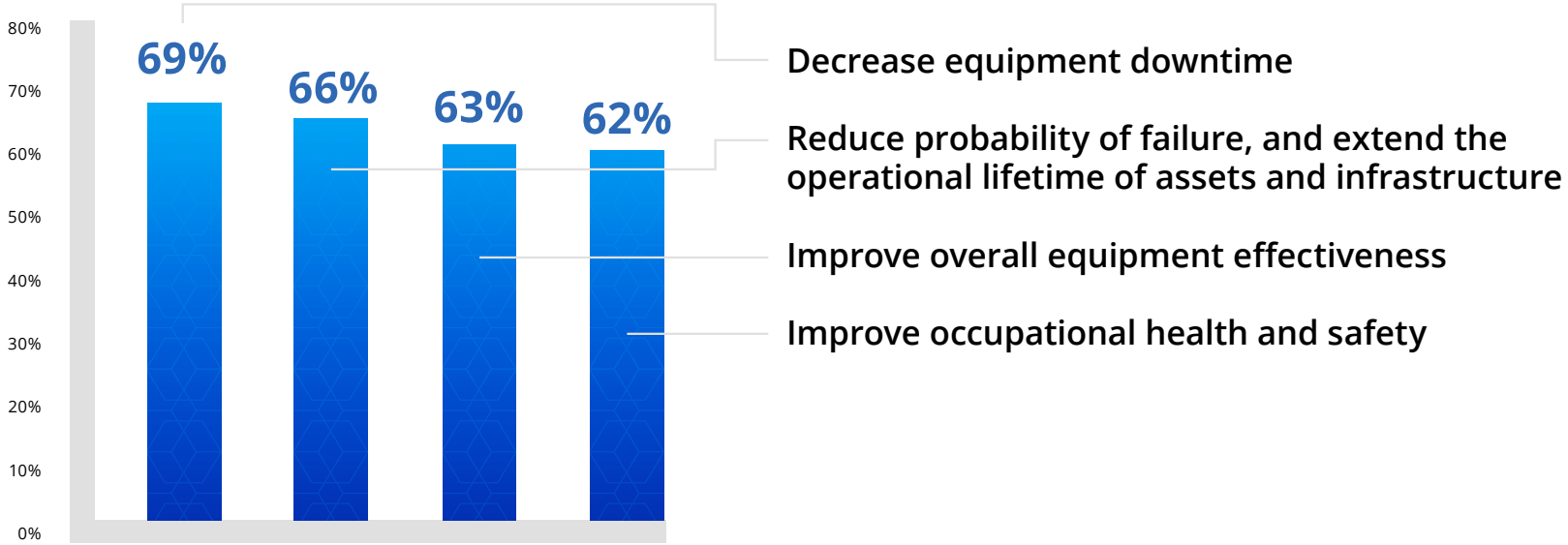
Reactive
Yes, reactive and run-to-failure maintenance can be part of a healthy planned maintenance approach. In this strategy, assets are deliberately allowed to operate until they break down, at which point reactive maintenance is performed. Having a plan in place ahead of the failure means the asset can be fixed without causing any production issues.

The starting point: preventive maintenance

Whether your ultimate goal is TPM or even predictive maintenance, the foundation of any solid planned maintenance program is preventive maintenance.

Advantages of preventive maintenance

In 2017, Plant Engineering conducted a survey to understand maintenance practices across North American manufacturing facilities. 69% of survey respondents said that preventive maintenance helps them decrease downtime, 66% cited reduced probability of failure, 63% saw better OEE, and 62% experienced an improvement in safety.



CHAPTER 02

How to stop reacting and start preventing

How do you make the shift?

You've already taken the first steps towards preventive maintenance by downloading this guide.

It's important to understand that these changes don't happen overnight. However, there are solutions that can help you carry out the necessary planning, scheduling, and tracking to pull off a preventive maintenance program successfully.

This is where preventive maintenance technology comes in

By investing in technology like maintenance software, organizations can move away from costly reactive maintenance and start tracking, maintaining, and managing their assets in a way that will increase their useful life and provide benefits across the organization.

WHY ADOPT MAINTENANCE SOFTWARE?

