

**Enterprise Asset Management White Paper Series
– COTS vs. In-House System**



Commercial Off-the-Shelf (COTS) Enterprise Asset Management Systems vs. In-House, Custom-Developed Software

Background

There have been many studies on the pros and cons of purchasing Commercial Off-the-Shelf (COTS) software vs. using internal information technology resources to build an application specific to an organization's requirements. There are many advantages to each approach, as well as costs that may or may not be obvious. Before embarking on an “internal project” to build any software application, organizations should give careful consideration to the project, from a variety of perspectives. This essentially is a “make or buy” decision, and neither is always the better approach. The author's experience is that, specific to Enterprise Asset Management Systems, this is a particularly important decision, with some not-so-obvious influencing facts.

Enterprise “Asset” or “Property” Management Systems are often misunderstood by those that don't directly perform the tasks of Asset/Property Management. The function, its contribution to the Enterprise, and associated risks and returns typically include far more than just “Inventory Management”. The interrelationships and inter-dependencies are often poorly understood and assumed to be either irrelevant or simply unimportant. Yet the efficient, effective and compliant management of assets and property impact virtually every part of any organization - small, medium and large. Tangible assets are typically the second most costly resource, second only to the cost of human capital.

This white paper is intended to provide some quick guidelines for organizations as they consider whether to “make or buy” Enterprise Asset Management software.

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Commercial Off-the-Shelf (COTS), Made-For-Purpose Enterprise Asset Management Systems

There are many very good COTS Enterprise Asset Management (EAM) systems on the market today. Each provides functions and capabilities to support a range of needs. They vary from asset and inventory tracking systems to robust asset and property management databases that provide audit trails, robust reporting capability, and user controls, interface with other systems, such as ERP systems and Government databases, and many other tools.

They also vary in how the software is delivered and deployed.

- Some are PC-based, some are Server-based, and others are delivered as Software-As-A-Service (SaaS)
- Some are fully functional “out-of-the-box” asset management systems, while others require substantial configuration work before they can be used.
- Some are very customizable, either by the vendor or the end user, while others have been developed to be very easy to use, but with less flexibility.

And they vary widely in available support and cost. This white paper is not meant to compare one system to another, but rather to discuss the merits of a COTS system vs. one built internally by an organization's Information Technology Department or similar resources.

So what are the common attributes of all such COTS systems?

- They have been built to provide users with commercial-grade capability.
- They have been developed by companies with experience in the management of Assets and Property, meant to support customers who have that responsibility.
- They have been designed to meet the needs of professionals in organizations who are assigned to the management of assets and property.

Often, the businesses which develop and market these systems are active and participating members of associations that support this industry, such as NPMA (National Property Management Association) and IAITAM (International Association of IT Asset Managers), and others. Through these activities and standards bodies such as ASTM and ISO, companies that offer such systems incorporate the needs expressed by other members of these organizations into their products. These vendors work to have their products support their customers to meet vendor consensus standards and industry leading processes. The experiences of many, with a variety of perspectives, tend to result in implementations that meet more requirements in a more efficient way.

The businesses that develop and market these systems also typically provide cost-effective maintenance of the applications, implementation support (such as configuration

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tailoring, training, etc.), and consulting services, as well. Through these maintenance and support services, the vendors provide “bug-fixes”, and version updates and upgrades to these software applications, and timely customer support to solve user issues, for a reasonably predictable fixed fee.

Overall, from cost perspective, the acquisition cost and support cost for the COTS software is known and predictable. And further, development and support resources, such as training development and delivery resources are provided as needed.

There are, of course, some downsides to this approach:

- The purchase of a COTS product could be a capital expense item.
- The initial purchase cost could be higher than the initial internal development cost.
- Internal IT resources can better control software development efforts to make the resulting application tightly fit known requirements, including perhaps tighter interface with other internal applications.
- Some aspects of Asset/Property Management operations will need to be shared with the COTS application provider, perhaps with a Non-Disclosure Agreement in place.

In-House Developed Enterprise Asset Management Systems

There are some advantages to this approach. The most profound advantage is that the Asset Management System will provide a tightly tailored version of what the organization believes it needs. The organization's staff know the organization's culture and business model better than any third party's employees.

The IT software development staff is typically well-trained to develop a statement of requirements and statement of work. It may conduct a collection of requirements through a series of interviews with individuals who are most familiar with current processes, manual or currently automated to some degree. These individuals know best what would work for them based on their experiences.

But there are also several downsides. Consider the following, among others:

- Are the individuals responsible for managing assets too close to the situation or too biased to know what might be the better approaches?
- Are the IT developers aware of any requirements outside the scope of knowledge of the individuals responsible for managing assets?
- What approaches taken by others outside the Organization might contain lessons learned to avoid making the mistakes others have made, or that consider Industry Leading Practices?

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- How long will it take to develop, test, deploy and train?
- What qualified resources are available to develop and maintain training materials for system users and administrators?
- What will the cost of software maintenance be?
- What will the resources, schedule and cost be for bug fixes?
- Are resources available to dedicate themselves to the maintenance and support effort?
- What will the priority of the effort be relative to other demands on IT resources?
- Will oversight authorities (e.g. DCMA) be able to audit the system easily, with confidence?
- What resources will be necessary to backup the application and data, and retain data for required reporting purposes, long-term?
- Will there be a plan for routine reviews for improvements that may be necessary or helpful?
- How reliable will access to the application developers be, after the application is launched?
- Will all aspects of the development effort be well-documented for reference in the future?
- Will documentation of the code be reliably accessible in the future, if needed?
- And there are many others to think about.

At first glance, it may appear that developing an Enterprise Asset Management System in-house may be less costly than acquiring one. It may also appear to be better because it would be designed to support the unique business model that an organization might have.

But taking into consideration of all these other factors, it could well mean a far more costly approach, with lots of ramifications following requirements definition and application development. And one should always be careful to make sure that one's view of what may be needed is fully vetted by others in a similar situation. An overly insular view can be very costly, and it's often best to learn from the experience of others, Subject Matter Experts, from a variety of perspectives.

Just as Enterprise Asset/Property Management is a great deal more than just Inventory Management, developing an Enterprise Asset Management System is a lot more than simply developing an application that automates the capture of data for inventory records.

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About the author

This white paper is written by Alex Barenblitt, CPPM and MBA. Alex leads the consulting practice for E-ISG Asset Intelligence on Government Property Management Business Processes. Alex has many years of experience in leading teams to effectively manage Government Property in the custody of contractors. Under his leadership, his teams have consistently received positive reviews from the DCMA property administrators and other federal agency auditors. He has in depth subject matter expertise in the FAR/DFAR regulations in managing Government Property. He is a voting member of the property management standards body ASTM E 53 Committee. If you have questions, you can email Alex at Alex.Barenblitt@e-isg.com.

About E-ISG Asset Intelligence

We provide Commercial Off the Shelf (COTS) software solutions and implementation services for managing enterprise assets. Our software can be installed on premise or delivered as Software as a Solution. We embed the latest technologies and best practices in asset management in our software and we continuously improve the features and functionality of our systems. Our software is **Flexible, Extendable and Mobile**. To find out more, please call our sales team at 1-866-845-2416, or visit www.e-isg.com.