

Operations Practice

Digital MRO procurement: New solutions for capturing and sustaining more value

High complexity and low costs have made maintenance, repair, and operations (MRO) categories hard to manage well—even as value trickles away. New technologies make it easier to plug the leaks.

by Sean Buckley, Marta Mussacaleca, Pieter Riedstra, and Eileen Smith



Most large companies have advanced procurement functions that bring discipline to sourcing big-ticket products and services. The exception? Maintenance, repair, and operations (MRO)—in part because it's an extremely challenging category to manage: MRO typically includes a sprawling, fragmented network of vendors selling everything from tools to safety equipment to cleaning supplies. The products are usually inexpensive and not mission-critical, leading to huge variability in specifications, pricing, contract terms, and other factors. With increasingly global and complex supply chains, sourcing options widen and the challenges compound. As a result, organizations steadily leak value.

However, new digital tools are helping procurement functions better understand, analyze, and improve their MRO spend. These solutions are particularly relevant for heavy industries, which are among the top consumers of MRO (Exhibit 1). But they apply to just about any organization that owns or operates physical assets—meaning just about every organization.

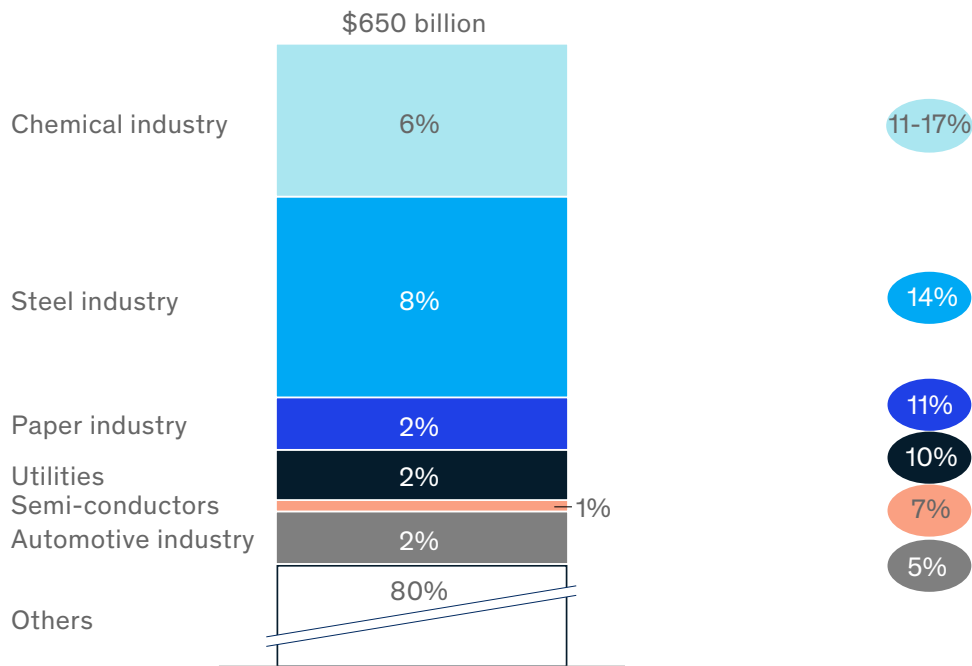
The benefits from these solutions can be significant: they can lead to better contract compliance, inventory reductions of up to 30 percent, and cost savings of 15 to 20 percent. More broadly, these innovative solutions can help procurement functions build critical digital

Exhibit 1

Heavy industries are top consumers of maintenance, repair, and operations (MRO) items.

Global MRO market
% of MRO market

MRO spend portion of total spend
% of spend



Source: CAPS; expert interviews

infrastructure and analytics capabilities, turning MRO into a value-generating category that sets a new precedent for collaboration between procurement and operations.

