



Industry Report

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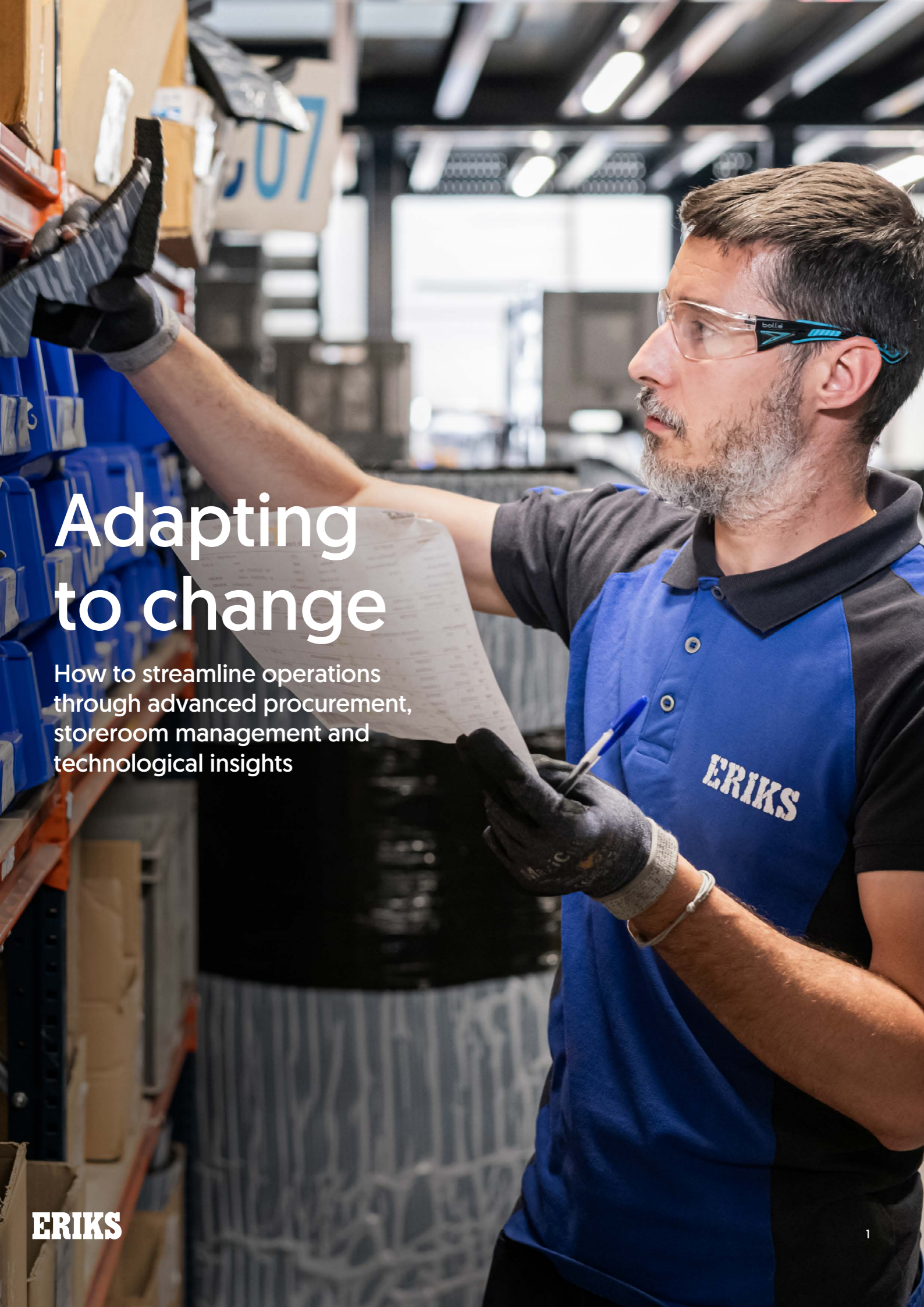


