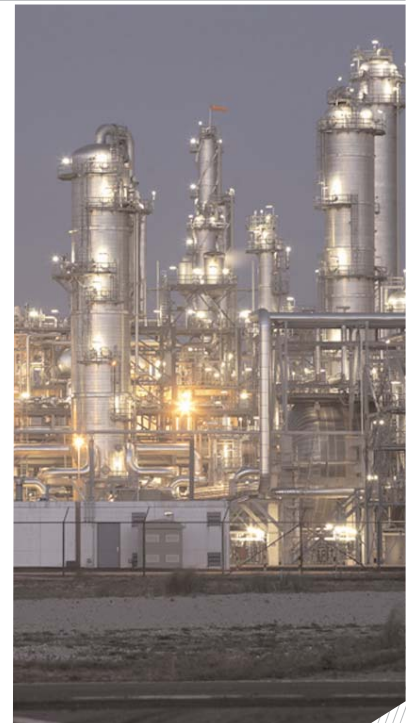


Idhammar Whitepaper – what difference would a CMMS make to your maintenance operation?

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“There can be economy only where there is efficiency”

Benjamin Disraeli, British Prime Minister

DURING THE PAST TWO DECADES advances in Computerised Maintenance Management Systems (CMMS) and associated technology has transformed manufacturing efficiency levels irrevocably. As a result of these advances we now have the ability to automate many standard maintenance processes, analyse in detail various parts of our businesses, and manage the performance of much of our equipment. We can plan shutdowns, technical change-over and operations maintenance procedures down to a very fine level of detail. As maintenance management often accounts for as much as 40% of operational budgets, the savings made possible from increased efficiency and reduction of waste can be staggering. Yet despite this, many manufacturers are yet to take full advantage of the benefits of a CMMS.

This paper explores the real benefits a CMMS can bring to an organisation and offers a range of considerations prior to choosing and implementing a CMMS for your maintenance operation.



Why CMMS?

THE BENEFITS OF IMPLEMENTING A CMMS ARE WELL DOCUMENTED in numerous books and articles, and could fill many pages. However, the aim of this whitepaper is to provide a general overview and suggest that the essence of a CMMS is to give you the ability to capture information and make powerful decisions about your organisations' valuable assets.

Trading paper-based methods or spreadsheets for an automated computerised system is empowering for Maintenance, Production and Engineering Managers alike; quite simply, a CMMS is an essential tool which gives you the freedom to move maintenance operations from reactive crisis management towards an effectively planned and controlled system.

The business benefits of using a CMMS include:

1. REDUCED COSTS

There are enormous potential cost savings achievable using a CMMS to turn a reactive operation into a planned and proactive operation. A CMMS can prevent expensive repairs before they occur, improve the efficiency of routine maintenance tasks and prevent costly down-time. In addition, preventative maintenance can extend the life of equipment to save on capital expense and greater control over engineering workloads, scheduling, and inventory management can also reduce the overall operating costs of the maintenance function.

2. ENHANCED PRODUCTIVITY

A CMMS can help to improve the productivity of both the maintenance team, and the facility as a whole.

For the plant: a balanced schedule of preventative and corrective maintenance maximises equipment uptime and keeps assets in peak operating condition. The result is minimised downtime and greater productivity.

For the maintenance function: consider a geographically dispersed maintenance team, covering a large site with multiple facilities. By using a CMMS linked to a hand-held PDA, the maintenance engineers are able to work with real-time information, check and allocate stock or initiate work-orders without returning to the office. As a result of this, journey-time for the maintenance engineer is cut, productivity is enhanced, purchase cycle times are minimised and inventory value is reduced.

3. REGULATORY COMPLIANCE

Demonstrating regulatory compliance is often a key driver for purchasing a CMMS. Today it's not just the heavily regulated industries like food, pharmaceuticals and chemicals that are required to keep an auditable record of maintenance. Health and safety regulations apply to all manufacturing operations and a CMMS will both record the details of the maintenance activity on vital machinery, and prompt you to ensure that the work is actually carried out at specified intervals. The CMMS makes compliance easily traceable for audit.

