



MAINTENANCE MANAGEMENT SOFTWARE – DEMYSTIFIED

From the basics of “why” to the
questions to ask before you buy

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LESS TIME. MORE ANSWERS.



Introduction	3
CMMS, EAM, APM—explained	4
Benefits of using software	6
Impact on safety	8
Calculating ROI	10
Vetting your vendor	12
Implementation tips	14
Conclusion	15

If it's not broke, don't fix it...or do?

We're all familiar with the old adage, "If it's not broke, don't fix it." And, while that's still sound advice for a lot of life's experiences, gone are the days of that mentality applying to the maintenance industry. Fixing broken stuff is no longer the goal. Rather, it's about preventing stuff from breaking prematurely in the first place.

Sure, you could argue that proactive maintenance has been a goal since the Second Industrial Revolution and the advent of time-based maintenance. However, we can all agree that technology has super-charged the effort. With advanced technology solutions comes reliability centered maintenance (RCM). Do you have tools and strategies in place to extend equipment life? Perform at peak efficiency? Control costs? There has also been a sharp focus on

improving industrial safety. These are not independent events. They are proven functions of the same shifts in mindset and access to digital solutions. Safety and reliability go hand in hand.

44%
of facilities still rely on paper records. Yikes.

Technology is undoubtedly changing the rules of the game, and that can be a good thing—but not always. Too much data, too many systems, so many sensors, so much testing. It's hard to make heads or tails out of it.



Mark O'Brien Business Manager | On Now Digital

Or, more accurately, it's hard without digital tools and software to help manage your maintenance activities. Designed to be the backbone of a solid, modern RCM plan, maintenance management software embodies everything you need (and limits what you don't need) in order help you organize equipment information, streamline maintenance planning, track your activities, maximize uptime, and lots more. If you're intimidated by the thought of adopting one more digital solution, you're not alone. Currently, 44 percent of facilities still rely on paper maintenance records. And more than half are beholden to spreadsheets*. But not being alone doesn't mean you're not falling behind.

Here's the good news. Once you understand what you need and why you need it, implementing maintenance management software at your organization can have a major impact almost immediately. So let's get to fixing this.

*Pelliccione, Amanda. Plant Engineering 2018 Maintenance Study, 7 Key Findings on Facility Maintenance. Plant Engineering, March 1, 2018.

First things first: what's available?

If you've been researching maintenance management software, it probably took you somewhere around 90 seconds to realize there are a lot of options. And a lot of options within the options. Before you start vetting specific providers and platforms, it's important to take a step back and understand the different kinds of software that live in this somewhat amorphous maintenance and asset management space.

Some of the most common terms you'll come across are computerized maintenance management system (CMMS), enterprise asset management (EAM) and asset performance management (APM). This is a rich discussion and we could probably write a whole separate ebook just on these distinctions – and, trust us, there is a lot of overlap between them – but here's a quick breakdown:

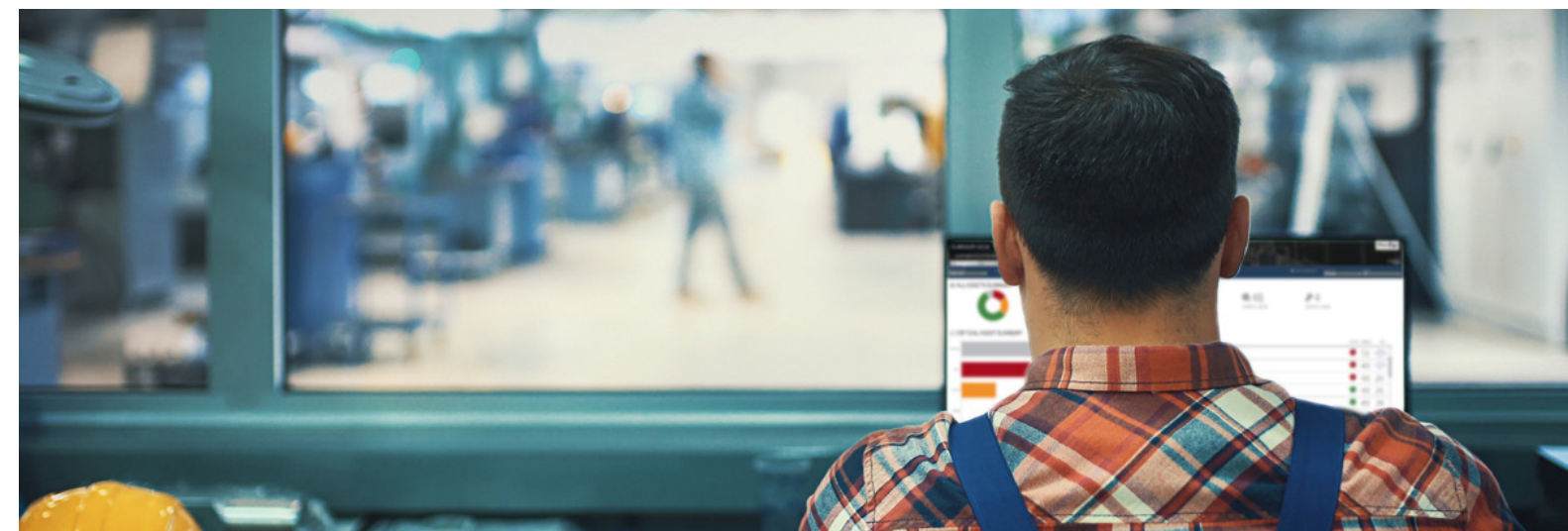
CMMS – This system is best for managing maintenance tasks, with work order creation and tracking as a key function. Maintenance managers use CMMS tools to control schedules and labor costs, assist with inventory management and ensure basic preventive maintenance. They offer a real-time, comprehensive activities log and historical maintenance database.