Five ways

to enhance Maintenance, Repair
and Operations (MRO)

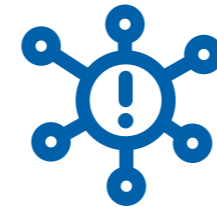
ERIKS

Let's make industry work better



Adapting to change

How to streamline operations through advanced procurement, storeroom management and technological insights



In an era of shifting industrial demands, marked by the perfect storm of Brexit, COVID-19, and geopolitical conflicts, effective stock and storeroom management has become more critical than ever. These events have precipitated significant supply chain disruptions and led to widespread over-stocking issues among manufacturers, underscoring the necessity for resilient and responsive MRO storeroom practices.

Furthermore, insights from the recent **MRO Supply Chain Report*** clearly demonstrate how effective supply chain management is intrinsically linked to operational uptime, making streamlined storeroom operations essential for maintaining a competitive edge and swift market responsiveness.

As organisations confront these complexities, strategic resource management becomes increasingly important. Harnessing advanced analytics and emphasising a proactive maintenance strategy are essential for improving operational efficiency and reducing downtime. These practices align with broader sustainable goals by enabling organisations to optimise resource utilisation and minimise waste.

Many companies aim to keep MRO inventory levels at around 50-60% of the total annual spend on MRO spare parts. For example, if a company spends £1 million annually on MRO spare parts, the target inventory value might be around £500,000 to £600,000. For critical equipment, the percentage might be higher to avoid downtime. However, for non-critical spares with reliable supply chains and short lead times, the percentage might be lower, potentially around 30-40%.

To ensure that inventory levels are correct, several baseline measurements can be established through pertinent questions:

1. Inventory Holding Costs:

What is the cost to keep spare parts in the maintenance stores, annually per item?

2. Criticality:

Do you have a criticality protocol to underpin and define critical parts identification? What is considered critical or insurance stock?

3. Personnel Costs:

What are the labour costs for managing and maintaining the maintenance stores? Is there an average cost per thousand items stocked?

4. Overstocking vs. Stockouts:

Balancing the need for spare part availability with the cost of holding excess inventory. Are you familiar with your Service Level Adjusted for Inventory Turnover (SLIT) metric?*

Read on to uncover five ways for manufacturing businesses to effectively navigate the challenges of today's dynamic supply chain environment, enabling them to prepare for future shifts and demands within the MRO landscape.



1: Prioritise and manage critical components

An effective MRO strategy begins with the identification and prioritisation of critical components. This strategic focus is essential to ensure operational continuity, especially in facilities where resources, including personnel, are limited. With data showing that 70% of engineering stores are managed by fewer than four staff members, focusing on managing these crucial parts becomes even more important.

The first step in this process involves conducting a comprehensive audit of existing inventory to stream components into two groups: 'core products' needed for day-to-day operations and 'showstoppers'—critical parts essential for emergency or unplanned maintenance scenarios. This categorisation helps facilities prioritise their resources and space by maintaining a stock of parts that are truly essential, thus minimising operational disruptions and enabling quicker response times during breakdowns.



In high-performing operations, such as manufacturing sites with a 24/7 maintenance stores operation, maintaining high stock accuracy of MRO spares is critical. These sites target a Stock Accuracy of at least 98% to ensure that inventory records closely match the actual on-hand quantities, significantly reducing the risk of stockouts and production interruptions. The acceptable minimum stock accuracy should be in the mid-90% range for MRO spares in most manufacturing environments. Falling below this threshold can significantly increase the risk of operational disruptions.

These factors can all be considered when focusing on spares stock criticality and accuracy:

- 1. Stockouts and Downtime Costs:** Costs associated with production downtime due to the unavailability of critical spare parts. It's essential to calculate the cost per hour of downtime and the total amount of downtime.
- 2. Ratio of Rush Orders to Replenishment Orders:** A large volume of rush orders increases spend. It's important to maintain a low ratio [1:8 to 1:10] in order to combat negative impacts.
- 3. Redundant Stock:** Stock that has not moved in several years needs regular review. Correct profiling of stock held and decisive actions to address these items are crucial.
- 4. Obsolescent Stock:** Identifying and tracking spares at risk of becoming obsolete through discontinuation or being superseded by the manufacturer is essential for avoiding future supply chain risks.