4. MITIGATING RISK

Intelligent reporting modules ensure that data isn't lost into a black hole, but used to inform and actively improve all aspects of asset management. The CMMS will provide you with the data you need to build a solid business case for investment, or highlight trends caused by rogue equipment, parts and service providers.

Furthermore, with ever increasing customer requirements, a CMMS can support your client audits and demonstrate the effectiveness of your maintenance programme.

5. FAST ROI

Established for many years, CMMS have proven return-on-investment, typically, in less than a year investment in implementing a CMMS is recovered and a 5 to 15% reduction in maintenance costs can be expected. If your current maintenance operation is predominantly reactive, you can expect an even greater return.

Additional operational benefits

In addition to business benefits, there are a number of additional operational benefits for the maintenance department, including:

- **Improved planning** – easier scheduling of work orders, balanced workloads and a focus on preventative maintenance.
- **Better quality reporting and ease of access to historical information** – real-time data collection ensures that professional information is captured and shared between team members. This collective bank of information is unaffected by staff changes.
- **Clearer, more useful reports** – flexible, user defined. reporting can both alert to issues and provide insights to their cause.
- **Reduced management overhead** – the CMMS aids planning, scheduling and communication, it also encourages collective responsibility reducing the strain on management.
- **Fewer breakdowns** – a focus on planned, preventative maintenance reduces equipment downtime.
- **Less time at the stores counter** – real time, online stock management means that you don't need to make multiple journeys to check, book or obtain parts.
- **Reduced stock-outs** – better inventory management keeps you one-step ahead to minimise disruption and downtime.



A simple scenario

TO DEMONSTRATE THE OPERATIONAL BENEFITS OF A CMMS, the following scenario describes a familiar maintenance situation; firstly without using a CMMS and then once the CMMS has been applied.

Using paper-based maintenance procedures

1. A call comes through to the maintenance department that machine A is down and it looks like something to do with the glue-unit
2. A maintenance engineer is dispatched to go investigate the issue.
3. When he arrives at machine A, he discovers that a particular nozzle on the glue unit has become blocked. To get the nozzle off the unit requires a specific size of spanner, which he hasn't got with him. So he has to go back to his desk to get it and then return to machine A.
4. Once the nozzle is off, it becomes clear that it isn't easily unblocked. A new nozzle is required. However, the engineer isn't sure if there are any of those kinds of nozzles in the store room.
5. So the maintenance engineer walks over to the store room where he hunts around for a glue nozzle, only to discover that there aren't any. He needs to order it, but unfortunately, the nozzles only come in packs of 10.
6. A day later the nozzle arrives and the engineer is able to fit it onto the glue unit. The remaining spare nozzles are put "somewhere safe" as they are a small part and can easily get lost.
7. A few months later the glue unit goes down again. The original maintenance engineer is now on holiday. Maintenance Engineer B goes through the same procedure, but not knowing about the spare nozzles in the "safe place", he also re-orders more nozzles.

The difference a CMMS would make to this scenario

1. A call comes through to the maintenance department that machine A is down and it looks like something to do with the glue-unit.
2. A maintenance engineer looks up machine-A in the CMMS using his PDA to see if there's a history of problems with the glue unit, when it was last maintained and if there are any notes from previous occasions.
3. Having read the notes, the engineer goes to the machine with the correct size of spanner, ready to deal with the nozzle if that's what it turns out to be
4. Using a hand-held portable device, the engineer checks the stock register for the nozzle. The inventory control system had already taken care of re-ordering more nozzles when the last one was replaced so there are nozzles in the stock room, and the CMMS can tell the engineer which shelf they're on.
5. The nozzle is fitted immediately and machine A is soon back up and running
6. The engineer makes notes in the CMMS and a management report follows that flags the nozzle on the glue unit as a reoccurring issue. New work orders are scheduled to ensure that the glue unit undergoes regular preventative maintenance to reduce the occurrence of down-time.

