



Choosing the Right Enterprise Solution

Enterprise Asset Management (EAM)



Introduction

Lawson has created this guide to help organizations ask the right questions when setting out to procure a computerized solution to assist in the management, planning and execution of their company's asset management strategy. These software solutions are known by several terms including enterprise asset management (EAM) systems, computerized maintenance management systems (CMMS) or plant maintenance systems. This document will focus on the type of system designed for the entire organization and will, therefore, cover EAM systems.

The purpose of this guide is not to ask all of the detailed functionality questions that need to be answered before purchasing your solution, but rather to present a number of avenues to explore, and ensure that the answers you receive meet the needs of your organization.

Be aware that there are still huge technical and functional differences between the software solutions available from the various vendors on the market.

Also, the most important issue is to ensure that your entire management team is fully behind the project. Their support will be imperative during the purchase and, even more so, the implementation stage of your future solution. As an organization, the selection and implementation of the right enterprise asset management system will have a dramatic impact on your asset reliability, availability and hence the bottom line of your organization, so support from everyone is critical.

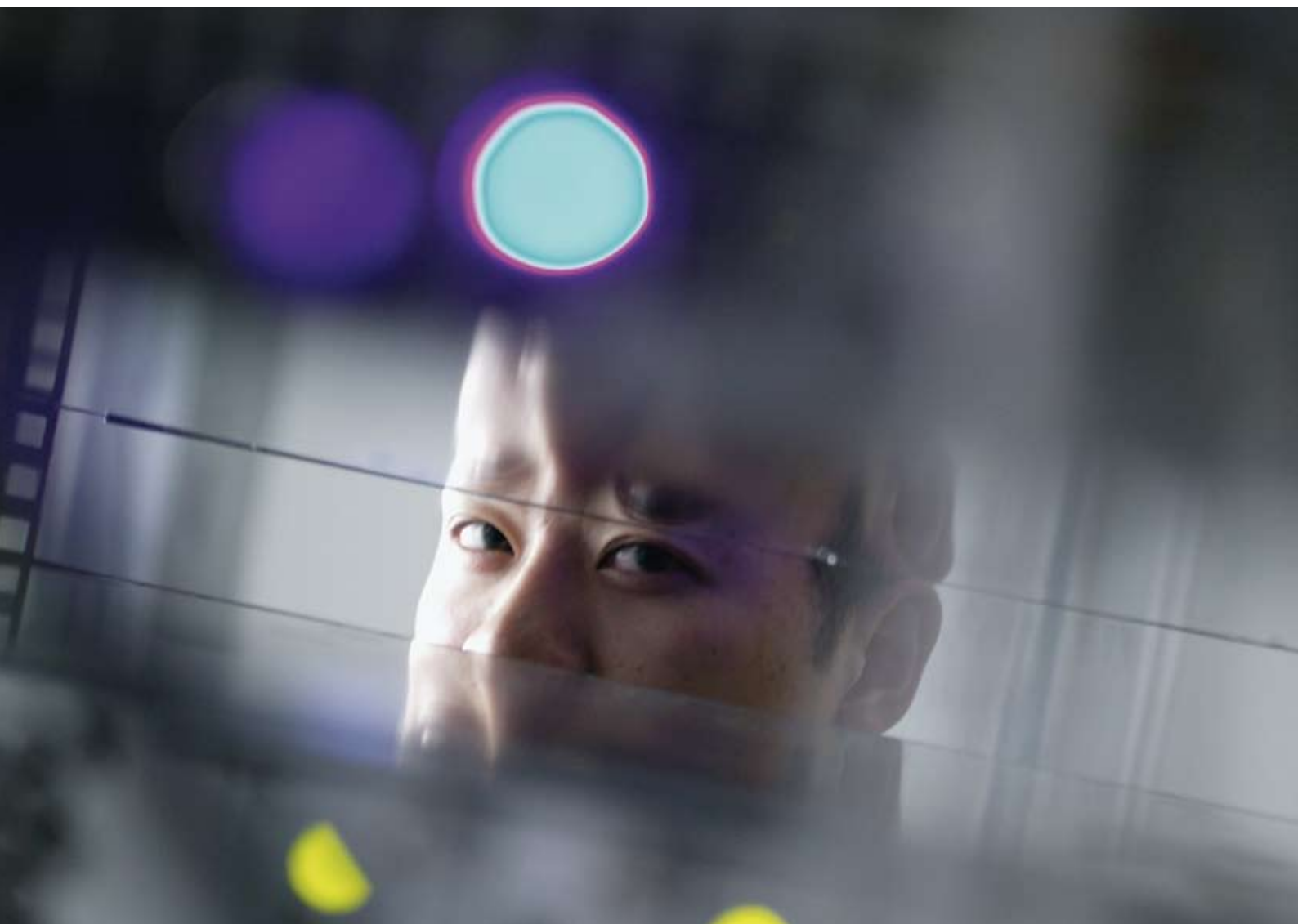
This guide has been divided into several sections dealing with the main subjects that need to be covered during the buying process and includes many useful hints and tips.