By utilising advanced analytics, organisations can predict which components are likely to fail and when, based on historical data, usage patterns, and condition-based reliability programs. This predictive approach not only supports the planning of parts supply/availability but also aids in scheduling maintenance at convenient times before failures occur, significantly reducing downtime and operational losses.

Adopting this focused strategy for critical components not only streamlines storeroom management but also enhances the overall efficiency and reliability of maintenance operations. It empowers teams to act proactively rather than reactively, ensuring that their operations are robust enough to handle the dynamic demands of modern industrial environments.

Our approach

By leveraging ERIKS' specialised technical knowledge and sector expertise, we assist organisations in effectively implementing these strategies. Our approach ensures that managing critical components is not just a task but a fundamental part of enhancing operational resilience and efficiency.

This involves identifying and maintaining an inventory that balances core and critical needs, facilitating optimal operational readiness and response capabilities. ERIKS asset tagging helps customers record and track their assets and can be supported by ERIKS site services teams coming on-site and quickly identifying your critical assets, obsolescence risks, and showstoppers.

2: Streamline data for enhanced MRO operations

In the realm of MRO operations, data management plays a pivotal role in ensuring efficiency and reducing downtime. Streamlined data not only simplifies the tracking and retrieval of components but also enhances the overall decision-making process crucial for maintaining an effective storeroom management system. The goal is to create a unified data environment where every item is accurately tracked, categorised, and managed with precision.

While specific targets can vary, manufacturing sites generally aim to minimise MRO spares stockouts, striving for best-in-class targets of around 5% or less and typical performance between 8-10%. The effectiveness of a site's inventory management and the criticality of the spares involved significantly influence the number of expected stockouts.



In ERIKS' experience, best-in-class companies maintain a stockout rate of less than 5% annually for MRO spares, highlighting the direct impact of proficient data management on operational continuity. Effective data management ensures inventory accuracy, which is pivotal in achieving these low stockout rates.

These points should all be considered in relation to stockouts:

1. Inventory Accuracy:

Maintaining accurate records and tracking of spare parts is essential. It is crucial to evaluate the costs and benefits associated with maintaining high inventory accuracy.

2. Compliance/Behavioural Issues:

Adherence to stores procedures by engineers, such as booking out and returning to stock, is vital. Non-compliance directly impacts the integrity and accuracy of both the physical stock and system data, creating significant risks to business operations.

3. Total Stockout Cost Calculation:

Consider the full cost of stockouts, which includes Downtime Cost, Idle Labour Cost, Expediting Cost, Lost Revenue, and Additional Maintenance Costs. Understanding these costs can help prioritise improvements in inventory accuracy and data management practices.

The process begins with standardising data entries to eliminate inconsistencies that lead to errors and inefficiencies. This involves setting uniform naming conventions, accurate part categorisations, and implementing a robust database that supports real-time updates and accessibility.

Such a system enables quicker response times during maintenance operations and reduces the incidence of errors, thereby optimising the use of resources and minimising operational costs.

A poorly organised system means technicians may spend valuable time searching for the right parts or ordering replacements, slowing down repairs and potentially increasing downtime for equipment. Furthermore, badly marked or described items can pose safety risks if technicians use the wrong parts or materials for repairs. This can lead to equipment malfunctions, accidents, or failures, endangering both personnel and assets.

Effective data management is transformative, turning traditional reactive maintenance into a proactive, strategic operation that significantly impacts the bottom line of any industrial enterprise.

Our approach

At ERIKS, we harness our technological expertise to support clients in developing and implementing advanced data management systems tailored to their specific MRO needs.

