

# White Paper

## In EAM, My Asset Isn't Like Your Asset

With definitional help from Google: Enterprise Asset Management (EAM) is the management of the assets of an enterprise across departments, facilities, business units and geographical locations. EAM integrates techniques for holistic control and optimization throughout asset life cycles, including design, commissioning, operations and replacement.

Taking it further (with more help from Google): An asset is a resource with economic value that an individual, corporation or country owns or controls with the expectation that it will provide future benefit, as:

1. Assets are bought to increase the value of a firm or benefit the firm's operations. You can think of an asset as something that can generate cash flow, regardless of whether it's a company's manufacturing equipment or an individual's laptop computer.
2. In an accounting context, assets are either current or fixed (non-current). Current means that the asset will be consumed within one year. Generally, this includes things like cash, accounts receivable and spare parts inventories. Fixed assets are those that are purchased and expected to keep providing benefit for more than one year, such as installed equipment, furnishings, the buildings themselves and, of course, underlying real estate and utilities.

In the context of our work as real property managers, we focus on fixed assets; “fixed” defining the accounting context, not whether or not the asset is movable. And for the matter, EAM really doesn't care so much about where something is other than for inventory control (although location data is usually captured). The challenge is all centered on “what” something is and how we support both its contributory and sustained value over time.

The value contributed by a device, component or part to total enterprise value across the organization is most commonly used in real estate to refer to the contribution made by a particular feature or component to the escalating or depreciating value of the whole property. For example, different features in real estate may have vastly different contributory values. The contributory value of artwork (regardless of its price) may be well below that of a conference center suite with a full kitchen or of the computing infrastructure of the organization as measured over time.

This speaks to two dynamics in EAM. First (and easily dismissed herein) is the accounting for or audited value of assets. Organizations that are required to perform annual audits must assign values to contributory assets and within the constructs of both relevant tax regulations and the Generally Accepted Accounting Principles (GAAP). Values are assigned based on expense and depreciation schedules, all of which enable organizations to place monetary value on the total enterprise when combined with many other factors and variables. In this context, it is easy to understand why EAM software draws cost data from corporate accounting systems and often pushes validated data back into those systems to support financial analytics.

Then, of course, there are the tasks of actually managing the assets, themselves; work practices, performance metrics, tools and data that in combination support operations through both asset performance and value sustainment. This is where the software marketplace has broad offerings in EAM capabilities and where the work of the organizations usually prescribes what type of applications software is best suited to the requirement.

For example, consider a shipping port that, while immense, is essentially one big machine with required outcomes through extremely high “in service” performance. Every component of the machine has high value, maintenance and repair is critical to operations and the management of time and cost for skilled and semi-skilled labor and for tools and parts is acute. Compare that to an academic or administrative campus where each component has value but there are more strata involved in active versus passive asset deployments and operations. Neither is more advanced than the other; they are just different.

What this ultimately reflects is the significant breadth on offerings in the EAM software market. The traditional and largely industrial-focused maintenance management solutions were born from heavy industry whereas solutions in facilities management evolved over time to better consider the requirements for asset sustainment, usually within buildings. Both product streams expanded capabilities over time, gradually encroaching one upon the other until the lines blurred. EAM software solution companies were more often than not trying to represent that they could do everything connected to the asset, regardless of what that asset was. That wasn’t true, of course, but it did and continues to inject levels of confusion and potential for uncertainty in the broader marketplace.

The role of data in EAM in any organization needs to be driven by the business requirements of that organization. Other than at an extremely high level, organizations are vastly different (ports versus colleges, etc.) and the primary mission of the organizations will logically steer data requirements in EAM modelling and solutions. If we look at what recurring decisions need to be made about assets in any organization, data is needed to effectively support those decisions should (will) quickly become apparent.

Understanding and documenting the body of requisite decisions that data need to support will ultimately tie EAM work and capabilities to the mission of the organization. It also puts EAM professionals on the path to evaluating data requirements and the sustainable quality of data for those decisions that the EAM software solutions will support.