The First Crucial Question

One of the first issues you must investigate concerns the corporate strategy—do you have one? The purchase and installation of an enterprise asset solution no longer affects only the maintenance department as asset management can have a significant impact on your organization's ability to satisfy your customers' demands. For this reason, even those outside the maintenance team are likely to be very interested. A well-implemented EAM solution will also provide a substantial amount of information to other parts of the business, such as finance, stores, procurement and manufacturing. This impact will increase the level of interest and support for your project.

Your organization may well have an established enterprise solution for other parts of the business including manufacturing, finance, warehousing and procurement, and possibly even human resources. You must investigate this, as corporate policy may dictate which EAM solutions you can consider.

At this point, your solution selection process could move in two directions. First, if corporate policy dictates a one-stop-shop for your corporate software, then you need to consider this corporate vendor and evaluate its EAM offering. If there is no corporate policy or solution, then you may be free to evaluate best-of-breed EAM solutions.





The Enterprise Solution Approach to EAM

Now let us consider the first possibility. If your organization's enterprise solution provider has an EAM offering, then be very careful to evaluate it according to your requirements (which we will be looking at later). Many enterprise solution providers offer EAM solutions as an add-on, "tick-in-the-box" option. These solutions often have only rudimentary asset and maintenance management facilities and provide only basic integration to the solution's other modules.

You must also check the level of integration between the EAM application and the other key modules of the enterprise solution. Some enterprise providers have purchased EAM solutions from third-party companies as their maintenance option, but have developed little integration. You should expect extensive integration in the following areas:

Stock Control/Warehouse Integration:

- The long-term maintenance plan generates a long-term materials requirement overview which can be used to negotiate parts discounts.
- Work requests should automatically generate soft reservations.
- Work orders should automatically create hard reservations.
- Spare parts issued directly from the warehouse module should be displayed against the work order in the EAM solution.
- Issues and returns of parts should automatically update work order and equipment costs and statistics.
- Cross-referencing between parts in the store's application and the equipment in the EAM solution should be automatic.
- It should be possible for equipment in the EAM system to be held as a spare part in the warehouse.
- It should be possible to replenish some types of spare parts automatically through a maintenance work order (such as for parts manufactured in the maintenance workshop).

Procurement Integration:

- The EAM solution should automatically generate purchase requests for sub-contract service work and also non-stock parts requirements.
- Estimated, committed and actual costs associated with purchase orders should be automatically displayed against the work order.
- It should be possible to create purchase requirements from within the EAM solution.
- It should be possible to receive purchased items from the EAM solution.

Financial Integration:

- All maintenance costs should be sent to the financial module including maintenance labor time, materials and purchases.
- The EAM solution should comply with all the same accounting structures and validation as the other installed enterprise applications.
- The EAM solution should generate budget proposals into the financial system based on future maintenance demands.



Manufacturing Integration:

- It should be possible to plan maintenance and manufacturing orders together.
- Manufacturing disturbances or breakdowns, due to maintenance, should automatically trigger a maintenance work request to investigate the problems.
- The forecast of manufacturing output should be automatically transferred to the EAM solution and used to forecast the amount of preventive maintenance that will be required.
- The actual production output should be automatically transferred to the EAM solution to be used to update the service and preventive maintenance schedule.

Human Resource Integration:

- The EAM solution should be able to check the skills of the maintenance personnel being allocated to work orders based on the skills recorded within the human resources application.

The EAM solution from the enterprise solution provider, if truly best-of-breed, is of course an ideal solution. It provides a common interface for the entire business and removes the need to maintain software interfaces. However, be aware that only two or three enterprise solution vendors (often known as ERP vendors) provide best-of-breed, fully integrated EAM solutions as part of their product offering.

