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## WHITE PAPER

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# Show Me The Money: MRO Inventory Optimization

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In today's business, with advanced technology and procedures, there is no question that a lot of money is tied up in MRO inventory. The real question is how to turn that unnecessary evil into significant cost savings.

Historically, companies never actually owned the inventory that they stocked which meant there were very few, if any repercussions of having excess items on hand for emergencies. During this time the only type of inventory management process came with the annual physical count, which was undertaken for financial reporting purposes.

With such poor management procedures in place it is no surprise that over time inventory levels continuously grew to the point where the numbers were simply too large to ignore any longer and something needed to be done.

The ironic fact, however, is that maintenance workers seemed to have very little confidence in technology and electronic inventory data. They did not trust that parts were actually stocked in the quantities stated or that they were still usable. In many cases, workers would keep a private stash of parts hidden somewhere for their own use or even by-pass the computer system all together by ordering parts directly from the supplier. These scenarios were not uncommon and added further to unnecessary costs.

When a formal inventory review is undertaken it is often found that many item descriptions are inadequate with spelling errors and missing information such as manufacturer name and/or part number. Often the part description is unrecognizable to maintenance workers, which leads to part duplications, false stock-outs, equipment down-time and poor maintenance efficiency.

Before an inventory analysis can take place, all inventory data must first be cleansed since a benchmarking activity requires that you know your starting point. The data cleansing process will ensure that all data is consistently standardized, missing information is filled in, duplicates are identified and all items are assigned their correct UNSPSC code.

Once the original data has been cleansed, we typically find that duplicate items range from 5-15% within a given site and the percentage of commonality across multi-site organizations can sometimes range as high as 25%.

Next, the inventory can be sorted into typical commodity groups: Bearings, Industrial Supplies, Electrical, Instrumentation, Fluid Power and Pipes, Valves & Fittings. Commodity groups can then be segmented into categories based on usage: Required Active, Excess Active and Inactive. Required Active parts are those which are used commonly and must be stocked at all times. Excess Active parts are simply overstock of Required Active items.

Inactive parts can be further segmented into Critical Spares, Slow-moving or Obsolete Materials. Critical Spares include items that are essential for the business to operate and stocking out would significantly impact production, quality, safety or costs. Slow-moving items include parts with long lead times which may affect plant efficiency, or recommended spare parts which are kept to satisfy risk aversion.

Optimization and rationalization of the above mentioned categories requires a very strategic approach but can return significant cost savings.

Typically we find that Required Active items range from 25-30%, Excess Active items range from 10-20% and Inactive items range from 50-60% of all inventories. Furthermore, we consistently find that within all Inactive inventories, Critical Spares represent 15-20%, Slow-moving items represent 20-25% and Obsolete items represent 15%.

The opportunity for cost savings predominantly comes through the elimination of duplicate items and the rationalization of Excess Active and Slow-moving inventory. These items can be used down through attrition, sold back to the supplier for credit towards future purchases or sold to a third part for cash. In some cases obsolete items can also offer some opportunity for generating cash.

Let's look at a recent case study to illustrate typical findings when an MRO Item Analysis is performed.

A multi-site manufacturing organization with eleven locations decided to undertake a pilot inventory analysis project at their four Wisconsin sites only. If the project were successful and returned enough value, then it would be extended across the entire corporation.

The cleansing process was completed across all four sites in which item descriptions were standardized into noun/modifier format, industry nomenclature was used and a corporate catalogue was created to consolidate all items.

Site by site, the cleansed data was first sorted for duplicate identification, and then it was segmented into categories by commodity group and analyzed based on usage and supplier.

The results of the project were impressive and immediately attracted the remaining seven sites. Duplicate items represented approximately 9% of inventory. The item bins were consolidated and it was determined that the overstock would be used down through attrition.

Approximately 20% of inventory items were found to be at excess stocking levels. These items were returned to the supplier for credit, yielding cash savings of \$1.1 Million.

Obsolete materials were identified and disposed of, generating \$100,000 cash.

A long-term plan was designed to address Slow-moving inventory items to determine the value/life of the part and its appropriate stocking level.

Finally, the company decided to share highly valued spares within the regional area, further reducing stocking levels at all four locations.

With a return of more than \$1.2 Million, the pilot project was deemed a success and was later implemented at the remaining seven sites.

MRO inventory ties up a large amount of money, especially in multi-site manufacturing and asset-intensive organizations. It requires strategic planning and a professional inventory analysis project to reveal the hidden

savings within maintenance stores inventory. With a little effort, you too can turn your necessary evil into a corporate good.

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