Our solutions are designed to integrate seamlessly with existing operations, providing the backbone for a data-centric approach to MRO management that drives efficiency and sustainability. By improving data accuracy and compliance, we help customers minimise stockouts and their associated costs, enhancing the overall reliability of MRO operations.

3: Navigating obsolescence



Obsolescence management is a critical aspect of MRO operations that requires strategic foresight and proactive planning. There are two forms of obsolescence, both driven as industries evolve and technologies advance, in the first components and equipment can quickly become obsolete, meaning that you can no longer get replacement parts, conversely your business might upgrade a part of its production process making the spare parts in your MRO store obsolete, both these scenarios pose significant risks to operational continuity and efficiency. Effective obsolescence management ensures that operations are not just maintained but optimised in the face of such challenges and leave no lasting costly legacy in your stores.

The approach to managing obsolescence involves several key strategies. Initially, it's essential to conduct regular reviews of inventory and equipment to identify items at risk of becoming obsolete. This assessment should include a review of supplier stability and future availability of parts, integrating insights from predictive analytics to forecast obsolescence trends as well as plant upgrades planned.

Once at-risk items are identified, alternative solutions such as sourcing compatible replacements or considering re-engineering options, such as 3D printing, should be explored. This might include partnering with suppliers who can provide equivalent or superior alternatives that extend the operational life of equipment and reduce dependency on soon-to-be obsolete components.

Our approach

Leveraging our extensive network of suppliers, our own manufacturing capability and our deep knowledge in product lifecycle management, ERIKS aids organisations in implementing robust obsolescence management strategies.

Our solutions not only address immediate needs but also prepare facilities for future technological advancements, ensuring sustainability and resilience in an ever-changing industrial landscape.

4: Implementing innovative parts procurement models

In today's fast-paced industrial settings, heightened by post-COVID delivery expectations of same-day or next-day service, traditional parts procurement models often fail to meet the complex needs of MRO operations. This shift has placed additional stress on distributors to meet last-minute demands, underlining the need for more agile and innovative procurement strategies.

Furthermore, as the **MRO Supply Chain Report**^{*} highlights, approximately 90% of rogue spending is either directly or closely aligned with MRO activities, signalling a substantial financial drain that innovative procurement models can address.

This statistic, coupled with the fact that 55% of survey respondents admitted to maintaining their own "squirrel stores" or secret stashes of parts, underscores the inefficiencies rampant in conventional procurement practices.

These practices not only inflate costs but also complicate inventory management, leading to potential operational disruptions.

The number of suppliers a manufacturing site manages for MRO spares and the frequency of purchases can significantly affect operational efficiency and procurement costs. According to a report by BCG, if a company consolidates purchases and reduces transaction volume by using aggregators, it can cut incremental costs in the MRO supply chain by 2% to 10%.

Additionally, Deloitte research^{*****} on indirect spend management, supported by ERIKS' experience, suggests that consolidation efforts can effectively reduce the number of suppliers to under 20 strategic partners, allowing for much more efficient management.



Best-in-class organisations often adopt a strategy of making more frequent but smaller purchases to maintain optimal inventory levels. This approach helps minimise the carrying costs of inventory but does require careful management to mitigate the increased transport costs that can arise from frequent ordering. These points are key in regard to purchase frequency:

1. Procurement Costs:

These include costs incurred during the RFQ process, supplier evaluation, and order processing. Understanding the average cost per procurement cycle is essential for identifying efficiency gains.

2. Procurement Delays:

Delays in the procurement process can lead to significant production downtime. It's crucial to quantify the cost associated with each day of delay and to develop strategies to minimise these delays.

3. Health or Fit for Purpose of Stock Held:

Is there a stock management process in place to monitor the health of spares, especially critical spares? Implementing stock rotation processes FIFO – First In First Out/LIFO - Last In First Out and shelf-life checks are essential to ensure the viability of the stock.

4. Procuring of Parts:

Assess whether engineers are responsible for sourcing and procuring spares. If so, evaluating their purchasing and commercial knowledge is critical to ensure they can deliver benefits to the company efficiently.

