



FACILITY ASSET DATA MANAGEMENT

White Paper

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Executive Summary

For over a decade, our industry has shifted from reactive maintenance to preventative and predictive maintenance. Surprisingly, what’s not discussed in depth is asset data quality necessary to execute modern maintenance strategy. Because accurate asset data wasn’t critical for reactive maintenance strategy, our industry placed low premium to asset data quality. However, when deploying preventative and other data driven maintenance strategy, accuracy of asset data is critical. In fact, a lack of accurate data is often the first and one of the largest obstacles for Facility Managers (FM)s to shift to an effective Preventative and Predictive (PM/PD) maintenance strategy.

Asset data quality fundamentally starts with an accurate Asset Registry. It is important to differentiate between Asset Registry and Equipment Inventory. Equipment Inventory is useful for financial accounting, but Asset Registry contains other critical data such as age and condition of assets, criticality of assets, location of assets, and capacity of assets. More robust Asset Registry also links components and consumables of assets as well as defining areas served by assets.

Table 1: Asset Registry vs. Equipment Inventory

Asset Registry	Equipment Inventory
Manufacturer	Manufacturer
Model Number	Model Number
Serial Number	Serial Number
Cost	Cost
Warranty Information	Warranty Information
Date Manufactured	
Date Installed	
Age and Condition	
Criticality	
Location	
Capacity/Size	
Components (Motors, Pumps, Heaters, etc)	
Consumables (Filters, Oil type, Bulbs, Belts, etc)	
Area Serviced	
Refurbished or New	
Compliance requirements	
Service Provider	

In this white paper, we will share years of experience gained by working with leading global organizations, and dissect Asset Data Management by these points:

- Current Environment
- Major challenges to creating an effective Asset Data Management Program
 - C-Suite Buy In
 - Reactive Data Management vs. Proactive Data Management
- Costs of inaccurate asset data: Case Study
- Benefits of having a Proactive Asset Data Management Program
- Technology solutions
- Data Governance, Standardization of Data, Legacy Data
- Case Studies, including best practices
- Different Strategies
- Recommendations, Key attributes to Asset Data Management Program
 - Scalable
 - Standardized
 - Integrated
 - Maintainable
 - Cost Effective
 - Resource Allocation: Budget and Personnel
 - Accountable
 - Analyzable

Every organization in any industry manages human resources and asset resources. The benefits of having a good Asset Data Management Program, especially for organizations that manage distributed sites (10 plus sites), is a huge competitive advantage in every industry. Every large Fortune 500 company can have access to data in finance, and human resources relatively quickly. But because facility asset data is often difficult to compile and full of inaccuracy, any organization that has quick access to accurate asset data will outperform their peers in the industry.

Introduction

Effective Asset Data Management fundamentally starts with building an accurate Asset Registry, maintaining the data integrity over time, and utilizing technology to use asset data in multiple departments within an organization (i.e. finance, facilities, capital projects, investment portfolios, risk and insurance, purchasing, sustainability, environmental, ADA, and fire/safety compliance). Equipment Inventory is useful for financial accounting, but a full Asset Registry can be used for various purposes within an organization.

Since asset data is utilized by multiple departments within an organization, and effective Asset Data Management Program improves both accuracy and efficiencies in how organizations manage their assets. Further, an effective Asset Data Management Program involves multiple departments within an organization, and data must not be siloed. What we've observed with real clients is the opposite of non-siloed data. Often Asset Registry is created on a needs bases by each departments. It's no industry secret that asset data often is not passed from Construction (New and Renovation Projects) to Operational and Maintenance group. It's common to see assets in the field that have different barcode tags created by Purchasing, Construction, and O&M groups. This redundancy is expensive and difficult to maintain accuracy over time.

Current Environment: Asset data Quality

It is commonly known in the facility industry that facility asset data quality is poor. We routinely field audit Asset Registries of leading Integrated Facility Management (IFM) groups, and baseline accuracy of Asset Registry fall between 60-70%. Accuracy is defined by these basic attributes:

- Asset in Computerized Maintenance Management System (CMMS) is still operational and on-site
- Asset that exists on-site are recorded and accounted for in CMMS
- Asset has manufacturer name and model number
- Asset's location in CMMS is verified and easy to find

When accounting for additional attributes such as missing serial number, capacity, area serviced, age and condition of assets, the accuracy of facility asset data drops to a dismal 10-20%.