Alternatively, the periodic review of maintenance activities using the CMMS identifies the nozzle replacement as a recurring event. As a result, the regular replacement of the nozzle becomes a planned maintenance activity which completely eliminates this unexpected failure and unplanned downtime.

Key considerations when implementing a CMMS

Conclusion - benefits of applying a CMMS

- **Save time** – the maintenance engineers in this scenario were able to save time, and the associated frustration, of journeying to and from Machine A.
- **Save money** – the maintenance department saved money, the work was completed faster and glue nozzle stocking was optimised.
- **Increased productivity** – the plant was more profitable due to the reduced downtime involved when the CMMS was employed.

As a result of shared information within the CMMS the maintenance department appears more efficient and professional to the wider organisation.

Implementing a CMMS

COMPUTERISATION ISN'T A PANACEA, but there's one consistent theme that appears to lead to the successful implementation of computerised maintenance management; a genuine desire to improve a company's bottom line, through features and functions that increase the accuracy and timeliness of information available to those on the front line and their managers. With better information available sooner, people can react quicker to suboptimal situations. This ability eventually translates into greater asset availability and performance, improved asset reliability, higher and more consistent quality of output, and a lower asset life cycle cost. In turn, this means a lower cost of doing business and higher return on capital employed.

Prior to embarking on the implementation of a CMMS, it is a good idea to undertake a Project Planning Study or ROI evaluation for your particular environment. A project planning study will help you to:

- Determine operational and strategic aims
- Set performance measures and targets
- Review existing systems and procedures, including interfaces to other systems
- Define data transfer/capture methodologies
- Identify areas requiring operational improvements
- Agree appropriate reporting needs
- Establish a project team and steering group
- Estimate internal and external manpower resources
- Create a project plan and milestones
- Develop a training and communication plan
- Secure buy-in at all levels



Regardless as to whether or not you decide to conduct a planning study, there are a number of important considerations to be taken into account when implementing a CMMS:

LOOK AT THE BIGGER PICTURE - IMPACT ON PROCESSES AND CULTURE

The planning and commitment to implementing a CMMS is arguably the most important determinant of its success and the return on investment in your environment.

Firstly, a degree of business process reform is likely to be required to make the most of the new levels of information, tracking requirements and integration between roles and functions. This step often provides a number of additional benefits to the efficiency of the maintenance team.

Secondly, an element of cultural change is also inevitable. Initially some maintenance engineers may feel that they are being "watched and monitored", before realising that a CMMS is actually empowering them to do their job more efficiently and professionally. The importance of managing maintenance engineers and other associated personnel through this process of change should not be underestimated.

MAKE IT A MANAGEMENT PRIORITY

The Maintenance Manager is one of the main beneficiaries of a CMMS, helping them to gain greater control of their function, reduce time pressure and alleviate stress. However, it is also inevitable that a CMMS will require more of this manager's time in the early phases prior to launch and for the first few weeks afterward as they reengineer processes and support the maintenance team members through training and the initial learning curve. It is therefore essential that the implementation of a CMMS has complete management buy-in right from the start.

DON'T MISS OUT THE EVALUATION LOOP

Setting some realistic goals and targets not only aids pre and post-implementation of a CMMS, but over time helps to keep the team on track, collectively learning from mistakes and celebrating success. The CMMS will provide management reporting and tracking to help with procedural audits, support analysis and ongoing control and evaluation loops.

PRIORITISE THE FUNCTIONALITY YOU REALLY NEED

Today's CMMS are rich in functionality, and it is easy to be swayed to purchase a system that has more bells and whistles than any other. However, in reality some of the functionality of a CMMS may be more important to you and your environment. It is good practice to think through your priorities in terms of functionality, both for today and for future growth.

TRAINING SHOULD NOT BE OPTIONAL

CMMS is a powerful management information tool, and as with any tool it requires practice and dedication in order to use it proficiently and to best effect. Independent research has shown that companies which fail to gain the most from their CMMS do so as a result of limited training. Although thorough training programmes occur during system implementation, many maintenance teams fail to provide ongoing, regular training for new team members and as new functionality is added.

