



DON'T MISS THE REVOLUTION

The **maintenance manager's** guide to digital transformation



fiix



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INTRODUCTION

The revolution has begun

Maintenance is changing.

Make sure you change with it.

■ A cautionary tale

One of the most deadly phrases in business is, “That’s how we’ve always done it.” Just ask Blockbuster Video.

The video rental company was at its peak in 2004 with over 9,000 locations. By 2014, only 50 remained. Meanwhile, Blockbuster’s competitor Netflix embraced innovation and became a household name. Where Blockbuster stuck to the status quo and failed, Netflix adapted to new realities in the market and thrived.

The way we work is rapidly changing and this is just one example. Continually evolving and modernizing is no longer optional — it’s necessary, regardless of your industry. No one wants to be Blockbuster. Everyone wants to be Netflix.

Maintenance is no different. In order to conquer inefficiency, generate value, and overcome the daily headaches of the job, you must ditch old-school thinking and take a step forward.

How do you do this? Embrace digital transformation.

While technology continues to progress at a breakneck speed, the maintenance industry is slowly but surely joining the revolution. In a recent study of maintenance professionals, 57% of respondents say they’ve already swapped legacy systems for a digital solution as their primary method of organizing maintenance. In other words, if you don’t act now, you might never catch up.

But don’t worry, we’ve got your back. In this e-book, we’ve outlined exactly what digital transformation is, what it looks like in maintenance, why it’s important, and how to implement it. By the end, you’ll have all the tools you need to join the revolution and never look back.