Duplicate and fragmented asset registry is also common in enterprise organizations. Site facility managers sometimes have a list that he/she created for maintenance purposes, or there is a collection of asset data from service providers. However, these asset registries often lack critical attributes and only provide the location of the assets. In addition, these informal Asset

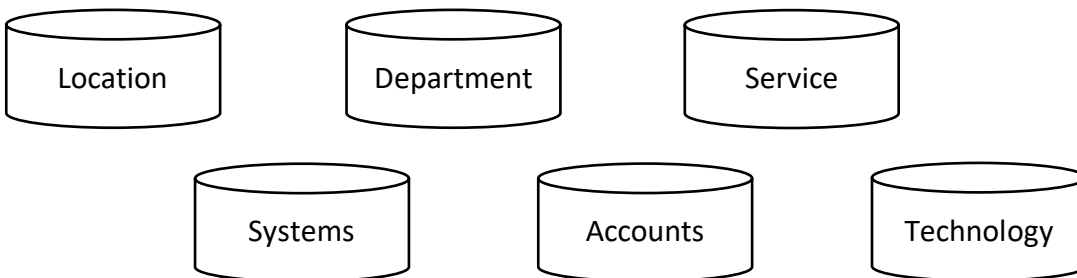
Registries often do not get reconciled and integrated with enterprise CMMS systems. It is common for departments within the same organizations to use different Asset Registries. Reconciliation of these fragmented Asset Registry is difficult and often cannot be done without on-site field verification.

Results from inaccurate Asset data are expensive. Over the years, we've observed inaccurate asset data creating PM schedules for non-existing assets, incorrect or missing list of consumables (increasing time of service), no maintenance performed on assets, and even fraud. An example of fraud we've observed is service providers charging routine maintenance fees per asset on non-existing retired assets. Immediate costs to inaccurate asset data are increased service time for facility technicians, and long-term costs are shortened effective useful life of assets and poor CapEx project decisions.

Silo Problem

Currently, siloed asset data is a major problem. We've observed these typical silos in large organizations and the major issues created by these silos are:

- Non-standard data format
- Inability to scale
- Difficult to maintain asset data accuracy over time
- Difficult to reconcile between Asset Registries
- Cannot deploy economy of scale or large data analysis



Location Silo

For large organization with distributed sites, each site manager may have an Asset Registry that they are keeping for their own site. Issues created by location silo are asset data is often not shared with the entire organization. There are numerous times when we were hired to validate and create an accurate Asset Registry by an enterprise client, only to discover that a local manager has an Asset Registry that he/she keeps on a spread sheet. Instead of absorbing the local Asset Registry data, enterprise clients will often duplicate building an Asset Registry. In addition, it's usually a single person per site that keeps the location Asset Registry, and when that person leaves the organization, the Asset Registry leaves with that person.

Department Silo

Since different departments use Asset Registry for different uses, it's common that each department creates partial (but often overlapping) Asset Registry on an as needed basis. An example is a capital group wishing to do an HVAC upgrade project creating their own HVAC Asset Registry to determine which assets need upgrades. If a well maintained accurate Asset Registry existed, that information can be easily obtained without having to perform an ad hoc asset data validation. Another example is how Asset Registry created by Construction departments do not pass to O&M departments. That data transfer problem has been an issue in our industry for decades.

Service and System Silo

Although these are two different silos, Service and System silos often exist together. System silos are defined as Asset Registry in different building systems (i.e. HVAC, Electrical, Plumbing, Building Envelopes, and Conveyance). Service and Systems are often paired since organizations that maintain different system Asset Registry typically rely on service providers to keep and maintain the system Asset Registry. Reliance of service providers to keep the Asset Registry creates fragmented Asset Registry and creates too much dependence on service provider for accurate asset health assessment and recommendations. It also makes it difficult to keep service provider accountable for their maintenance plan and work.

