



# ZEN

## and the Art of Spare Parts Management

Unlock the mastery  
of better MRO  
decisions





## Table of Contents

- 1 Take a Journey to Improved Asset Health
- 2 Strategic Spare Parts Management: Preventing Downtime and Reducing Costs
- 3 Introducing the MRO Lifecycle
- 5 Technology to Power Up Your Holistic Spare Parts Management
- 6 Best Practices to Super Charge Your Parts Inventory
- 7 What Does the Future Hold?
- 8 Optimizing MRO Decision-Making for Accelerated Results
- 10 Where to Start: A Business Case for Change
- 12 What Does Success Look Like?

**“The past exists only in our memories, the future only in our plans.”**

*– Robert M. Pirsig,  
Zen and the Art of Motorcycle Maintenance*





**“It’s the sides of a mountain which sustain life, not the top.”**

**– Robert M. Pirsig,  
Zen and the Art of Motorcycle  
Maintenance**

## Ready to Take a Journey to Improved Asset Health?

Much like in Robert M. Pirsig’s iconic novel, **Zen and the Art of Motorcycle Maintenance**, keeping a machine up and running means a whole lot more than performing simple maintenance tasks. It’s a journey – with a well-defined beginning, middle and end – filled with triumphs and tribulations, discovering upsides and avoiding downtimes.

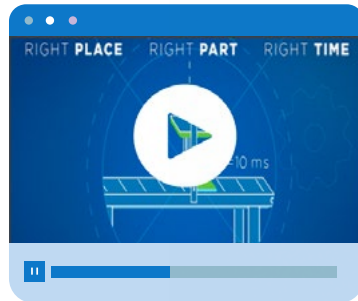
At every step, good decisions must be made that consider the journey, or there could be costly repercussions. The same goes for asset health and equipment reliability. Companies that don’t take a holistic approach, considering their approach to spare parts management as part of their overall strategy do so at their peril. The good news is there is a clear way forward.



## Strategic Spare Parts Management: Preventing Downtime and Reducing Costs

To achieve uptime targets, companies need to establish the appropriate maintenance strategy, build robust equipment maintenance plans, and put in place effective work management practices, but they also need to think about how they manage their inventories. Here, we are referring to those spares and consumable items required to maintain equipment. However, this is equally true across the entire supply chain from Raw Materials to Finished Goods.

A tremendous amount of time goes into planning, managing and positioning direct materials (e.g. Raw Materials & Finished Goods) but, except in rare conditions, less attention is paid to the parts and materials that keep machines running. This is despite the fact it can result in lost sales just as quickly as running out of feedstock for production. This inventory category is called MRO (Maintenance, Repair and Operations) and is made up of the parts and supplies required to support ongoing operations. It all hinges upon having the right part, in the right place, at the right time.



Watch our video to see how. 

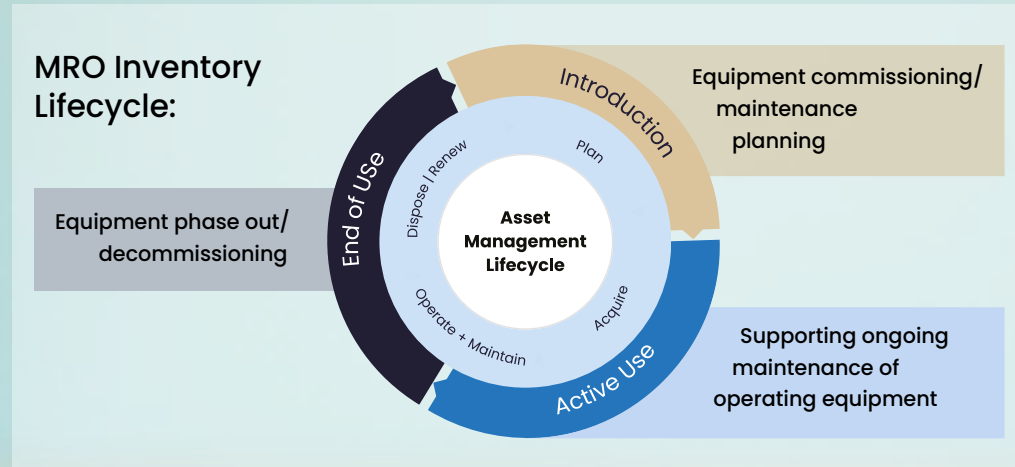
Companies are increasingly focused on transitioning from a reactive to a proactive approach to maintenance. They are seeking to identify issues before they become **unplanned downtime** thereby minimizing downtime and decreasing maintenance cost. Thankfully, organizations are also becoming increasingly aware of the importance of spare parts management and putting in place the tools and processes to effectively manage material requirements. A recent survey noted that **96% of large companies** said that managing MRO was important to their business.