Longer asset life

Reduced maintenance and procurement costs

Better asset tracking

Improved return on assets

CHAPTER 03

Preventive maintenance technology

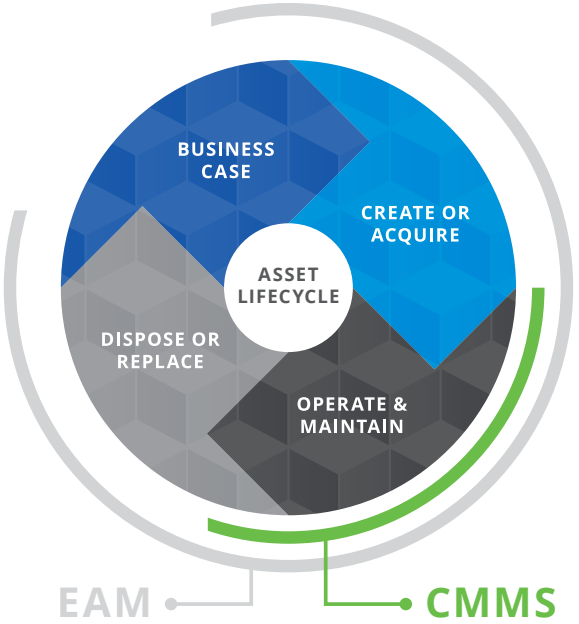
The great debate: CMMS vs EAM for preventive maintenance

There are a number of great solutions available to help you manage maintenance at your facility, but the two that you'll hear about the most are enterprise asset management (EAM) software and computerized maintenance management systems (CMMS).

So what's the difference between CMMS and EAM, and how do you choose between them?

CMMS software helps maintenance teams easily keep a centralized record of all assets and equipment they are responsible for, as well as schedule and track maintenance activities and keep a detailed record of the work they've performed. Generally speaking, the purpose of a CMMS is to manage all maintenance activities during the operational part of an asset's life—all the time that it's working as a productive part of a facility.

In contrast with a CMMS, EAM software provides a view of an organization's assets and infrastructure throughout the entire life cycle, from creation or procurement through to disposal.



Focus on the best fit for your maintenance team

Maintenance software can be a game changer when it comes to establishing a preventive maintenance program, but keep in mind that a system is only valuable if people use it. So while the rich feature sets of EAM software might be tempting, it's important to choose a solution that fits your team.

EAM might be the top choice for the IT and finance team, but a CMMS is made for maintenance teams. Most modern CMMS solutions include simple, easy-to-use interfaces with intuitive work order creation, calendars and reporting that focus on decreasing the number of keystrokes between the maintenance team and the job at hand, and increasing the utilization of the system.

CMMS: Your key to modern maintenance

CMMS: A definition

A CMMS is software that helps teams keep a record of all assets they are responsible for, schedule and track maintenance tasks, and keep a historical record of work they perform.

A CMMS solution can help you:

- **Manage work orders**
- **Schedule and automate preventive maintenance tasks**
- **Capture and access historical asset data**
- **Manage inventory with parts and supplies tracking**
- **Enable technicians in the field with a mobile app**
- **Run reports for your most important KPIs**

> The foundation of a world class maintenance organization is a CMMS. You have to have something to capture information and steer your efforts in the right way. It's a necessity.
>
> Tony Leombruno
> TPM Champion at Ardagh Group

CHAPTER 04

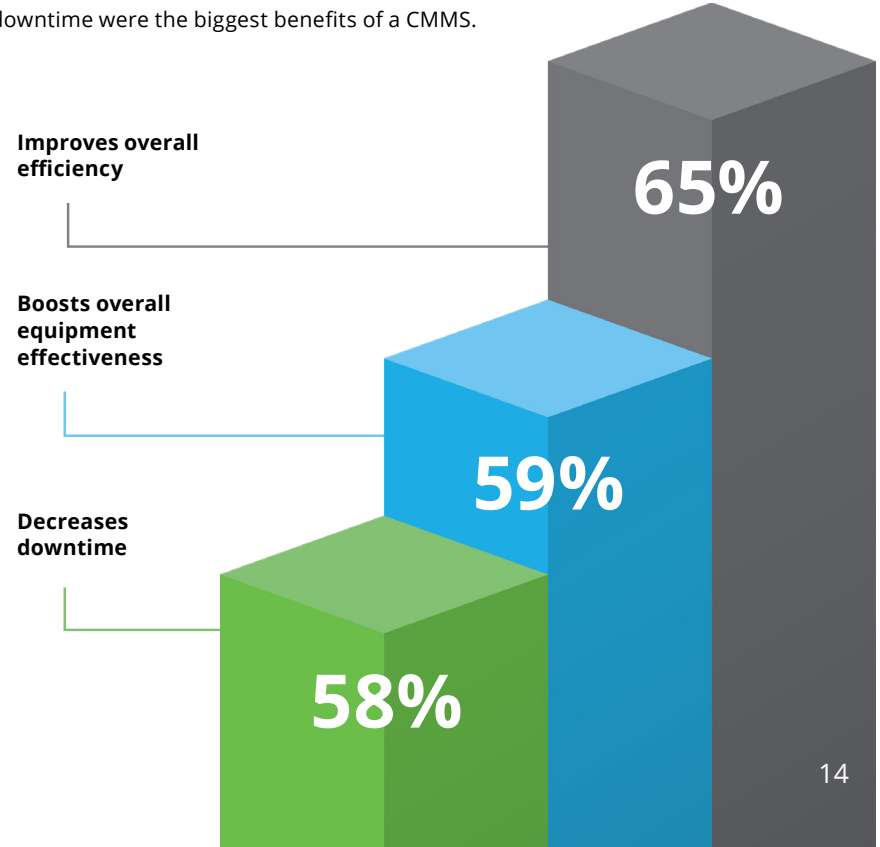
How a CMMS paves the way to preventive maintenance