Accounts Silo

Integrated Facility Management Providers like JLL, CBRE, Cushman-Wakefield, and ABM often have client account silos. Some are necessary (i.e. financial, DoD, utilities, competitive clients), but others are not required for segregated data silos. Due to non-standardization across multiple accounts, IFM organizations are missing out on large data analysis and creating more accurate predictive modeling for maximizing asset useful life. Large data can also help IFMs create benchmarks to assess facility manager performance across similar sites (asset age and condition, similar climate, etc), and true cost of owning and operating assets. Large data can even drill down the quality and cost of ownership of facility assets to manufacturer and model numbers. Especially with improvements in Artificial Intelligence, the ability to analyze large data, if standardized, is endless.

Technology Silo

Technology, in Facility Asset Management, can often create silos instead of eliminating them. Obvious issue is non compatibility with legacy systems with other enterprise systems. It is common that large organizations have too many fragmented technology solutions that prevent data from being truly fungible. Common example is inspection software that are typically not integrated with asset management software. Ideally, an Asset Management software should capture purchase, inspection, maintenance, and retirement of assets to assess the real cost of owning and operating an asset in its life cycle. Today, many FMs have to use numerous independent software and perform additional work to consolidate data from independent outputs in order to get a complete picture of their facility assets. Because maintaining accuracy

in different technology environment is difficult and time consuming, even with organizations committed to asset data quality, the task becomes unmanageable.

Major Challenges

Lack of C-Level Support

Fundamentally, the biggest challenge in Facility Asset Data Management program is there is little buy-in from C-level executives. C-level executives cannot solely be blamed since the organization historically never invested in Facility Asset Data Management. To C-level executives, it is a new budget item. However, no budget does not mean there is no cost associated with Facility Asset Data Management.

Reactive Data Management vs. Proactive Data Management

Because having a Facility Asset Registry is critical to operation, numerous silos (as mentioned previously) create Asset Registries to fulfill their immediate need. Much like reactive maintenance, Reactive Facility Asset Data Management has a high hidden cost (increased service time, incorrect maintenance plan, duplicate work, etc). Furthermore, Reactive Data Management strategy only addresses immediate needs and cannot effectively be used as a strategic advantage for organizations. But most harmful consequence of Reactive Data Management practice is that we've effectively trained C-level executives to get by with poor facility asset data. We inadvertently created an environment where we practice "Run to Failure" strategy to our facility asset data. And because Asset Registry is dynamic, to maintain some level of accuracy, organizations (and departments) end up spending much more money in rebuilding Asset Registries every few years. If each department (Construction, O&M, Capital Planning, Portfolio Investment, Risk, Finance) itemized their resource expenditures for repeatedly building partial Asset Registries, the real cost of poor facility asset data management will be alarming.

Cost of Reactive Data Maintenance Strategy: Case Study, Transitioning IFM Provider

Here's an example of real costs associated with having no Facility Asset Data Management Program. A client, a large public service organization was changing IFM service providers and was transitioning over 250 sites with about 14,000 assets. Since the Asset Registry was fragmented and unreliable, the new IFM service provider correctly went out to field to validate asset data. The Asset Validation Project took 4 months, and team of 15 technicians to complete. The labor cost of the project was around \$500,000, and travel and incidental expense was an additional \$250,000. Cost per assets was high for this project because client's sites were highly distributed over a large geographical area.

What made this cost even higher is that when we were on-site installing barcodes on the assets, we could see barcodes from the previous IFM service provider. When we asked the local on-site technician when the previous IFM affixed their barcodes, he answered 3-4 years ago. Because we deployed emerging technology to significantly reduce labor time, we knew that the client spent double what the new IFM service provider charged. Which means in 5 years, the organization paid out more than \$1.7M just to build an accurate Asset Registry... twice!

This example only detailed the cost to field validating assets, but the organization had additional consequences to having a Reactive Asset data Management Strategy. We observed the same organization neglecting maintenance on some assets (The assets weren't in their CMMS and no work order could be created), fraud (vendors charging per assets where asset counts were overstated), and duplicated building of Asset Registry from different departments. Additionally, during the on-site Asset Validation project, the client was also renovating perimeter automatic gates. Literally, new gate motors were sitting on truck beds waiting for installation while we were affixing new barcodes on assets which were retiring in weeks. The Asset Registry was becoming inaccurate and obsolete during the Asset Validation Project.