EAM – An EAM can perform most of the functions a CMMS does but is focused on managing equipment data as opposed to maintenance tasks. The primary aim with an EAM is extending asset life and reliability. It offers more advanced analytics and

condition-based monitoring, energy monitoring and warranty/claims tracking, to name a few functions.

APM – APMs are geared toward operations that are asset-intensive, meaning that the health and output of the equipment is closely tied to the success and growth of the business. They utilize technologies like sensors and IoT devices, paired with artificial intelligence and machine learning to analyze lifecycle data, employ predictive and prescriptive maintenance, ensure peak performance, and improve financial returns. It's usually the director-level folks using this particular tool.

You may also see other terms like facility management (FM) and computer-aided facility management (CAFM), but those tools are designed with your physical location in mind. This software manages everything from the architecture and engineering of your facility and infrastructure to environmental factors, utilities and more. For the purpose of our discussion here, the remainder of this ebook will focus on CMMS and EAM systems.



Maintenance and asset management software — at a glance

SOLUTION >	CMMS Computerized Maintenance Management System	EAM Enterprise Asset Management	APM Asset Performance Management
CORE > FUNCTION	Manage maintenance tasks and scheduling	Manage asset/equipment data	Optimize performance, availability, financials
USERS >	Maintenance managers, technicians	Operations/maintenance managers, reliability engineers, technicians	C-level leaders, operations directors
AIM >	Control maintenance activities and costs	Extend equipment life and asset value	Ensure return on assets (ROA), decrease operational risk
FEATURE > SPOTLIGHT	Work order tracking, scheduling, inventory management	Preventive maintenance, condition-based monitoring, compliance reporting	Predictive maintenance, prescriptive maintenance, asset lifecycle management

What gains will software ultimately provide?

Maintenance and asset management software can genuinely transform the way you run your operation. The power of these systems lies in the fact that they function as a ginormous database for all of your maintenance and equipment data – quite literally all of it. However, getting the most out of your CMMS/EAM system involves being well informed of what it offers and how to use it. Currently, studies show that businesses are using as little as 5 to 10 percent of their CMMS/EAM capabilities*. Here are some of the key benefits you'll want to make sure you understand – so you can maximize them.



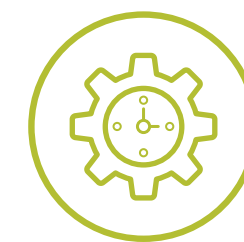
Faster workflows

Planning, scheduling, tracking, reporting, billing – the functions of your job take time. By digitizing these processes, you no longer have to waste time filling out paper copies for technicians, and they no longer have to fill out paper inspection forms that may end up sitting in a van or on a desk for days. Your software also offers a quick view of work order statuses, technician availability, cost concerns and more. Depending on your integrations, you may also be able to automate invoices and reports.



Improved maintenance tracking

A core function of CMMS/EAM software is providing automatic activity logs on every piece of equipment you have – for the entire life cycle of each asset.



