A Guide to Efficient MRO Procurement & Management

White Paper

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Executive summary

The purchasing of spares for the daily maintenance, repair and overhaul (MRO) of production and manufacturing equipment is often a complex, time and resource consuming activity for most organisations. It is one which is critical to maintaining continuity of production and avoiding costly downtime.

An efficient MRO sourcing operation can provide major cost savings through demand reduction, reduced inventory, production and maintenance improvements. However, it must be recognised that the procurement professional cannot achieve this alone, but only with the support and buy-in from engineering and operations colleagues through a collaborative effort that actively engages all those involved in the procurement and management of maintenance spares.

This White Paper will examine the issues surrounding MRO spares procurement, the benefits achievable through a sustained and proactive approach and the options available to drive efficiency into this key area of the manufacturing operation, including a look at how outsourcing the entire process to a single specialist supplier can create significant efficiencies in both cost and productivity.

The MRO challenge facing manufacturing companies

MRO spares are defined as engineering components and consumable items used in the day to day maintenance and repair of manufacturing facilities and production equipment, both from expense and capital project budgets. They are part of the 'indirect' purchasing spend that a manufacturing company makes, and as a definable category, is normally in the top 10 indirect spend areas. MRO, when optimised, offers significant business benefits, but when managed poorly it carries risk to production continuity and eats up working capital.

The greatest issue facing the procurement professional with regard to MRO spares is the vast range of products involved and their unique unpredictably of demand. Even relatively small production facilities are likely at some stage to have a requirement for spares for bearings; power transmission components; pneumatics and hydraulics; filtration; heating, ventilation and air conditioning (HVAC); chemicals and lubricants; fasteners; hardware and tools.

The list does not end there, however, industrial supplies, electrical products, process control and instrumentation, pipes, valves and fittings, Health & Safety supplies, pumps, motors and mobile equipment spares are all also likely to be needed at some stage. It is not uncommon for larger manufacturing facilities to have several thousand unique stock-keeping units (SKUs), many of which are complex and used only on specific plant equipment. However, it is the norm in the world of MRO that of the full range of parts consumed each year, only up to one third will be regularly repeating purchases.

The procurement of MRO can become further complicated by user preference – of both parts and brands - an often emotional attachment from different engineers.

MRO spend is often spread over many product categories at multiple site locations, which inevitably leads to duplication of stockholding and thus working capital being unnecessarily tied up in maintenance spares.

MRO procurement is also often pervaded by a 'just in case' mentality where spares are held in unnecessary volume to avoid the risk of waiting for an essential item in the event of failure. Meanwhile, an overall lack of process control can result in 'maverick' spend by those who are not ultimately accountable for cashflow control. And the sheer volume of SKUs needed means, for many companies, dealing with a vast range of suppliers – some of whom may be supplying the same product to the site or to different sites.

MRO management processes, including sourcing, ordering and inventory management are often decentralised, meaning purchasing practices and processes can vary significantly between locations. In these instances, part number level information is usually inconsistent or incomplete, while there is often no common format for part numbering, with the same items identified in many different ways across the same, or even different, systems. Indeed, effective data management across plants is a major challenge that will always elude a company operating a de-centralised MRO strategy across multiple locations.

Finally, MRO procurement historically involves a high number of 'spot buys' – unplanned purchases of items not set up in inventory. These usually account for more than half of the annual spend.

Developing the purchasing strategy

The key to efficiency in MRO procurement is to adopt a structured, disciplined approach to supplier selection and management.

The first step is to analyse the organisation's MRO spend patterns. MRO comprises a number of sub-categories with a multitude of different supply solutions, meaning it is necessary to capture and categorise spend in accordance with the organisation's product category tree and number of vendors in each category. This will allow the purchasing professional to identify, at a high level, which categories offer the greatest potential for cost savings. The initial spend analysis typically involves extracting invoice data to identify suppliers and map them by category and by site, if a multiple site organisation.

The segmentation process can be more complex than anticipated – firstly, spend data must often be extracted from multiple systems with varying degrees of data integrity (e.g. the same supplier identified by different names). Secondly, many of the suppliers will be small, local companies and only supplying to a single site, making it difficult to identify what products and services they provide.