INVOLVE OTHER DEPARTMENTS

Involving other stakeholder or collaborator departments, particularly production, in the new process design and selection of a CMMS will ensure more robust processes and the support of the wider manufacturing team during a time of change.

CHOOSE YOUR CMMS CAREFULLY

The decision of which computerised maintenance management system to choose should not be made solely on functionality. The right partner is essential to maximise return on investment over the long-term use of your CMMS; an experienced provider can help you to avoid pitfalls and provide all the support you need both today and during the evolution of your maintenance operation for years to come.

What does success look like?

How can a fully implemented and productive CMMS be identified? The following points are often regarded as the hallmarks of a successful implementation:

- The CMMS is used throughout the organisation and has a broad user base.
- Streamlined business processes and systems have been integrated to form a new business environment.
- All work is processed and documented using the system.
- Planning and scheduling functions are implemented and used.
- A complete set of project management tasks and a job plan library are developed and, more importantly, used.
- Work management and materials management are fully integrated.
- A positive ROI is planned, and achieved in 6 to 24 months.
- KPIs and other performance indicators are used to gauge success and guide activities.
- Overall maintenance costs have been reduced by between 20 and 40 percent.
- Inventory valuation has been reduced by between 20 and 30 percent.



Choosing the right maintenance solution for your environment

CMMS vs. ERP Systems

One question increasingly asked these days, is whether to adopt an Enterprise Resource Planning System (ERP), which generally contains some form of maintenance management capability, or whether to adopt a "best of breed" dedicated CMMS. While ERP solutions may provide a single-vendor look and feel across all modules and all enterprise processes, (depending on how the module has been purchased and integrated into the system), they are generally driven from the requirement to have an integrated accounting system. This factor can often mean that the real needs of the maintenance function are overlooked in favour of a standard approach that closely aligns to the requirements of desk-based functions such as finance and purchasing.

The key advantages of adopting a "best of breed" CMMS include:

- Wider and deeper functionality because the focus is on CMMS
- Better solution scalability
- Greater CMMS specialisation and flexibility to add or configure functionality for any industrial sector
- Less complexity and less reliance on other ERP modules to provide CMMS functionality
- It's faster and easier to implement and upgrade the CMMS functionality

In any case, the more sophisticated "best of breed" CMMS, such as Idhammar MMS, have the capability to be seamlessly integrated into ERP systems to meet the needs of finance and maintenance.

Web-based CMMS vs. locally-resident CMMS

A number of recent CMMS introductions have included off-the-shelf, low cost, web-based packages. On the surface these packages would seem to provide additional flexibility to the maintenance department by allowing remote logon to the CMMS from any location with internet access. However, as existing locally-hosted CMMS can already be accessed remotely, and new pocket maintenance systems allow for work-orders to be generated and communicated via mobile phone or PDA, the real benefits of a web-based CMMS remain unclear.

To explain further, a Web-based CMMS can only be accessed via an internet browser. Essentially the CMMS supplier acts as an ASP (Application Service Provider), holding and supporting all your CMMS data remotely on their servers. The upsides of a web-based CMMS include:

- Remote access of the CMMS is easy from anywhere with access to the internet
- Administrating the system and server (updates, maintenance, backup etc.) become the responsibility of the ASP
- Initial set-up and implementation is fast, and capital expenditure costs are minimal

The downsides of web-based CMMS include:

- Increased business risk - potentially losing control of your data should the ASP suffer catastrophic data loss or even business closure
- Slower response times - bandwidth issues can arise as the local request is

submitted via your internet connection to the server on the other end, which then has to poll the CMMS database before getting back to you again via your internet connection.

- Reliability issues - may creep in when you're relying on electronic data transmission via the internet for your mission critical data. Many of us have experienced issues of data loss when ordering and paying for items through the internet, sometimes our order simply gets lost. What would happen if your maintenance records weren't updated properly, or stock information got lost during transmission?
- More complex operating environment - if the system goes down will you know who to call? It may be a problem with your ASP and their CMMS, or potentially an issue to do with your internet connection, there again your internet connection may be fine but there's a fault in the transport layer provided by your phone/cable company. With a locally-hosted CMMS there's no finger pointing should anything go wrong.
- More limited system functionality - unlike a resident CMMS, the design and implementation of the web-based CMMS can be restricted by the need for a more limited database, bandwidth and other response-based constraints.

