The Connected Maintenance Toolkit

The digital technology and templates you need to remove silos, gain visibility, and empower workers.

Rockwell Automation | Fiix

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Introduction

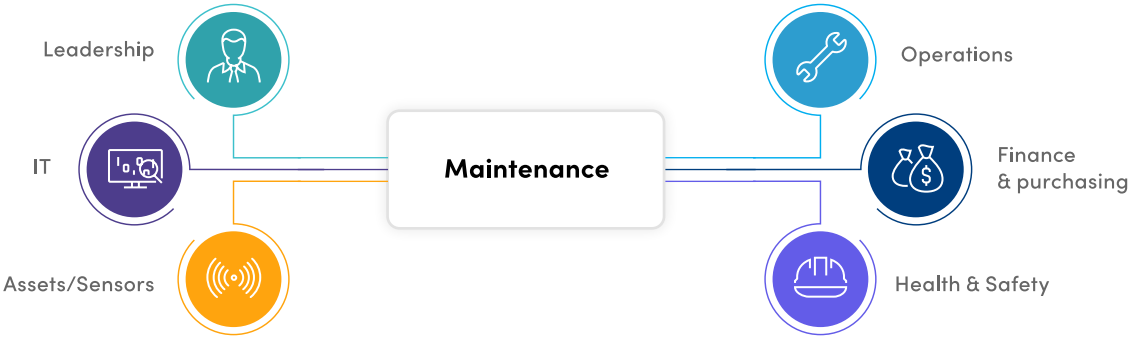
The maintenance landscape is changing, and with that, so are the tools maintenance teams are using. With rising operational complexity, shrinking teams, and increasing demand for uptime, maintenance departments are under pressure to deliver more with less. To meet these demands, teams can no longer rely on a patchwork of paper records, spreadsheets, and disconnected tools.

The industry is undergoing a critical shift, from siloed, manual systems to integrated, digital-first platforms that support smarter, faster decision-making. The difference is this: Disconnected systems limit visibility, delay response times, and introduce unnecessary risk. Connected systems, on the other hand, provide real-time insights, reduce duplication, and empower teams to prioritize their work.

This is where **The Connected Maintenance Toolkit** comes in.

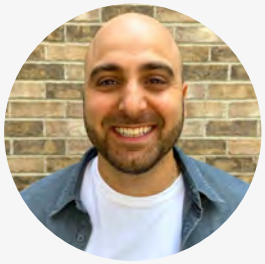
This toolkit brings together proven digital tools, strategies, practical templates, checklists, and expert-backed insights to help organizations like yours break down silos, streamline workflows, and maintain operations. Whether you're starting your digital transformation journey or refining your current setup, this toolkit provides the building blocks you need.

Inside, you'll find a checklist, re-useable templates, and a look at how leading platforms like Fiix CMMS are helping teams boost efficiency, breakdown silos, reduce costs, and close the workforce skills gap. Every section connects back to one goal: **creating a more connected, visible, and productive maintenance team.**



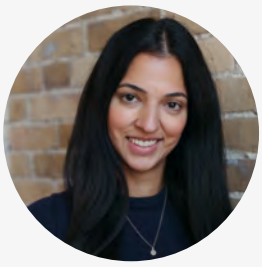
About Our Subject Matter Experts

This toolkit is built on the expertise and real-world experience of leading subject matter experts from Fiix® by Rockwell Automation. These professionals have spent years advancing the fields of connected work, digital transformation, and smart maintenance. Their knowledge in maintenance, operations, and automation forms the foundation of this resource. Meet the experts behind the insights below:



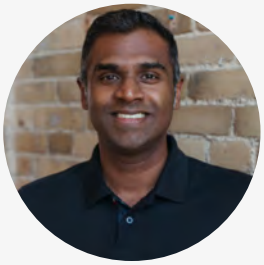
Jason Afara
Director, Solutions Consultant, Fiix by Rockwell Automation

Jason brings over 8 years of experience in operations and maintenance. He has worked as a production supervisor, maintenance planner, maintenance supervisor, capital projects manager, and maintenance manager. At Fiix by Rockwell Automation, he has helped customers with various projects, from improving reporting to optimizing their work order process and continuous maintenance improvement.



Roopali Bagaria
Implementation Manager, Fiix by Rockwell Automation

Before moving to the world of maintenance software, Roopali spent over 6 years in the accounting and technology industry, earning her CPA along the way. After spending several years with Fiix by Rockwell Automation, she has worked with hundreds of clients, providing professional services, including implementation, consulting, data migration, and end-user training.



Kathir Haran
Solutions Consultant, Fiix by Rockwell Automation

Kathir is a professional Engineer with 15 years of experience working in manufacturing, operations, continuous improvement, maintenance, facilities management, quality and project management. Certified Reliability Based Maintenance Practitioner. Strategic thinker providing solutions to stakeholders and value to customers.

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> If we can connect to machines through technology, that is one less task for maintenance people to do, and it has the potential to allow you to be more efficient.
>
> **Roopali Bagaria, Implementation Manager, Fiix by Rockwell Automation**

CHAPTER 1

Boost Maintenance Efficiency

Efficiency isn't just a goal for maintenance teams; it's a competitive advantage. Today's fast-paced and resource-strained industrial environments, operations depend on maintenance teams to keep assets running reliably while staying lean and agile.That means reducing wasted time, minimizing manual effort and focusing on high-impact tasks. Additionally, maintenance teams have the added pressure of improving maintenance workflows and streamlining processes.

In many organizations, maintenance technicians and managers still rely on manual spreadsheets, whiteboards, or disconnected software systems to optimize maintenance operations. This approach leads to redundant data entry, poor communication, and missed opportunities to streamline.