CHAPTER 1

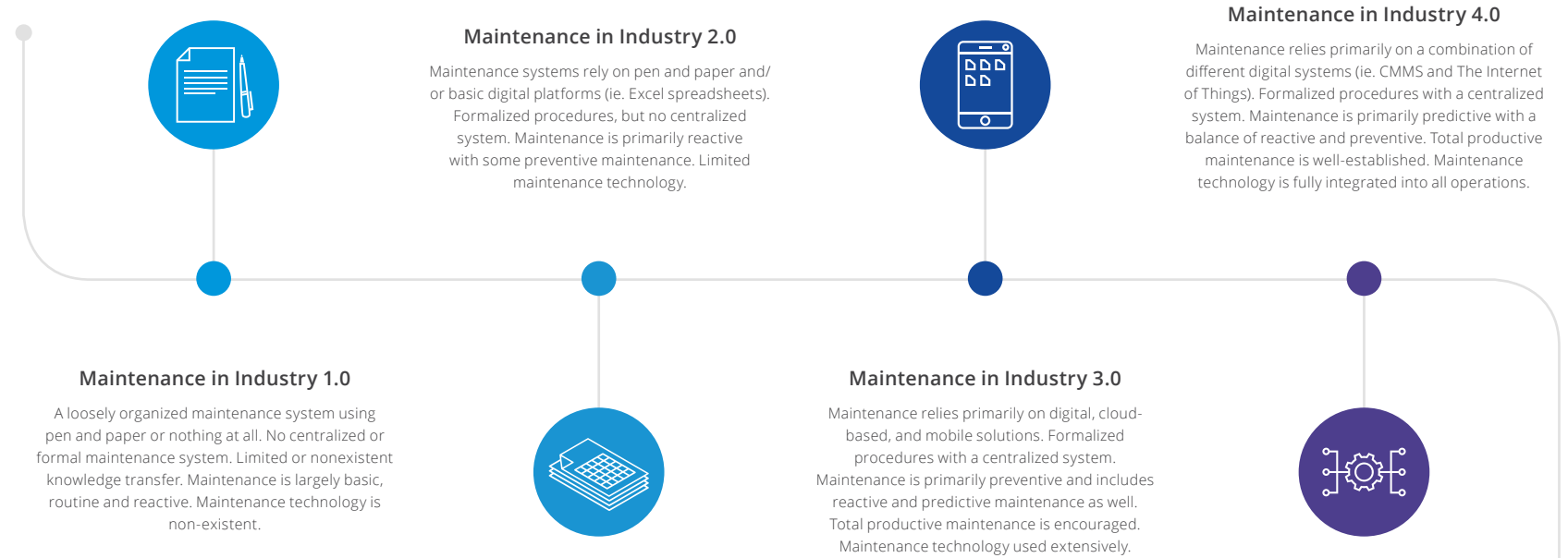
The evolution of maintenance

Exploring where maintenance has been,
where it is now and where it's going

01

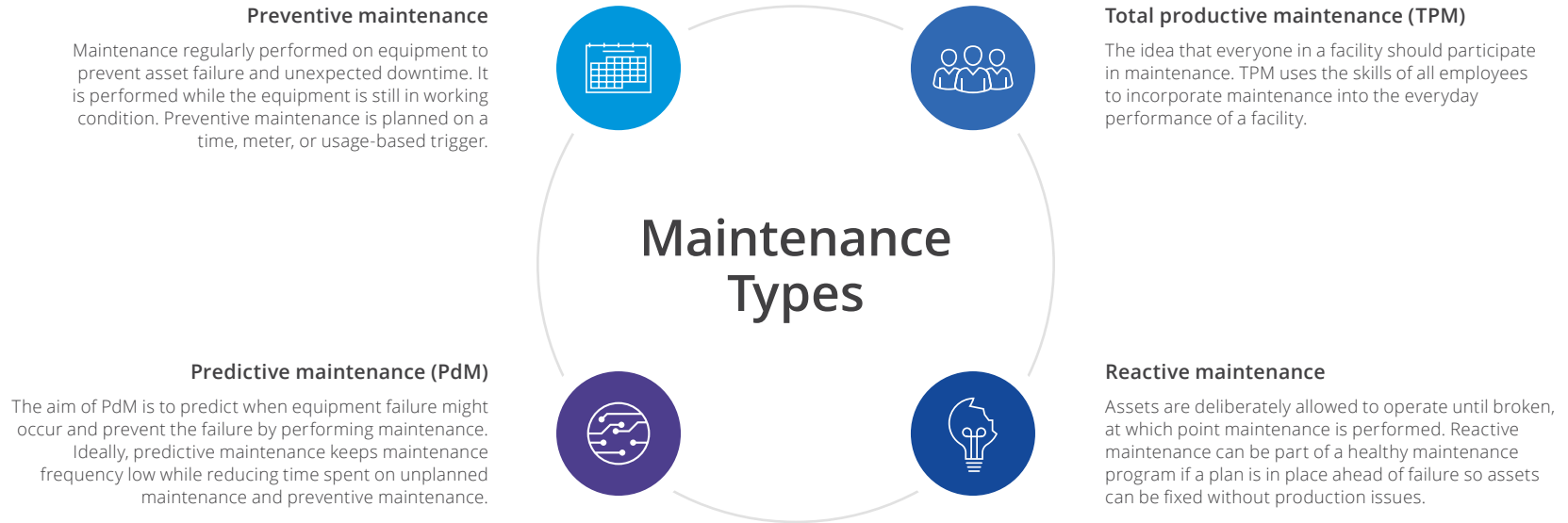
■ The past, present and future of maintenance

Maintenance has existed for as long as humans have valued things and wanted to keep those things valuable. But maintenance hasn't always stayed the same. It's grown and evolved for millenia. But why should you care what maintenance looked like in the 1800s? Well, understanding the past and present is incredibly important for creating a better future. Here's how maintenance has evolved:



Common maintenance strategies

Now that you've seen how maintenance has evolved, it's time to see which strategies have stood the test of time. Let's take a look at four common maintenance strategies that have risen to the top of the maintenance food chain.



The next frontier of maintenance: Digital transformation

What is digital transformation? Long story short, digital transformation in maintenance means getting the right technology in place to solve your biggest problems.

In today's world, it's no longer a question of if you should embrace technology, but rather how? The way you answer that question is the definition of digital transformation. Because every operation is unique, you'll probably answer this question differently than every other maintenance manager. There are, however, some elements that are common to all maintenance teams.

The rules of digital transformation in maintenance

- It replaces legacy systems, like pen and paper, Excel spreadsheets or even out of date software with a digital solution.
- It provides a solid structure to improve key processes, such as collecting data or managing workflows.
- It is a natural step forward for your team and workplace, building on your needs and capabilities.
- It sets your maintenance operation up for success in the future and provides opportunity for digital growth.