Best-of-Breed, Third-Party Solution

The second major option is of course the best-of-breed (BoB) third-party EAM solution provider. If your organization does not have a rigid selection policy or the enterprise solution provider cannot offer a suitable EAM solution then you need to start considering these organizations.

Typically these BoB EAM providers will specialize only in this solution area and offer a very competitive, functionality-rich maintenance application. They may offer simple, integrated spare parts and procurement functions as well. The downside of the BoB EAM approach lies, of course, with integration. If you want to integrate into your existing corporate enterprise applications such as stock control, procurement, financials and manufacturing, then you have to fully investigate the vendor's approach to and experience with integration. The third-party's BoB EAM application must be designed with integration in mind. If their integration technology is rigid, you may find it very expensive to update the interfaces at a later date. If at all possible, avoid hard-coded interfaces and instead look for a vendor who provides interfaces working through application program interfaces (APIs). APIs typically reduce the complexity of the interface and make it much less likely to need radical changes during the upgrade process.

Once your chosen path is clear, there are many other steps to consider in the procurement process. The sections that follow contain many hints and tips, which should help you during the process of purchasing an EAM solution. You will see that many of the issues are the same no matter which path you choose.

1. The Process

This guide does not try to define or explain all of the detailed processes behind selecting a solution. We will instead proceed by describing a typical process, which could look something like the one in Figure A. There can be many variants of this process, but the figure gives a high-level example of the major activities that take place.

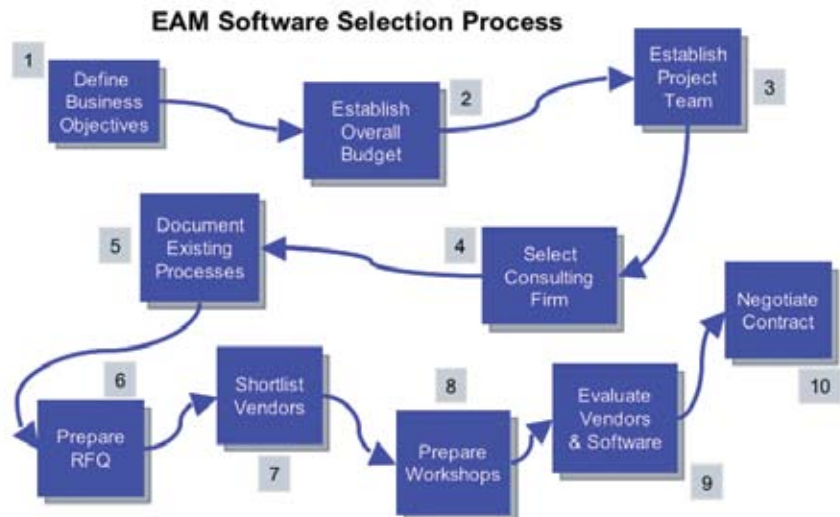


Figure A. An Example selection process

2. Using an External Consultant (Figure A—Activity 4)

Many companies employ one or more external consultants to assist in the selection process. This could be very beneficial, particularly for companies that do not have experienced IT and systems personnel to organize and manage the selection process.

It is critical that you employ a maintenance consultant who has experience with the processes in your industry, as all too often consultants define business requirements (often using documentation from previous selection processes) that are not relevant to your situation. This can lead to the selection of a solution that is totally inappropriate for your needs. Ask for references from the companies that the consultant has worked with earlier.

Be aware that some consultancy companies have relationships with software vendors, so do not be afraid to get guarantees about their impartiality. Do not allow their relationships to impair their judgment, or yours!

3. Understand Your Requirements (Figure A—Activity 5)

It is absolutely critical to understand your existing processes and their interaction with other parts of the organization and to be able to describe the expected future processes that the new EAM solution must support. Once they are established, you will be able to compile a requirements document detailing the functional demands necessary to support these processes. During the requirements development stage, clearly identify the processes that are critical and must be provided by the EAM vendor. If you are sending your request for quotation (RFQ) out to a large number of organizations to generate a shortlist, then it is best to use a simplified RFQ at this stage. A more detailed version can be issued to the short-listed vendors at a later date. Evaluating responses in this way will save you a lot of time.

4. Describe Your Company to the Vendors (Figure A—Activity 7)

When you purchase an enterprise asset management solution, you should remember that your company will have to live with the vendor and software you choose for many years. For this reason, it is important to be as open as possible with the vendors. Let them talk to people on all levels of the company—from the CEO and down. Make sure they know your current and future strategies, tell them what makes you special, what your corporate culture is like, and what your priorities and current issues are. The more the vendors appreciate and understand your organization, the better the relationship and their ability to understand and meet your real needs.

