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Determining your specific needs is the logical starting place when selecting a CMMS package.

In today's maintenance and reliability community, two types of facility managers exist: those who already use computerized maintenance management software (CMMS) to run their day-to-day operations, and those who will in the near future. CMMS has proven to be an indispensable tool in the management of manufacturing, institutional, and commercial facilities.

CMMS allows scheduling of maintenance tasks, tracking work orders, and managing parts inventory. The resulting benefits include reduced downtime, increased equipment life, and lower overall maintenance costs.

The real problem associated with CMMS is selecting the right package. With literally hundreds of packages available, how does a CMMS novice find the right one? First, understand how CMMS operates. Next, ask what you want CMMS to do for you. Finally, evaluate the features offered by different CMMS packages and compare them to your needs.

How CMMS works

Most CMMS packages contain four components: entry screens, reporting screens, administrative tools, and a database.

In entry screens, you record equipment information, including identification number and maintenance schedule. You also input the maintenance tasks associated with equipment, including labor (in-house or contract), parts and tools (consumable vs. nonconsumable), and procedures.

Once that information is entered, reporting screens display it in a logical, user-friendly format. For example, work order due reports give detailed lists of maintenance due on specific days. Preformatted financial reports and graphs also help you analyze and manage your operation.

Administrative tools allow you to configure the software to meet your specific needs. With most packages, you can assign user passwords and rights. Also, you can set up most packages to skip weekends and holidays when calculating maintenance due dates, moving due dates to the

previous or next day.

The database stores the records you enter. Popular database formats include Access, FoxPro, dBase, and Paradox. Some organizations might use client/server databases, such as Oracle or MS SQL Server, to handle multiple users and large volumes of data more efficiently.

Your needs

All maintenance managers share the same goal: minimizing maintenance costs while maximizing equipment uptime. However, different managers use different approaches to accomplish this goal. Therefore, determining your specific needs is the logical starting place when selecting a CMMS package. Answer the following questions.

- Who will use the system?
- What rights should each user have?
- How computer proficient are the users?
- Should the system run on a network or on a stand-alone PC?
- What are your procedures for paperwork flow? Will the software improve this flow or make it worse?
- Do you assign work orders verbally or with hard copies?
- Do you track spare and consumable parts inventory
- Do you need an audit trail?

By clearly defining your needs, you will be better able to evaluate the features found in CMMS packages.

CMMS features

Most CMMS packages offer the following standard features:

Database. As discussed earlier, CMMS packages store information in a database, which should be in an industry-standard format, like those mentioned earlier. If you want to use the software in a PC environment, choose a package compatible with your current setup. If you are purchasing the client/server system, choose a mainstream database program such as Oracle, MS SQL Server, IBM DB2, Informix, or Sybase.

User interface. Many CMMS packages use a graphical interface that operates under Windows 95, 98, or NT (few Macintosh or character-mode applications are available). The interface should conform to industry design standards so users can learn the program quickly and efficiently. It should look and function like your word processing and spreadsheet programs; it also should use peripheral devices without needing application-specific configurations.

Record types. CMMS packages should include, at minimum, master equipment records, including detailed maintenance history, along with equipment tracking and maintenance procedure records. Many packages also include records for parts, tools, and suppliers, along with employee and purchase order records.

Functions. The software should be able to automatically calculate maintenance due dates based on maintenance schedules. It also should easily sort and filter records by ID, location, description, and due date. To save record entry time and ensure accuracy, the software should allow you to copy records and use list boxes, which let you select entries from lists of specific items.

Reporting. Good CMMS packages offer a variety of sorting and filtering options for reports and let you preview reports before printing them. Advanced packages let you e-mail reports, export them to word processing or spreadsheet programs, and publish them as HTML pages on your web site.

Standard reports should include equipment records, maintenance due notices, and maintenance history. Work orders and label printing are also useful. If a package does not support custom reports, you might be able to use an external report-writing utility, such as Access, Excel, or Seagate's Crystal Reports, to design the reports you need. Remember, though, this program must be compatible with the CMMS database.

Security. Database security is an important CMMS issue. Look for a package that uses multilevel security (users have different access levels). You should be able to control each user's right to view, add, change, and delete records. Some packages let you vary these rights by program area, so that, for example, a user can create new equipment records but not new purchase orders. Advanced security systems can even maintain an audit trail log—a running history of user names and actions, including date performed.

Options. Helpful options to enhance the system are available with many packages:

- Label kits. An efficient alternative to handwritten labels, these usually include a special printer and software with which you can print labels for equipment, parts, and tools. In evaluating a label kit, consider how you will use labels with your tracking system and the environment where you use your equipment. Next, determine the type of label you will need. Should labels be paper, laminate, or polyester? Should they be laminated or coated in some way to protect them from chemicals, water, and grease?
- Personal Digital Assistants (PDA). A lot of maintenance occurs in different locations throughout a facility. Therefore, consider using a laptop computer or PDA to record information during actual maintenance. You can then import the information into your main CMMS program. Check with the CMMS supplier to see if this option is available and how easy it is to use (if you have to spend a lot of time setting up software and cables, it might be easier to manually record information). The PDA is actually a handheld Palm Pilot or Windows CE computer that can fit into a shirt pocket or be belt-holstered. Since it is more affordable, compact, and lightweight than a laptop, maintenance technicians can easily document work order results. At the end of the day, they simply place the PDA back on its cradle to electronically transfer the records into the CMMS database.
- Service request modules. To save time and reduce paperwork, many suppliers offer software accessory programs that other departments use to request maintenance via the computer network. After reviewing these requests, you decide whether to approve them. You also can create work orders directly from these requests.
- Validation kits. Companies regulated by the Federal Drug Administration must validate any software program that affects their processes and products. To help you validate CMMS, most suppliers offer a validation kit, containing test method documents and/or a separate validation database. Check to see if this option is available—it can save you a lot of time and hassle.

As you look at various CMMS packages, ask yourself how each one meets your specific needs. Maintaining this focused approach is the best way to select a package that is right for your facility. By taking the time now to thoroughly research and evaluate your options, you avoid regretting hasty decisions later. **MT**

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