

Industry Report

In association with



MRO Supply Chain

ERIKS

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Introduction

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'World Class Manufacturing' is a term which is bandied about whenever the manufacturing or engineering sector makes the national news. But what exactly does the term mean? Its appeal to the media and politicians is that it is gloriously unspecific but to the general public it conjures up thoughts of slick, modern environments – probably with lots of robots – and in all honesty very few businesses can apply the terms slick and modern to their MRO* procurement, supply chain and engineering stores.

Anecdotally, when conducting the in-depth interviews for this report, many businesses referred to their stores as 'the land that time forgot' or 'like being in the 1970s'. The general attitude of the majority of businesses is that they are aiming at or achieving World Class status in spite of how these elements function and not because of how they function, and we think this is a missed opportunity. In the vast majority of cases these businesses don't have the experience in what 'World Class' looks like in relation to these functions.

In elite sports, as diverse as rugby union to cycling, we often hear that they are looking for those factors that give them an 'extra 1%'. The thinking being that by focusing on marginal gains enough clear space will be created between them and their opponents to bring victory.

Reference: *Maintenance, Repair and Operation The performance of the engineering stores aligned with MRO procurement and supply chain can, in my opinion, be viewed in the same light. Of those businesses that are performing well there is the opportunity, not only to get an 'extra 1%', but from our experience at ERIKS get an awful lot more. Of those businesses that are not so efficient, re-thinking these parts of the organisation could create a wide range of benefits that bring positive change.

I am a big believer in the theory that at the heart of a successful manufacturing plant is a well-run, well maintained and proactive engineering stores function allied to an MRO procurement process that has true insight into it's supply chain. It is the foundation on which to build efficiency and profitability and the simplest opportunity that most businesses have to make the greatest strides in moving their organisations forward within the indirect supply space.



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Executive Summary

Across all the studies, articles and anecdotal evidence we have seen in 2023 the supply chain has, and continues to be, one of the major headaches that businesses are facing currently. This is why ERIKS commissioned the Manufacturing Indirect Supply Chain Survey, to look deeper at this problem and this report documents the findings and conclusions from that survey.

The report is structured into five separate areas:



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1. People & Skills

Page 7-10

Experienced engineers are hard to find and difficult to replace. They tend to work in small, busy teams with little time for training or passing knowledge on to less experienced colleagues. Engineering stores teams are even smaller and when they lose a member of the team it's sorely felt. A combination of these factors often means the engineering team getting more involved in MRO procurement and the engineering stores function than they would ideally wish. Or, on occasion, they are even given roles in the stores team due to their 'understanding' of the area.

To avoid this some businesses, look to outsourcing in these areas and it's a growing trend. Outsourcing comes with the benefit that the preferred supplier can offer both technical and supply chain skills, knowledge and experience – allowing engineers to focus on their engineering tasks and building a more closely managed, more cost effective eco system around the MRO procurement, supply chain and stores function.

Anecdotally, during the in-depth interviews that took place alongside the survey, it was perceived that the TUPE (Transfer of Undertakings Protection of Employment rights) process of existing stores or other team members was an insurmountable barrier to the outsourcing of the function. This was a surprising revelation given how commonplace the process has become to businesses such as ERIKS.



2. Financial Matters

Page 11-14

On the one hand this report might make uncomfortable reading for those business leaders and finance executives who, in most regards, are on top of all the relevant metrics for their business. But, MRO procurement, its supply chain and the engineering stores can be a difficult area in which to see things clearly.

There's already a good deal of evidence about how UK businesses have stockpiled goods in response to the unprecedented global events of the last few years but this report also drills down into how much of that stockpile is being written off each year and how obsolescence regarding MRO spares is a much misunderstood subject which, if managed properly, can not only prevent waste but also impact on production downtime.

With the discoveries in this area, it came as a surprise to learn that (in the period between 2016 and 2023) the oversight in this area has reduced dramatically and in as many as a third of businesses the MRO procurement and engineering stores is being all but ignored.