Clear asset health snapshots

If your CMMS/EAM integrates with IoT sensors and utilizes artificial intelligence, you can easily implement real-time, condition-based monitoring. You can set custom thresholds for your equipment, instantly prioritize maintenance based on health indicators, get quick-glance views into holistic condition data or drill down into individual assets. And, with color-coded charts and graphs, you no longer need to sift through rows of Excel data or file cabinets of paper.



Increased safety

With access to real-time equipment and task information, you can make the move from reactive, break/fix mode to preventive maintenance. This inherently results in more time spent on lower risk, planned tasks and less time on unplanned work on unstable equipment. Additionally, your CMMS/EAM can store all of your employee safety training records, permits and certifications.



Hassle-free compliance reporting

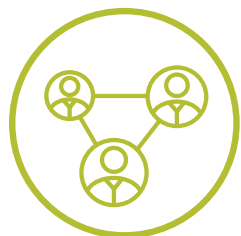
You're likely all too familiar with regulatory and insurance standards, audits and ISO 55000 requirements...and the hours and hours it can take to compile the necessary

*Loesch, Dave and Steven Slade. How to Get the Most Out of Your CMMS/EAM System. Reliable Plant.

BENEFITS OF USING SOFTWARE

compliance reports. Luckily, maintenance management software offers an easily accessible record of who did what and when. What's more, it has the ability to sort by equipment types, facility locations and other attributes that may be needed for insurance or compliance reporting. Plus, you can generate and export those reports with a couple of clicks.

**Many CMMS/EAM systems
are only running at
5-10%
of their capability.**



Streamlined communication

A CMMS/EAM offers a secure, cloud-hosted central location for all your maintenance data. Most allow for multiple users and permission levels. This means you can communicate with your team remotely and technicians can access real-time data from the field. Need to change the priority of a task? Have a specific comment about a finicky piece of equipment? Want to attach a photo? With custom work order functions and push notifications, software ensures that your crew stays up-to-date. All that super specific equipment data also comes in handy when onboarding new employees.



Increased productivity (and profit!)

All of these benefits really add up to one big one – productivity. With a CMMS/EAM, you can ensure you have the right people working on the right equipment at the right time. This level of precision creates efficiencies you'll see in your labor costs, inventory management, customer service and, ultimately, your bottom line. With safer, more reliable equipment, you can minimize costly downtime and get more work done – faster.

BEFORE YOU BUY! Ask these 5 priority questions.

There's a wide range in software functionality. Start defining your priorities by asking:



- 1** Do I spend more time on task data or asset data?
- 2** Where does my team lose the most hours?
- 3** Do I have a plan in place to reduce break/fix work?
- 4** How long does compliance reporting take us?
- 5** What's my employee turnover rate?

Actually, let's dive deeper into safety.

The pressures of reliability and profit are intense, but let's be real for a minute here: the safety of your team is your number one priority. Conveniently, the vast majority of industrial and commercial thought leadership of the last couple decades shows that reliability and safety are intrinsically related. Improve one and the other will follow.

Of course, if you've ever bypassed a spinach salad for a greasy BLT and fries (yep, guilty over here!), you understand that knowing what's best and doing what's best aren't always the same thing. In other words, it can be easy to fall short on safety when you move from theory to practice. Unfortunately, when high-voltage equipment is involved, even a small misstep can have detrimental effects. With incredibly specific OSHA guidelines on everything from HAZCOM and lockout/tagout (LOTO) procedures to re-labeling worn markings on forklift controls, you have a ton to monitor.

Fear not, that's where software comes in. CMMS/EAM technology can greatly reduce the time and stress you put into safety and help protect your team from some pretty serious hazards. Here's how.

More automation, less error.

Somewhere around 90 percent of serious workplace accidents are caused by human error*. In addition storing safety certifications and permits like we mentioned before, CMMS/EAM systems can help standardize your safety training and documentation, which goes a long way in reducing human error. Maintenance management

*Koen, Susan L. Safety Leadership: Neuroscience and human error reduction. Safety + Health, October 25, 2015.

software can even automate safety checks specific to high-risk equipment so that your team gets triggered reminders any time they work on that asset.

You can also automate some of the bigger picture safety responsibilities that fall in your hands, like staying ahead facility-based risks. Corrosion, leaks, safety signs and floor markers, storage and warehousing issues, the location of machinery within your production area – these are just a few of the things your software can help you monitor more effectively. You can create facility inspection lists with customized thresholds that will automatically alert you when something needs attention.

Communication is everything.