A wide range of tools are available, but we think three main categories offer the best combination of rapid implementation and maximum impact. They are: running advanced text analytics to reduce duplicate sourcing; conducting digital simulations to reduce inventory; and using optical character recognition to digitize contract management. Collectively, these tools can give organizations a big advantage in conquering the complexity of MRO procurement.

Problem: Duplicate sourcing
Solution: Advanced text analytics

Most MRO datasets are extremely messy, plagued by duplicate orders due to slight variations in taxonomy or naming conventions, and resulting in the same item being purchased from multiple vendors at vastly different prices. To bring order to the chaos, advanced text analytics provide a powerful way to clean up

datasets and eliminate duplicate orders.

The solution essentially flags duplicate items by tokenizing the text associated with each item in the dataset, and applying an algorithm to match entries. This allows the data to be bucketed into perfect and partial text matches, which the category manager can then validate to create a new standardized taxonomy (Exhibit 2). As a result, companies can consolidate all purchases of a given item to a smaller number of preferred vendors at the lowest negotiated price.

For example, a global metals company with dispersed data systems found hundreds of SKUs for the same physical items, all purchased at wildly different prices. Using advanced analytics, the new entity matched thousands of SKUs to close pricing gaps. It also created a universal catalogue, simplifying category management and—most important—reducing overall MRO spend by 20 percent.

Exhibit 2

Advanced text analytics recognize when different descriptions refer to the same item.



Problem: Excessive inventory levels

Solution: Advanced analytics simulation

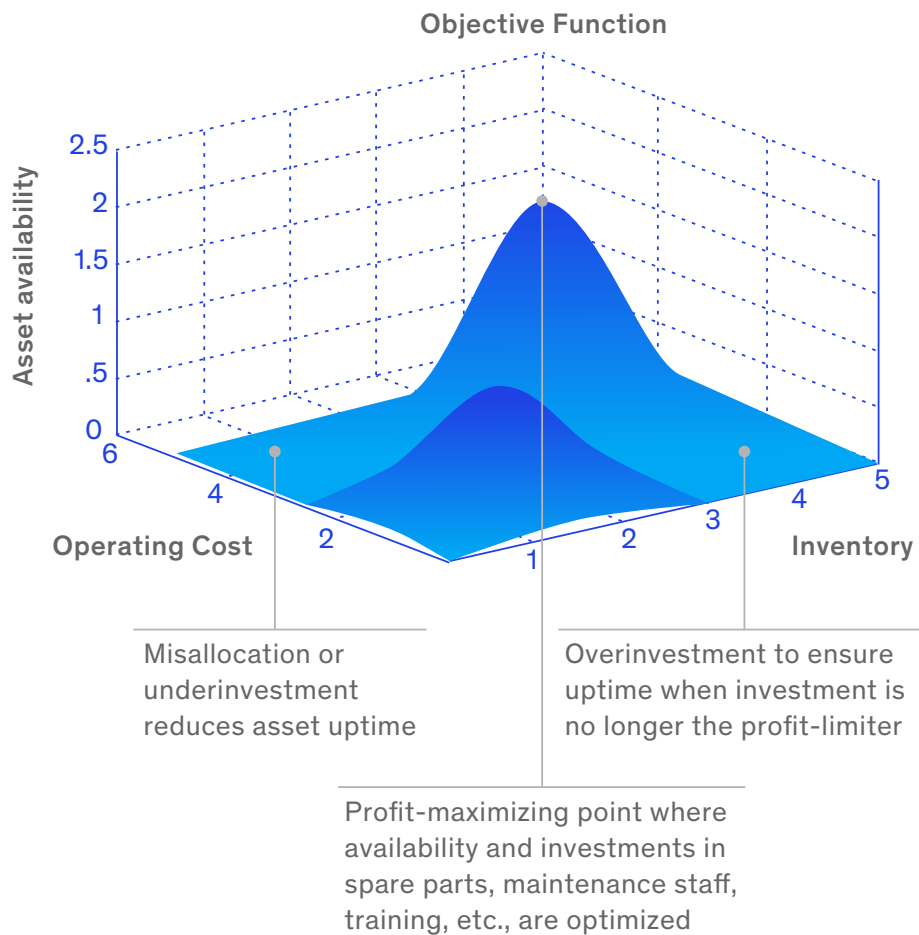
MRO inventories are often substantially higher than necessary because of high safety stock targets and inaccurate forecasts. Advanced analytics can look at actual usage data and run iterative simulations to generate more accurate forecasts. The solution compares current inventory levels against demand and service-level requirements, and an analytics engine identifies optimal stock levels and locations. This can reduce inventory stock by up to 40 percent and attendant holding costs by 10 percent. The