Our approach

ERIKS is committed to leveraging these technological advancements to help organisations transition from outdated procurement practices to more efficient, automated, and integrated solutions.

By consolidating supplier networks and optimising purchase frequencies, ERIKS enables organisations to reduce procurement costs, minimise delays, and ensure a steady supply of essential MRO components. Our approach not only ensures that essential components are readily available but also supports sustainability by minimising waste and optimising resource utilisation, aligning with modern industrial demands.

To counter the issue of squirrel stores rogue spending, ERIKS has developed a range of innovative supply chain and inventory management models that not only streamline operations but also enhance cost-effectiveness and reduce wasteful expenditures. One such model leverages supply partner buying power to improve buying prices while reducing the number of supplier transactions, another redirects spend away from machine manufacturers to more commonly available commodity items, ensuring that parts are available when needed without unnecessary stockpiling.

Additionally, implementing point-of-use vending solutions can reduce unauthorised stock holdings by providing controlled access to essential items lineside, right where its needed.

5: Harnessing supplier expertise for continuous improvement

Effective storeroom management extends beyond mere organisation and inventory control; it fundamentally relies on cultivating strong, collaborative relationships with suppliers and the customers maintenance and operational teams. These partnerships are vital not just for ensuring the timely supply of MRO components but also for tapping into the expertise suppliers offer, which can significantly optimise maintenance operations.



Developing a partnership where suppliers are considered as strategic allies allows for the integration of their deep product knowledge and industry insights into everyday operations. This approach can transform suppliers from simple part providers to valuable consultants who contribute to process improvement, innovation, and problem-solving. Such relationships encourage the sharing of best practices and can lead to the co-development of solutions that enhance productivity and reduce costs.

Indeed, research indicates that there is a strong appreciation among industry leaders for suppliers that not only deliver products but also bring substantial technical knowledge and supply chain expertise to the table. This dual expertise is highly prized as it enables engineering stores to manage their MRO needs more effectively, ensuring that operations are both efficient and adaptable to changing market conditions. The ability to leverage this knowledge can significantly reduce downtime and streamline procurement processes, making it a critical component of modern MRO practices.

Suppliers with specialised expertise can also assist in training staff on the latest technologies and maintenance techniques, ensuring that the workforce is well-equipped to manage and maintain new systems effectively. Furthermore, they can provide insights into future industry trends that can impact MRO strategies, allowing organisations to stay ahead in a competitive landscape.

Our approach

Through ERIKS' extensive network, including our team of technical specialists in verticals such as sealing technology, flow control, and power transmission, we cultivate strong partnerships that not only supply high-quality MRO components but also provide continuous support and expert guidance.

This collaboration fosters sustainable success and ensures that our clients' operations are well-prepared for the future.



Empowering MRO excellence: Strategies for today and tomorrow

As industries continue to evolve amidst global challenges and technological advancements, the importance of a robust MRO strategy cannot be overstated. The insights shared in this document highlight the critical role that advanced technologies, proactive planning, and strategic partnerships play in enhancing operational resilience and efficiency.

By integrating predictive analytics and adopting innovative procurement models, organisations can shift from reactive to proactive maintenance, significantly reducing downtime and optimising resource utilisation. Streamlining operations, managing critical components, and addressing obsolescence are essential steps in ensuring that businesses remain agile and competitive in an increasingly complex industrial landscape.

Now is the time to embrace these strategies, safeguarding your operations against disruptions and positioning your business for sustained success in a rapidly changing world.



Integrating advanced technology

ERIKS' approach integrates not just a reliable supply of products, but a deep understanding of system optimisation and maintenance derived from our specialised Product Technology Centres. These centres embody our commitment to technical excellence in Bearing & Power Transmissions, Fluid Power, Sealing & Polymer, and Flow Control technologies. Through these hubs of innovation, infused with technical expertise, ERIKS provides not only advanced products but also the expertise to optimise your operations efficiently.