Related to human error, delayed communication can cause a lot of risks. With manual tracking and reporting, it can be hours, if

90%
of serious workplace accidents are due to human error.

not days or weeks, before safety alerts are received and communicated. Maintenance management software offers the power to send alerts in real-time. This includes updates on environmental hazards, faulty equipment, work order changes and more. Plus, all of your safety

protocols (safety checklists, SOPs, videos, facility diagrams and more) are accessible from any device, anywhere, making it easy for technicians to access whenever they need them.

Preventive maintenance can be way easier.

What's one of the main reasons you fall behind on the preventive maintenance tasks? For many managers, the answer is that they simply fall short on people or parts – or both. A CMMS/EAM will create an automatic activity log providing a record of everything needed to complete each task. The software can then analyze your scheduling, ensuring you account for the right amount of labor hours for the tasks you need to complete. This also helps forecast capacity issues and justify the need for new hires. Similarly, inventory management

functionality gives you a clear spare parts report so that you can make sure you always have what you need to complete preventive maintenance. Ultimately, your crew will be working on safer, more reliable equipment.

BEFORE YOU BUY! Ask these 5 safety questions.

Assess your need for software-assisted safety.
Do you see accidents caused by:



- 1 Rushing to get production up and running?
- 2 Not having the proper tools or staff on hand?
- 3 Failing to properly evaluate all surrounding areas?
- 4 Not properly isolating equipment?
- 5 Letting the main event distract from corresponding issues?



How much will you really save?

That's the million-dollar question, right? Are the software costs and implementation efforts going to be worth it from a financial

**Unplanned
downtime
costs roughly
\$50
BILLION
per year. Ouch.**

standpoint? Considering that the EAM market alone is a \$5.5 billion industry* and growing, there's clearly something to this whole digital thing.

Typically, you calculate ROI by subtracting the software's initial value from its final value, dividing by the startup cost, and then multiplying by 100. Unfortunately there are way too many variables to fill in the pieces of this equation here and now. But we

can start giving the necessary context to get you in the right direction.

Let's start with out-of-pocket costs.

What are you paying for upfront? Naturally, that's going to vary a lot depending on what solution you go with. That said, it does help to at least get a feel for what you need right away. Your startup fees could include:

- The software package itself (usually a subscription)
- Implementation
- Training
- Hosting
- Hardware costs
- Any requested customization

*Enterprise Asset Management (EAM) Market Research Report. Prescient & Strategic Intelligence, July 2020.

Now we can zero in on value.

Once your CMMS/EAM system is up and running, you'll notice the impact fast. The software increases your operational efficiencies in a variety of cost-saving ways, including some we've already discussed like real-time communication and faster onboarding, as well as:

- **Inventory management** – Avoid running out of or overstocking on parts with order tracking and inventory features.
- **Reduced labor costs** – More adequately staff your shifts based on workload. You can even get more granular and analyze productivity based on facility location, team members, time of day, etc.
- **Extended asset life** – Leverage best practice maintenance to ensure your equipment lasts longer and to better plan for pulling the trigger on costly new assets.
- **Utilities savings** – Use less gas, electric and water by operating better maintained equipment.

By far, the biggest cost-saving aspect is decreased downtime. In the manufacturing world, unplanned downtime costs somewhere around \$50 billion per year* with just four hours equaling an average of \$2 million**. A CMMS or EAM system can help reduce

*Chandramouli, Mahesh, Chris Coleman, Satish Damodaran, Ed Deuel. Making Maintenance Smarter: Predictive Maintenance and the Digital Supply Network. Deloitte Insights. May 9, 2017.

**Immerman, Graham. The actual cost of downtime in the manufacturing industry. IIoT World, November 14, 2018.

CALCULATING ROI

unplanned downtime, which in turn increases productivity and profitability. Maintenance management software does this with many of the reliability and safety-enhancing features we've covered already, such as:

- Maintenance tasks at regular intervals
- Real-time condition-based monitoring
- Preventive maintenance

Don't forget that your time is also incredibly valuable. With automated workflows and quick, hassle-free reporting, you can get out of the weeds and focus on more strategic tasks.

BEFORE YOU BUY! Ask these 5 price tag questions.



Want a better shot at ROI? Be crystal clear on what you're paying for. Ask:

- 1 What's your implementation fee?
- 2 What factors affect pricing (number of users, facilities, asset types, etc.)?
- 3 Is your solution web-based (typically less costly)?
- 4 Are after-sale service hours included?
- 5 How can this solution grow with my business?