For you, digital transformation might mean trading your pen and paper method for a computerized maintenance management system (CMMS) in an effort to cut costs. For another maintenance manager, it could mean swapping Excel for enterprise asset management software to boost reliability. The great thing is, no matter what your journey looks like, the DNA of digital transformation stays the same.



CHAPTER 2

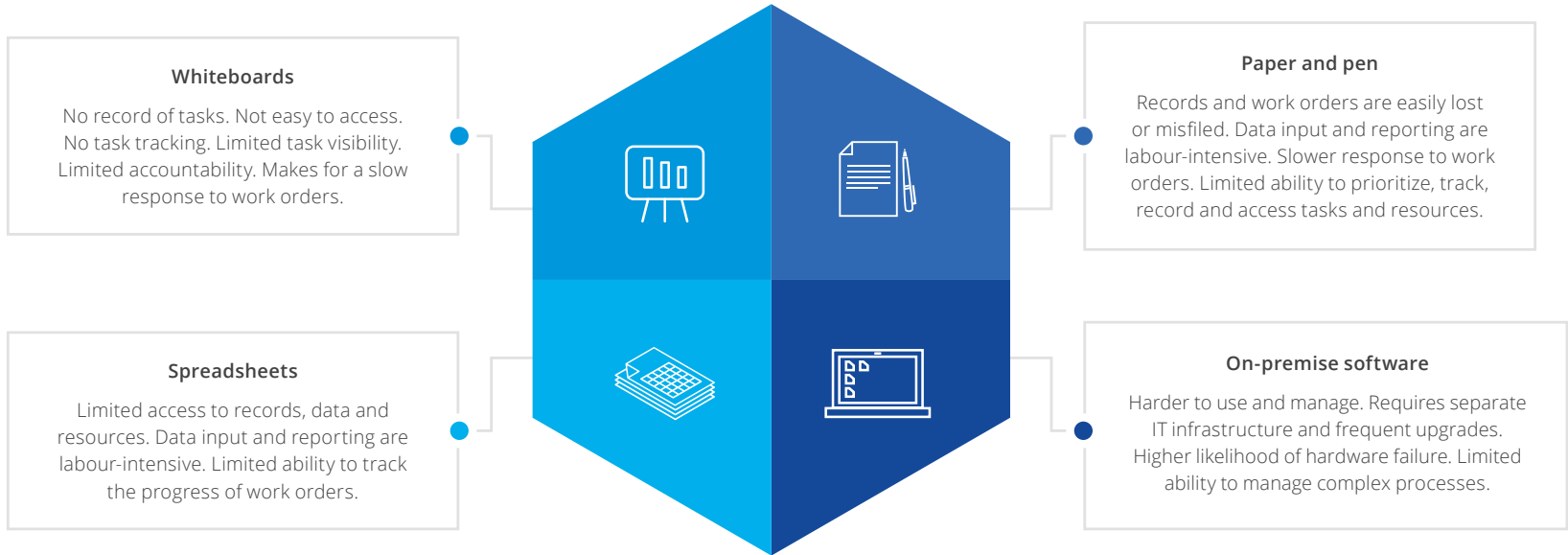
Why digital maintenance?

What it means for you and your operation,
now and in the future



■ Why should you make a switch now?

The short answer; legacy systems, like pen and paper or Excel spreadsheets, no longer cut it in today's maintenance landscape. They might have worked okay in the past, but these methods have very real limits and these limits can hurt your maintenance program in a variety of ways.



■ Digital maintenance in real life

The good news is that there is a cure to a dependence on legacy systems. More and more maintenance teams are ditching the old way of doing things, going digital, and reaping the rewards.

But don't just take our word for it. Here's what some maintenance professionals are saying about the benefits of adopting a digital solution:



"We've hardly had any critical breakdowns...we have complete visibility into downtime, and it's much easier to record and keep tabs on it."

**SEAN SIMON, VP OF OPERATIONS,
CIG LOGISTICS**



"The biggest and swiftest benefit we saw after implementing the system was...an 8% increase in productivity, and we project that will increase to 15% over the next three months."

