



BEST-IN-CLASS PRACTICES FOR STRATEGIC ASSET MANAGEMENT

A Geospatial Analytics® White Paper



Executive Summary

For entities with significant real estate portfolios, the second largest expense after personnel is real estate and facility costs, which can represent more than 20% of an organization's cost structure. These entities are faced with managing and maintaining tens of thousands of individual assets, which provide the foundational requirements for core business operations, regardless of industry. Despite the critical nature of managing these assets, many facilities management departments have not implemented software systems to manage their assets. In cases in which they have implemented systems, many of them lack the functionality required to optimize total cost of ownership, conduct capital planning, and implement risk management.

This white paper first describes the challenges that real estate and facility owners and managers face and the disadvantages of existing manual methods of managing these assets. It then describes the advantages of integrated digital solutions and summarizes the competitive landscape of solutions in this area. The paper then describes the important difference between solutions that increase process efficiency and process effectiveness, and describes the attributes of optimized real estate asset management systems.

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Asset Management Challenges

Public and private entities with significant real estate portfolios are faced with managing and maintaining tens of thousands of individual assets, such as equipment, electrical power systems, and building infrastructure. These real estate assets provide the foundational requirements for core business operations, regardless of industry.

Understanding the unique challenges of real estate asset management provides insight into the types of solutions that are required to address these challenges.

Real Estate is Unique

By its nature, all real estate is unique. The location itself makes it unique, as no two pieces of real estate can occupy the same space. In addition, the combination of design, construction, and type and condition of assets at each location is unique. Even facilities that are standardized within a portfolio vary significantly, due to different standards that were deployed over time and the different ages of assets (e.g., roof, equipment, furniture, etc.). Hence, any asset management solution must be able to address the diversity of information about the assets. This diversity leads to complexity, which is often a failure point in the management of this information. An effective solution must simplify this complexity.

Real Estate is Distributed

By its nature, all real estate is distributed. In other words, it is geographically dispersed over an area, such as a college campus, a state, a nation, or the world. In turn, management of the services for these unique properties and distributed assets becomes equally dispersed, thereby relying on tens of thousands of specific actions by hundreds of service providers and thousands of individuals. Because of the unique and distributed nature of the facilities and involved parties, standardizing the managed data is difficult. This means that data integrity is a key issue that any solution must address.

Real Estate is Diverse

The unique and distributed nature of real estate results in the need for an extremely diverse set of assets and associated services. The complexity of this environment and the ecosystem of service providers mean that hundreds of solutions or systems are typically used for real estate facility management in a given organization. No single solution or system can address the needs of all of the organization's stakeholders, as each stakeholder typically migrates to those solutions that best serve their needs. Yet, to effectively manage strategic programs, information needs to be aggregated from many of these disparate solutions and systems. Therefore, any long-term solution or system needs to seamlessly integrate and aggregate data from other solutions and systems to provide a holistic view of the business. This enables business intelligence.

Real Estate is Dynamic

Changes in technology, competition, globalization, and other financial and geopolitical realities drive businesses, industries, and governmental entities to evolve rapidly. In turn, the requirements for business processes that support real estate assets change rapidly. Service providers in the real estate space also rapidly modify their capabilities. As a result, the solutions must be able to continually adapt to these changes. When solutions are inflexible, organizations turn to either expensive, time-consuming system modifications or spreadsheets and other outboard solutions to manage change. Any long-term solution must enable users to self-manage required changes.

Real Estate is Process Intensive

Hundreds or even thousands of specific functions must be performed to support real estate assets. Each function is typically referred to as a service delivery process. For example, a specific process is followed to repair an HVAC unit, renew a lease, or remodel a conference room. Individuals perform these processes, which can be self-performed by the organization that owns the real estate and hires employees, or can be provided by vendors (service providers). Facilities managers need to provision, manage, pay for, and measure each of these services. In many cases, the end-to-end process can be a daisy chain of sub-processes to create the end state deliverable. For instance, constructing a new building requires architects, attorneys, construction companies, material suppliers, and many others to play a role in the eventual completed building. A solution must be agile and adaptive to help the asset manager procure effective, competitively-priced services.

