

The Total EAM Vision

Strategic Advantages in Asset Management

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Defining EAM

Enterprise Asset Management systems (EAM) continue to point the way into the future for capital intensive industries. The combination of functionalities, asset focussed business intelligence and advanced management consulting have allowed some vendors to provide consistently high results to those industries whose operating model involves the management of large numbers of physical assets.

This specifically refers to industries in the areas of Mining, Oil and Gas, Defence, Utilities and Transport although it does also offer positive benefits for companies in some areas of manufacturing.

The Gartner Group¹ defines EAM as the following:

*“EAM consists of **asset management, materials management, HRMS and financials**”*

Figure 1: Complimentary Effects between Managerial Functions in Capital Intensive Industries



The focus and structure of an EAM system recognises the strategic importance of asset management and provides a structure and depth of functionality dedicated to providing clear strategic advantages in these areas. It is for this reason that it is directed at the central role played by maintenance and includes the three additional functional areas in capital intensive industries that have a synergistic relationship with asset management. They have truly evolved into solutions for enterprise performance management in this industry sector.

It represents a key strategy to increase plant capacity, using information technology in lieu of new construction in large, asset-intensive enterprises. It integrates key plant control systems (PCS) and ERP with maintenance activities and functions to reduce downtime and minimize maintenance spending

Confusion in E.A.M

The emergence of EAM as the solution for this style of industry has at times been confused both by clients, as well as by vendors.

Myth 1: EAM are only transactional Systems

While there are lower standard systems that offer only transactional functionality, a true EAM system builds on this data by providing advanced functions in critical areas affecting asset management. For example:

- Risk management and reliability engineering (Including predictive maintenance management)
- RCM
- Root Cause Analysis

¹ The Gartner Group is a respected IT analysis company.

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- Advanced Workforce and Human Capital management
- Advanced Inventory Management

It is the inclusion of these ranges of functions that **EAM** systems are able to provide strategic advantages in asset management. Advantages that can separate industry leaders from their competitors.

Myth 2: Misunderstanding of the Areas of EAM

A common ploy by vendors of lower quality systems is to attempt to include other functions as a part of the core functionality of these systems. This effort of re-branding by specific vendors is not only misleading but affects the overall goals of asset management in industry. For example:

1. Addition of **CRM** (Customer / Client Relationship Management)
2. Addition of **SCM** (Supply Chain Management)

While these two system functionalities are important parts of managing enterprises., they are **not** vital parts of asset focussed industries. In fact the use of these systems, functions, *in lieu of* basic **EAM** functionalities, can substantially reduce benefits from the overall asset-centric solution. (**Note: Basic CRM is considered to be a part of EAM**)

An **EAM** provides a means of generating strategic advantages through the management of physical assets. And uses the issues of Asset Management as key drivers for achieving these advantages.

Recognised Benefits of E.A.M

In Q4 of 2001, the analyst organization ARC stated:

*"Fast ROI and Hard Savings Keep the **EAM**/CMMS Software Market Healthy...The recent success of Enterprise Asset Management (**EAM**)/ Computerized Maintenance Management System (CMMS) solutions is directly related to strong corporate concentration on profitability. **EAM**/CMMS solutions are the only ones where a substantial and quick ROI can be realized."*²

This underscores the ability of these style systems to produce rapid results through advanced physical asset management functionality. The strategic importance of this, in terms of financial and non-financial returns on investment, cannot be overlooked by companies with large asset bases.

The Changing Asset Management Environment

For a corporation to understand the potential impact of **EAM** it first needs to understand the strategic importance of asset management. The management of physical assets offers a vast area of potential strategic advantage for many companies. A thorough and accurate approach in this area can bring benefits in the areas of:

- Productivity
- Risk Management
- Asset utilization
- Quality of product and of client service

When combined with the added benefits available in applying **EAM** systems this adds potential areas of strategic advantage in:

- Utilization and development of human resources
- Financial optimization of the maintenance function
- Reduced inventory holdings

² Arc-Wire is a reputable analyst organization.

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- Better vendor selection and management
- Human Capital Management

This requires a truly proactive approach to asset management. An approach that involve looking forward to take decisions instead of looking back. Proactivity, when expressed in terms of **EAM**, means:

- Use of “what if scenarios” and forecasting. This is a vastly under used area of all implementations. The ability of a company to be able to forecast differing scenarios when analysing the asset management function can add substantial value to a company.
- Accommodation of RCM style analyses
- Extensive use of Business Intelligence as a strategic asset for managers
- Providing for the creation of asset specific decision support information tools
- Allowing for asset policy decisions, in terms of redesign, changes to policies, identification of root cause analysis opportunities
- Inventory reduction, or increased efficiency decision support information
- Future workforce planning

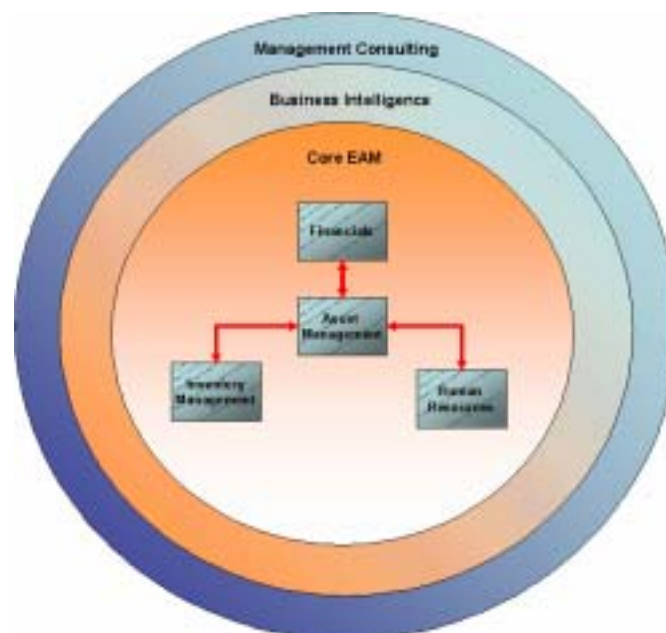
It does not merely mean reacting to analysis. This practise, although recommended, is a reactive practice and focuses on ***what has happened***. The key to proactivity is in focussing on ***what could happen*** in the future and planning accordingly.