Whether you're commissioning new equipment or implementing a reliability program, not factoring in spare parts will cost you in:

- **Unplanned downtime:** Not having the right parts available when needed
- **Inefficient working capital:** Carrying too much of what you don't need and not enough of what you do
- **Reduced maintenance productivity:** Multiple jobs to replace parts and equipment that failed early or unexpectedly
- **Expedited Freight:** Surge in costs to meet Courier Shipments, Air Freight and other forms of heroics to execute emergency work orders.



## Introducing the MRO Lifecycle: Enhancing Asset Management



To help our clients consider and plan for the inventory requirements of the Asset Management Lifecycle as defined in **ISO 55000**, Xtivity has introduced the MRO Lifecycle.

The MRO lifecycle is intended to work in harmony with the asset management lifecycle, ensuring the right questions are asked and decisions are made to deliver on business objectives in each phase. At times this can get complex which requires decision support tools to manage large data sets and dependencies to make sure the right decisions are made.

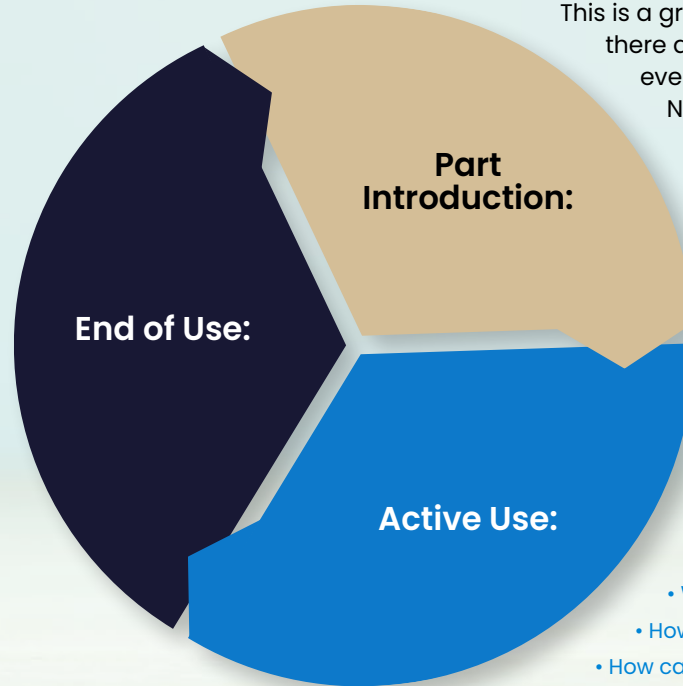




## The right question at the right time:

**In the End of Use Phase**, planning for equipment decommissioning entails running down associated parts to avoid obsolescence. Aged Inventory or dead stock can become drained through normal operations if the asset management strategy is clear and changes to replenishment planning are managed proactively.

- How is part consumption pattern changing?
- How critical is this item?
- How can we limit write off liability while protecting ongoing operations?
- Where else can these items be used?



**In the Introduction Phase**, asset commissioning is in its final stages, the bill of materials and maintenance plan are in development and the equipment supplier has provided a recommended parts list to review.

This is a great start, but nothing happens in isolation and chances are there are overlaps between the recommended vendors, parts and even quantities recommended and your existing inventories.

Not considering this will ultimately drive overstocks and obsolescence risk.

- Is this item already in inventory?
- What is the part consumption pattern for similar equipment?
- Should we stock this item?
- How critical is this item?
- Are there alternative supply sources?

**In the Active Phase**, ongoing operational requirements and the accompanying fluctuations in supply and demand conditions need to be considered. The objective is to avoid stockouts while minimizing committed working capital and obsolescence risk. It's a constant balancing act that is highly dependent on business objectives.

- What are our critical items?
- How should we set target availability?
- How can we measure service level?
- How can we reduce inventory while still supporting ongoing operations?



## Technology to Power Up Your Spare Parts Management

We know there's a direct relationship between spare parts inventory, timely maintenance and asset health. However spare parts inventory management can be messy and resource-intensive. How do you stay focused on the big picture when sifting through masses of data riddled with inconsistent part descriptions, duplicates, incomplete Asset Bills of Materials and other complications?

This is where technology can be invaluable. Some solutions can simplify and automate all of the analysis, so as an asset cycles through its life, you are making the best decisions about its associated parts inventory. Computerized Maintenance Management Systems (CMMS) can help prioritize and monitor maintenance tasks. Connected Internet of Things (IoT) solutions, such as condition monitoring sensors, can provide real-time data that pre-emptively identifies parts requirements. Artificial Intelligence (AI) and Machine Learning (ML) algorithms can quickly digest and analyze the data for patterns and identify and predict failure modes. Visualization tools can pull it all together to illustrate asset health and provide exception reporting to call out maintenance priorities.