**SCOTT BRITTON, GM OF OPERATIONS,
RAMBLER METALS & MINING**



"We're able to foresee problems now, instead of them just popping up all the time....I've seen a return of astronomical proportions just in terms of a reduction of downtime."

**JUSTIN MCCORMICK, EQUIPMENT AND
PURCHASING MANAGER
CALLAN MARINE**

CHAPTER 3

A blueprint for controlling costs

How going digital can help your operation maintain a healthy bottom line

03

■ Controlling costs with digital maintenance systems

Boosting the bottom line will always be one of your main goals, no matter what else is going on. Here are a few ways maintenance software can help you control costs.



Control backlogs

Deferred jobs can build up and result in extensive repairs. Maintenance software allows for greater visibility of unfinished projects, reducing forgotten work orders and expensive backlog.



Reduce scrap and rework

Scrap and rework increases energy costs and reduces output. Digital solutions allow teams to effectively schedule PMs to reduce breakdowns that lead to scrap and rework.



Calculate important KPIs and spending trends

Maintenance software tracks and calculates maintenance KPIs, metrics, and expenses, which are used to identify inefficiencies, fine-tune PMs, cut costs and improve reliability.



Make smarter inventory decisions

Technology ensures low inventory costs by eliminating lost documents, preventing duplicate ordering, guaranteeing minimum levels are met, and avoiding last minute orders for critical parts.



Reduce energy consumption

Digital platforms keep PMs on schedule, which keeps assets efficient and reduces energy use. Less energy means fewer costs.



Tools and techniques for controlling costs with maintenance software



Reporting and metrics

Software helps users create reports that forecast maintenance and sort equipment by repair costs. Users can track which assets break down most so repair or replace decisions can be made and labour costs are maximized.



Inventory management tools

These tools allow users to see if a part is available anywhere, at any time, eliminating redundancies and improving the ordering process. Inventory costs are lower and there's no need to invest in another costly system.



Scheduling and calendar

This module enables users to coordinate PMs when it's best for production. Work is done on time, downtime is reduced, and there are fewer costs for scrap and rework and energy consumption.

CONTROLLING COSTS BY THE NUMBERS

\$890K

can be saved by the typical manufacturing facility every year with the increased uptime maintenance software provides.

\$100K

can be saved by the maintenance department annually by going digital and eliminating the need to file, store, recreate and find paper documents.

\$70K/YR

in energy costs can be saved by manufacturing facilities by using sensors to detect leaks in air compressors.

CHAPTER 4

The path to increased efficiency

Start spending your time on the things that really matter with better technology

04

■ How investing in digital transformation can boost efficiency

With so much to do in so little time, you have to make sure you're being as efficient as possible. Here's a rundown of the ways digital transformation can give you and your maintenance team the tools you need to spend your time better and be more productive.

Organize work orders

Digital work orders can be accessed from anywhere and their status and priority can be determined quickly with the touch of a button, helping to quickly start and complete tasks.

Create reports faster

Creating reports from paper or spreadsheets is time-consuming and reduces accuracy. Software tracks data in real-time and sorts it easily and accurately into reports.



Make preventive maintenance more efficient

Maintenance software helps schedule preventive maintenance more efficiently. PMs and repairs are only done when necessary, redundancies are eliminated, and there are fewer breakdowns.



Eliminate paper and spreadsheets

Creating and sorting through paper and/or spreadsheets for every task can take a lot of time. Digital systems allow you to document, organize, access, and archive this information digitally.



Provide repair assistance

A digital solution enables you to attach helpful resources to assets, such as manuals and checklists. They are quickly accessible and time is not spent retrieving documents or using trial-and-error.



Tools and techniques for creating efficiency with maintenance software



Mobile work orders

Create, organize and track work orders from a mobile device to cut down on the time spent creating and completing tasks. PMs can also be scheduled and technicians can be alerted from their mobile device.



Stock levels and minimum quantities

Maintenance software allows users to set stock levels and automatically trigger low stock notifications by setting minimum quantities. Storeroom visits can be less frequent, and less time is spent entering data.



Requests for quotes

A digital system allows users to automatically trigger RFQs to suppliers when parts run low. This saves time when tracking parts and creating requests, and cuts the wait time for equipment.