Non Financial ROI

An understanding of the strategic importance of asset management requires an appreciation of the non-financial benefits and responsibilities of physical asset management. These are primarily in the areas of risk management associated with safety and reducing the risk of damaging the environment.

Changes to industrial legislation and community expectations have made these areas some of the more critically important to directors of companies. At this point in time the government of England and the United Kingdom is discussing efforts to bring in legislation regarding “Corporate Killing” via negligence in asset management. These trends are set to continue throughout the world.

The Total EAM Vision



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The Total **EAM** vision is one that encompasses all of the areas importance to management of maintenance. Far from just transactional management a strong solution builds strategic advantage in each of the following areas.

Advanced Asset Functionality

The following are some of the functional areas where a Total **EAM** Vision can provide substantial benefits:

- Whole of life asset care (From purchasing to retirement)
- Advanced management of Predictive maintenance regimes
- Advanced PM management (Far beyond “do this now” style functions)
- Advanced workforce planning both long range and short range. Particularly in terms of “capacity scheduling” and “shutdown management”
- Abilities for the management of Human Capital
- Decision support for maintenance strategy decisions
- **EAM** style inventory management algorithms (based on probability- “just-in-case” in place of “just-in-time”)
- Comparative life evaluations for equipment under condition monitoring regimes. This is a key strategic function of a base **EAM** system and one that contributes greatly to decisions regarding capital investment.

Risk and Reliability Management Functionality

- RCM (Reliability Centred Maintenance) functionality
- Support of root cause analysis
- Vendor selection and evaluation
- **EAM** style inventory recalculation functionality
- Early identification of reliability issues in equipment

Business intelligence and Analytics

The use of business intelligence is a means of extending **EAM** systems in order to accommodate the Total requirements of capital intensive industries.

This has been a part of the solutions **EAM** providers have offered for the past decade and, importantly, works from the information already contained in the **EAM** system.

- Provision of key performance indicator monitoring in a manner that allows their use as a means of implementing strategy, not only monitoring it and reacting. (Truly proactive)
- Application of “what if” scenarios and forecasting
- Executive alarms and drill down functionality
- Provision of reliability analysis information.
- Provision of analytical decision support information.

Advanced Management Consultancy

The last step in the application of the Total **EAM** Vision is that of the provision of Managerial Consultancy. This goes way beyond the standard implementation function of **EAM** vendors and needs to include a high level approach to optimizing a companies processes based on:

- Acknowledged best practices

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- Knowledge of areas of critical importance in the industry sector
- The interrelation between functional areas for greater ROI achievement

While there is no doubt regarding the ability of **EAM** systems to achieve results, this can be greatly leveraged via focussed management consultancy. Particularly with respect to the correct usage of powerful “**what if**” functionality, risk and reliability management, advanced inventory management and the creation of a structured KPI regime.

The Total EAM Solution

A Total Solution

There are many solutions on the market today that cover some or all of these requirements in an adequate manner. The matrix below is based on the Mincom International offering, Ellipse, a Total **EAM** Solution for capital intensive industries. As can be seen the functions of this system are directed at delivering the Total **EAM** Solution for clients.

<i>Enterprise Asset Management Solutions Grid - Overview</i>	<i>Managerial Consultancy</i>		
	<i>Total EAM Suite</i>		
	<i>EAM</i>		
Whole of Life Asset Care	x		X
Maintenance Administration	x		X
Predictive Maintenance	x		X
Maintenance Decision Support *	x		X
Transactional Information	x		
Physical Asset Risk Management	x		X
Advanced Human Resource Management	x	x	X
Advanced Inventory Management for Asset Intensive Industries	x	x	X
Reliability-centred Maintenance	x	x	X
Root Cause Analysis	x	x	X
Financial Cost / Life Analysis	x	x	
Technical Change Management	x		X
KPI Dashboard		x	
Strategic Indicator Usage		x	
Strategic Planning for Asset Management		x	X

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One of the additional elements of the chart above not mentioned in this paper is that of Technical Change management. Or the management of modifications, new acquisitions, capital projects and other improvement projects. When considering the overall asset management picture this element is one of the key elements and essential to responsible asset management.

It is worthy of noting that the **no** software system alone is capable of achieving all of the goals of **EAM** in any industry. The same can be said of ERP or of CMMS. They are generally a collection of applications that support the EAM. Such as reporting systems, graphic parts manuals and other peripheral systems.

Conclusion

Physical asset management contributes greatly to the achievement of competitive advantages in capital intensive companies. Particularly in the areas of productivity, quality, cost effectiveness, and risk management. If your company has a need to manage physical assets it can benefit from a proven Total **EAM** solution provided by one of the top level systems vendors.

A key issue however in the selection and implementation of an **EAM** system is ensuring that the underlying processes and management functions support the goals of achieving strategic advantages in Asset Management. This goes beyond the implementation project and should include a degree of true managerial consultancy assistance to truly provide a quantum leap in corporate performance.