tool also visualizes performance on a live dashboard, enabling procurement leaders to track results over time (Exhibit 3).

A materials company that deployed this solution reduced MRO inventory levels by 40 percent and raised working-capital levels by 20–30 percent. The reductions came from eliminating obsolete inventory and slow-moving items, while reducing “squirrel stores”—secret caches of critical tools and other supplies that maintenance and repair staff hoard to ensure they won’t run out. Furthermore, the improved analytics and forecasting capabilities the

Exhibit 3

Simulation software yields a performance dashboard that finds optimal trade-offs.



MRO improvements from traditional levers

Not all organizations may be ready to jump to digital solutions, but traditional sourcing improvements can still deliver value. Here are three tried-and-tested approaches.

- **Review specifications.** A manufacturing company was spending hundreds of thousands of dollars each year on safety glasses, across dozens of unique but functionally similar SKUs and with a five-fold variation in prices. A spec-review workshop reduced the number of SKUs by 80 percent, saving 15 percent in procurement costs.
- **Sharing inventory.** A retailer with thousands of stores created a shared-service model that grouped stores into geographic clusters with shared MRO costs. By more carefully monitoring consumption levels, the retailer reduced MRO inventory levels by more than 10 percent.
- **Consolidate suppliers.** Last, an industrial company with more than \$250 million in annual MRO spending across a dozen subcategories and thousands of suppliers, launched a consolidation initiative. The company categorized spend into market baskets based on volume, criticality, and functionality, and designated two to three strategic suppliers for each basket. Controls in the enterprise resource planning and inventory-management systems enforced the use of preferred suppliers. The company reduced its total cost-of-ownership for MRO procurement by more than 15 percent, far surpassing its goal of 3–5 percent.

company built increased the overall efficacy of the procurement function.

Problem: Unwieldy contract management
Solution: Optical character-recognition software

Finally, because of the long tail of fragmented suppliers and product subcategories, many companies don't effectively manage vendor contracts. These can take many different formats, often PDFs or paper printouts, making contract management a laborious, manual task. Optical character-recognition solutions can digitize contracts across a range of formats, and create a single data lake by converting PDF contracts into searchable text files, using natural-language processing to match key words and phrases to valuable contract terms.

This solution reduces the contract-management timeline from months to minutes—allowing category managers to dedicate time to other value-adding strategic activities. It also typically results in 5 percent savings simply by identifying and enforcing contract terms already in place. And the long-term potential gains are even greater, as the solution generates a structured database of contracts that procurement managers can query and use to create automatic triggers for new terms and conditions.

A need for smarter MRO sourcing

The challenge of MRO procurement is real and growing. Yet, because the process can be so complex and unwieldy, many organizations simply throw up their hands—because the

products are inexpensive, how much value is really at stake?

That's a short-sighted approach. Forward-thinking leaders will see rising MRO costs as a catalyst for change. There are readily available digital tools to turn this once-challenging category into a beacon of best practices and innovation. The value of digital

solutions in MRO procurement is clear: dramatic reductions in inventory levels, SKUs, and value leakage in contracts, leading to an incremental boost in financial performance.

With this much opportunity at stake, every passing day means additional lost value. When will your organization get started?

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