In summary, although a web-based CMMS may be perfectly adequate for the needs of a smaller maintenance team, it is important to fully consider the full implications and your requirements in terms of work patterns, functionality and the level of business risk you're willing to sustain.

Selecting the right CMMS

THE FIRST POINT TO NOTE WHEN SELECTING a computerised maintenance management system is that not all CMMS are made equal! Certainly, a feature-by-feature comparison of product specifications may lead you to believe that there are few differences, but closer inspection will separate the solutions in the following ways:

1. **Ease of use** - this factor is of critical importance. A system that requires a lot of training, constant explanation and local support is likely to remain under utilised, especially in environments where there are different levels of computer literacy and professional development.
2. **Breadth and depth of functionality** - the technical specification may suggest a set of functionality, but the actual functionality may be far shallower than you require. This can set unnecessary restrictions on capability or result in additional expense as requests for added functionality are made. Make sure that the system is scalable to grow with you as your business changes.
3. **Flexibility to fit your environment** - the CMMS you select needs to be configurable to fit into your environment with your particular asset structure and organisational requirements.
4. **Support services** - ensure that your CMMS supplier has positive history of system installation plus comprehensive ongoing support (help desks, annual site visits and dedicated account management), backed by references from existing customers. You should also look at the additional services offered including project planning, ongoing training, software upgrades, data collection/conversion, business process matching and preparation of special reports.

5. **Supplier experience and stability** - there are three key things to consider when looking at the difference CMMS suppliers
 - a. Corporate stability - how long have they been in business and how many clients do they have?
 - b. Are their clients of a similar ilk to your business? Similar size, complexity, business environment?
 - c. Are they a pure IT company, or do their personnel also reflect first-hand experience in maintenance management.
6. **Value for money** - when looking at cost it is important to compare apples with apples and therefore to ensure that the pricing comparison includes software licenses, database licenses, software support, implementation services and other costs such as hardware (networks, servers, clients, PDAs and printers).

Embarking on a CMMS is part of an evolutionary journey; make sure that the CMMS you select can travel with you over the long-haul.



Why choose Idhammar for your CMMS?

IDHAMMAR SYSTEMS HAS A LONG HISTORY of supporting maintenance managers in achieving their goals. Developed from the ground-up by a combined team of software engineers and maintenance experts, the Idhammar Maintenance Management System has evolved from IBM servers to broader system platforms. With one of the largest, most comprehensive maintenance databases at its core, the Idhammar MMS combines a rich functionality with the ease of use and flexibility to meet the needs of almost any maintenance environment in businesses large and small. We guarantee a solution that works for each individual customer.

Idhammar has always taken an innovative approach; our longevity in the business does not mean that we rest on our laurels. The modular design of the Idhammar MMS allows us to update and add functionality to keep abreast of technological developments and keep pace with contemporary business requirements such as higher levels of maintenance mobility, quality monitoring and dashboard reporting.

Our vast experience enables us to offer an integrated implementation programme for every part of the organisation and every step of the way - from training engineers, to identifying enhancements to existing maintenance processes and encouraging the use of analysis and reporting at management levels. We understand the different requirements from shop floor to boardroom.

In Summary

MORE THAN TEN YEARS AFTER THE PEAK OF CMMS HYPE, computerised maintenance management systems continue to be one of the most advanced, environmentally friendly investments available to the manufacturing industry. Regardless of the size of business, CMMS can provide significant benefits to the professional maintenance management of your organisation and deliver savings to the bottom line. Today, small and medium size businesses can take advantage of highly affordable systems and expect a return on their investment within months rather than years.

For more information on the Idhammar MMS please call us on:

Tel: **+44 (0) 117 920 9400** or visit www.idhammarsystems.com