Admin work cuts into maintenance productivity, and on average takes up approximately 20-40% of a maintenance team's day to day[1]. Admin work includes:

- Communication and coordination
- Work order management (creating, updating, closing)
- Inventory tracking (parts and tools)
- Compliance and safety documentation
- Reporting and data entry
- Scheduling and planning

This is where connected maintenance technology becomes essential. By streamlining data entry, automating task management, and centralizing communication, teams can spend less time on paperwork and more time driving value. Additionally, digital maintenance tools allow teams to have very clear maintenance planning and scheduling for their daily work. Not only does this reduce operational costs and risk of error, but it also creates a work environment where technicians can develop the digital skills that today's and tomorrow's operations demand.

[1] This data comes from a general average of Fiix CMMS users.

Remove the Burden of Admin Work

Our industrial workforce will continue to develop and evolve over time, and digital competencies are going to be crucial in staying competitive, both as a team and as an organization.

According to Jason Afara, "A connected maintenance system eliminates much of this burden. With a centralized computerized maintenance management system (CMMS), teams can log, track, and analyze all work orders and asset data in one place. No more sifting through binders or retyping information into spreadsheets."

Jason adds that with a CMMS in place, users create templated work orders, track tasks in real time, and generate reports with just a few clicks. A CMMS adds to the credibility of maintenance teams to let their other teams know what is being worked on. Mobile functionality means technicians can access assignments and submit updates from the floor, drastically improving real-time visibility and reducing time wasted walking between machines and desks.

This isn't just about convenience—it's about enabling more strategic work. A connected system means you have a connected maintenance team. With admin time reduced, maintenance leaders can focus on planning, reliability improvements, and continuous optimization.

Below are some questions on how to streamline maintenance operations by focusing on reducing admin work.

Reducing Admin Work: 5 Questions to Ask

Reducing administrative work may sound easy, but in practice it can be very difficult for maintenance teams. Here are five questions to start asking yourself to figure out if you need to reduce admin work:

1. Are your work orders digital and mobile-accessible?
2. Are you using templates for recurring work?
3. Can you track and search asset histories quickly?
4. Do you have a centralized location for manuals and SOPs?
5. Are alerts and work assignments automated?

Hint: If you answered no to more than two questions it may be time to start thinking about leveraging a CMMS to help out.

Read more about this here: https://fiixsoftware.com/blog/15-benefits-of-a-cmms/

But once the improvements are underway, maintenance teams are going to be faced with other challenges—ones that fit into the bigger picture of an organization's bottom line.

Jason highlights, "Once the team starts reducing their admin work, the expectation is going to be decreasing costs and optimizing labour to ensure we are working on the right thing. Your boss will say, "Okay, now that the time on administrative is cut down, what else are we doing to boost our revenue and cut costs?" And you need to be prepared for that next step."

Boost Your Revenue and Decrease Costs

Maintenance often gets labeled as a cost center, but with the right tools and strategy, it can become a driver of profitability. Every unplanned outage, asset failure, or misallocated resource adds cost. Overall, smarter planning and better visibility into asset health can unlock major savings.

A CMMS provides critical data to track performance over time and identify areas for cost reduction. Teams can measure metrics like mean time to repair (MTTR), track downtime by asset, and analyze trends to predict and prevent future failures. Built-in reporting and dashboards give maintenance managers a clear view of performance, allowing them to spot inefficiencies and act on them quickly. Additionally, it allows managers to set up preventive maintenance schedules, monitor their asset uptime and reduce maintenance downtime.

Ready to move away from reactive maintenance? Get the preventive maintenance set-up template

Jason adds that one of the most powerful cost-saving features is asset criticality: "By tagging and prioritizing your most important equipment, your team can focus resources where failure would hurt the most: improving uptime while avoiding unnecessary work on low-impact assets."

Additionally, Jason notes that allowing off-shift personnel to know which asset is critical to the operation allows leaders to focus on other tasks since they don't need to be on call at all times. This way, team members are educated, and it makes them more self-reliant with the system.

Combined with predictive maintenance strategies, this connected approach helps teams spend less, perform smarter, and ultimately boost the bottom line. Here's a step by step to help you use your maintenance data to drive ROI:

Step-by-Step: Use Data to Drive Maintenance ROI

1. **Define your top 2-5 maintenance KPIs (e.g., MTTR, PM compliance).** Focus on metrics that matter to your team and business goals.
2. **Set up dashboard views in your CMMS to monitor them weekly.** Keep performance visible and top-of-mind.
3. **Audit your asset list for criticality and label top 10 most vital assets.** Use this to guide PM schedules and work prioritization.
4. **Configure alert thresholds and failure codes.** Speed up decision-making and troubleshooting.
5. **Use reports to justify new resource requests or process changes.** Let data drive your budgeting and resource allocation.

Close the Workforce Skills Gap

Across the industry, maintenance departments are facing a generational shift. Experienced technicians are retiring, and younger workers expect user-friendly, modern tools. The skills gap isn't just about finding talent; it's about equipping and retaining the workers you have.

A connected CMMS gives teams the infrastructure to support skill development and knowledge sharing. For new hires, having access to mobile-friendly, intuitive platforms makes onboarding easier. Step-by-step digital work orders with images, links to SOPs, and asset histories provide on-the-job guidance that accelerates learning.

"Cutting the workforce skills gap begins really by using a digital tool and focusing on streamlining the work order process," says Jason.

At the same time, integrated learning management systems (LMS) help organizations deliver structured training on safety procedures, compliance, and advanced maintenance techniques. Whether it's through formal courses or daily hands-on experience, digital tools help teams build confidence and competence.

> "Just as important is worker satisfaction. When employees feel supported and empowered by the tools they use, retention improves, and your culture becomes one where growth and innovation are possible
>
> **Jason Afara, Director, Solutions Consultants, Fiix by Rockwell Automation**

A Quick Checklist to Empower Your Maintenance Workforce

- [ ] Are your new hires fully onboarded in under 2 weeks?
- [ ] Is your CMMS rated as user-friendly by your team?
- [ ] Do team members have access to SOPs and training modules?
- [ ] Can junior techs pull up asset histories easily?
- [ ] Are you tracking skill growth and certifications?