Benefits of having a Proactive Asset data Management Program

To avoid costly expenditures, organizations must shift from reactive data management to investing in Proactive Asset data Management Program. Before describing in detail how to create and maintain a Proactive Management Program, we will list some of the benefits.

Cost Savings

Intuitively, all facility managers know that having accurate and timely asset data will save costs for the organization. However, FMs do not properly track costs, both actual and opportunity costs, created by poor asset data quality. As mentioned previously, many CMMS contain assets that have been retired. The major problem is that retired assets still have PM schedules attached to it. For example, let's assume an organization has 20,000 managed assets. Assume that 3% of assets have been retired but are still in the CMMS. That translates to 600 assets. If the assets have 2 PMs per year, and one hour is assigned for the PM job, that equates to 1,200 man hours. If the total hourly cost for technicians is about \$50/hr, then the annual reoccurring cost associated with this error is \$60,000.

Depending on the quality of Asset Registry of the organization, the cost may be even greater for the given example. Therefore, it is important to track all costs associated with additional service time created by inaccurate Asset Registry data. If a technician spends any additional time looking for assets, that time needs to be assigned to poor Asset Registry data. We often run into organizations that have heat pumps and fan coils in plenums above ceiling tiles. A simple filter change that should take 5 mins, often take 30 to 40 minutes (especially for technicians that aren't familiar with the site) and those additional times are generally never tracked. Instead, the FMs create PM schedules with time buffers to account for additional time

spent per task. Since each organization will have different degrees of cost savings, it's imperative to track all expenses associated with poor asset data quality to get a real return on investment of a Proactive Asset Data Management Program.

As an organization, it is also important to track costs created by redundant work done to capture asset data. An insurance RFP for a major metropolitan airport required the vendor to build a Facility Asset Data Registry to properly underwrite the insurance policy. Furthermore, the RFP required the Risk group to perform an annual audit of the Asset Registry. If the airport maintained an accurate Facility Asset Registry, that data can be shared between Risk and IFM groups and an annual expense item for the Risk group can be eliminated.

Data Driven Maintenance

By definition, a great data driven PM program cannot exist with poor data quality. Most IFMs are forced to run a hybrid of preventative and reactive maintenance program due to poor asset data quality. Asset data is dynamic and without an active Asset Data Management Program, the Asset Registry quality degrades quickly. But with a proper Asset data Management program, these are some of the benefits.

Proper Level of Maintenance

Age, condition, and criticality of assets will determine the maintenance strategy for assets. Assets can be both under maintained or over maintained. Older and critical assets need more frequent maintenance, including daily inspections for highly critical assets. Without an accurate Asset Registry, proper level and frequency of maintenance is not optimized. An international IFM group, estimated a savings of well over \$100M for their organization by reducing the frequency of maintenance for newer and less critical assets.

Measurable Increase EUL of Assets

Intuitively, we all know that with appropriate level of maintenance, effective useful life of assets will increase. However, since proper Asset Data Management Program require tracking the entire life cycle of assets, an organization can quantify the actual increase in EUL of assets. In addition to knowing the actual increase in EUL of assets, a good Asset data Management Program will yield valuable data like:

- Actual cost of ownership of assets
- Real EUL by Manufacturer, Model, and serial number
- Real EUL of assets with replacement components (i.e. replacement motors on pumps)
- Real EUL of assets by environment, operating conditions, and maintenance program

Measurable Maintenance Plan

Maintenance plan can be formulated based on factory recommendations, industry guidelines, or an engineer's work experience. One major benefit of a Proactive Asset Data Management Program is that a reliability engineer can experiment with different maintenance and job plans. And since the asset data is current and accurate, one can eliminate the guessing game and run different measurable maintenance strategy to discover the optimal plan for different assets.

For example, an HVAC manufacturer may have a 12 step PM job plan every 6 months, but a reliability engineer may reduce the 12 steps to 6 steps and therefore reduce the wrench time for technicians. Only with an effective Asset Data Management Program can the benefits (or harm) of reducing steps can be quantitatively verifiable.