CREATING EFFICIENCY BY THE NUMBERS

Maintenance managers can save an average of **450 hours** annually by automating reports using maintenance software.

39% of maintenance professionals say it takes too long to find parts. Software eliminates this problem by making inventory numbers more visible.

An average of 18 minutes per day is spent retrieving information with legacy systems. Going digital can eliminate this time and save the typical technician over **73 hours every year**.

CHAPTER 5

Creating a safer workplace

How to keep you and your team safe by modernizing your maintenance

05

Digitally designing maintenance for safer work

Safety first! Ensuring everyone is safe, healthy and compliant is critically important to any successful maintenance program. Check out all the ways maintenance software can improve health and safety.

Strategically organize employees

Going digital enables you to create a health and safety database and track employee training so you can ensure everyone is compliant and assign tasks only to qualified workers.

Make information more accessible

Software allows employees to easily follow safety protocols by making them more accessible. Documentation is simpler and workers are notified of new procedures.

Standardize tasks and checklists

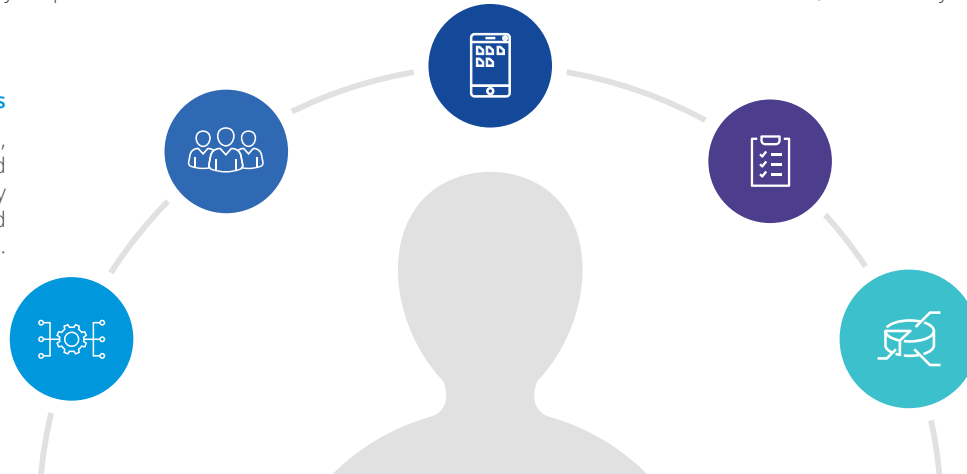
Without standardization, PMs and repairs are often done incorrectly, leading to unsafe work. Adding checklists to a digital platform allows users to complete tasks in a safe, efficient way.

Create a better system for assets

Software allows you to map assets, create naming conventions, and add safety notices, so equipment is easy to find, hazards are identified, and technicians don't rush risky tasks.

Collect better data

Data about asset condition and history, accidents, near misses, and safety concerns can be collected with software so you can plan better, make improvements, and provide better safety training.



Tools and techniques for improving safety with a digital maintenance solution



Task groups

Task groups ensure the consistency, accuracy and completeness of maintenance tasks, which creates a safer environment. Task groups can include checklists, an asset's safety record and required PPE. Sign-off sheets are created, helping users build a record of compliance.



Attaching documents to assets

The ability to attach documents, videos, links and other resources to an asset's profile provides technicians with the information they need to safely complete a work order or preventive maintenance.

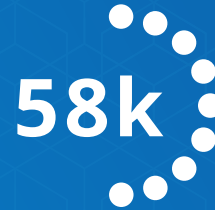


Health and safety user profiles

User profiles can be managed to include health and safety information, including a user's safety records, training, and certifications. Employee skills can be tracked, appropriate training plans can be built, and specific tasks can be assigned only to qualified workers.

IMPROVING SAFETY BY THE NUMBERS

Maintenance software makes it easier to coordinate and track maintenance safety training, which leads to a **24% reduction in injury rate**.



The OSHA handed out over **58,000 violations** for non-compliance in 2016. Maintenance software can help your company avoid being part of that number.