Real Estate is Cost Intensive

Real estate is typically the second largest cost category for most industries, after personnel costs. As a group, organizations spend trillions of dollars annually to help effectively manage these necessary expenditures. Software companies produce solutions that help improve the efficiency and effectiveness of managing these processes. This raises an important distinction in evaluating software solutions. The ability to manage employee strategies (processes), rather than tactics, is vital, and the use of analytics is the clear path to creating and sustaining value creation.

Existing Manual Methods of Asset Management

Despite the critical nature of management of these assets, a significant fraction of facilities management departments have not implemented software systems to manage their assets, and if they have, their systems typically lack the required functionality. According to a 2015 study by Software Advice, which is a Gartner company that provides software research and reviews¹:

- 28% of facility managers do not use a formal system
- 23% of these managers report that they currently use paper-based systems
- 12% use simple spreadsheet programs
- The remaining respondents report using methods that range from email and text to facility and property management software programs

These inefficient paper-based processes typically involve paper inspection checklists, manual input of checklist data into online databases, tedious uploading of photos, and then distribution of inspection reports to stakeholders throughout the organization. In addition to consuming considerable time in data collection, management, and collaboration, these paper-based tasks consume floor and file space, paper, and other office supplies. Only 11% of the survey respondents reported using specialized software, such as a property management system, to manage their facilities and assets. Many varieties of, and separate vendors for, software in this category are designed to replace these inefficient manual processes. The target users of these solutions are facility and other types of asset managers (e.g., construction, inspection, capital management, order entry and tracking).

Because of the business-critical support provided by these assets, as well as the significant associated costs, facility managers need a strategic approach to asset management at an enterprise level.

ADVANTAGES OF INTEGRATED DIGITAL SOLUTIONS

Today's asset manager does much more than simply oversee the physical operation and maintenance of the buildings for which they are responsible.

As responsibilities evolve, the manager needs a skill set that spans:

- Business management
- Engineering
- Information architecture
- Real estate
- Construction
- Human resources

Consequently, the software systems that managers use to automate their operations have evolved to meet these disparate needs and to support their efforts to increase efficiency, accuracy, and flexibility in their management processes.

So-called integrated asset management systems enable facility managers to support a wide range of business processes:

- Real estate and project management
- Maintenance planning
- Sustainability
- Lease management
- Financial management

Following is a summary of the several categories of asset management software systems and the many terms used to describe them²:

- Electronic forms (e-forms) provide a user interface to data and services, typically through a browser-based interface. E-forms enable users to interact with enterprise applications and the back-end systems linked to them. New e-form applications include XML content identification, multiple data callouts, field-level validation, and embedded process logic contained within a secure format that is often mobile-enabled and used extensively for field assessment of assets.
- Computer-Aided Facility Management (CAFM) systems are used primarily as space planning tools and to track physical assets. They are ideal for organizations with facilities that include several floors or multiple locations and assets. CAFM systems are usually a component of more complex integrated systems.
- Computerized Maintenance Management Systems (CMMS) are used to maintain detailed records about critical assets that require regular maintenance in order to ensure minimal downtime. These systems provide a work force management capability to obtain and dispatch work orders for the corrective and preventative maintenance of assets.
- Enterprise Asset Management (EAM) systems include basic asset inventories, as well as tools for more comprehensive management of financial and fixed assets. Users typically include large organizations with multiple locations. The abilities to create capital plans, forecast, and consider various scenarios are typically incorporated.
- An Integrated Workplace Management System (IWMS) is a comprehensive solution that integrates multiple applications, combining the features of CAFM, CMMS, and EAM systems with specific real estate applications, such as lease administration, project management, and sustainability.



The Competitive Landscape in Asset Management Technology

With this diversity in potential solutions, there is a significant amount of overlap between any specific process and related “solution.” Solution providers typically target a specific process or a series of processes to provide a solution for a specific business need. Solutions can be categorized by how a solution provider attempts to position the product in the market.

For instance, the category of asset management can be viewed from several perspectives. The maintenance and repair of equipment such as heating, ventilating, and air conditioning (HVAC) units is considered an element of asset management. Primary systems here are CMMS solution, which increase the efficiency of the process of dispatching and managing a specific work order from start to finish.