5. The Vendor Company (Figure A—Activity 7)

There is no one question that you can ask to ensure the vendor company you choose is right for you. Nevertheless, here are a few areas to focus on and questions to ask that can help you make the right choice:

- Make sure that the vendor's financial situation is stable.
- It is often important that the company has been in existence for some time. The EAM market today is quite mature and the longer the company has existed, the more organized and professional it will be.
- Make sure that the company has an understanding of your industry. There are many vendors that sell general EAM solutions, and some may be better suited to specific environments. Check out the vendor's Web site and their marketing materials, and make sure that they have the right focus for you.
- Are the vendors on your list big enough to support you today and tomorrow? Do they have consultants, technical support, a help desk and so on? Companies that are selecting an EAM solution for the second time tend to believe that the vendor's ability to execute is one of the most important criteria.
- Globalization is a major issue today. Is the vendor present on the global market? Does the product support multiple languages, currencies and so on? The EAM business is becoming more global from many different perspectives. The industry is also becoming more collaborative, so it may well be that very soon you will want your suppliers or customers to be able to work directly within your systems over the Internet. This is why the international aspects of the solution may be key.

Is there a user group or an Extranet where customers can discuss issues?



6. Technical Software Solution (Figure A—Activity 9)

The technical infrastructure of your future solution is also important in making a decision, but normally it should not be the main driving force. However, the following questions should always be asked:

- If you currently have a policy for IT systems (hardware and/or software), does the application adhere to your current policy? If you have policies in place, these may limit your choice of software. Determine early in the selection process whether this is likely to be an issue, or whether there is some room for flexibility in the policies.
- Does the application vendor support the application on a range of platforms? This provides some flexibility in the future for changing the hardware/software platform.
- Does the support for different platforms use a single code base? This is important. If the application vendor uses the same code base for all supported platforms, all development money will go into enhancing the single product rather than supporting the multiple versions, thus giving you the best return on your investment.
- What is the total cost of ownership (TCO) of the vendor's preferred platform? Look for analysts' reports comparing TCO of the platforms available. Take into consideration the existing skills that you have when making this comparison.
- Does the application support the following industry standard protocols and languages:
 - TCP/IP protocol
 - XML interfaces
 - Java and C++ programming languages
 - SQL-enabled databases
 - Browser-based interfaces?
- Check the openness of the application and ensure that the vendor has a good, clear strategy for integration and provides a broad toolkit of APIs to allow the EAM solution to be integrated into other corporate and shop floor applications.

If these criteria are met, these languages and protocols probably have a long life ahead of them. Standard education courses will be available for retraining, and it is much more likely that the skills exist in the recruitment market. But most importantly, it will be much easier to achieve integration with other products.

7. Functional Software Solution (Figure A—Activity 9)

Choosing the right enterprise solution from a functional perspective is probably the most complex part of the process. EAM requirements for manufacturing plants typically include a good asset database, preventive maintenance and work management facilities, but do not require customer order management options which provide billing functionality. Here are some of the minimum requirements for EAM solutions:

- Asset/equipment database
- Equipment browser displaying the structure in a hierarchical view
- Spare parts drill-down
- Technical data with user-defined templates for different types of equipment
- Documents and drawing management
- Comprehensive preventive maintenance/service management supporting calendar and meter-based scheduling
- Quick work request generation
- Electronic approval
- Work estimation functions
- Work order management with good browsing capabilities
- Graphical planning options (labor, materials, tools and so on)
- Work and inspection feedback
- Statistics and data warehousing

Outsourced maintenance providers will have additional demands to allow them to bill or invoice their customers after completing the work including:

- Agreement management
- Maintenance customer order generation
- Equipment receipt management
- Pre-inspection
- Quotation options
- Maintenance customer order management
- Equipment dispatch management
- Invoice preparation and management





8. Demonstrations and Workshops (Figure A—Activity 9)

This is your opportunity to see the software, so make the best use of it. Try to focus on your key requirements and ensure that your weighted scoring system accounts for this. It is vital that you help the vendor to prepare because you could both be wasting your time by not discussing the content of the demonstration in detail, before the presentation. There is nothing worse for your credibility than organizing a number of your colleagues and expecting them to sit through a poorly prepared presentation.