Read more about addressing the skills gap here: https://fiixsoftware.com/blog/strategies-to-address-skills-gap/

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CHAPTER 2

Break Down Maintenance Silos

It's an all too familiar scenario: Maintenance teams find themselves on the edge of their organization, treated as a mere cost center, and offered very little say in company policy, hiring decisions, or capital expenditures. Part of the problem is corporate culture. But a big part of the problem is also visibility: When systems don't talk to each other, neither do teams.

That's what we mean when we say teams exist in a "silo." They're in their own little world, cut off from other teams in the organization, and that's reflected in the complete lack of connection between the systems each employs. How can finance teams allocate the correct budget to maintenance when they have no visibility on its impact to OEE? Why would HR approve a headcount increase when they can't see the maintenance work order backlog? Breaking down these silos is essential to success as a modern, connected maintenance team.

The silo problem also exists within maintenance teams themselves. Whether it's due to multi-site operations scattering teams geographically or inconsistent processes that make one technician's work different from another's, a lack of communication and coordination might run through the very department itself.

Make assets easy to find and monitor. Get the Asset hierarchy template

And finally, there are your assets: Yes, even these can be siloed. If your equipment isn't plugged into operational and maintenance platforms, they're running "dark." Their status and condition remain a mystery—until you physically go and inspect them. As a result, on the one hand, teams will waste time with unnecessary inspections on perfectly functioning assets, but on the other hand, reaction time will be slower when issues actually do arise. With the wealth of sensors, PLCs, and HMIs ready to integrate with today's equipment (or already integrated out-of-the-box), there's no reason why this disconnect should persist.

By leveraging the power of a modern CMMS, maintenance teams gain the ability to easily:

- Share reports and KPIs with other business functions
- Standardize processes to align their team
- And monitor assets in real-time to boost efficiency and cut downtime

Let's look at each of these essential features.

Sync the Shop Floor and Front Office

In these economically turbulent times, maintenance teams are constantly being asked to prove their worth. When production throughput is king, maintenance unfortunately takes the back seat. But as we saw in chapter one, good maintenance is a driver of production and profitability, helping companies avoid costly failures and downtime. This only works, however, when teams are synced.

Kathir Haran, an experienced Solutions Consultant and former Reliability Engineer, observes that "maintenance supports production and its efficiency, but the moment something goes wrong, fingers are pointed. Was the fault due to a lack of maintenance, operator error, or another factor entirely?"

Sometimes maintenance work is blocked in the first place by a priority mismatch, like when planned asset downtime is required for preventive work, but production doesn't permit the interruption. In Kathir's experience, "these alignment issues frequently come up after a critical failure, but a better time for them is your weekly sync or stand-up. Maintenance teams should be ready with the data and explanations that clarify why a particular issue or failure may have occurred to help get other teams on board with their mission."

Ultimately, Kathir says, the question is: "Who takes the overall ownership of the maintenance function and the impact of that?" The answer: everyone.

To enable total productive maintenance, maintenance teams need to demonstrate their impact and value through detailed reporting, analytics, and KPIs. Of course, this is easier said than done. When teams are fighting fires and swamped with reactive work, compiling detailed reports to share with management and other business functions can sound like an unrealistic luxury. That's where leveraging the built-in reporting and analytics features of a modern CMMS comes in. Because everything your maintenance team does is "remembered" by the platform, you can generate pre-built reports at the click of a button. You can even schedule automatic email delivery to recipients of your choice, helping to put the labor of reporting on autopilot.

These platforms are also great for audits. Increasingly, compliance with ISO and other standards eats up a large chunk of time that could be used elsewhere. But with tools like Fiix CMMS' Audit Trail, you can instantly export detailed reports on asset, work order, and user histories to make passing those audits easier.

Finally, one of the most important benefits of breaking down the silos separating maintenance and business is the synchronization of critical data like inventory levels. Maintenance teams can integrate their CMMS with their company's ERP to automatically update inventory levels in the system of record when parts are consumed against a work order. They can also send a purchase request directly from their CMMS when the need arises. This prevents miscommunications and data mismatches, saves time, and perhaps most importantly, helps avoid the dreaded stockout. With AI-enabled platforms like Fiix CMMS, maintenance teams can even get restock recommendations based on historical parts usage data, so they never get caught short-handed again.

By harnessing the benefits of such interconnected systems, maintenance teams can prove their worth and make day-to-day jobs easier at the same time.

Fiix CMMS has marketing leading functionality in **inventory & materials management**, with strong functionality in procurement management.[2]

Unify Departments and Processes

Maintenance works with many teams: Production, HSSE, and Quality just to name a few. And maintenance ties them all together. When maintenance can succeed, it helps all teams succeed. CMMS Solutions expert Kathir Haran says that leadership must define KPIs that cut across silos and unify disparate teams under one common goa. "Too often," Kathir says, "teams only talk about throughput—how much are we producing? And yes, everyone needs to look at that number. But using broader KPIs helps make maintenance everyone's responsibility." Examples include downtime, the number of safety incidents, and quality defects. These metrics cut across departmental lines to install a sense of cooperation.

Unify teams with this free maintenance metrics template

To break the silos between maintenance and other teams, Kathir adds: "Don't forget to celebrate as a team! Don't keep your wins solely within the department. Even better, instill a sense of friendly competition among departments to help improve things. For example, through 5S audits."

As important as it is to break down the silos separating maintenance from the rest of the organization, it's equally important to break down the silos within the maintenance department itself. Robust standardization of processes is crucial for avoiding duplicated work and inconsistent results.