Pirsig wasn't wrong when he said, "If you run from technology, it will chase you." It's inescapable, but it can simplify once arduous tasks and optimize your MRO inventory management from cradle to grave. Emerging technologies like AI and ML can be integrated into your ERP

(Enterprise Resource Planning) or EAM (Enterprise Asset Management) solution to support continuous asset health. The critical data that drives good MRO inventory decisions lives primarily in your ERP or EAM system. Whether you use SAP, JDE, IBM Maximo, MS Dynamics or other systems, solutions like **Xtivity Pulse** can transform that transactional data into supply chain insights that will help take you from a reactive to a proactive posture, increasing asset reliability and improve inventory management practices.

The global MRO inventory optimization software market is expected to reach **\$20.482 million by 2030**. This should not be surprising given the growing awareness of the role effective inventory management plays in Asset Health and Reliability.

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*– Robert M. Pirsig,  
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## Best Practices to Supercharge Your Parts Inventory Optimization

A new motorcycle may help set you off on that epic road trip, but if you don't have the spare parts you need along the way, you may just find your trip cut short. Whether for a cross-country motorcycle trip or an asset-intensive manufacturing operation, the planning principles are the same. You need to plan your spare parts inventory, analyze usage, forecast demand and strike the right balance between carrying too little or too much.

Carry too much and your storage space is overwhelmed, obsolescence risk increases and cash becomes constrained. Carry too little and you risk being out of stock on a part when you need it most.

A well-designed inventory management program should be focused on improving your inventory mix and avoiding stockouts to ensure you have what you need to support ongoing operations. Allocating finite working capital to ensure the right part is in the right place at the right time is an ongoing challenge. This is where **Xtivity's MRO Inventory Optimization Solution** comes into play.

It's all about managing risks, from maintaining asset reliability to weathering supply chain disruptions to hedging against price volatility and simply keeping the lights on and machines running.

Over 2021-22, unplanned downtime cost Fortune Global 500 organizations **11% of their yearly turnover, up from 8% in 2019-20**. Companies are having to balance downtime with costly over-maintenance, including unnecessary equipment shutdowns and the costs of holding too much inventory. Regularly taking stock of your parts inventory performance will help you better manage business operations for growth over the long term.

Xtivity's solutions are designed to support your supply chain management best practices to improve asset reliability and mitigate operational risk. Your Key Performance Indicators (KPIs), including inventory turns, days on hand, stockouts and much more, can be measured and tracked to gauge internal performance and benchmarked against external sources, driving continuous improvement. But which metrics to choose? Every organization has different data available, different data analytics tools and different key goals to be met.

We help our clients define the most important KPIs to measure and manage their operational performance, all supported by reporting and dashboard capabilities to keep things on track.



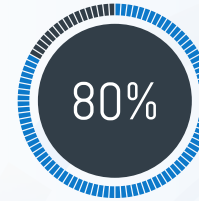


## Taking You Into the Future

Starting with a look at today, the recently released **Gartner Predicts 2024** Report notes, “Without question, companies see supply chain technology as a critical enabler of competitive advantage.” Gaining competitive advantage was a top-3 goal for 27% of those surveyed; improving decision-making was a top-3 goal for 34%; and digitizing, tracking, and managing assets at the edge was a top-3 supply chain initiative for 27%. Investing in emerging technologies was seen as the means to achieving these ends.

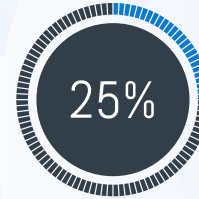
Overall, investing in technology is key to driving asset efficiency, improving planning and optimizing decision-making, to ensure resilience and competitive advantage. It will be interesting to see how blockchain, which enables transparent information sharing and a single source of truth, will transform traceability, accountability and decisions along the MRO supply chain. 2028: Smart robots will outnumber humans in manufacturing, retail and logistics due to labor shortages

**Gartner** predicted that by:



**2027:**

80% of manufacturing operations management solutions will be cloud-based and edge-driven



**2028:**

25% of supply chain KPI reporting will be powered by generative AI models



**2028:**

Smart robots will outnumber humans in manufacturing, retail and logistics due to labour shortages



# pulse

## Optimizing MRO Decision-Making for Accelerated Results



**Inventory Management:** Maintain the right MRO inventory mix to drive an efficient operation, while effectively managing working capital.



**Enterprise Asset Management:** Link assets to your supply chain through parts, criticality and bills of materials, to drive increased reliability and efficiency in your operation.