However, asset management involves much more than simply work order management. Another important element is the creation and tracking of the total inventory of assets, including their age, amount, location, condition, etc. A CMMS typically includes some of the data that is necessary to dispatch a work order, such as the type of equipment and location. However, the CMMS may not have detailed information on the piece of equipment, such as its manufacturer, age, condition, etc. — all of which is needed to plan for end-of-life replacement. Nor do most CMMS solutions have crucial information on non-serialized assets, such as walls, roofs, and plumbing systems, and other building infrastructure that has an age, condition, useful life, and replacement costs. To remedy this limitation, many CMMS providers attempt to extend into this area of functionality.

Ultimately, the way to increase the effectiveness of asset management is to generate a capital planning program. This program should include a holistic understanding of the total asset portfolio and a plan for asset end-of-life costs. To optimize an asset’s total cost of ownership (TCO), facility managers need to balance replacement costs with maintenance and repair costs that extend the useful life of the equipment. To understand this total cost structure, some solutions view assets from a strategic, overall financial perspective. These solutions cross over into space occupied by downstream systems such as CMMS solution. Recognizing the related aspects of these processes, some vendors attempt to bundle together solutions in the form of an IWMS. Typically marketed as a “one-stop solution,” these IWMS solution typically have a few things that they do very well, a few things that they do well, a few things that they do not do very well at all, and some things that they do not do at all. They are also typically expensive and inflexible (i.e., unable to meet changing business demands).

As a result, many organizations do not use IWMS solutions, but instead rely on point solutions that are usually offered at a lower price point and do a better job of addressing a specific process. However, point solutions must effectively integrate with complementary solutions and systems. Integration costs can be significant, and such integration may limit flexibility. To address this, some organizations manage the required information from system reports and data aggregations in spreadsheets. This type of environment can compromise data integrity. In some cases, it results in cobbled together data from disparate systems and decision support based on potentially inconsistent spreadsheets (see Figure 1).