Improved Strategic Decision

Data that takes time to access can become inaccurate. For example, let's say a FM that manages 20 sites wanted to see the age and condition of the facilities HVAC units. If that data is not current and readily available, the FM must send someone on-site to collect that data. This can be both time and cost intensive, but more importantly the data can change during the data collection period. Strategic decision must be made in a timely manner and maintaining the accuracy of an organization's assets allow FMs to make the best decision based on accurate data.

One Asset Registry Shared Between Multiple Departments

Having a single Asset Registry for the whole organization greatly improves the ability to maintain the accuracy of asset data. In addition, having a single Asset Registry avoids unnecessary redundant work in gathering asset data.

However, when multiple departments have access to the same database, there needs to be strict data governance and a single department must be accountable to maintaining the Asset Registry. Asset data maintenance is done by distributed groups, but the management and accountability must be centralized. Tiered access privilege is important for technology solutions that manage multiple user types in various departments.

Competitive advantage

Because we've performed numerous Asset Registry validation work for global IFM groups, we've seen how IFM clients are won and lost due to poor maintenance programs. At the root of many poor maintenance program is poor Asset Registry. A IFM group lost a 8 million sq feet IFM contract of a large technology company because the IFM's Asset Registry was locally siloed, kept in a spreadsheet, and lacked any technology application in their maintenance program. More clients are asking for better access to their facility data, and it's a poor showing when the IFM group cannot even tell clients baseline Asset Registry data with confidence.

Another major technology company uses downtime as a key performance index for their facility group. Because this technology company runs 24/7 and has numerous warehouses and distribution centers globally, any failure of critical facility assets can cost hundreds of thousands of dollars per hour. Having accurate asset data, including real time condition, is a competitive advantage for this global leader in logistics.

Both IFM service providers and internal facility groups cannot operate purely in a reactive maintenance strategy. But to have the most effective PM program, both these types of

organizations need an active Asset Data Management Program to ensure that their asset data is current and accurate.

Large Data for Accurate Analysis

Cost savings and increased reliability of assets are great benefits to data driven maintenance programs. But analyzable large data is the greatest benefit to an Asset Data Management Program. Because facility has traditionally been siloed, it was difficult to compare asset data from one silo to another. Lack of standardization allowed organizations to label assets differently. For one organization, an asset can be called an Outdoor Packaged AC unit while the same asset can be simply labeled as Rooftop Units by a different organization. By having an Asset Data Management Program, asset data are standardized, and large data analysis can accurately be performed. With large data, Predictive Maintenance can further reduce O&M costs for facilities.

Proactive Asset data Management Program Guideline

Because asset data is dynamic, a lack of proactive asset management will make Asset Registries inaccurate over time. In 2010, Los Angeles county took 2 years to build an accurate facility asset registry. But by the time the asset registry was built, the registry changed so much that it no longer had acceptable accuracy. To solve this problem, a better technology solution had to be utilized. Although many organizations are not as large as Los Angeles County, many still have the same issues with Asset Registry accuracy degrading over time. Therefore, an effective Asset Data Management Program must have a technology component. The days of using spreadsheets and clipboards are long over.

Technology solutions

Although technology implementation is important in a successful Asset Data Management program, a well thought out business process is even more critical. Technology will always support a solid business process and not the other way around.

Business Process over Technology

Prior to implementing a technology solution, an organization must have a clear business process to ensure asset data quality is maintainable. Some questions that need to be addressed in the business process are:

- Which group is responsible for maintaining the facility asset data for the organization? And who does this group report to?
- What is the appropriate budget for the Asset Data Management group?
- How do you report a change in asset data?
- Is the Asset Data Management team cross functional? Does it understand the whole need for asset data from every department in the organization?

- How will the organization define Assets? Is it based on criticality, replacement cost, equipment with a PM schedule?

Legacy Data: What to do with it?