Procurement

Page 15-18

The questions you might find yourself asking after reading the chapter on procurement are: Is my procurement team too involved in the MRO spares procurement process? How much of our total procurement spend is it? How long do they spend doing it? Do they add any value?

Our survey found that the squirreling away of a private store of MRO products is a common practice, and it boils down to a lack of trust in the procurement team and the engineering stores team (and they might be a bit lazy when it comes to visiting the stores and doing the necessary administration).

The knock-on effect of this behaviour, as we see in the survey findings, is that write-off figures are inaccurate, obsolescence figures are misleading and that most controls and data have been rendered at best incomplete and at worst useless.



Performance

Page 19-22

When we looked at how the performance of the engineering stores was measured, we got a dozen different answers, and all were eminently sensible. From Work order completion rates to stock availability the responses were 'workmanlike'. The overall feeling is that there's not a great deal of innovation or 'value add' expected from the area. Flipping the question on its head we also asked our respondents how highly they would value technical expertise and supply chain insight from their engineering stores and the response was overwhelmingly positive.

For us at ERIKS this is all about potential – current measures, however valid, are only providing a twodimensional picture of what the MRO procurement and engineering stores function can provide and, our data would suggest, there's a wider need to think in three dimensions to better meet the needs of the business.



Business Impact

Page 23-26

If you have reached the end of this Executive Summary, you still might be thinking 'So what?' Why should I care enough to actually read this report or recommend it to others in my business? The 'So what?' is that everything in this report relates to downtime or to phrase it another way 'Lost production time' or another way 'Losing money for no reason'.

Our survey found that, despite its low prioritisation, issues relating to the MRO supply chain and the engineering stores function are the main cause of downtime. We also found that these elements should not be viewed in isolation and that by aligning your maintenance strategy with your MRO procurement and engineering stores operation you can gain real insight into the causes of downtime and help prevent it going forward.

There are, sadly, no magic wands that can be waved over the area, but looked at holistically, the engineering stores, MRO procurement and the maintenance strategy if aligned could have a dramatic effect on reducing downtime which in turn makes every manufacturing business more efficient and ultimately more profitable.



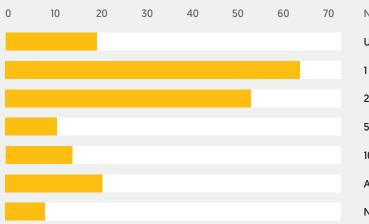
Chapter 1 People & Skills



A recent report* on the asset management and maintenance sector revealed that 53% of respondents said that they had problems recruiting experienced staff and it's a position that will be widely recognized in manufacturing businesses.

From our 2023 survey results it's clear that the majority of maintenance teams are small with 67% being in a team of less than 10 people and almost 90% are working in a team of less than 50 people.

FIG. 1: Number of people work in stores



Number of respondents
Unmanned
1
2-4
5-9
10+
All engineers involved
No specific stores



Small teams and limited budgets bring their own set of problems particularly around the time and budget available to learn skills or transfer knowledge. These problems are brought into even sharper focus when it comes to the engineering store's function. Our survey found that 70% of engineering stores have less than four members of staff and that 10% of businesses involved their engineers in the stores while 10% had no permanent staff at all! These factors are obviously weighing heavily on the collective mind of our survey respondents as while the majority rely on in-house teams to run their engineering stores, there is strong agreement on the factors that would lead them to consider outsourcing, as FIG 2 shows.