For larger companies with multiple sites and multiple maintenance teams, duplicated work can quickly become a huge drag on maintenance efficiency: Imagine if every site had a different task list for the same scheduled maintenance on the same type of asset. Not only would time be wasted recreating this task list at each site, but depending on the level of on-site expertise, the quality of the task list could vary from site to site, resulting in hard-to-diagnose performance discrepancies between locations. The solution is to leverage a CMMS with multi-site capabilities. This way, the work order and task list for a certain asset only needs to be created once (ideally, by the most experienced technician or manager). It's then instantly accessible across the business, regardless of geographical location. The result is a consistent high bar for maintenance work across the board and consistent site performance. You can also share assets, manuals, datasheets, and other files across sites to save time and equip every location with the resources it needs to succeed.

In addition, multi-site capabilities massively benefit reporting: For a maintenance manager in charge of monitoring multiple sites, using a multi-site CMMS allows them to generate reports on a per site basis or consolidate their metrics to produce an overall picture of maintenance performance. This is important because

aside from syncing maintenance with business and operations functions, the act of reporting helps to unify maintenance teams themselves, giving them a common goal and feedback on their work.

Define who is responsible for each metric. Get the Maintenance metric SOP template

Even for smaller or single-site maintenance teams, the ability to reuse task lists, access uploaded files, and share reports provides the level of efficiency and standardization needed to survive in a modern, high-pressure production environment.

> "Leadership must define KPIs that cut across silos and unify disparate teams under one common goal.
>
> **Kathir Haran, Solutions Consultants, Fiix by Rockwell Automation**

Protect Your Assets

Breaking down silos to become a connected maintenance team doesn't just benefit your people—it benefits your assets. When you have visibility into the condition and status of your assets, you're able to get ahead of failures with proactive maintenance and keep production running. But how?

One of the most exciting and impactful benefits of modern CMMS platforms is the ability to integrate your hardware and software in order to plan, track, and optimize maintenance based on real-time asset data.

On the hardware side, you can integrate sensors, PLCs, and HMIs to bring information about an asset's physical state into your CMMS, enabling condition-based maintenance and advanced strategies like predictive maintenance. This information can be as simple as operational status (e.g. running, halted, faulted) or as advanced as multi-axis vibration sensor data. By bringing this data into your CMMS, you can trigger work only when it's truly needed, cutting down on unnecessary inspections and saving valuable technician time. This also means that when issues do arise, maintenance lead time is minimized because work orders can be created without the need for any human intervention, leading to faster resolutions and less firefighting.

On the software side, you can integrate MES, SCADA, fleet management, and production systems to trigger maintenance based on various operational states and thresholds. For example, you can integrate the GPS tracking data from your fleet management system to trigger scheduled maintenance on a vehicle every 10,000 miles. Or you could trigger an inspection on a line when your MES reports an uptick in the defect rate.

It does take some initial work to set up CMMS integrations, but once set up, they pay dividends in the long run by automating non-value activities like work order creation. In the case of predictive maintenance tools like Fiix Asset Risk Predictor, the utility of your integrations even increases over time as the AI-powered system learns what is normal and abnormal asset behavior.

[2] Smart Innovators: Computerized Maintenance Management Systems. (2024). Verdantix.

To get started, you may need to add some sensors to your assets if they don't already have them. It's also a smart idea to work with a knowledgeable implementation team to ensure a smooth integration and realize faster ROI.

Finally, to better protect your assets, consider your company's culture. An organization unified by KPIs, as we detailed above, will naturally see asset health improve. Kathir explains: "Once you build the culture guided by broader KPIs, not only will production teams be more willing to accommodate maintenance's schedule for planned work, but the operators themselves will become a source of support because traditional "maintenance" KPIs like asset failures and downtime also start to become their responsibility. This extra sense of ownership and due diligence is critical in preventing and identifying asset problems."

As we mentioned above, 5S safety audits are another great example of how breaking down silos—in this case, between Health & Safety and production—can protect assets. "In 5S audits, operators are rewarded when their workspaces are safer and organized," Kathir says. "As a result, incidents go down, Asset Utilization is improved, and continuous improvement gets built into the culture."

Check in on your team's safety. Get the Maintenance health and safety audit template

With a modern, connected CMMS platform, you'll be ready with the data and resources you need, from analytics to integrations, to persuade other departments that maintenance really is their concern, too.

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> **Kathir Haran, Solutions Consultant, Fiix by Rockwell Automation**

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CHAPTER 3

Empower Maintenance Technicians

Today's maintenance teams are constantly on the move. From the office to the storeroom to the job site, they need tools that move with them. Without a connected CMMS, time is wasted running back and forth between your assets and your desk, and in those transitions important information can be lost or forgotten. It's also a lot harder to accomplish simple tasks like attaching photos to a work order or pulling up parts info by scanning a QR code. Often, this means that not only are jobs slower, but aspects like proper documentation don't get done at all.

Then there's the redundancy. As CMMS Implementation Expert Roopali Bagaria explains, "Many customers without a mobile CMMS get frustrated by all the redundancy: You have to print out a work order, fill it out, and then give it to the supervisor to file. The supervisor might not have any idea what was actually done, or perhaps the handwriting is sloppy, and so information ends up getting lost in the shuffle. And all of this paperwork is non-value added time." It's much better and easier to give the technician the tools they need to close out the work order themselves. Roopali adds: "Technicians shouldn't have to set aside an hour at the end of the day for paperwork."

To empower maintenance technicians to perform at their best, you need to equip them with a CMMS that's full featured, functional in low-connectivity environments, and simple to use. With a mobile-ready "connected CMMS," the modern connected worker has everything they need for asset, work order, and parts management in the palm of their hand—even when they're offline.

Give Technicians Everything They Need, Anywhere

To effectively manage assets, technicians on the floor and field need to efficiently access key information and receive updates as they go about their work.