Unless it's a brand new organization with never used assets, all other organizations have legacy data. That data commonly resides in a spreadsheet or a CMMS. However, even asset data that resides in the mind of a local site manager, is defined as legacy data. Understanding how legacy data is used prior to changing data structure is important. During IFM transition work we've done, if the lead FM spent couple weeks visiting sites and performed a physical walk through of the site, the legacy data will make sense and an Asset Data Management Program can be set up quicker and cheaper. As previously mentioned, while transitioning new clients for IFM groups, we have seen assets with several barcodes affixed to them. Affixed barcodes mean that there is an existing database (or databases). Spending a little time locating and understanding legacy naming system often could have saved a lot of time and cost in field validating assets. Interviewing site managers and technicians is a must to better understand legacy data.

Key Requirements

After business process is established, an ideal technology solution will become evident. Based on years of creating Asset Data Management for enterprise clients, these are key technology requirements for a successful Facility Asset data Management Program.

Integrated Solution: Streamline Technology

Facility Asset Management Program only makes sense if the data is fungible and integrated with all departments that need that data. If data is siloed, it is impossible and too costly to maintain accurate data over time. When evaluating a technology solution for Facility Asset Data Management, the ability to integrate with other systems is key for the program to work. In addition, reduction of technology solution/platform is recommended to minimize complexity and user training and support.



Data Governance and Standardization

Without data governance and standardization of naming convention, an integrated solution does not work. Ideally, a technology solution will generate a standardized naming convention to eliminate variations that naturally arise in larger organizations. Adoption of industry standard codes like Unifomat, ASHRAE, and MasterFormat will help in standardizing data.

Unique and Functional Asset IDs

Technology solution must give allowance for multiple Asset ID names per unique asset. Each asset should have these different types of Asset IDs: 1) Primary Asset ID 2) Functional Asset ID 3) Asset Name.

Primary Asset ID is assigned to unique assets and the Asset ID is retired with the asset. This Asset ID is used to track the entire life cycle of that asset (purchase, installation, inspection, repairs, O&M, and retirement).

Functional Asset ID should not be retired when the asset is replaced with a newer asset performing the same function. Since maintenance reference materials (electrical schematics, location maps, etc) use Functional Asset IDs, by transferring Functional Asset ID to a replacement asset will eliminate the need to update all reference materials. Practically, what we've seen on the field are the Functional IDs are never replaced on the field by technicians and create errors in Asset Registry since the age and condition of assets are not updated. To make sure Asset Registry is maintainable over time, as Asset needs to have both a Primary Asset ID (retires with the unique asset) and Functional Asset ID (transfers to the replacement asset).

Finally, an Asset Name should be an attribute in an Asset Data Management technology solution. Asset Name is how the field technicians identify the assets. That Asset Name should be tagged physically on the field asset. This Asset Name could be a barcode, legacy naming convention, or an equipment tag.

Easy, Fast, and Scalable

Technology should be complex in the background, but simple in user experience. The more complex the user experience, greater errors will be introduced. Further, complex user experience takes more work and discourages field technicians to input accurate data. The user experience must be easy and fast to be truly scalable. When evaluating technology, do not discount the user experience. It is better to have a simpler limited solution than have a more robust solution that is complex. The robust system will create greater errors and lead to unreliable data.

Mobile, Distributed. Centrally Managed

Any Facility Data Management tool without a good mobile application is a poor system. Facility Assets are distributed by nature, and data must be collected and modified by on-site field technicians in real time. However, to enforce data governance and standardization, the data must be managed centrally. Which means features like photos, real time synchronization, communication and central dashboards are key features of any technology solutions. One feature that is consistently absent in CMMS is the ability to field report changed conditions of assets to a central database. Often, field technicians tell us that they email a central person responsible for updating data and the reporting process is not streamlined at all.

Cost effective

Finally, cost must be a factor in choosing any technology solution. Cost should be shared between multiple departments to reduce the burden on a single department (typically facilities). Ideally, an organization should create a multi-disciplinary Asset Management group that is accountable for maintaining the accuracy of facility asset data.

Best Practices Observed in the Industry

Over the years, here are some of the best practices we've observed from leading facility management groups.