Deficient documentation accounts for **15% of all maintenance-related injuries**. Going digital provides increased access to documents so you can eliminate this issue



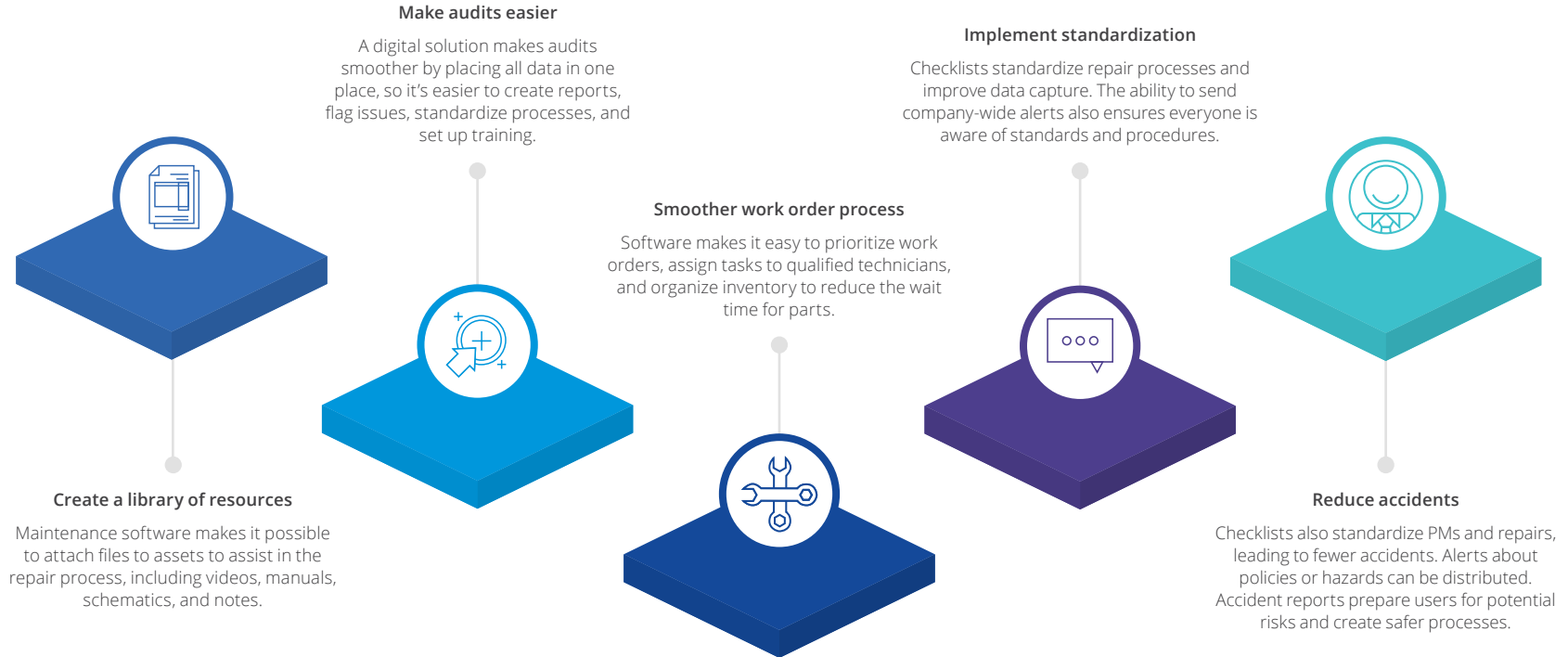
CHAPTER 6

A roadmap to harnessing knowledge

How to take full advantage of your team's know-how with a digital solution

06

■ Harnessing knowledge with a digital approach to managing maintenance



Tools and techniques for harnessing knowledge with maintenance software



Naming conventions

Naming conventions provide a streamlined process for finding information. Software users can identify assets, track inventory, locate documents, and build reports in a snap.



