

Common-Sense CMMS: Combine Software and Handhelds

Written by MT Staff

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A computerized maintenance management system (CMMS) is an essential operational and management tool for managing asset preservation, ensuring that production systems operate as required, and minimizing downtime. An effective CMMS should be able to support these functions by automating administrative tasks, as well as by gathering relevant information in order to perform these processes. A CMMS also needs to be able to manage a strategic plan for proper maintenance, replacement, and upgrade of major assets.

If you do not have a CMMS, should you be considering one? If your organization has a CMMS, are you optimizing its benefits and its return on your investment?



Technician at tier-1 automotive manufacturing facility uses a handheld to verify data input, suggest poss

Why use a CMMS?

The primary purpose of a CMMS is to manage, capture, and track inspection, maintenance, and repair activities of an organization. In real terms, most CMMS solutions perform the basic function of providing work orders to cover repairs and maintenance of buildings, plant, and equipment. They provide a scheduling facility for maintenance for planned preventive work on maintainable assets. And they also generally collect costing details for the labor and materials related to the work performed.

However, advanced CMMS solutions also can improve many other aspects of daily activities, as well as provide the tools to understand and analyze maintenance and repair processes and trends. They can eliminate manual data entry; incorporate alerts, triggers, and escalation procedures; and shift the focus from unnecessary administrative tasks to performing maintenance activities. They also can assist in planning and predicting future needs, prolonging the life expectancy of assets, and managing processes.

Combining CMMS software with proven technologies such as handheld devices and personal digital assistants (PDAs) can substantially increase the realized benefits from a CMMS solution:

- Incorporate barcodes to increase accuracy and efficiencies
- Update information electronically, eliminating unnecessary paperwork and data entry
- Capture timestamps and signatures
- Provide maintenance personnel, engineers, and inspectors with electronic intelligent work orders
- Automatically track and manage inventories and timesheets
- Equip staff with easy-to-use tools that enable them to focus on their expertise and work activities, rather than on administrative tasks and paperwork.

Justifying the need

The first consideration in choosing a CMMS is whether to keep maintenance information in a computerized database. Some will say that it depends on the size of the organization and its assets. Others will say that it depends on the number and quality of staff available to resource the CMMS. Also there are those who would argue that it can all be done on paper.

Only a well-designed and easy-to-use CMMS solution can improve daily activities as well as index and sort through years of information related to the maintenance, cleaning, and strategic planning of buildings, plant, and equipment. In reality, regardless of the size of an organization, it needs to maintain a database of the work performed. Automation includes improvement of daily activities, automatic tracking of inventories, better work assignments, and shift of focus toward exceptions, not routine matters.

Breakdown maintenance

It could be that the entire maintenance plan is one of breakdown maintenance. Breakdown maintenance defers repairs and allows damage to accumulate, compounding an organization's problems. On the other hand, regularly scheduled equipment inspection and maintenance not only prevent sudden and unexpected equipment failure, but also reduce the overall cost of the building and equipment.

The management of these programs, in particular reporting their current status and future needs, requires a CMMS. Managing the operation of on-site maintenance staff and contractors is a daunting and difficult task; however, if there is a corresponding record in the CMMS then tracking and management is much easier.

Even if you are duplicating data that is in your contractor's CMMS, it is extremely important to have your own copy of data. The contractor may cease to exist and for the sake of future reference and reporting it is essential you have your own CMMS populated with your own data.

What should be captured?

Further consideration should be given to what information you want to keep, and, more importantly, what has to be kept.

In addition to manufacturers' specifications and management requirements, there are statutory requirements and regulations that impact this question including fire, health and safety, and environmental legislation.

Statutory requirements could be entered into a CMMS as a scheduled maintenance plan with labor, materials, and costs for projecting estimated future costs. By keeping a corresponding record in the CMMS and using the job number as a cross reference to the paper record, the

organization is able to quickly report on the status of statutory work in preparation for annual signoffs and/or audits.

Those who have had workplace safety audits are aware that the first question asked is “Where are the maintenance records?” A maintenance plan that includes estimated costs can be compared with the actual costs to ensure the effectiveness in the cost of asset preservation.

Using PDAs

Additional considerations include the use of handheld devices. By extending the use of standard PDAs to business applications or using handheld devices with mobile-based operating systems, users can quickly improve their daily activities.

Handheld devices can verify data input, suggest possible outcomes to a task, suggest a course of action, or print a report. They also can automate specific processes, include information about assets and equipment, automate inventory cycle count processes, and provide easy-to-navigate functionalities, minimizing keystrokes and maximizing productivity.

Selection process

So how does one start looking for the right CMMS package?

- Look within your own organization and determine what is happening with the maintenance and inspection functions. Check if there is an existing maintenance program in place; check its functions and who manages the information-gathering process.
- Determine what maintenance is required to be performed on the building, plant, and equipment in the facility.
- Prepare a brief of the facility’s minimum and optimum requirements for a CMMS, the resources to manage the database, and time frame for implementation.

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- Research three to five providers. Have them present their product to assess the package in terms of ease of use, functionality, and ability to meet your requirements.

- Evaluate each proposal for specific CMMS functionalities:
 - Does it address your specific requirements?
 - Does it minimize unnecessary or duplicate data entry?
 - Can it automate administrative tasks, reminders, and notifications of upcoming events?
 - Does it have built-in dynamic escalation procedures?
 - Can it incorporate inspections and other activities in the CMMS?
 - Can it manage and track inventories?
 - Is there an ability to collect requests for work to be done directly into the CMMS via electronic means such as PDAs or Web portals?
 - Is there the ability to transfer work assignments to technicians via electronic means?
 - What is its return on investment?

This is a simplistic approach to the selection process; however, it will give most managers a good starting guide to the selection of a CMMS.

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Benefits of Using Enhanced CMMS Solutions

- Guarantee that all required tasks and activities are completed on time.

- Incorporate various mechanisms to ensure execution of tasks, including auto- matic listing of activities, reminders, alerts, escalation procedures, and easy access to information.

- Improve reporting and analysis capabilities.

- Comply with health and safety regulations.

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- Improve strategic and business planning and make informed decisions; analyze records, needs, and patterns.
- Improve operational efficiencies.
- Increase productivity and profitability.
- Perform activities effectively; simplify repeatable tasks; provide staff with easy-to-use tools that focus on performing tasks.
- Allow staff to spend more time performing service activities and less time on paperwork and data entry.
- Identify trends and highlight potential problem areas.
- Improve controls and accountability, leading to better quality of work.
- Ensure that service is performed according to warranties, guidelines, and regulations.
- Receive customized reports delivered to e-mail.

Additional benefits come with using handheld devices in comparison with manual or paper-based processes: minimizing errors, increasing accountability, and having the ability to quickly turn data into useful information.

Solutions must be cost effective and providers must be able to demonstrate their business case

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and return on investment.