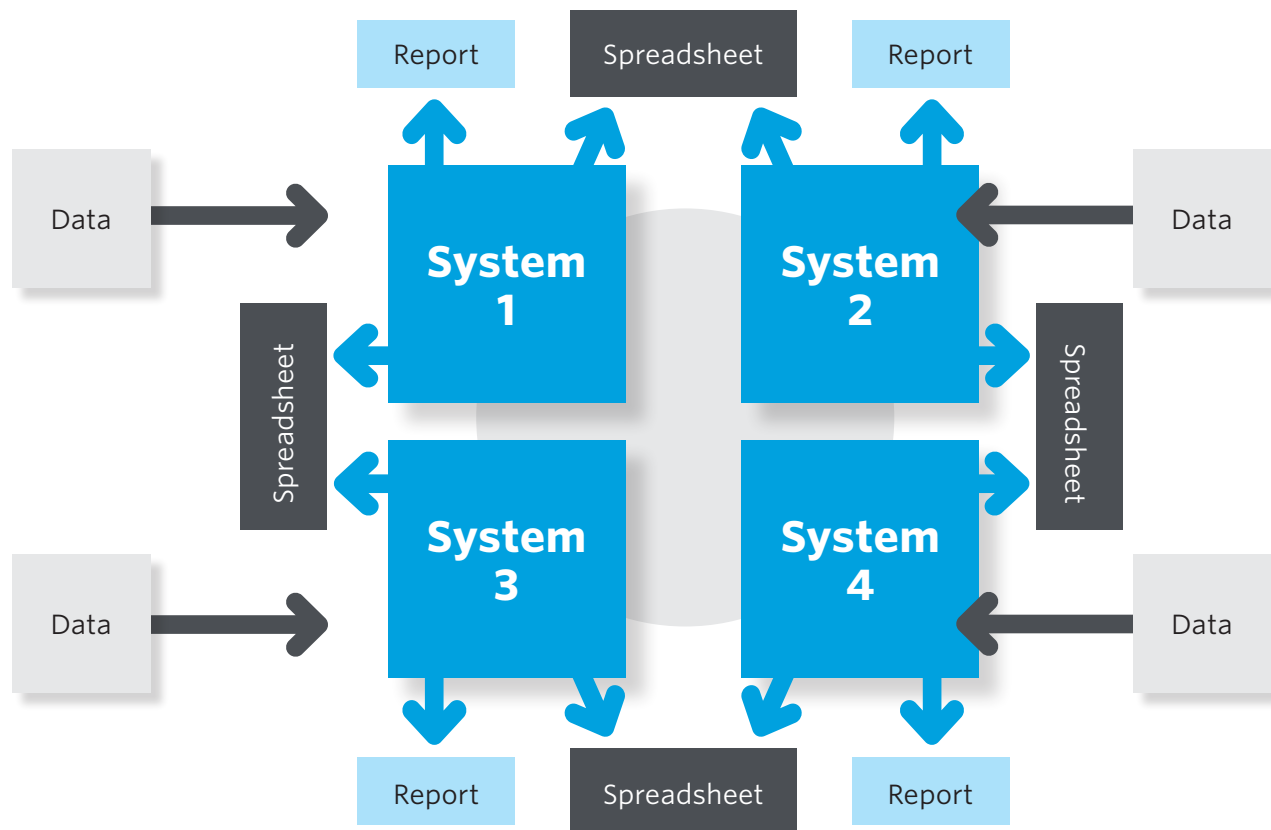


Figure 1. Typical Real Estate Technology Solution Configuration Using Point Solutions

Another important type of analysis is risk management. Risk is the product of probability of an occurrence and the impact of the occurrence. Risk tolerance is likely to vary from asset type to asset type, and also, from one application of the asset to another. For example, if the probability of failure of a particular type and age of HVAC system is constant, but the impact of this HVAC failure in the data center is much greater than the impact of the HVAC failure in the office or warehouse, then the risk is higher for the data center HVAC system. Therefore with a limited capital budget, the asset manager would prioritize replacing the HVAC system serving the data center before replacing the warehouse HVAC system. While the decision in this example is obvious, it is a much more complex exercise when dealing with tens of thousands of assets that support hundreds of different facilities. Powerful analytics are needed to evaluate the data and help form an optimized capital budget that maximizes the value creation within limited financial constraints.

Efficient and Effective Solutions

Given the diversity of processes that are needed, hundreds of software companies provide services to the real estate industry. Some provide these services with a vertical approach (a specific industry focus), while others adopt a horizontal approach that can be applied across industries. To properly evaluate the myriad solutions available today, understanding how solution vendors position their solutions relative to efficiency and effectiveness is helpful.