10 CMMS Essentials for Technicians on the Go

1. Notifications for newly assigned active work orders
2. Visibility on upcoming scheduled maintenances
3. Closed work orders and their completion notes
4. Detailed asset information, including attachments like manuals, photos, and datasheets (bonus for scannable QR/barcodes)
5. Up-to-date spare parts inventory levels and location (bonus for scannable QR/barcodes)
6. The ability to attach notes and photos to a work order
7. The ability to mark parts consumed against a work order
8. The ability to request reassignment for a work order
9. The ability to change the status of and close a work order
10. And access to help & support resources

This list is by no means exhaustive. But it's all essential, and with a pen-and-paper or spreadsheet system, you're tied to a desk and each one of these tasks is harder. By contrast, with a modern, mobile-first CMMS platform, all this and more is possible when and where it's needed. When some modern plants are so large it's common to see workers traversing the floor with golf carts and bicycles, maintenance can hardly afford to be constantly walking back and forth between their desk and the assets on deck.

Whether you prefer to use your CMMS on a desktop computer, phone, or tablet, the experience is the same—you can seamlessly access everything you need to do the job right, regardless of where you are.

Fiix CMMS has strong functionality in **work order & workforce management.**[2]

Complete Work Even in Low-Connectivity Environments

Implementation expert Roopali recounts the story of how one maintenance team suffered a botched CMMS implementation due to poor Wi-Fi at their remote location. After putting in the work to adopt this particular platform, they found it was completely unusable due to a lack of mobile or low-connectivity features. Unfortunately, there was no way to ameliorate their Wi-Fi issues, so they had to ditch their whole implementation. "Now they're switching to a connected CMMS so they can move forward with confidence in their new implementation," Roopali says.

As you go about your daily maintenance duties, you might not always have cell signal or Wi-Fi. Whether it's that dark corner of the warehouse that never seems to have reception, or a field visit that takes you to a remote work site, it's essential that you can still access the resources you need to complete your work.

[2] Smart Innovators: Computerized Maintenance Management Systems. (2024). Verdantix.

Work orders, asset records, and attachments such as pictures and manuals are all available—even offline—in a modern CMMS like Fiix CMMS. This means you can stay connected to your data, even if you aren't connected to the network.

There's no need to take manual notes and then update the system later: As soon as you reconnect, everything you've done in Fiix CMMS will automatically sync. This is essential for teams in field work or fleet management who frequently find themselves in low-connectivity areas.

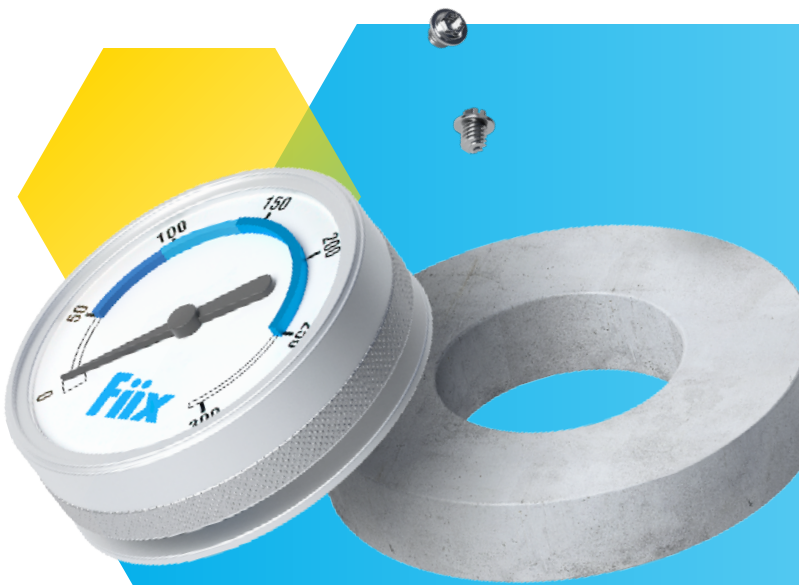
Simplify Tasks So Techs Can Focus on Their Work

Any good tool should make your job easier. It should be simple to use, with no more complexity than the situation demands, and do as much of the work for you as possible.

Gone are the days of chicken-scratched legal pads and chaotic spreadsheets—modern maintenance work takes its place in a clean, functional UI: Work assignments are managed in a simple drag-and-drop calendar. Work orders as closed with two finger taps. Parts tracking is as easy as scanning a QR code. And monitoring your progress is facilitated by pre-built and customizable dashboards that clearly visualize the impact of your work.

When some extra support is needed, you ideally want integrated help features built right into the CMMS itself. This way, you can easily access technical support, help articles, instructional videos, and walkthrough demos from within your maintenance software environment itself. No extra searching and Googling needed.

Maintenance is hard enough—you shouldn't have to fight with your platform to accomplish daily tasks. That's why it's so essential for connected teams to use a simple and connected CMMS.



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CHAPTER 4

Manage Maintenance Knowledge

Maintenance teams today are being asked to do more with less. Whether this takes the form of hiring freezes, budget cuts, or a shortage of skilled labor, teams need tools that help them adapt and meet these challenges head-on. Specifically, they need tools that can maximize the value and effectiveness of each and every maintenance professional on the team.

Fortunately, a connected CMMS platform can help. By making historical work orders with detailed completion notes easily accessible, new and experienced technicians alike can review best practices for similar jobs, regardless of who's on shift. With easy access to help and training materials within your CMMS itself, it's easier to onboard new employees as well as refresh the knowledge of veteran staff. And by facilitating the deployment of both common and safety-critical task lists and materials, you can ensure that no steps in a work order are missed, regardless of the technician's experience level.

As we'll see, a connected CMMS is a true ally in the fight against knowledge loss, a proven way to onboard new employees, and an increasingly essential tool in making your operation safer and more compliant.

Find out if you're adequately protecting your team's inside knowledge:

- Do I provide access to comprehensive training materials for technicians and new hires?
- Do I promote a culture of documentation, including WO completion notes?
- Do I have a robust system for archiving past work orders and purchase orders?
- Do my work orders feature detailed, template-based task lists?
- Do I have dedicated safety task lists, including LOTO and PPE, that can be added to work orders?
- Do I have failure codes set up to correctly categorize historical issues?