**Procurement:** Leverage smart sourcing strategies for effective purchasing and reduce costs through insightful spend analytics.



**Master Data Management:** Drive reliable MRO decisions with quality data that is consistently structured, clean and managed by a strong data governance framework.



**Supply Chain Governance:** Ensure appropriate policies, procedures and guidelines are in place to support ongoing MRO lifecycle management and improvement.

Improve Asset Uptime & Reliability

Drive improved reliability & Return on Asset (ROA)

Optimize Decision Making



Backed by MRO experts & works with all ERP/EAM systems







## Where the Rubber Hits the Road (Lifting the Kickstand)

# MRO+ HEALTH CHECK

With so many things to consider it's often hard to figure out where to start. For this reason, Xtivity offers an **MRO Health Check** which provides a cost-effective deep analysis of your transactional data and current practices to uncover MRO inventory improvement opportunities.

Download a  
Sample Report  
& Read the  
FAQs

Watch the MRO  
Health Check  
Video

An Xtivity subject matter expert will explain the process to assess your current MRO inventory practices and help you implement improvements.



# START




## Ready to Change? It starts with a Business Case

There's untapped potential to improve your parts inventory and MRO supply chain. Our clients have generated millions in free cash flow, discovered untapped cost savings, uncovered gaps, and identified opportunities.

What's your opportunity? This quick and interactive calculator will provide you with a high level analysis of the potential savings at your organization. Access the calculator via the link, provide designated input to the 4 questions and in a few seconds, you will have your information.

**Questions?** Give us a call and we would be happy to discuss the data and potential next steps.

A large blue circle with a white border, containing text and an icon. It is positioned over a calculator and a pair of glasses.

How much  
could you  
save?



Try it now

A light blue circle containing the text "Let's Talk".

Let's Talk





## Imagine Fact-based Stocking Decisions

While spare parts management has historically been a manual process, fraught with errors, inefficiencies and hypotheses, Xtivity uses facts, leveraging your data to drive better stocking decisions.

The following are just some of the wins our clients have achieved with Xtivity's **Pulse** software and structured inventory optimization reviews. From mining to manufacturing and more, Xtivity delivers supply chain performance across **a diverse industry profile**.

### Other industries we serve include:



Power Generation



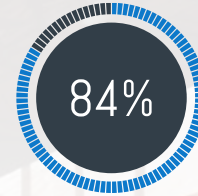
Pulp & Paper



Petrochemical



Manufacturing



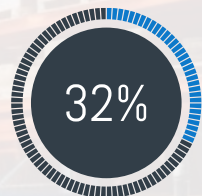
Reduction in Overstock Inventory Value



Reduction in Stockouts



Rationalization of Catalogue Additions



Improvement in Inventory Availability



Reduction in Inventory Value



Disposition of Obsolete Inventory



## Success Stories

### Global Mining and Metals Company Unlocks Millions in Potential Cost Savings



“The MRO Health Check process was an important first step in implementing a successful Supply Chain improvement program. Their custom solutions gave us confidence in executing the implementation plan.”

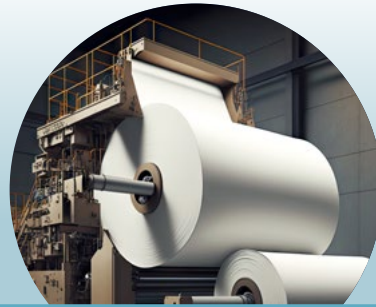
– *Inventory Control Specialist*

With Xtivity’s decision support:

**\$7.96M**

in spend avoidance on catalogued items

### A Leading Pulp and Paper Company Reduces Inventory Investment Across Multiple Mills



“Aside from the savings, I like some of the other intangibles – things like identifying parts that are in danger of having a stock out condition are identified.”

– *Supply Chain Analyst*

With Xtivity’s decision support:

**\$2.8M**

in actual inventory value reduction over last 12 months

### Fortune 500 Food Processor Significantly Reduces Inventory Value and Improves Part Availability



“The Inventory Optimization solution has become a foundational element of our reliability initiatives. Our immediate focus was improving our business through better stocking decisions. We have not only improved working capital, but we have significantly reduced our risks through higher material availability.”

– *Manager, Central Maintenance*

With Xtivity’s decision support:

**\$4M**

reduced inventory investment over 3 years





## Ready to Find Your Inventory Zen?

Let's Talk

Book a  
demo

[xtivity.com](https://xtivity.com)

**“Some things you miss because they’re so tiny you overlook them. But some things you don’t see because they’re so huge.”**

*– Robert M. Pirsig,  
Zen and the Art of Motorcycle Maintenance*

