

# MRO (Maintenance, Repair and Operation) Items Optimization Challenge- a Quick Win Using SAP MDM



## Applies to:

SAP MDM 5.5 SPO4/05/06 and SAP ECC 6.0, SAP EP 7.0, SAP PI 7.0. For more information, visit the [Master Data Management homepage](#).

## Summary

The article streamlines approaches for successful optimization of MRO items involved in Production Process leveraging the features of SAP Master Data Management

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**Created on:** 23<sup>rd</sup> February 2009

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## What: What are MRO Items

The Acronym MRO stands for Maintenance, Repair and Operation. Typically these items are the materials consumed in the production process but which do not either become part of the end product or are not central to the firm's output.

MRO items include consumables (such as cleaning, laboratory, or office supplies), industrial equipment (such as compressors, pumps, valves) and plant upkeep supplies (such as gaskets, lubricants, repair tools), and computers, fixtures, furniture, etc.

(MRO) materials are mostly repetitive, generic and high transaction items with low unit cost. In fact, purchasing agents can spend as much as 80 percent of their time sourcing and purchasing these items that may only account for 20 percent of the overall budget. To further complicate the MRO purchase process, approximately 60 percent of the orders are spot buys, which require researching sources of supply, evaluating the alternatives and making the final purchase.

## Why: Why Cost Optimization of MRO Items

A large number of buyers, sometimes every employee within an organization is involved in the indirect purchasing process. MRO materials cover a wide range of products making it time-consuming and costly for suppliers to market. As a result MRO purchasing is inherently different from direct materials purchasing for both buyers and suppliers.

Integrated supply seeks to optimize the purchasing process for both the buyer and the supplier. The expenses involved with marketing, stocking and purchasing MRO products are high. In an integrated supply relationship, both the buyer and supplier reduce these expenses through fewer, yet closer relationships.

Proper management of MRO can be fully optimized when MRO data is accessible and current for all users. The key to successful MRO optimization is data, as item data is often inaccurate, incomplete, inconsistent, and inaccessible.

Though MRO parts can yield exceedingly high costs they are a vital component keeping operations running smoothly. MRO item cost breakdown:

**Premium pricing**—MRO items are typically purchased as spot buys, outside of negotiated pricing contracts.

**Increased shipping costs**— In the event that items are ordered due to a shutdown situation, shipping must be expedited.

**Inventory costs**—Due to fears of downtime and loss of productivity, MRO parts are often overstocked in inventory.

**Protracted procurement process**—MRO items are difficult to procure on every level. Downtime—when an MRO part breaks production stops, which earn the biggest costs.

Incomplete information makes purchasing difficult, extends procurement time, increases downtime, drives shipping costs and results in higher prices. These costs can be avoided by optimizing MRO parts data. In an effort to reduce inventor and carry costs, develop a robust MRO catalog, improve procurement, fully utilize Enterprise Resource Planning (ERP), Enterprise Asset Management (EAM) and searching capability, reduce downtime and improve productivity,

The company's MRO databases often contain tens of thousands of unidentifiable, duplicate, or non-comparable MRO items which creates difficulty in successfully identifying a part or replacement , As a result purchasers buy parts outside their company's procurement system leading to excess redundant stock and increasing the inventory overheads.

## Who: Potential Customers

An Auto component manufacturer supplying highly precise machined components to many OEM's. This supplier is having sophisticated Machine shop with large variety of Machines from sophisticated CNC Machines to conventional turning Machines. Each Machine is critical, completely engaged & used with full capacity to meet Production Requirement.

It is of utmost important that all machines runs continuously as per planned hours with minimal breakdowns. Plant maintenance department suppose to keep available all required spares (MRO items) so that machine breakdown time is minimum & ensure smooth running of plant.

## How: How to tame the elephant

The process of optimizing MRO data includes leveraging SAP MDM Capability. The high level solution roadmap involves the following steps.

1. Cleansing and structuring data – **Consolidation**
2. Standardize data – **Taxonomy**
3. Enrich data with all pertinent information –**Data Enrichment**
4. Maintain classified, standardized, enriched content. MRO data that is classified as per UNSPSC,UOM
5. Explore possibility of using third party tool like **IHS (SMD)**
6. Searching
7. Maintain data centrally –**CMDM( Central Master Data Management)**
8. Enforcing Data Governance

## What: What are the tangible benefits

The benefits of MRO optimization are the following:

- Elimination of duplicate parts
- Optimizing inventory level through reduced carrying costs and less overstocking
- Improving employee productivity through reduced parts procurement timeframes
- Reducing plant downtime and increasing throughput
- Leveraging the full capabilities of EAM and ERP systems
- **Maintain classified, standardized, enriched content.** MRO data that is classified as per UNSPSC (Universal Standard Products and Services Classification), e Class or other custom taxonomy, is standardized for efficiency and enriched to aid decision support systems.

## How: The High Level SAP MDM How to:

The high level process flow is as mentioned below:

1. General data of MRO items gets created in SAP MDM using SAP Enterprise portal
2. A workflow triggers in MDM for the approval of the General data
3. After approval the general data is then syndicated from SAP MDM to SAP ERP system.
4. ECC Workflow gets triggered .The concerned user gets notification -Work Item
5. The work Item should be completed by the user .The Work Item involves creation of Local views(eg Purchasing view/Accounting View) of MRO items in SAP ERP
6. Once the views are created ECC workflow triggers an approval process validating the different local views created
7. Once validated the complete MRO data is syndicated to SAP MDM using SAP PI
8. SAP MDM acts as a central data hub for the complete information about master data of the MRO items

## Glossary:

IHS (NYSE: IHS) is a leading provider of critical technical information, decision-support tools and related services to customers around the world

The Standard Modifier Dictionary (SMD) from IHS Intermat Solutions is the most widely used cataloging tool in the world.

- The SMD is used daily by more than 2,000 industrial facilities in 33 countries.
- The SMD is used to manage vast inventories of MRO materials such as pipes, valves, bearings, associated plant equipment and general supply items.
- The SMD is available in English, Chinese, Dutch, French, German, Italian, Japanese, Portuguese, Russian, Spanish, and Swedish.
- The SMD is compatible with leading ERP, EAM and MDM systems, such as: SAP IBM Maximo Indus PassPort (Ventyx) PeopleSoft/ JDE/ Oracle and many more

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