Proactive management with predictive maintenance

With ERIKS, embrace a future where maintenance is proactive, not reactive. Utilising data analytics, IoT, and AI, we enable predictive maintenance that minimises downtime and maximises productivity.

Building strong supplier relationships

Our strategic supplier partnerships enhance your supply chain resilience, offering continuous improvement and innovation. ERIKS doesn't just supply parts; we deliver comprehensive solutions that grow with your business.

ERIKS OnSite solutions

Beyond traditional support, ERIKS offers tailored solutions that bring our expertise directly to your operations, ensuring seamless integration of best practices with your day-to-day activities. Our OnSite teams work closely with yours to drive efficiencies and optimise processes from within.

Act now

Discover more about how ERIKS can transform your MRO strategy and learn about our OnSite solutions by visiting: <https://eriks.co.uk/en/solutions-page/onsite/>

Let's start optimising your operations together!

References

* Service Level Adjusted for Inventory Turnover (SLIT)

Balancing the need for spare part availability with the cost of holding excess inventory requires a careful analysis to optimise both service levels and inventory costs. An appropriate metric for this balancing act is the **Service Level** or **Fill Rate** combined with **Inventory Turnover**.

Key Metrics:

1. Service Level (or Fill Rate):

- **Definition:** Service level measures the percentage of customer demand that is met without a stockout. It reflects the ability to satisfy demand without delay.

- **Calculation:**

$$\text{Service Level} = \left[1 - \frac{\text{Number of Stockouts}}{\text{Total Demand}} \right] \times 100$$

- **Interpretation:** A higher service level indicates better availability of spare parts. A common target might be 95-99% for critical parts, but this varies by industry and part criticality.

2. Inventory Turnover:

- **Definition:** Inventory turnover measures how many times inventory is sold or used in a given time period.

- **Calculation:**

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold (COGS)}}{\text{Average Inventory}}$$

- **Interpretation:** A higher inventory turnover indicates more efficient use of inventory but could also suggest a higher risk of stockouts if not managed properly.

Combined Metric: Service Level Adjusted for Inventory Turnover (SLIT)

Additional Considerations:

A more nuanced approach combines these metrics to give a balanced view:

$$\text{SLIT} = \text{Service Level} \times \text{Inventory Turnover}$$

Additional Considerations:

1. Cost of Holding Inventory:

- **Definition:** This includes storage costs, insurance, obsolescence, and capital costs.

- **Calculation:**

$$\text{Holding Cost} = \frac{\text{Total Inventory Holding Costs}}{\text{Average Inventory Value}}$$

- **Interpretation:** Lower holding costs are preferable, but not at the expense of service levels.

2. Stockout Costs:

- **Definition:** These costs include lost sales, production downtime, and customer dissatisfaction.

- **Calculation:** These are often estimated based on historical data and impact analysis.

- **Interpretation:** Minimising stockout costs is crucial, especially for high-impact spare parts.

Practical Approach:

1. Set Target Service Levels:

- Define target service levels based on part criticality and customer requirements.

2. Optimise Inventory Turnover:

- Ensure efficient inventory management practices to maintain high turnover without compromising availability.

3. Use Inventory Models:

- Implement inventory models like Economic Order Quantity (EOQ), Reorder Point (ROP), and Just-In-Time (JIT) to optimise stock levels.

4. Monitor and Adjust:

- Continuously monitor service levels and inventory turnover. Adjust policies based on changing demand patterns, lead times, and cost structures.

By using a combination of **Service Level** and **Inventory Turnover**, organisations can achieve a balance between having sufficient spare parts to meet demand and minimising the costs associated with holding excess inventory. This combined metric ensures that both availability and efficiency are taken into account in inventory management decisions.

References

* MRO Supply Chain Report -

 [Click to view](#)

*** Aberdeen Group Report -

 [Click to view](#)

**** BCG - Capturing the MRO Advantage in Manufacturing

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***** Deloitte - Smarter MRO 5 strategies for increasing speed, improving reliability, and reducing costs:

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