> **If you answered "no" to any of these questions, it might be time to upgrade your knowledge management strategy by creating a digital knowledge hub**: **https://fiixsoftware.com/blog/improve-asset-reliability-with-a-digital-knowledge-hub/**

Capture & Share Maintenance Knowledge

One of the biggest challenges facing maintenance teams today is high employee turnover. With a "silver tsunami" of retirements affecting the industry, a lot of valuable knowledge is walking right out the door. It's therefore critical that teams have a user-friendly way to capture this knowledge before it's too late.

According to CMMS implementation expert Roopali Bagaria, "More and more teams are thinking about retirements. Whether it's a rush to finish an implementation or a big project, these retirement-driven timelines are looming large." The result is anxiety about knowledge loss, and a mad dash to capitalize on the employee expertise before it's too late. But what if there was a way to avoid this problem altogether?

For a team with a connected CMMS, work order task lists and completion notes are among the best allies you have in this fight against knowledge loss. And since they're a normal part of the maintenance workflow, very little extra effort needs to be expended to realize their benefits. For recurring tasks, simply start by appointing a senior maintenance professional on your team to create task lists for common jobs in your CMMS. These are standardized lists that provide a step-by-step template for completing work. Multiple task lists can be created and appended to a single work order, enabling a modular approach to work order creation and removing a lot of manual and repetitive keyboard work.

Realizing the benefits of completion notes, however, very often requires a culture change. With how busy maintenance teams are, it's tempting to neglect adding detailed completion notes before closing out a work order. Too often, it's on to the next job the minute an asset is back up and running. But while this may save time in the short run, in the long run this can cost your team: Without completion notes, future technicians have no way to determine what was done in the past. Even if task lists are attached, any deviations or noteworthy observations are instantly lost without explicit mention in the completion notes.

But there's another reason why task lists and completion notes are so important. When your team is ready to make the jump to prescriptive maintenance with tools like Fiix Asset Risk Predictor, the quality of your auto-generated work orders and suggestions will depend directly on the data the algorithm has to work with. And chief among this data is what was done in the past, as recorded in task lists and completion notes. Roopali explains: "The more information you have in the CMMS, the better. Because AI tools are going to need that to generate good insights and instructions." As the old programmer's saying goes, "garbage in, garbage out." Only by providing good work order data can you team reap the rewards of prescriptive maintenance work orders down the road.

Ultimately, proper data entry is one aspect of knowledge management that typically comes down to enforcement. If there is no set expectation that technicians use features like task lists and completion notes, they simply won't, and everyone will be worse for it. "Knowledge sharing benefits everyone. You just need to know what was done prior," Roopali says.

Make use of these valuable features in your CMMS, and you'll ensure vital knowledge is available no matter who's on shift or who's retiring.

Get Technicians Onboard

Any technology is only as good as its implementation. That includes both the deployment and set up itself, and the training and culture change. This latter aspect is a key part of "knowledge management," and it's a tough one for many maintenance teams.

Fiix by Rockwell Automation employee and former hardware engineer Eric Wallace relates this story: "I saw a customer spend a quarter million dollars on a new CMMS implementation, only to fall flat when it came to training their technicians. When I visited their site, I was shocked to find that technicians were basically carrying on as they had before the implementation. Some were even still printing out work orders, despite having access to a full featured, connected CMMS. Training was the missing piece."

With shoestring budgets and limited time, training and onboarding is no easy task for today's teams. But a connected CMMS can help. For one, leveraging detailed task lists and completion notes gives you an indirect way to educate newer technicians: They can dive into the archives to see how things were done, allowing them to follow suit and keep maintenance running smoothly. Often, the best way forward is to take a look back and see how more experienced technicians solved problems in the past.

A connected platform should also include critical features like in-app help resources, and be backed by a knowledgeable, responsive tech support team. A good CMMS investment goes beyond the software itself. It's also about the partnership you're buying into. You want to look for an experienced support team that will help solve your specific implementation, training, and improvement issues. This is clearly not a factor with a pen-and-paper or spreadsheet system—but it should be demanded from a modern CMMS platform. Likewise, an online user community provides another boon to both new and old technicians as they seek to master their specific role and the maintenance software itself. Here, look for key features like an active userbase and, especially, an active Q&A forum. In the long run, these services can be invaluable for solving the tricky, highly specific issues that often arise on the shop floor.

Fiix CMMS is backed by a customer support team with a **99% satisfaction rating.**

Enable Maintenance Safety Procedures

Safety is everyone's responsibility. In the maintenance world, "safety" frequently means following proper personal protective equipment (PPE) and lockout/tagout (LOTO) procedures. There may be long lists of PPE required for a job, or intricate LOTO instructions to follow precisely. It can be easy to miss any of these items when building out a work order, putting lives and equipment in danger. But with a connected CMMS, it's trivial to quickly and consistently add relevant tasks and materials to a work order.

Like the task lists discussed above, you can create dedicated safety task lists and attach them to any work orders that need them. By having an experienced technician create your task lists, perhaps in collaboration with a standards and compliance expert, you can ensure that no steps are missed, and safety procedures remain accessible and up to date. Because you can include multiple task lists on a single work order, this allows you to instantly capture important pre-work safety steps like Lock-out/Tag-out, then add on your templatized task list for the job itself.

Roopali adds: Another place where task lists shine is sanitation, which is a strict requirement in the Food & Beverage industry. By creating task lists for your sanitation procedures, you can semi-automate this important but repetitive sequence to both protect your consumers and save valuable time.

Along these same lines, to ensure PPE requirements are fulfilled in a relevant and sufficient manner, you can create a PPE-specific Bill of Materials (BOM) and append it to a work order. You can even make this field mandatory, which means PPE considerations will never be missed.

