

# Physical Assets Inventory Enhancement

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**Abstract:** Manual inventory tracking is one of the traditional and initial methods used for physical asset inventory tracking. However, as a business is evolving, organizations need to change their business tactics and technology as well. Staying on top of asset inventory gets exponentially harder as number of assets grows, so organizations have no other option but to implement asset management tools and asset tracking solutions to control their assets and their inventory.

**Keywords:** Physical Assets, Inventory Tracking, Barcode Label, RFID, BLE, GPS.

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## I. INTRODUCTION - WHAT IS PHYSICAL ASSET INVENTORY?

If someone requests a list of the company's assets, how difficult would it be to provide it? And what about the exact location, condition, and utilization of each asset?

Organizations with a large number of physical assets can answer those questions only if they have an asset inventory management system and process in place. Having the right physical asset inventory tracking in this case, can play important role in lowering asset management cost and improving overall business productivity.

The word asset is used to refer to physical assets like machinery, vehicles, fixtures, computer equipment, furniture and similar.

A physical asset inventory tracking is a complete process of managing asset identification, location, and condition. Regular asset inventories are a key part of operations and quality management procedures. Collecting this information is important for tooling utilization, theft prevention, maintenance management, and budgeting. There are multiple methods which are available to conduct traditional asset inventory.

### A. PAPER LOG

A paper log is a notebook or printable spreadsheets that contain asset status and details. Logs are often stored in each department, record are often entered into a Master Log that is kept with a tooling or quality manager. Paper logs often have dedicated areas to write asset location and condition. Companies that have few assets or limited technology resources will often keep a paper log.

### B. EXCEL SPREADSHEET

Excel spreadsheets are another option for conducting a physical asset inventory. Spreadsheets allow space to store much more information, include calculation features, and are easy to send to other people in the company (regardless of location). A spreadsheet is a static document, everyone must make sure they are using the most up to date document that has the same information.

### C. CLOUD DOCUMENT

Cloud based spreadsheets allow live editing, providing information that is always up to date. When a technician enters new information, the changes are available for everyone with document access to view. Popular options for this method are SharePoint, Electronic Document Management Systems and Google Drive.

## II. DRAWBACKS OF THE TRADITIONAL PHYSICAL ASSETS INVENTORY TRACKING

Inventory tracking is essential for all organizations. Inventory can be raw material or ready product such as workstations or maintenance repair operation part. Several organizations ignore inventory tracking or using manual ways of inventories and as a result, they suffer from huge losses. That is why it is important to replace the manual or traditional physical inventory tracking with an automated inventory tracking. Some of drawbacks of manual inventory tracking are:

### A. MANUAL INVENTORY TRACKING IS INACCURATE

When inventory tracking is done manually, chances of collecting inaccurate data is more likely to occur because organizations normally store data in a spreadsheet and multiple employees access it. So, data by mistake can be deleted or altered as inventory tracking is not reliable.

### B. INVENTORY MANAGEMENT ISSUES

When managing inventory manually, this may cause inventory management issues. For instance, assuming that inventory for product A is available in stock but when you check the physical inventory, it is not available. So, Poor inventory management practices may lead to overstocking, understocking, lost items, problems with vendors and suppliers.

## III. PROPOSAL TO OVERCOME DRAWBACKS OF CURRENT PROCESS

Physical asset inventory tracking is a part of an asset management strategy that aims to:

- Create a central repository of all assets the company wants to track.
- Track the physical location of the company's assets.
- Track the utilization of assets (time of asset in use vs idle time).
- Track asset performance.
- Track the condition of the asset (often done by looking at the maintenance history of the asset).
- Track the asset through its lifecycle (so that management can plan for upgrades, disposal or purchasing a replacement assets).

So, automated inventory tracking software as well as implementing asset inventory management system are beneficial tools to build a robust central repository of the assets and overcome these drawbacks and enhance the physical asset inventory factors below.

### A. IMPROVE PRODUCTIVITY

Knowing the location of each asset, its condition, and how much it is utilized can boost productivity.

By knowing where the asset is, employees do not need to waste time tracking down its location.

By knowing its condition, you eliminate the chance that an employee will waste time preparing for a certain process, only to find out that the asset is broken, partially functional, or shut down for maintenance work.

By tracking asset utilization and performance, the organization can plan for upgrades or purchase new assets in a way that matches their needs in order to keep an optimal level of asset inventory.

### B. LOWER OPERATIONAL COSTS

Assets are necessary for performing business activities. So, if an asset ends up stolen or misplaced, this will lead the company to purchase replacements and this will increase its operational costs. By having up-to-date physical asset inventory combined with asset tracking system could prevent that from happening.

Additionally, having a digital asset inventory management system removes the need for manual data entry and eliminates administrative work. This will result in lowering labor and operational costs.

### C. THE ABILITY TO ESTIMATE ASSET VALUE

Assets that are regularly used, lose their value over time. If want to accurately depreciate asset value, it needs to know the original asset value for the organization, at which stage of the lifecycle it is now, and how much it is being used. This will give a good idea of how fast the asset will deteriorate. All of this data can be found in an AIM system if its database is kept up to date.

