



## FRONTLINING MRO: AN ESSENTIAL NEW NORMAL

### Abstract

Manufacturing organizations are often caught in a dilemma. While maintaining stocks of critical spares preempts supply disruptions during a crisis, they add to storage costs, tend to deteriorate with time, or become obsolete, leaving money simply sitting on the shelves. The art of balancing these aspects requires effective material replenishment planning (MRP), an essential aspect for procurement initiatives in the maintenance, repair, and operations (MRO) category.

As the year nears to a close, manufacturing businesses continue to reel from the impact of COVID-19, with disrupted supply chains affecting production capacities and vice versa. The situation has thrown light on how manufacturers having paid insufficient attention to their supply chains, have been lax in identifying critical suppliers, considering the possibilities of supply disruption, and preparing the necessary mitigation strategies.

## The critical need for effective MRP

In general, companies tend to park huge investments in maintaining their spares inventory levels. This mandates the need to have an effective material requirement planning (MRP) system in place, an essential aspect when talking about maintenance, repair and operations (MRO). MRP is essential to manage the spare parts inventory, through identifying the needed parts for production and maintenance, and accordingly scheduling procurement. An effective MRP ensures continuous movement of parts from the shelves and solves the issue of holding non-moving parts. Not maintaining an MRP system leads to bigger problems such as large holdings of obsolete parts, where money is just sitting on the shelves.

In general, of the total inventory, while 10-20% constitutes of excess active inventory, 50-60% is inactive ranges. Of these, critical spares and slow-moving inventory represent 15-20% and 20-25%

respectively, while 15% of the inventory is represented by obsolete items. The percentage is much higher than 5% stated by World Class Stores Management. Therefore, it is important to manage the obsolete inventory as otherwise it tends to sit on shelves not only occupying valuable space but also blocking the money for the organization.

For more than a decade, China reigned as a manufacturing hub sourcing MRO items to nearly 40% of the 350 top-tier suppliers from across the world<sup>1</sup>. When the virus outbreak originated in the country it stalled manufacturing globally, with broken supply chains, and increase in logistics cost. The scarcity of labor — an essential enabler of MRO services — caused due to worldwide lockdowns and suspension of travel added to the woes.

These failures disrupted supplies of critical machine parts and maintenance items

that further hindered global business operations, like it did with essential services such as FMCG, food, and personal care products running out of stocks. In fact, industries such as automobiles are running on fumes with their critical spares. Giants like General Motors are being forced to airlift supplies from vendors in Europe and Asia despite the increased logistics cost, a burden that may likely have to be passed on to end consumers<sup>2</sup>.

These recent realities only reflect the fact that a lack of proper MRO supplies is responsible for 42% of all unplanned downtimes. Sadly, despite the high dependency, 72% organizations and manufacturers take the risk of not having an MRO risk strategy in place. The risk is higher for the organizations sourcing from smaller suppliers, local suppliers, or suppliers delivering niche parts as any failures on their part can cost fortunes to the business.

## An evolving landscape for MRO

Similar to other sectors, manufacturing and MRO are also heading towards disruptive digital technologies. While, touch interfaces and augmented reality have already made inroads into the system, advanced robotics and 3D printing for printing plastic or metal parts are at the threshold of becoming game changers. For metal parts, manufacturers are anticipating 3D printers that can also help in finishing the printed spares, as the raw parts created typically have rough edges and cannot be used as is. The process is known as direct metal laser sintering and uses heat and pressure to create a metal part from its 3D computer model.

Another key area that many companies are looking at is sustainability, especially since several countries like the UK are aiming to become carbon neutral by 2050. This has triggered these companies to set their own targets before they become obliged to follow government set targets. For instance, Unilever<sup>3</sup> is striving to become carbon neutral by 2030 with targets like 2% energy reduction year-on-year and zero water waste. In order to reduce its carbon footprint, it is relooking at its chiller refrigerators that are currently using Ammonia coolers (Grasso), increasing the use of biomass boilers, hot air generators,

and 4.0 bar factory to reduce the air pressure at the sites.

Cyber security for factories is also an emerging trend. Today, as the Internet of Things (IoT) comes into play and increasingly equipment come with internet connectivity, manufacturers are aware and concerned about strengthening software security due to the rising threat of hacking incidents. Additionally, organizations are also moving away from predictive maintenance towards condition-based monitoring. This strategy is helping them reduce the need to replace parts so frequently, thereby leveraging benefits from reducing spare parts inventory.