Electronic documentation

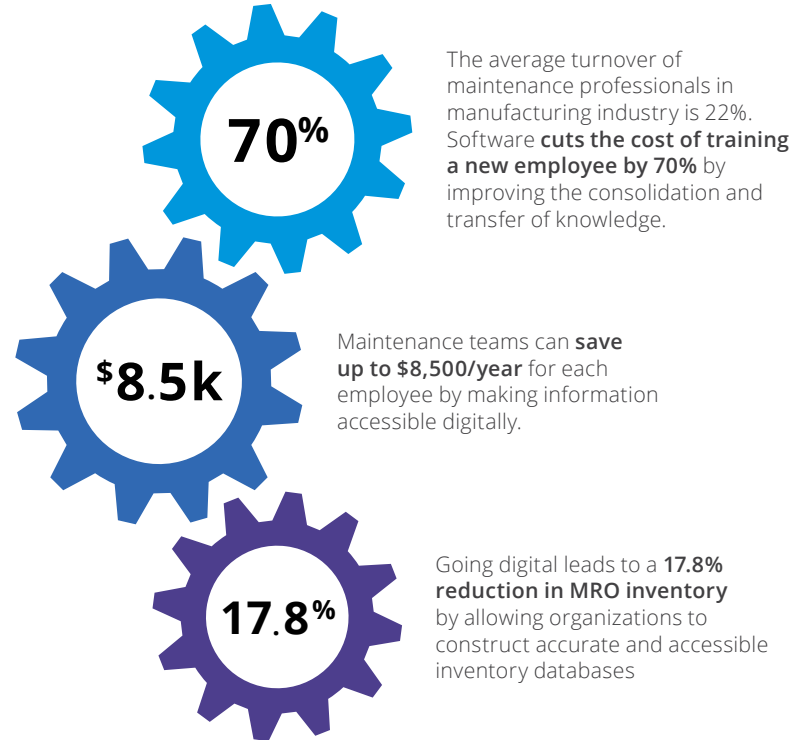
Documentation, like SOPs and checklists, can be assigned to assets and tasks using software and can be accessed remotely. This saves time, reduces downtime, and improves safety.



Root cause analysis

This tool allows users to note the problem, cause and action for each work order, enabling them to analyze historical data and plan effective PMs/repairs.

HARNESSING KNOWLEDGE BY THE NUMBERS



CHAPTER 7

The key to reducing downtime

Conquer unplanned maintenance by swapping spreadsheets for software

07

■ The benefits of harnessing maintenance knowledge with a digital approach

If you're being honest, the prospect of downtime is often the thing keeping you up at night. Get a better night's sleep with these digital tools that can help you reduce downtime.

Improve work order processes

Paper-based work orders take a while to get noticed, which increases downtime. Digital work orders can be submitted, prioritized and sent to technicians from anywhere, so work is done faster.



Capture reliable data

Software allows you to obtain and analyze asset data more effectively than paper or Excel so you can determine the right level of preventive maintenance, flag issues, and increase reliability.



Increase efficiency

Retrieving information and completing tasks out of order can exacerbate downtime. Software makes it easy to access files and checklists, improving standardization and quality of work.



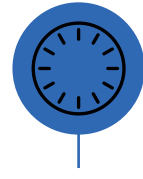
Establish accountability

Digital platforms enable you to assign work orders and establish a level of project ownership and accountability not possible with pen and paper or Excel, resulting in fewer forgotten projects and less downtime.



Track inventory

Downtime is prolonged when a part can't be found or is out of stock. Software automatically updates and orders inventory, displays available parts and sets minimum levels.



Tools and techniques for reducing downtime



Scheduling and calendar

This tool allows users to automatically trigger work orders and coordinate maintenance with production schedules. Maintenance teams can perform preventive work efficiently while avoiding excessive backlog, lost production and unplanned downtime.



Inventory tracking

This module helps maintenance teams skip the time required to physically check stock levels when performing repairs or PMs. Users can automate purchasing so they are never stuck without a piece. All this adds up to reduced downtime.



Centralized work orders

With this tool, work order requests can be sent, viewed, prioritized, assigned and tracked in real time. Alerts ensure technicians are aware at every step. This makes the process smoother, improves reliability and cuts downtime.

REDUCING DOWNTIME, BY THE NUMBERS



160

Implementing a CMMS can save manufacturing facilities more than **160 hours** of downtime per year.



70

Going digital can **eliminate an average of 70** gauge reading errors every year, leading to better data, less downtime and improved asset reliability.



20.1%

Using maintenance software leads to a **20.1% reduction** in equipment downtime on average.