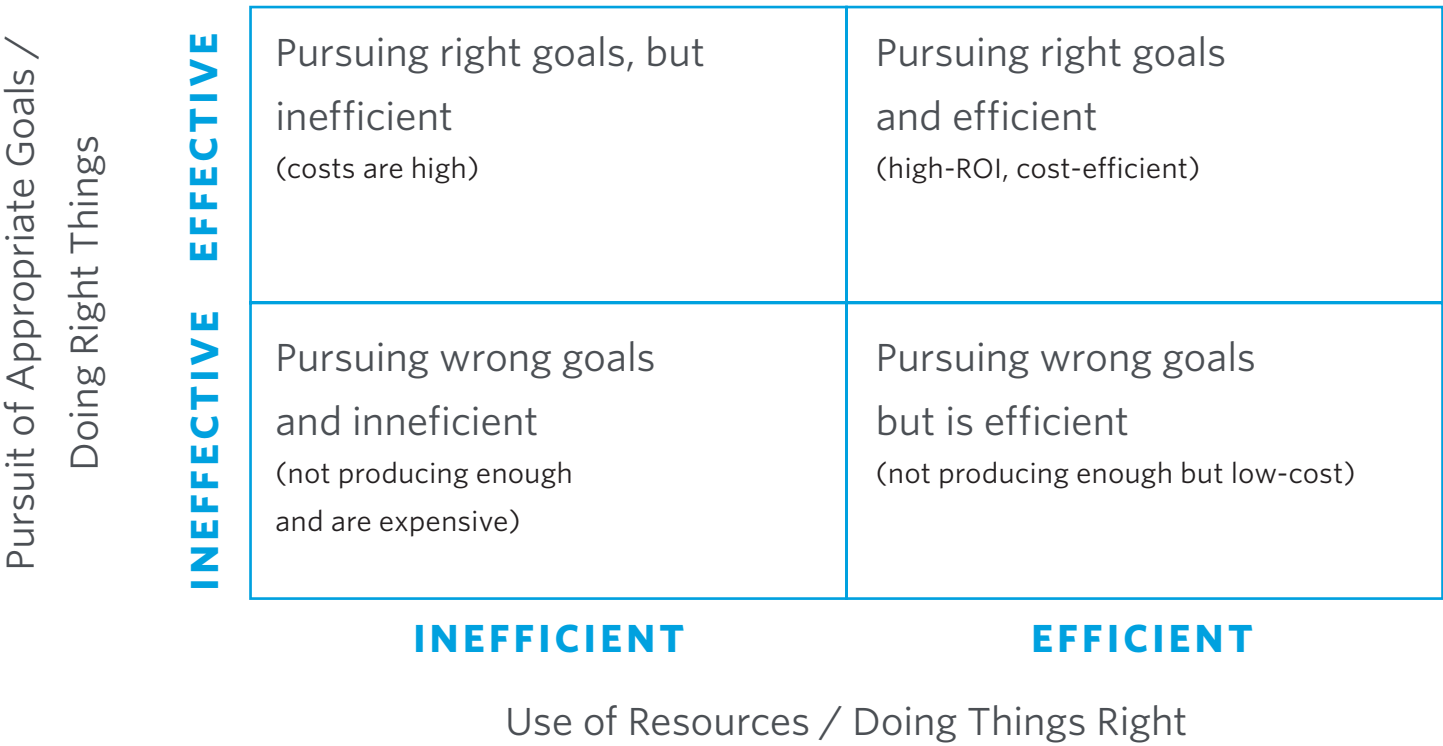



Figure 2. Effective-Efficient Matrix for Asset Management Solutions



Many vendors promote and sell software solutions that increase the efficiency of processes (see the right side of Figure 2). For instance, e-forms can displace paper inspections, thus reducing the time to perform an inspection. These e-forms increase the efficiency of the process – it’s about “doing things right.” The same is true of CMMSS that help automate the dispatch and management of work orders. Most of the solutions on the market today are designed to increase the efficiency of processes. Organizations naturally gravitate towards these solutions because the business cases to justify their investment are straightforward.

However, the most valuable solutions aim to increase the effectiveness of processes. As shown in the top half of Figure 2, effectiveness consists of pursuing the right goals — “doing the right things.” The best of both worlds (the upper right quadrant of Figure 2) is to increase the efficiency of existing customer legacy systems, and then leverage the gathered data to increase overall process effectiveness. The desired end state is a solution that allows a customer to create an integrated asset management program.

To deploy effective solutions, powerful analytics are needed. The solution must assure that the data used in the analytics is reliable. To do that, the solution must assure that the data is standardized and reconciled. Solutions must also be agile and be able to quickly adapt to new business requirements, including support for data standardization and reconciliation.



Optimized Real Estate Asset Management Systems

Organizations that seek to enhance their real estate asset management processes typically face some or all of the following challenges:

- Budget constraints and other financial challenges
- A patchwork quilt of legacy solutions and systems as a result of mergers and acquisitions
- Limited in-house resources with information technology expertise
- Lack of visibility across facilities and regions
- Inconsistent levels of legacy sophistication across the areas of data gathering, data storage, and analytics and reporting
- Legacy solutions and systems that may not provide the integration, flexibility, and agility they need.

