Verifying Assets with Simple Methods

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Assets in a Comprehensive Maintenance Management System (CMMS) should be verified with unique identifiers. The asset code is the unique identifier. It relates the asset to work performed and to total cost within a hierarchy of assets. Unverified or missing assets in a CMMS means inaccurate cost accounting and inaccurate maintenance records. Photos and GPS location show a verification.

Assets are replaced, removed, rebuilt, and decommissioned. Management and engineering cannot always see every asset in a facility. With photos and GPS location, duplicate records are recognized. Missing assets are realized.

Begin with Simple Techniques and Inexpensive Devices

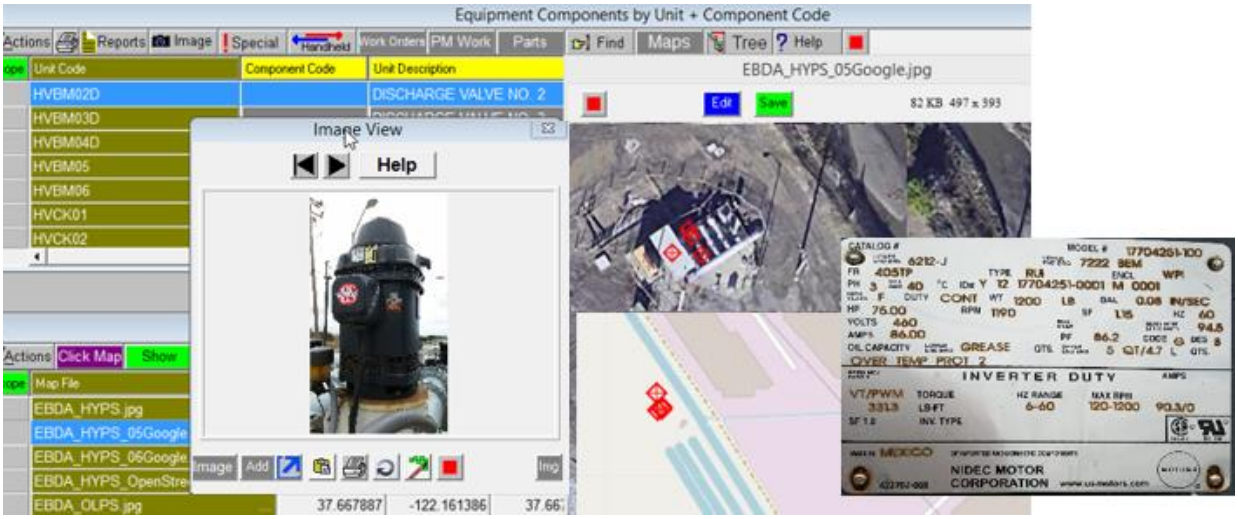
Assets are best discovered and verified in the field, simply by taking a photo with a camera that automatically includes GPS coordinates. Personnel or consultants familiar with the assets should take the photos.

Typical GPS Information from metadata in a photo:

Latitude	Longitude	Direction
46.048417	-118.383689	305

From an Android phone or other GPS camera equipment, Davison CMMS™ uses GPS metadata from photos to mark the location and direction on map images. GPS coordinates relate to equipment asset records. Click the map image to find equipment assets in Davison CMMS. The photo of the asset displays, and a marker on the map shows the location and direction the photo was taken.

Photos and Map Images, including nameplate information, from East Bay Dischargers, San Lorenzo, CA.



Nameplate information is also related to the equipment record. Nameplates can be scratched and over-painted in the future. Machine information on file is often incorrect when compared to nameplates.

Even older smart phones contain a GPS chip, capable of the required accuracy for a GPS fix, not just assisted GPS from cell towers. Personnel are familiar with smart phone cameras. With no training required, most personnel can take representative photos of assets. The GPS location information is stored in the metadata in the photo. After photos are related to CMMS assets, the result is a verified record of assets, retrieved by people who are familiar with the assets.

Make Initial Changes in a Prototype System

By beginning implementation with a desktop program, the identifiers can be freely changed. Asset numbers, hierarchy, and location are changed freely. In a desktop program, photos and map images are stored and retrieved quickly.

Move to Enterprise GIS with Verified Assets

After working with changes to identifiers in the desktop program, load the verified identifiers, with verified relational data, to the enterprise system. This CMMS data includes GPS coordinates, images, nameplate information, and even work completed on the asset during the startup period.

Methods that Cause Delays

Geographic Information System (GIS) software, handheld and enterprise, is impressive and the goal, but it requires time and labor to select assets for the system and draw asset locations onto a map. GIS systems should begin with a verified list of assets with verified GPS coordinates.

In this desktop program, asset records are sorted and verified in a working CMMS from photos with GPS location. There are no fees per device. Just use a camera.

Spreadsheets are not adequate for initial planning. Spreadsheets lack the ability to perform user-friendly program functions needed to show the relation between asset records and pictures that are compared to marks on a map image.

When developing asset lists in a spreadsheet, the user is tempted to create sequential asset identifiers that indicate hierarchy or grouping within one asset code. This is not necessary to create a parent-to-child hierarchy. The CMMS will report the hierarchical order with random codes, using parent and child fields.

Typical Procedure to Verify Asset Location

The following steps are typical:

1) Personnel receive the camera, or use their camera with GPS capability.
2) Personnel take photos.
3) Davison Systems prepares map images and satellite views, per the GPS locations in the photos.
4) Personnel and Davison Systems verify the precise locations.
   Personnel can click on Map Images to correct the locations as personnel and Davison Systems talk about pictures.

Keep It Simple for a Good Start

This simple method is appropriate where facilities lack funding for a full GIS system, and are struggling to find time to build a complete and verified asset list. They might have equipment assets scattered in various locations.

Most of us who implement CMMS, rely on the asset identifier provided by the customer or their engineer. Then later we discover that the CMMS needs to be restructured for assets, location, and hierarchy. Often, we find that the asset identifiers were created programmatically without specific verification, or they come from drawings without as-built verification.

Photos with GPS information provide a verified record of each asset. The photos are matched with equipment records in agreement with personnel.