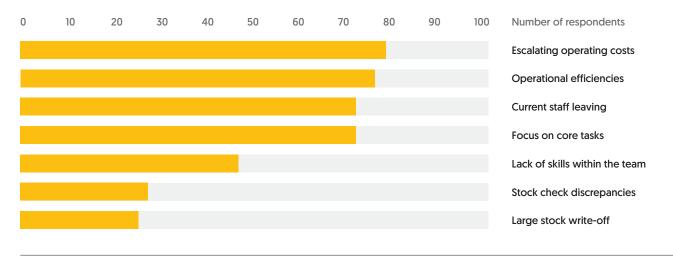


FIG. 2 : Key factors in outsourcing decisions

Cost control and operational efficiency are top of mind when it comes to the reasons for outsourcing the stores function and, as we will explore in later chapters in this report, there are many aspects of the stores, supply chain and procurement activities that can be improved through specialist outsourcing. However, with particular regard to people and skills the main concern of our respondents is that their current staff will leave or retire.

With experienced people difficult to find and especially within a small team, the departure of a team member leaves a disproportionate talent gap, and a great number of skills or knowledge is lost.

Approaching 70% of those surveyed highlighted that allowing their workforce to focus on key tasks is among the major motivating factors to outsource their engineering stores function. With engineering skills and experience difficult to come by it is more important than ever that engineers do not spend their time hunting for and buying spares. Interestingly, a lack of skills within a team also scores strongly as being a concern.

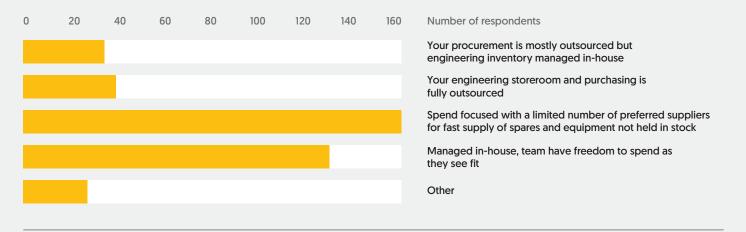
Focusing on core tasks and lack of skills are closely linked as in many instances those brought into working in the stores come from other parts of the business (particularly engineering) without any knowledge, skills or experience in supply chain management and MRO procurement.

This topic of 'what' the engineering stores team do is explored in Chapter 4 but technical knowledge and supply chain knowledge are skills that are highly prized in the engineering stores team but are, data suggests, not currently an area of strength in the sector.

Exploring outsourcing

Our survey showed that businesses of all sizes are currently exploring the idea of the outsourcing of their engineering stores and MRO procurement function and that currently outsourcing is used in around 20% of manufacturing companies. However, outsourcing comes in many different guises, and this was apparent in the responses to the question 'How is your engineering maintenance parts supply managed? As shown in FIG 3.

FIG. 3 : How is your engineering maintenance parts supply managed?



As can be seen in FIG 3 the use of outsourcing runs the full spectrum of options available. From those (about (20% of businesses) that are fully outsourcing their stores, supply chain and MRO procurement requirements to an external supplier to those that are completely managing the tasks themselves with an in-house team. However fully outsourcing is embraced by an organisation there are benefits to mitigate the concerns that were outlined in FIG 2 (cost control, operational efficiency, staff retention, skills).

Throughout this report we'll be focusing on them and sharing how our respondents are currently operating in those key areas.

References: *IFS Ultimo EAM Trend Report 2022



66 Approaching 70% of those surveyed highlighted that allowing their workforce to focus on key tasks is among the major motivating factors to outsource their engineering stores function.

RIKS

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Chapter 2 Financial Matters



As the 'Key Factors in Outsourcing Decisions graphic (FIG 2 Chapter 1) demonstrates the loss of skills and financial efficiency are the predominant motivating factors for people to outsource their engineering stores and MRO procurement and we'll look at the second of these in this chapter. Data from The Manufacturers' Health Check Report 2022 showed that in recent times businesses have stockpiled goods to mitigate delays and shortages.

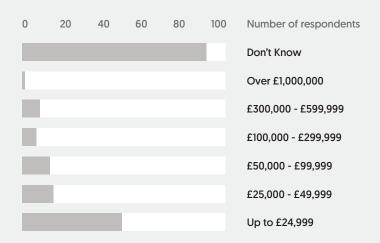
Overall, stock levels for UK manufacturers jumped by 99.7% from an average of £365,736 in Q3 2019 to £730, 681 in Q3 2022. Our survey supports these findings as in 2016 50.4% of respondents reported holding stock levels in excess of £250k whereas in 2023 this had risen to 67.2%.