However, given that the right MRO procurement strategy will deliver significant business benefits, the objective should be to consolidate the often fragmented MRO supply chain into a smaller number of professional suppliers who can guarantee product quality and continuity of supply.

Commonly used MRO items such as bearings, power transmission equipment, fluid power, Health & Safety and general maintenance consumables are typically sourced through distributors. In some cases, more complex items used in maintaining and repairing specific equipment may need to be purchased direct from the manufacturer.

For those products that are sourced through distributors, there are a number of choices. Some distributors specialise in particular product areas, such as bearings and power transmission or fluid power. They will usually carry a broad range of products from a number of manufacturers and are likely to offer some technical support and expertise in their chosen product area. However, it is important to check that any prospective distributor is 'authorised' by the product manufacturer to supply their products. Using suppliers who are not authorised could lead to sourcing products that are not to the latest specification, carry no manufacturers warranty, may have been incorrectly stored or handled and may even be counterfeit.

Larger distributors offer customers the benefit of a 'one-stop' environment for many of their product needs, alongside guaranteed availability and competitive pricing as the larger distributor will be able to share the benefits of purchasing leverage. These companies are also usually authorised distributors for many of the leading MRO spares manufacturers, guaranteeing against the possibility of unwittingly receiving a counterfeit part – a key factor in the move towards best practice. They also usually offer independent technical advice and support on a range of product areas, providing the customer with a choice of brands.

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The benefits of complete outsourcing

A further option – and one being adopted by an increasing number of UK manufacturers – is to outsource the entire MRO procurement and management function to a company, like Brammer, who can set up a dedicated branch on the customer's site to handle the entire process. This means the manufacturer is then effectively dealing with only one supplier for all its MRO requirements, paying only for parts used, reducing inventory and, with just one monthly invoice, maximising the benefits of supply chain consolidation.

As the branch – or 'Insite' - is only serving that company, it is geared entirely to meeting that company's needs.

An Insite provides highly trained and experienced site-based personnel delivering dedicated MRO spare parts sourcing and technical support to keep production running smoothly, while offering many value-added services and solutions to the customer - a service which allows the in-house procurement, engineering and maintenance teams to concentrate on other core manufacturing activities, knowing that their MRO spares operation is in safe hands. Components can be delivered to lineside if required, reducing replacement times. Companies will also have access to experienced, on-site, independent technical expertise. The Insite manager can arrange for performance measurement and component kitting, while application advice, condition monitoring and energy efficiency surveys are further examples of an Insite's contribution towards making sure downtime is minimised and plant operational efficiency optimised.

The detailed management reporting offered by a professional supplier will track component usage, thus creating greater transparency and providing the basis for optimising stock through usage analysis and targeted reductions in redundant stock profiles, therefore, saving future purchasing and working capital costs. The company is also only paying for spares that are being used rather than adding unnecessary inventory.

The technical consultancy and application advice that is available can support engineers to identify opportunities to standardise their spares strategy, ensuring sub-optimal parts are substituted for those with a longer life expectancy and lower total cost of ownership, so delivering further cost savings.

An Insite service can, therefore, proactively help to reduce working capital by performing stock profiling, standardisation of products and brand rationalisation. Standardisation equates to fewer products, which in turn means less stock and reduced working capital.

As an example, the positive impact of a Brammer Insite is already proven in the UK in more than 100 large production plants across a range of industrial sectors including automotive, food and drink, metals, packaging and pharmaceuticals, with companies such as Heineken, Coca-Cola, GKN, Unilever, Johnson & Johnson and Alcoa. The cost reduction and production efficiency improvements generated in collaboration with some of these customers has enabled Brammer to deliver more than £70 million of operational cost savings to UK companies in the last four years – a clear example of how this approach represents an optimal best practice solution.

Whatever route is chosen, there will be a need to balance cost with the operational and technical needs of the sites and, in some cases, the culture of the organisation. To aid the decision-making process, the procurement professional should involve the ultimate customers – plant managers, maintenance engineers, supervisors and so on - who can provide valuable insight into service and technical requirements. The engagement, or otherwise, of these individuals is a key determinant of the success or failure of the strategy.