<sup>1</sup> [https://www.scmr.com/article/covid\\_19\\_and\\_the\\_mro\\_supply\\_chai](https://www.scmr.com/article/covid_19_and_the_mro_supply_chai)

<sup>2</sup> <https://www.wsj.com/articles/coronavirus-outbreak-could-affect-production-at-2-gm-plants-union-officials-say-11581697246>

<sup>3</sup> <https://www.unilever.com/sustainable-living/reducing-environmental-impact/greenhouse-gases/tackling-climate-impact-in-our->

## Frontlining MRO to build resilience

While the above-mentioned trends need proper long-term strategies and implementation to secure the future of MRO, organizations can move forward with the below measures in terms of procurement for immediate relief:

- **Identifying risk areas:** Having experienced supply disruptions due to lockdowns at companies and within economies, understanding the areas of risks, the veracity of these risks, and their impact on supply continuity have become the first lookout for sourcing and procurement teams. As an immediate resort, some manufacturers have reduced their maintenance regimes to save costs, recover lost revenues, and extend the life of equipment. However, the measure will further lead to other significant risks such as equipment becoming obsolete unsupported. Also, managing inventory levels as well as ensuring supply quality continues to hold relevance. Amidst these factors, having spend

transparency will help in assessing long-term demand and managing upcoming orders alongside identifying the alternate suppliers as needed.

- **Strategizing proactive approach:** The current shift in paradigm demands the fore-fronting of MRO, especially in terms of procurement strategy. In these times when meeting adequate MRO supply requirement has become a herculean task, adopting preventive and predictive maintenance surfaces as a bare essential to enhance equipment uptime and slash the probabilities of requiring emergency parts. While, the concept of sharing inventories is likely to see the day of light soon, MRO procurement strategies should look at substituting practices such as discarding and replacement, with reusing and refurbishment respectively. Also measures like reducing the supplier base and working with a main service provider (MSP) such as an integrator can reduce the risk. Also, it is important to

identify and work closely with critical suppliers to ensure the continuity of their supplies and identify the probable risks in the supply chain.

- **Relooking at order strategies:** The situation of lockdowns and travel suspensions becoming increasingly common problems for procurement teams to supply SKUs from across the world. Thus, it is advisable to consider increasing minimum order units, ensuring high level of SKUs inventory, and accelerating reorder trigger points. To pre-empt future unexpected situations like COVID-19, it is important to work on a strategy with critical suppliers to maintain supply yet avoid holding excess stocks, through placing orders beforehand to avoid stock runouts. Here, consignment managed inventory (CMI) is advisable as it aids the cost of inventory to sit on the supplier side, thereby enabling the companies to pay only for what they utilize.



## MRO for the future

To sum up, in terms of procurement, the aim is to integrate the market opportunities on to the site and add value. Apart from managing inventory, working to induce improvement, and strategizing operational cost savings methods, an effective procurement team should also provide a vehicle to the integrator or supplier to deliver as per market

requirements. Towards this, MRO category managers need to understand the business and focus not only on the last price paid but also on delivering savings and efficiency in other areas, such as inventory holdings and operational cost savings initiatives.

Although, it becomes trickier in a less developed market, an effective MRO

strategy at a global and regional level will go a long way to identify a potential spares shortfall in time. It will accordingly enable continuity of manufacturing operations, provision for skilled technicians, help in identifying or making suggestions on replacement parts and assemblies, and promote developments in areas such as vendor linked inventory.

## About the Author



### **Philip Jones** – *Principal Consultant – Solution Design, Infosys BPM*

Philip (Phil) is an experienced Category Leader with over 30 years of proven track record of success specializing in strategic sourcing, MRO, Facilities, CAPEX, and supply chain management.

Phil has worked with some of the leading Global industries in Pharma, FMCG and Automotive Manufacturing Companies. After completing 22 years in the British Army, finishing as a Warrant Officer, Phil mapped and wrote the MRO business processes for the British Army as part of £40M project to manage equipment.

Phil holds an MBA from Leicester University, Prince 2 Practitioner in Project Management and Health & Safety qualified.



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Imtiaz is an experienced Leadership level, cross-sector procurement professional with over 30 years of global experience in various roles including category head, regional head, practitioner, and outsourcing expert. He specializes in procurement transformation, integration & business turnaround, large CapEx, and EPC. He has diverse working experience across industries such as Pharmaceuticals, Petrochemicals, Manufacturing, and R&D.

Imtiaz has a Master of Science in Applied Physics from Durham University, and is a BSc Chemical Engineer from Teesside University.

## References

<https://www.reliableplant.com/Read/3220/mro-inventory-analysis>

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