Offer each vendor the opportunity to visit your site, understand your processes and clarify the demonstration script. Prepare sample data for them to take away. Using your data in their presentation will make a significant difference to your understanding of their application. It will also highlight fundamental problems at an early stage.

- Demonstrations and workshops are, from a process and functional perspective, your chance to check that the solution meets your needs.
- Do not get carried away by the solution with the prettiest interface. Most interfaces today can be flexibly configured.
- Ensure that you give the suppliers scripts and, where possible, your own data, as already mentioned.
- Also ensure that your people have checklists and an easy method of scoring each of the products. Do not just evaluate on feelings.
- At the workshops, ensure that suppliers demonstrate the software. It is common practice for suppliers to carry out the presentation using their own server, based at their office. Therefore, you should be prepared to provide an Internet-capable port or telephone line.
- The use of PowerPoint and other presentation media is very useful to introduce or summarize a process or subject area, but be careful that the solution is not presented using this technique.
- It is very likely that one or more of the suppliers will state that possibly one or two of your needs are in the next release/version. This is normal in the software industry as new facilities are being developed all the time. The main thing is to get the supplier to confirm the availability of your needs in writing.

9. Strategic Industry Focus (Figure A—Activity 7)

It is very easy for a software company to create a brochure on, for example, the food and beverage or fashion industries. Try to look beyond the marketing hype and ensure that the company you choose has true focus. Their people should have a strong background in your industry and speak the same language. Ask questions such as: How is product development decided? Who is responsible for the EAM product functionality and sector? What are the future development plans? Find out how long the company has been focused on the industry.

10. References (Figures A—Activities 9 and 10)

Getting references is probably one of the most important steps in the buying process. When you visit/speak to a reference customer, discuss what went well during the implementation, but also what did not, and be aware that all implementation projects have their ups and downs. The important thing is that the companies worked together to solve the issues and implemented the solution successfully.



11. Implementation (Figure A—Activity 9)

Proving the vendor's ability to implement is the most important aspect of your selection process. Implementing an enterprise system takes time, knowledge and resources from your company as well as from the vendor:

Vendors today all tend to have tried and tested implementation methodologies. One of the differences lies in who will implement the solution. Is it the people from the company who wrote the software, a third-party agent or a consultancy company?

There are pluses and minuses to all approaches. However, if it is not the software vendor that is providing the implementation staff, ensure that the agent or consultancy company is correctly accredited with the vendor and carries the necessary training credentials from that original vendor. Implementation organizations who offer their services without this level of authority are unlikely to possess the necessary skills or experience!

The vendor's ability to execute such a project is paramount as a decision criterion. As stated earlier, many second-time buyers of these solutions will spend much of the evaluation time discussing and understanding the processes, methods and people to be used during the implementation of the solution. The vendor should have a tried and tested way to implement. Make sure they explain it.

12. Support (Figure A—Activity 9)

Once your solution has gone live, you will need support from time to time. This could be for many reasons:

- Errors in the software (all software has bugs)
- User mistakes in processing
- Attempting to use new facilities
- New personnel requiring assistance
- New functionality/upgrades

Naturally your vendor should have a help desk and some companies will need more than just nine-to-five support. Make sure the vendor has facilities to support you during the times you need help, which could be 24 hours a day and even on public holidays.

Conclusion

If you are considering procuring a new EAM solution, you must go through a complex process that will probably take several months to complete before you can select the software and the vendor for you. But remember, although choosing may be difficult and time-consuming, implementing will probably be even more complex and will require the efforts of many of the best people in your organization, together with support from all levels of management, to ensure success.

The industry is evolving and changing as rapidly as ever; and the need for up-to-date information for you and your partners in the supply chain is imperative. The only real way to gather this information and deal with the velocity of today's business is through integration, collaboration and automation. Your enterprise solution needs to be at the heart of your company, so choose carefully.

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About Lawson

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We are a market-leading, financially strong supplier of software and services to more than 4,000 customers in manufacturing, distribution, and services industries across 40 countries. We also provide the underlying technology necessary to run these solutions flexibly and efficiently.

Our history has been guided by two goals: to provide scalable, flexible, and ready-to-use systems for a variety of users; and to simplify the deployment, maintenance, and use of our applications.

Lawson's solutions include Enterprise Performance Management, Supply Chain Management, Enterprise Resource Planning, Customer Relationship Management, Manufacturing Resource Planning, Enterprise Asset Management and industry-tailored applications.

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