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Going to market

The next stage is to gather information on a range of items expected to be representative of the items to be purchased in future – the 'MRO basket.' It is impossible to include all MRO items due to the combination of a large volume of SKUs with erratic demand patterns, so this sampling will be the tool to determine supplier price competitiveness. Typically, this entails identifying key suppliers and asking them for relevant information on past purchases. The very minimum level of information required is the manufacturer name, manufacturer part number, item description, quantity purchased, unit of measure and last price paid.

Once the range of items is identified, the next stage is to determine how to request supplier pricing. Suppliers typically quote either the manufacturers' list price minus a discount or a nett price for each item. The purchasing agent should be able to select the pricing methodology they desire to give a consistent comparative sell price. Ensuring the clear identification of brands in this exercise is vital to make true comparisons of all supplier bids possible. Suppliers should also be asked to provide the pricing framework to be used to price all other items not included in the 'MRO basket'. This is critical as suppliers should not be treating the items in the 'basket' as loss leaders in order to win the business and then charge significantly more for other items not in the 'basket'.

Price, of course, should not be the only criterion in supplier selection. Lowest cost is rarely the best policy for sourcing plant critical engineering components. Service requirements - delivery capabilities, product coverage, technical capabilities and customer service - and the supplier's ability to consistently meet these, are just as important.

Once these requirements are known, the procurement professional will need to develop a formal evaluation process weighting each supplier's response across these dimensions to determine their ability to provide the level of support required by users.

Creating the supplier shortlist

Once the suppliers have responded with their proposals, the procurement professional needs to evaluate each supplier's product coverage and pricing competitiveness. This can be achieved by preparing a pricing and product 'scorecard' for each of the supplier's proposals, and then comparing the results. Once this analysis is complete, the non-price capabilities should be assessed. Here, it is imperative to involve the key user representatives as they are the ultimate customer and should, therefore, be part of the decision process. A structured supplier scorecard will allow consistent evaluation of each supplier's response to the non-price requirements criteria.

At this stage of the process, it is likely that a number of suppliers will be easily eliminated as they either do not offer the breadth of product or geographic coverage, are not price-competitive or cannot meet the technical requirements.

Those able to compete in all of these areas should be invited to attend face-to-face meetings to ensure they have the capabilities mentioned in their proposals. It is often advisable for these meetings to include an inspection of each suppliers operation to verify their own supply chain management practises and logistical capabilities. These meetings should involve representatives from the user community to ensure their technical requirements are addressed. These meetings are also the ideal time to finalise pricing agreements.

Implementation

Once the selection process is complete, the decision must be communicated to the organisation, with the reasons behind the decision and the business benefits expected to be achieved. It is unlikely that every individual from the key user groups will be completely happy as change can often create some uncertainty which needs to be managed. During the early implementation phase, it will be necessary to work very closely with the supplier to proactively address user issues and concerns. An implementation project plan and top-down senior management sponsorship of the implementation is necessary. And throughout the relationship, close management will be needed to ensure all commitments are being met.

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Conclusion

The creation of an efficient, consolidated supply chain for MRO spares will impact positively on an organisation. Providing hard cost savings, reduced inventory and working capital and the potential of value-adding services from a preferred supplier to support the maintenance, repair and overhaul (MRO) strategy.

It is a decision that must, therefore, be properly researched, and must necessarily take into account far more than the unit cost of individual products, although a supplier's buying power and ability to deliver cost savings is an important factor. The ability of a supplier to meet tight deadlines and fulfil other key criteria in the area of service must form a key part of the decision, while the decision will also be influenced by the type and frequency of spares needed. Suppliers must also be able to find ways to reduce demand for spares; release working capital through effective inventory management; provide reporting systems that offer increased transparency; identify substitute parts to reduce whole life cost and assist with engineering standardisation programmes.

For any large facility with a significant engineering spares requirement, the establishment of an Insite is a genuine possibility which can open up significant cost savings and productivity benefits through a single source of supply, offering a range of value-added services. From being an option few would consider perhaps a decade ago, outsourcing the MRO spares procurement and management process is now an increasingly popular course of action for many manufacturers across all industry sectors who are achieving measurable benefits as a result.

marketing.uk@brammer.biz
www.brammer.co.uk

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