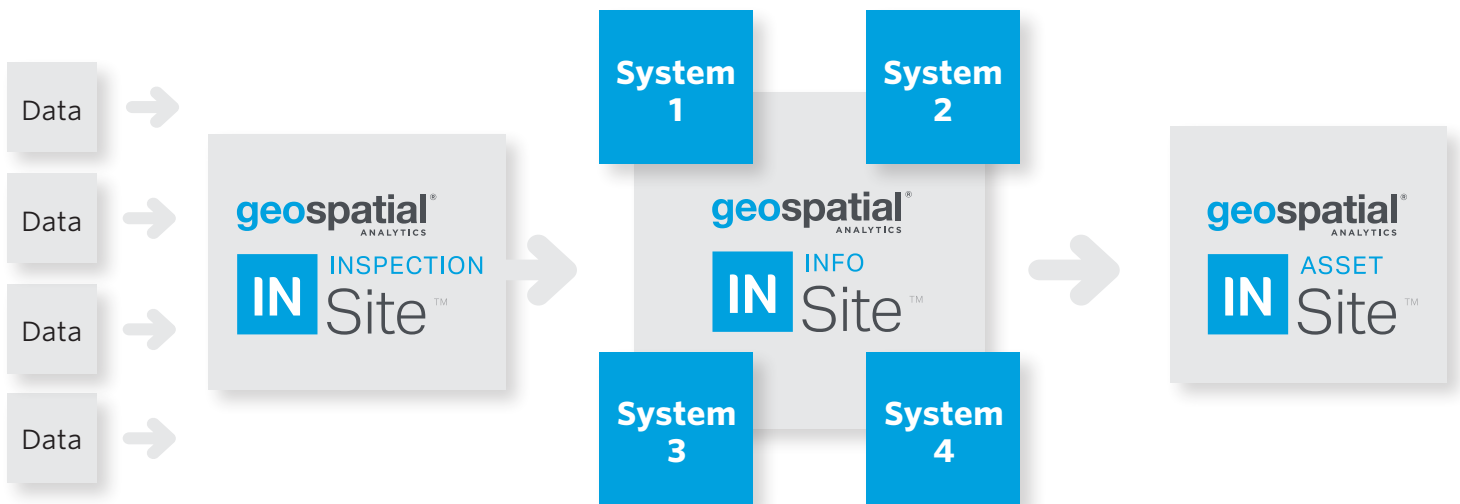


Figure 3. Optimized Real Estate Asset Management System Configuration

By integrating many of the organization's asset management functions into a single framework, an integrated approach provides stakeholders with the capability to access a complete picture of the organization's portfolio.

Figure 3 shows how this integration can be structured:

- Data gathered across the organization is part of a centralized data gathering process
- A centralized data repository stores the data
- Integrated analytics and assessment access the centralized data repository
- Centralized reporting is the output of the analytics and assessments

The information and insights that an integrated system provides for analysis and reporting enable decision makers to make informed strategic decisions.

Conclusion

The digital generation of mobile business processes is now a universally accepted and global reality. New, more integrated software systems and solutions combined with sophisticated new mobile applications are creating automated and more efficient asset management processes.

With time, cost, and other pressures in the current competitive environment, today's savvy asset managers cannot afford to ignore these dynamic and agile solutions.

About Geospatial Analytics®

Geospatial Analytics® is a leader in the development of integrated, secure mobile asset management systems. Designed to empower facility and other hard asset managers with intelligence and insights about their asset portfolios, Geospatial Analytics® offers three powerful solutions:

- Geospatial Analytics Inspection InSite™ acts as the centralized data gathering solution
- Geospatial Analytics Info InSite™ acts as the centralized data repository
- Geospatial Analytics Asset InSite™ acts as solution for integrated analytics and assessment, as well as centralized reporting

These solutions combine to perform as a single-platform solution for data collection, risk management and forecasting, strategic planning, and predictive analyses. The holistic Geospatial Analytics® InSite Solution Platform™, which incorporates these solutions, is a comprehensive integrated mobile system that supports the wide range of responsibilities of asset managers and delivers powerful mobile capabilities in the field.

REFERENCES

1. Software Advice, "Facilities Management Software BuyerView 2015," <http://www.softwareadvice.com/cafm/buyerview/facilities-management-report-2015/>.
2. SoftwareAdvice, "A Plain English Guide to Facility & Asset Management Software," <http://blog.softwareadvice.com/articles/cafm/plain-english-guide-to-facility-asset-management-software-1030812/>.

OUR VISION

To radically transform the way companies collect, manage and use their information by creating applications that empower clients to create value.

CORPORATE MISSION

To enable our customers to better understand and strategically manage their business.

OUR OBJECTIVES

- Provide a solution platform that customers can “self-manage” without expensive technical support.
- Present a simple experience that allows for all stakeholders to utilize the capabilities.
- Address the dynamic nature of business by making the system adaptive and agile.
- Enable seamless integration with other systems achieving a holistic view of the business.
- Ensure data integrity that creates confidence in the information used for decision support.
- Deploy powerful analytics that drive decisions, and continuously create value.



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