Naming Convention and Defining Assets

The best Primary Asset naming convention embeds asset attributes within the name. A common naming structure is: "Site Name/Code"- "Asset Type"- "Identifying #"- "Flr"- "Space" So an Asset ID may look like, "NYC01-FCOIL-12340-1-121." That Asset ID reveals that the Asset is a Fan Coil Unit #12340 located in New York Site #1 on the 1st floor and room 121. On the field, this particular asset should have two tags. One barcode with a value of 12340, and a secondary Functional Asset ID in large lettering for easy visibility. Something like FC#21, can be a Functional ID for that Asset in that site.

Organizations must also define what is an asset. Typical threshold for defining an equipment as an asset is replacement cost, criticality, and/or any equipment with a PM schedule attached to it. We've also seen low cost items like posters and signage defined as assets, since the information on some signs are time or compliance sensitive (certain company campaigns, Covid signs, announcements, etc). This was true for a Seattle based technology company with over 12 million square feet of office space and they needed to track the information on posters and signages.

Standardization Formats

How assets are described can change over time and over different regions. Swamp coolers can be called condensers or evaporating coolers in different regions or different manufacturers. To standardize these asset types, utilizing industry codes from Uniformat, MasterFormat, and ASHRAE guidelines can be useful.

Asset Based Inspection vs. Task Based Inspection

Integration of Asset Inspection application with CMMS is poor in most organizations. What we typically see is that asset inspection is done with an independent application and is often task centric. A field technician is asked to answer a checklist of inspection tasks, and the application will create a report to review the assets' current condition. These applications tend to be digital form creators so they are highly customizable and easy to use. However, the main issue is that the data generated from these applications are often difficult to impossible to integrate with CMMS systems.

An Asset based inspection application will tie all inspection to a particular asset. The inspection activity is tied to the entire life cycle tracking of the asset and reduces the number of technology platform the on-site technician must use. If Inspection is asset centric, it's easier to generate a work order for issues discovered during an inspection. An asset based inspection application is key to maintaining the accuracy of the Asset Registry over time.

Stickers and How to Label Assets On-site

This may seem basic, but because so few organizations do this well, we are including this as best practice for Asset Data Management. Large visible identifiers with weather resistant stickers and labels are a huge time saver for locating assets on the field. We see many original equipment data plate that have faded over time, but very rarely are labels corrected on-site. If a Functional ID on an asset has faded, a quick writing of that Asset ID on the asset with a permanent marker will speed up the next service time. Space heaters hanging on tall ceilings (warehouses, garages) should have Functional IDs large enough to be legible from the ground. This identification will dramatically reduce how malfunctioning assets can be located and serviced. Fan coils, heat pumps, and VAV boxes that reside in plenums above ceiling tiles, need to be labeled with a sticker on tile frame grid to help locate the assets on-site. These non-technical best practices dramatically improve efficiency in PM and service time.

How to Handle Non-Essential Assets

There is a cost to tracking assets. Not all assets should be tracked. Some organizations don't track VAV terminal boxes since most have run to fail maintenance plan and are relatively inexpensive to replace. For assets that are non-essential, identifying a single asset per floor or area and then setting quantities can help track the assets. For example, if there are 50 VAV terminal units on a floor, you may want to get the manufacturer and model number of one (in the main office) and then batch them together by recording the quantity of VAV units.

Difficult to Access Assets

Confined spaces, high ceilings, and other difficult to access assets should always include inspection and updates on condition during regular PM schedules. Good labeling and accurate asset data is more important for difficult to access assets since it's difficult to access that data.

Recommendations, Key Attributes to Asset data Management Program

In summary, having an effective Asset Data Management Program saves cost, provides an organizational competitive advantage, and improves reliability and EUL of assets. Here are quick bullet points to summarize key attributes of an Asset Data Management Program.

- Integrated with multiple departments and disciplines.
- Scalable
- Standardized Data
- Maintainable
- Tracked
- Cost Effective
- Budgeted
- Assigned Accountability
- Analyzable
- Technology supports business processes
- Easy for field technicians to report/update asset data changes

About the author

Mark Sim is the CEO and founder of Whitney Technology. Whitney Technology provided technology solutions and consulting for ABM, JLL, Netflix, NVIDIA, META, PG&E, Carrier, and numerous other leading facility management organizations. Mark Sim is a member of IFMA and travels the country deploying technology and business processes in Facility Asset data Management.