> **For a quick crash course on supporting Health & Safety with your CMMS, check out our mini guide here: https://fiixsoftware.com/blog/improving-health-safety-and-compliance-using-work-orders/**

Finally, health & safety best practices also necessitate a thorough follow-up and investigation after any accidents. Here too, a connected CMMS can help. In addition to any work done, completion notes should be used to document any accidents that occurred in the course of maintenance—no matter how minor—thus providing supporting documentation for the subsequent investigation. If the accident was related to the specific failure mode of the asset, failure codes provide a way to quickly identify all assets with identical past failure modes, allowing you to efficiently amend and apply new safety procedures where needed.

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Fiix CMMS has **strong functionality in inspections & audit management.**[2]

CHAPTER 5

Ensure Maintenance Data Quality & Security

High quality maintenance data is not only vital to making good decisions today but in keeping manufacturers competitive in the future. More advanced maintenance goals like tracking metrics, condition-based maintenance, integrations, or even predictive maintenance require a solid foundation of trustworthy data.

Yet, many teams still struggle with data entry errors and compliance when tools are too complex or time consuming. The good news is, cloud-based tools today have evolved using years of user feedback to make their work easier and more connected, whether they're on-site or in the field.

Organizations also know the value of this data and are driven more than ever to protect it. With the rise of hacking and AI, there's added pressure to ensure data is stored in the safest way possible while still making sure it's connected and accessible to the right systems and people.

So how can a connected CMMS help create clean, safe data that's ready to seamlessly sync with other systems, and drive valuable business decisions?

[2] Smart Innovators: Computerized Maintenance Management Systems. (2024). Verdantix.

Getting technician buy-in for maintenance data quality
Why should technicians care about inputting quality data? Good data means better planning, eliminating things they don't need to be doing so they can focus on higher value tasks that get results.

How to Improve Maintenance Data Quality

Your team spends all day collecting data – but can you use it? Clean maintenance data is key to improving efficiency, boosting production, and reducing unneeded costs. A connected CMMS can provide reports, analytics, and dashboards that drive decisions – but those tools are only as good as the data behind them.

Implementation expert Roopali Bagaria explains: Clean data means you can trust that insights are accurate because the data is accurate, so you're more confident in your decisions.

Bad data begins with data entry errors and compliance issues. We often hear that technicians were using tools they found confusing, complicated, or time consuming. If they don't like the system or understand it, they often just give up.

That's why digital work orders must be easy-to-use, simple, and streamlined to make their work easier. Our standardized templates, dropdowns, and fields make it easier to manage data entry across shifts, roles, and sites.

With quality data input, you can use it to measure results through visual reporting tools, like Fiix Foresight, our AI-powered analytics. For instance, you can surface potential asset failures, examine time and costs for planning, and track team performance from work order data. You can get alerts when you spend more time, money, or resources on equipment than usual. Or use parts data to forecast what you'll need for upcoming maintenance, reduce stockouts, and cut inventory costs.

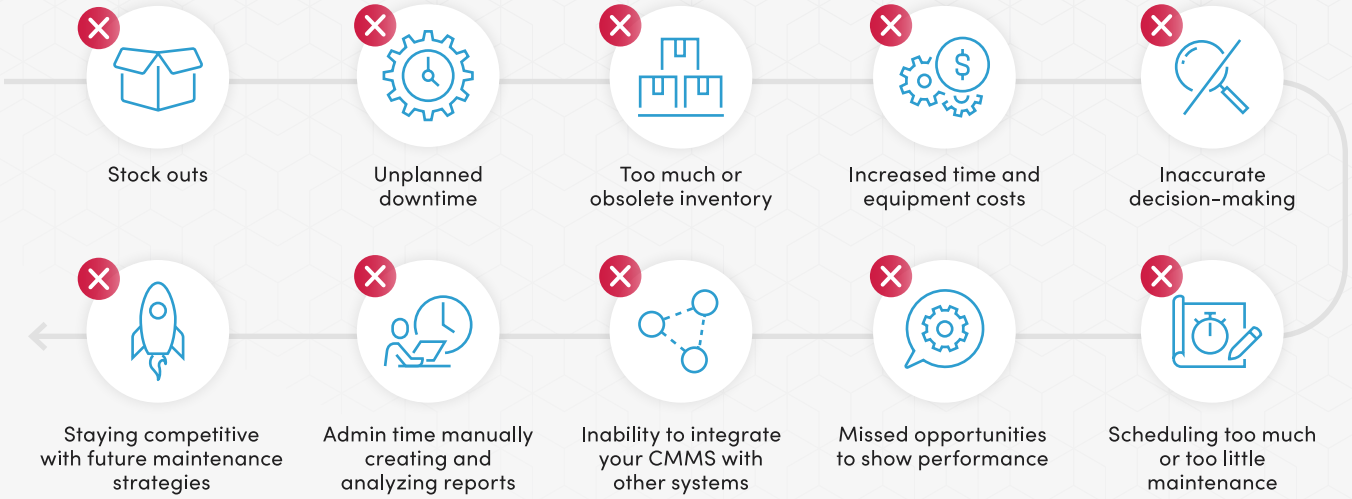
Imagine the data you're collecting today empowering your team to demonstrate real results and getting more buy-in for your maintenance program.

Having better maintenance data standards today also makes sure you're ready to advance your maintenance program later. If you want to connect your CMMS to other systems, like an ERP or BI tool, you need to make sure the CMMS data you're feeding into them is solid.

Alternatively, if you want to realize advanced strategies like AI predictive maintenance, you need good data now to train those systems. Starting with good data now gets you results today and makes sure you're ready for the future.

If you just focus on small steps to improve data quality and tracking, it'll be no time before you start to see (and share) big improvements.

10 Maintenance Risks You Can Avoid with Better Data



Control Access to Maintenance Data

Controlling access to maintenance data also impacts quality and security. You don't want the wrong people to be filling in the wrong fields or, worse, gaining access to sensitive information. For regulations, plant safety, and audits, knowing "who did what and when" is essential.