At some point, an asset will become a burden. In other words, the value it brings to the organization will be lower than the amount of resources you have to spend to keep it operational. Asset inventory management helps you realize when you've crossed that point and helps to plan for new asset purchases.

### D. LESS HASSEL COORDINATING MAINTENANCE WORK

Knowing "when" to schedule maintenance is important and so is "where". Many assets are used by different people at different locations. Vehicles and computer equipment are the first that come to mind. Maintenance technicians need to know the location of the asset they are supposed to work on.

### E. INFORMING FUTURE PURCHASES

Having a pulse on your asset inventory is essential for optimizing your procurement process and for planning new purchases.

For example, let's say you have 20 laptops available for your workforce. If asset utilization is tracked properly, you know that 15 laptops are used regularly and 3 are used occasionally. If you hire a new employee, you know right away that there is no need to purchase additional computer equipment.

Similarly, you might have a bunch of assets of the same type, but from different vendors. This is an opportunity to compare asset performance and maintenance costs. Knowing which vendor offers better value is useful information to have before your next purchase.

## IV. SOLUTION – METHODOLOGIES USED TO IMPROVE PHYSICAL ASSETS INVENTORY

The role of asset tracking in physical asset inventory management is to utilize electronic tags in order to track an asset's current location, user, condition, and storage location.

There are multiple ways to track assets:

- scannable **barcode labels**: Easy to use to manage and track their physical asset with two elements barcode label and a reader.
- Radio-frequency identification (**RFID**): uses electromagnetic fields to automatically identify and track tags attached to objects.
- Bluetooth Low Energy (**BLE**): BLE tags can be placed on assets and nearby BLE-enabled devices can detect the signal. This allows businesses to track the location of their assets in real-time.
- Global Positioning System (**GPS**): provides a visualized dashboard of assets on a map. The software will provide metrics such as location, down time and alarms for unauthorized use in real-time.

Keep in mind that asset inventory management system doesn't really come as a standalone solution. It is often a part of larger asset management solutions. These solutions can be roughly divided into three groups. The first group offers robust asset maintenance and asset tracking features. The second group is focused on asset tracking and offers barebone asset maintenance features. The third group is focused on asset maintenance and offers limited asset tracking features. A detailed review of available features should precede any buying decisions.

And here are some general software characteristics that should look for when adopting any physical asset inventory track software:

- Cloud-based solution so it is only needed an internet connection to access the database which can be updated in real-time.
- Mobile-enabled solution so the system can be uses on any mobile device.

- Solution with appropriate asset tracking capabilities as explained early such as barcodes, GPS, BLE or RFID depending on the needs of the organization.
- Tool with appropriate integration capabilities in case need to be connected with ERP software, financial software, etc.
- Solution with appropriate asset management functionality for maintenance history, ticketing system or work order management based on maintenance needs.
- Solution that is configurable so that you can decide things you want and do not want to track and have the ability to create customizable fields, KPIs and reports.

It is really important that your asset management software is intuitive and easy to use. Many solutions will match your feature requirements on paper, but not in practice. It is really important to try them out first and see how the features are implemented. If the software is buggy, slow, or hard to figure out, it's not worth the trouble.

## V. BEST PRACTICES FOR MANAGING ASSET INVENTORY

Below is a demonstrating for best practices you can apply at any organization to stay on top of physical asset inventory system and it should be clear that this is the best way to manage large and expensive asset inventory.

### A. START WITH CLEAN DATA

To build a strong asset management strategy, it is required a stable foundation based on accurate data to avoid having missing items and duplicate entries.

The first step is to make a list of all assets needed to be tracked and which metrics want to track for each type of asset. After that, the asset list and respective asset details can be imported into a software of choice.

### B. SETUP CLEAR OPERATION PROCEDURES

The database will not be accurate for long if people do not follow set operating procedures when interacting with assets. There should be clear guidelines defined for things like:

- procedures and policies for new asset acquisitions.
- how to update asset inventory database (adding new assets or archiving those that were lost/disposed of).
- procedure for taking the asset out of storage.
- procedure for returning the asset back to storage.
- how to leave comments/notifications and update asset logs (if your asset inventory management system allows that in the first place).
- procedure for updating the system when an asset changes its current user.

### C. SETUP AUTOMATED REPORT AND PERIODIC AUDITS

Most modern solutions give the ability to set up automated reports to track important metrics and KPIs. If there is a problem, check asset logs for additional details.

To ensure the database is accurate and up-to-date, set up periodic auditing. If there are significant discrepancies, try to pinpoint the cause of the problem.

## VI. CONCLUSION

Manual inventory tracking is one of the traditional and initial methods used for inventory tracking. However, as a business is evolving, organizations need to change their business tactics and technology as well. Staying on top of asset inventory gets exponentially harder as number of assets grows, so organizations have no other option but to implement asset management tools and asset tracking solutions to control their assets and their inventory.

That is why investing in automated software is essential. There is no doubt that inventory management software can be very helpful in optimizing business and increasing the productivity of the business.

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