Particularly in organizations where the type of assets to be managed is diverse, planning for the data model well in advance of selecting or implementing a software tool is critical. Data modelling and system planning often scares the uninitiated, but is essentially straightforward and can be summarized in the following steps:

1. Has the organization documented the decisions needed for each asset type or category group? If not, that’s the first step and is a collaborative across the organization including technical staff, support personnel, leadership and yes, the auditors.
2. Does the data to support these decisions exist and do current work methods and processes sustain it at a quality level sufficient to support making recurring decisions in confidence? If the organization has high quality data that is produced through work processes that are already in place, therein lies the foundation for EAM success. If not:
  - a. Can that data be created?
  - b. Can data quality be sustained?
  - c. What work process adjustments are needed?
  - d. Is the organization aligned for this?

If and until responses to each of these four questions is affirmative, data accuracy will be (quickly) sacrificed and decision quality will decline. In the case where EAM software has been

implemented, that value will be undermined through the loss of confidence in results generated by the system and, therefore, in the system itself.

If this outcome forecasts as probable, the organization has two choices. Either it can create the data and workflows needed to support decision quality at the desired levels, or it must reduce data requirements to a level that can be supported and then evaluate the sufficiency of decisions that can be made in confidence with a reduced dataset. It seems simple enough, but this consideration is one if not the most overlooked as EAM solutions are planned. It is critical to success.

3. Is information in hand to make an informed EAM software selection? With a validated data model in hand, it essentially becomes a specification for EAM software comparisons and scrutiny. It should be used as such. Mentioned above, application software in the EAM space has evolved from very different beginnings and has varying strengths and weaknesses. But by having the marketplace respond to known requirements, factual representations of product capability can drive selection and value analyses. Choosing a tool to match the data and use requirements becomes much more straightforward and selections can be made with certainty. Furthermore, revealing this content to prospective software vendors will help engage them as collaborating partners where a chosen vendor can and will deliver much more than via simple commodity sales.
4. Have decisions been made regarding assets that must be managed singularly versus those that can be managed as a group? EAM systems can manage both serialized and non-serialized assets. In example, there may be hundreds of like-type chairs in an office, each with a barcode for identification and inventory control. However, it usually isn't necessary to manage specific locations or maintenance on a chair-by-chair basis. But there are other assets, like IT servers or HVAC air handlers that require specific records regarding maintenance, repair and ongoing cost to support plans for capital replacement. There isn't a singular correct approach to this; decisions on which assets to keep data on and how much data to keep need to reflect the organization's mission, culture and management desires for control and oversight.
5. Finally, does the intended data model and EAM solution meet the needs of the organization's controllers and auditors? Frankly, it would be rare if it did not as most accountants are pleased for any improvement in data quality and reporting. And going back to where we began, GAAP is a sufficiently broad set of rule-based criteria, so that most all EAM solutions and implementations will benefit audit activities. However and as one framing check, annual audits are usually accompanied by the auditors' recommendations for improving information to support future audits, so there are often clues in that body of work that will point to needed improvements in management information.

The right approach lies in a balanced undertaking, where the total effect of requirements for data with sustained quality, management reporting, EAM software selection and focused implementations that target best value results come together in a total solution that can be shown to be well-thought, And, therefore, they must and will be shown to be cost effective.

No two EAM implementations will be the same and as professionals in practice, we all need to steer clear from recommendations for cookie-cut or one size fits all solutions. The data, processes and tools we choose based in total value will be adaptable to our circumstance and will be capable of supporting the organization through continuing growth in implementation for many years.

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Providing professional, technical, and advisory services since 1995, EIPCI has deep experience in the broad professional areas of real property asset management and the related areas of decision support, key performance metrics, geospatial data and value management. With clients worldwide, EIPCI collaborates with organizational leaders to identify, model and implement best solutions for performance measurement, financial controls and operations management.

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