CHAPTER 8

Where to go from here

Establishing digital transformation
at your facility

08

■ The path to digital transformation

Now that you've seen how far digital transformation can take your maintenance program, it's time to create a plan of action. Change is never easy, but knowing what obstacles lay ahead, how to overcome them and what tools to utilize will help make the transition from legacy systems to a digital one much smoother. In this chapter, we'll look at some of the common challenges associated with digital transformation, how to conquer them, and some tips on choosing the best solution for your operation.

As with any journey, the road to digital transformation has its share of challenges. But that shouldn't stop you on your quest for better maintenance. The following are some of the most common barriers maintenance managers face when implementing digital transformation and how you can overcome them.



■ The challenges of digital transformation and their solutions

Data monitoring and evaluation



CHALLENGES

- Having the resources and skill sets in place to monitor, evaluate and act on data.
- Assets require the ability to capture data.
- Processes must be in place so data is used to improve operational efficiency and maximize investment in technology.



SOLUTIONS

- Most facilities have personnel who have the required data, but don't have systems in place to store and share this knowledge.
- Develop strategies to organize this pre-existing data.
- Use this system when transitioning to a digital solution.

Cost and availability of technology



CHALLENGES

- Digital transformation often requires purchasing new technology and/or upgrading equipment.
- Adapting to advanced systems requires time, patience, and both human and financial capital.



SOLUTIONS

- Provide proof that maintenance can move from a cost centre to a value centre.
- Move slow, become familiar with new platforms and evolve slowly from simple to complex data analysis.
- Establish a pilot program to implement and scale digital transformation in a low-risk environment.

■ The challenges of digital transformation and their solutions

Expertise, training and workplace culture



CHALLENGES

- New skill sets are required to properly run systems. These skill sets are difficult to find, take time to develop or require outside providers.
- There are often growing pains when establishing buy-in from staff and training staff to use new systems.



SOLUTIONS

- Inform and consult stakeholders and maintenance team, and be clear about possible changes.
- Find technology that will be easy for the maintenance team to adopt.
- Explain the benefits of digital solutions and provide exceptional training to make new systems less daunting.

Security



CHALLENGES

- Safeguarding access and adopting proactive cybersecurity strategies requires time, skill, effort and financial resources.



SOLUTIONS

- Take the time to create a strategy for cybersecurity and build a plan ahead of implementation.
- Look at the processes and procedures in place for other software systems in your organization and base your strategy on these systems.
- Assess and understand potential threats and solutions.

■ Choosing the right solution

Committing to digital transformation is just the first step; the next one is choosing the right solution for your operation. Determining which technology or combination of systems is right for your facility is a big decision. Start your search by considering your workplace culture and the willingness of your team to buy into new technology, the needs, goals and priorities of your team and your budget. Then consider the following maintenance technologies used for digital transformation and determine which one will make the most impact for you.

Computerized maintenance management system (CMMS)

A CMMS manages all maintenance during the operational part of an asset's life. A CMMS's duties include automation, scheduling, inventory management, and record keeping.

Enterprise asset management (EAM)

EAM software provides a view of a facility's assets through their entire life-cycle, including design, construction, operation, maintenance and replacement.

Asset performance management (APM)

An APM solution ties advanced software tools together to improve asset reliability and availability. It collects and analyzes real-time data to assess value and risk.



Enterprise resource planning (ERP)

ERP software manages day-to-day business activities, such as accounting and manufacturing. ERP systems enable the flow of data between processes, including maintenance.

New and emerging technologies

Other technologies being used in maintenance include 3D printing, embedded sensors, and virtual reality. These technologies can be used with or without other solutions.

Conclusion

It's time to join the maintenance revolution!

Change is never easy, but it's worth it to ditch pen and paper and spreadsheets for modern maintenance technology. When you choose the right platform and take small steps toward going digital, it's easy to maximize your team's potential, including better spending, data collection, time management, reliability and safety.



Learn more

Visit www.fiixsoftware.com for information on getting the most from maintenance software and other tips for maintenance professionals.

Visit our case studies page to see how other organizations have benefited from digital transformation, at www.fiixsoftware.com/resources/case-studies.

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