We've estimated cost savings of about 10-15% by just removing tasks because we found we didn't really need to do them.

Tony Leombruno
TPM Champion at Ardagh Group

Benefits of a CMMS

According to the 2017 Plant Engineering Maintenance Report, respondents said that better overall efficiency, improved OEE and decreased downtime were the biggest benefits of a CMMS.



Benefits of a CMMS

Effectively plan your PMs
A CMMS ensures planned preventive maintenance is triggered when it's due. Once the system is configured, work orders are pushed to technicians based on the triggers you've set up.

Standardize best practices
Having one central system (instead of a combo of paper work orders, Excel and work boards) means everyone uses the same procedures and follows the same best practices.

Access real-time information
Access important information like procedures, error logs, manuals, permits, licences, photos, images, diagrams, and schematics within asset records. This speeds up troubleshooting and work order processing times.

Quickly access asset history
Without a CMMS, a good portion of an asset's history is stored in the memory of a technician. A CMMS allows each asset to have its own unique record that details its maintenance schedule, repairs completed, parts used, and more, which can be accessed quickly and easily.

Effortlessly track maintenance-related costs
Because a CMMS tracks parts, labour, service history and other miscellaneous expenses, it's easy to run costing reports to see where budget was spent and make educated decisions about whether a piece of equipment should be repaired or replaced.

Quickly access detailed maintenance metrics and reports
Data available on your dashboard and in reports generated allows you to analyze asset failures, downtime, resource utilization, and spending patterns in the CMMS. This gives you greater visibility and the ability to implement changes to add value or reduce risk.

Get control over inventory
Automatically track parts, manage suppliers and vendors, optimize inventory levels and make sure you always have the right part on hand when it's needed.

CHAPTER 05

Finding, evaluating and buying your preventive maintenance system

In order to use your CMMS to manage preventive maintenance, you have to make sure all stakeholders in your organization are on board from the get-go.

Following these four steps can help you lay the groundwork to successfully modernize your maintenance operations and get a preventive maintenance program off the ground.

1

Define the problem you're trying to solve

2

Gather stakeholders

3

Get user buy-in

4

Evaluate software solutions

Define the problem

Unplanned downtime, too much reactive maintenance and maintenance backlog are all symptoms of larger issues. Some of the challenges that Fiix customers have encountered before implementing a CMMS include:

Different systems across different sites

No cohesive maintenance plan

No system to gather and provide easy access to data

Time wasted writing notes for the next shift

No defined KPIs

Every business has different challenges. It's essential to have a full understanding of the problems you're trying to solve before buying software, so everyone is on the same page once the system is implemented.

Gather stakeholders

Who will be involved in using the CMMS?

Though it is often management and executive teams who make the decision to implement maintenance software, it's important to think about each person who will interact with the software. On top of admins, maintenance managers, and technicians, consider including the following roles as stakeholders in your CMMS implementation:

Operators

Reliability engineers

Tool crib operators and inventory managers

Health and safety

Extending the system to these roles will let everyone see the information stored in your maintenance management software and log information of their own, bringing you one step closer to a holistic approach to maintenance.

Get user buy-in

While the benefits of maintenance management software are clear, some organizations still experience resistance when bringing in new systems. Since a CMMS is only as good as the data going into the system, it's essential that you get buy-in from every user, and ensure everyone feels confident in using the system.