That's why a connected CMMS that bridges teams, sites, and systems provides ways to manage access.

Roopali explains: User management makes it easy to limit what users can see and do in the system. If you have a hundred users and five different sites, you can limit their permissions based on their role and which site they work at.

You can get granular with the permissions for what someone can edit, delete, or view, or even who can access your work request portals. If someone edits a record, you want to know who edited it to have that traceability.

Named licenses are another essential tool for planning and for passing audits. Knowing which specific user closed out each work order makes it much easier to run reports and get insights for better planning. For instance, to track time or budget, you need to know exactly how much labour each technician cost you for an asset.

If there's a safety incident, you need to know who was involved in that work order.

Audits require you to know who closed a work order, which is difficult if technicians are sharing licenses or logins. Especially in highly regulated industries where certainty is a must, you can use an e-signature feature so a technician must sign before closing their work order.

A connected CMMS allows you to control access to data and adds traceability, which helps improve safety, reporting, and allow you to leverage tools like audit trail that can pull your historical data together, making sure you're always ready when an audit comes up.

Read on to discover some tips and tricks to make audits easier for your maintenance team:
https://fiixsoftware.com/blog/make-audits-easier-and-cheaper/

Keep Data Secure

Cybersecurity risks like the increase in hacking as well as keeping trade secrets from the competition, keep manufacturers up at night.

Protecting this data has never been more important as you don't want it to disappear, get corrupted, or discovered by competitors. Data leaks could cripple a team and even cause legal issues for audits and regulatory compliance.

A cloud-based CMMS connects your team with best-in-class security protections. Think of it as having top cybersecurity experts keeping watch over your all aspects of your CMMS data, supporting your IT team's goals.

Security certifications (like SOC2, ISO 27001:2022, and ISO 27017:2015) have strict requirements to ensure data is protected by the highest standards. Ongoing penetration testing means that a team of experts is constantly searching for security vulnerabilities and eliminating them before they become an issue.

According to Roopali, a connected CMMS can be customized for an organization's security requirements: "Enterprise users can configure a firewall to increase their level of security.

We also have a database backup feature to ensure your data is always safe and accessible.

Another thing a connected CMMS can offer is Single Sign On (SSO), which is much more efficient and secure for logging in. With a single password to remember, SSO makes it easier for IT teams to enforce more complex, less hack-able passphrases as well as add identity verification checks, like Multi Factor Authentication. It's also easier for users to remember, so they aren't maintaining a list of weaker passwords somewhere unsecure or constantly asking IT for password resets.

SSO also ensures technicians are not sharing their logins, which helps with tracking usage as well as managing individual access to data to better manage data quality, as the right people are filling in the right fields.

Good security improves all aspects of data quality, access, and ensures your data is safe and ready to use to guide your decisions.

Visit the Fiix Trust Centre to learn more about all the ways we protect your data.

Ask Yourself: How Secure is Your Maintenance Data?

Our maintenance software employs:

- Single Sign On, making it easier to login, safer to manage passwords by IT, and enabling stronger password complexity
- SOC2 certification, ensuring data is protected by the top security protocols
- A leading Cloud-host provider like Amazon Web Services (AWS)
- Ongoing Penetration (Vulnerability) Testing
- The ability to control data access permissions: by role, site, field, and more
- Named licenses for better tracking, compliance, safety, audits, and planning
- Advanced traceability features, like e-signatures, session time out, and state control to lock work orders once completed

Conclusion

Imagine the future of your maintenance program where you get real-time visibility into your team, their work, and your assets; where can make decisions based on the best data; where manual tasks are streamlined and automated; where security risks are reduced and everyone has access to what they need – from the shop floor to head office to other sites.

And, most importantly, you're able to make technicians' lives easier and show operations the real value of maintenance.

The good news is, it doesn't matter if you're starting with separate systems or even paper-based tools, a connected platform, like Fiix CMMS, will meet you where you are and help you get started. Plus, you'll never have to worry about outgrowing it down the line when you want to pursue new integrations or advanced maintenance strategies.

Maintenance teams are no longer left out of the shifts that are driving smart manufacturing technology adoption. From improving security and reporting to keeping production competitive, getting and sharing visibility into your program will help you drive results now and into the future.

That's the power of connected maintenance.

Connected Maintenance Templates

In case you missed them in the chapters above, here are some useful templates to help you connect your maintenance.

- Maintenance metric SOP template
- Preventive maintenance set-up template
- Maintenance health and safety audit template
- Maintenance schedule audit template
- Maintenance metrics template
- Maintenance budget template
- Asset hierarchy template

About the Authors

Tanya Goncalves
is a dynamic brand leader and marketing visionary with a deep passion for revolutionizing the manufacturing and maintenance industries through content creation. She is dedicated to empowering companies by building strong brand recognition through compelling campaigns and demand-driven content that resonates with the heart of the prospective industry audience.

Ashley Lockyer
brings over 15 years of storytelling experience to her role leading brand and content marketing at Fiix by Rockwell Automation. With a background in psychology and journalism, she makes complex ideas digestible and develops valuable content that connects with what matters to audiences. Today, her team helps maintenance professionals discover the tools, strategies, and insights that showcase their value and make their work less stressful and more efficient.

Eric Wallace
is a Certified Engineering Technologist and hardware engineer turned writer, as comfortable on the shop floor as he is in the editing room. From global product certifications to ISO audits and equipment calibration, Eric has been at the ground level of modern industrial operations for the better part of a decade. His focus lies in delivering product-driven content that helps users upgrade their skills and solve their maintenance problems with Fiix CMMS.

Contact

Fiix by Rockwell Automation

40 Hanna Ave #400, Toronto,
ON, Canada. M6K 0C3
Local: +1 (647) 317-9055
Toll Free: +1 (855) 884-56199
Email: support@fiixsoftware.com
Website: https://fiixsoftware.com/

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