VETTING YOUR VENDOR

Know what you need, get what you want.

When you're ready to talk to a vendor, you want to be clear on features, integration points, support and pricing. Let's run through each.

Features (aka functional requirements).

Before meeting with anyone, make a clear list of the functionality you require. In the software world, we call that your "functional requirements." It's easiest to craft a list of jobs to be done and work from there. During the demo phase, walk through your list, making sure to ask specific questions: How would your solution route this type of request? Show me exactly where I enter a new work order, etc. Don't be appeased by companies that say that feature is "on the roadmap" or "should be released in the next version." That could be code for, "We don't have that and will charge you a lot for us to build it." Nope.

Integration points.

Similarly, come ready with a list of systems you already have that you are going to need to pull data from or push data into. This may include enterprise resource planning (ERP) systems, financial packages and customer relationship management (CRM) platforms. Be clear on the type of data coming from and going to each system. Huge efficiencies can be gained or lost in this critical integration piece. Most of the time, these integrations will have to be done in some type of custom capacity. That's just the nature of the beast, so be wary of

companies that say they have easy "plug and play" integrations. Even systems with standard application programming interfaces (APIs) will most likely needed to be adjusted to fit your precise application.

Ongoing support.

Ask to see the ongoing support section of the agreement. What happens if you want to make changes to the data or the system altogether? As your business grows and changes, your needs will, too, and you'll want a system that is flexible enough to handle the changes without costing a fortune. Companies handle ongoing support differently. The best option is a company with an in-house development and support team. While some have great third-party contractors, you should make sure they work with them on a consistent basis. Don't shy away from asking for references if you have concerns.



VETTING YOUR VENDOR

Right, down to the brass tacks – pricing.

Most of the time, CMMS/EAM systems come with an annual fee or a per-user fee, but some systems work on a per-asset basis to scale better for smaller companies. Regardless, make sure the ROI makes sense for your business, not just in dollars and cents, but also in terms of safety and reliability. The most common place where these agreements can get expensive is in the implementation phase. If you haven't done your homework, the implementation can blow past your deadline and cause huge cost

overruns. Bear in mind, these conversations can get technical, and it helps to have a technical person on your team who understands the breadth of data you work with and where it lives.

BEFORE YOU BUY! Ask about these 5 features.

You'll want to vet how your vendor delivers, of course. But don't lose sight of what they deliver. Look for:



1 Equipment condition dashboard

2 Maintenance record repository

3 Pictures, notes and comments

4 Criticality status indicator

5 Inspection and testing results summaries



Smooth sailing – is it possible?

The goals for a successful implementation are obvious – on time, on budget and headache-free. That may seem out of reach if you’ve heard the scary stat that 80 percent of CMMS implementations fail*. However, a lot of those failures are due to companies not understanding what they are getting into and how to proceed. We already talked about the homework your team needs to do upfront, and if you commit to that process, your implementation should go smoothly.

But, just keeping it real, you’re going to have at least one technical “unknown unknown” pop up during the implementation. Don’t panic, it’s totally normal. Here are a few tips to minimize implementation issues:

- Mutually set a target go-live date
- Agree upon the time and resources required to hit that date (hours, dollars, details)
- Meet regularly to review progress and address “unknown unknowns”
- Request a “sandbox” environment to test the functionality before go-live

*Bagadia, Kris. 10 Keys to Successful CMMS Implementation. Reliable Plant.

Again, we can’t stress enough that failing to properly vet your vendor is what usually causes overruns during the implementation phase. Small delays are expected, but large delays or breaks in work demonstrate the lack of proper information gathering during the buying process – from both sides. Make sure you and your software provider are a united team.



Well, aren't you just the CMMS/EAM expert.

We threw a lot at you here. Don't worry, there isn't a pop quiz. But, we do hope you're feeling significantly more confident about how to approach your search for the right maintenance management software. No matter how big or small your operation is, software can help. It's not a matter of "if" but of "how much." How much you'll save. How much your reliability will improve. How much more effective your safety program will be. The world is changing, and your business requires a digital strategy to change along with it. If you're operating with clipboards and spreadsheets, your system isn't broken. But...wouldn't a tune-up help?

On Now Digital is an industrial data management company located in Northeast Ohio. Our team has been developing inspection and analysis tools for 15+ years. We believe software should help and the people who build it should be helpful.

For more information, email us at

solutions@OnNowDigital.com ➔