For this reason, it's important to consider vendors that offer robust training and support. Maintenance managers should never have to feel like it's up to them to train users and figure out how the system works. The asset management software industry is full of experts who can pass along best practices and standard operating procedures.

Top questions to ask to make sure you're getting buy-in for your new system:

- Is your culture set up to support a CMMS?
- Is your workforce open to changes in process?
- Do you have guiding principles in place that will make it easier to support the implementation of a CMMS?
- Can you answer the question, "What's in it for me?" for every system user?

Read more about setting your CMMS implementation up for success

Creating a work culture to set your CMMS implementation up for success

What is reliability culture?

3 steps to a successful CMMS implementation

Evaluate solutions

Now that everyone is on board with the new system and ready to ditch unplanned reactive maintenance for good, it's time to actually evaluate solutions.

Here are 7 big questions to ask when buying maintenance software:

Is it the right solution for your business size?
It's important to evaluate what your needs are and ensure the CMMS options you are considering will be able to accommodate those needs. Cloud-based CMMS software has the benefit of quickly adding and removing users and sites, so that it can adjust to virtually any team size.

Is it easy to use?
A CMMS can have all the features you could ever need, but if it's not intuitive for your maintenance staff, it's useless. It's very important to consider how easy software is to use, configure, and implement before you invest.

Does the vendor offer training and support?
Adopting new software requires support. Make sure your provider offers training to help get set up, in addition to good post-implementation support. Resources like help centres and on-premises training are also essential.

What is included in the price?
There are a number of factors to consider when looking at the cost of a CMMS over its lifetime, including the subscription cost, the cost of importing data and integrating it with other business systems, the cost of upgrades, and the cost of training and support.

Is it mobile?
It's important to find a CMMS that allows you to be fully mobile, with features like offline mode, QR and barcode scanning, and an easy-to-use interface.

What features do you really need?
Which features are you willing—and not willing—to compromise on? CMMS software comes with many different features, so it's important for you to decide which ones are essential for your organization, so you can rank your options based on how well each of them meet your "must-have" criteria.

What integrations are available?
Will you need to integrate with other systems? If so, are they compatible with the CMMS options available? Many CMMS options offer integrations with ERP software and other enterprise-level solutions. Ask yourself which integrations you will require, and if you'll be able to make it work with the options available to you.

Download our CMMS feature scoring calculator

We built a tool to help you evaluate the vendors and features available to you as you hunt for the right maintenance software for your business.

Download it here and get your evaluation started!

How did they do it?
Ardagh Group's CMMS journey

Ardagh Group is a global leader in glass and metal packaging solutions. The company operates 109 glass and metal manufacturing facilities in 22 countries, creating packaging for sectors including beverage cans, food, aerosols, beer and spirits. Tony Leombruno is their TPM Champion and recently introduced a CMMS in seven facilities.

According to Tony, before getting a CMMS "there was no uniformity of work practices. Everyone was just doing their own thing, the best way that they could." Since implementing a CMMS, Tony and his team have unified maintenance activities across seven facilities, and have estimated cost savings of 10-15% thanks to PM optimization.

"Before, the guys on the floor were thinking, 'I hope I get everything done. I'm not even sure exactly what needs to be done.' Versus now, especially with the new dashboard features, it's more like, 'I know specifically what I need to do, when I need to get it done by, and in addition to that, I can track my performance."

Read the full case study here.

STEPS TO IMPLEMENT A CMMS AT ARDAGH GROUP:

1. Assembled steering team
2. Evaluated software options by rating features from 1-10
3. Rolled out software at three pilot plants
4. Extended rollout to remaining plants
5. Established KPIs and began optimizing PMs

Conclusion
You’ve got this!

Maintenance is a complex job—there’s no magic bullet for making things run smoothly. But defining the problem you’re trying to solve and sourcing technology to help you establish a PM schedule, organize your team and tasks, and track KPIs are solid first steps on your path to preventive maintenance.

Learn more

Visit **www.fiixsoftware.com** for more maintenance reading and resources.

You can also visit our case studies to see how others like you have streamlined their maintenance operations with a CMMS **www.fiixsoftware.com/resources/case-studies**.

Want to chat?
Get in touch with Fiix.

35 Golden Ave Suite A-201
Toronto, ON, Canada
M6R 2J5
Local: +1 (647) 317-9055
Toll Free: +1 (855) 884-5619
info@fiixsoftware.com