Also, in 2023 20% of the respondents reported holding MRO stock in excess of £1 million and 7.5% said they were holding stock in excess of £5 million! These numbers are more worrying than they appear as they indicate that businesses are storing up cash flow and profitability problems for themselves through the natural reaction of 'stocking up' to negate supply chain uncertainty.

Stock write offs

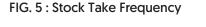
We asked those answering our survey to tell us what the value was of the engineering inventory written off in the last financial year. FIG 4 shows that 20% wrote off more than £25k and that on average the write off value was £75k per respondent.

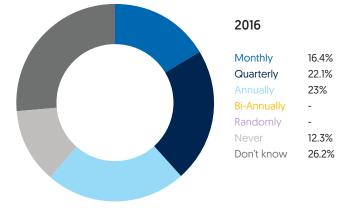
FIG. 4 : Value of engineering inventory written off





While the sums mentioned above seem relatively modest (aside from those businesses that revealed that they are writing off anything between £100,000 and £1 million) what does cause concern from the survey respondents is that more than 50% could not answer the question at all. If we propose the notion that well run stores provide financial control (relating to stock value) and in parallel support improved productivity due to asset availability, then our survey's findings are worrying. The revelations around annual stock write offs are explained if we compare the frequency of inventory checks (stock takes) from 2016 to 2023.





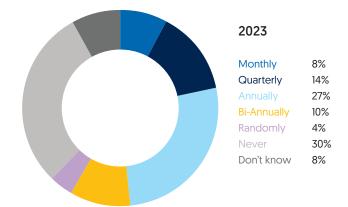
The stark conclusion is that, despite the increase in concern about their supply chains, businesses are failing to manage them in any meaningful way save that of stock piling goods which, as we know, impacts the business negatively due to its impact on cash flow and eventually the bottom line.

As we can see in FIG 5, the frequency of regular inventory checks is down dramatically in the period between 2016 and 2023 and the number of businesses that do no checks at all represents nearly one third of those surveyed. The subject of engineering stores and MRO procurement and their management has slipped further down the agenda than ever before in a period when arguably it has never been more important.

The crucial question is why is the write-off value of engineering spares and the frequency and accuracy of the stock in the engineering stores not more closely scrutinised? While every business has its own individual rationale on this topic it does show an area of potential improvement across a large swathe of the sector.

Obsolescence

A topic which runs throughout the analysis of the supply chain and the engineering store's function is obsolescence, and it is a nuanced one.



Obsolescence is often singularly considered only in the context of the availability of spares for old assets, but it can be a specific problem caused by upgrades to equipment or a facility. Both have a significant impact on operational efficiency, the latter from the cost of writing off stock and the former from an availability and uptime point of view.

Often obsolescence caused by a facility being upgraded can be traced to a lack of communication between the engineering team and those in the engineering stores. Improvement projects are underway constantly at most manufacturers as part of their continuous improvement processes, but this can cause supply chain issues in a number of ways.

Firstly, especially in the current climate when stockpiling seems to be the norm, a large number of spares will have been purchased for equipment that may be due to be upgraded or replaced – this can lead to write offs due to obsolescence. Secondly, the MRO spares required to maintain a newly installed piece of equipment may not have been factored into the engineering stores budget nor arrangements made with suppliers to deliver these on the required basis – leading to, at the very least, excess carriage charges due to short lead times and at worst production downtime. In terms of how our respondents monitor and therefore manage obsolescence in their stores it's something of a mixed picture – a split between good and bad practice. As we can see one third of survey respondents had no processes in place for managing obsolescence at all while the other two thirds were either looking at the problem specifically or, one would assume, managing the problem through their computerised inventory management system.

FIG. 6 : Managing obsolescence

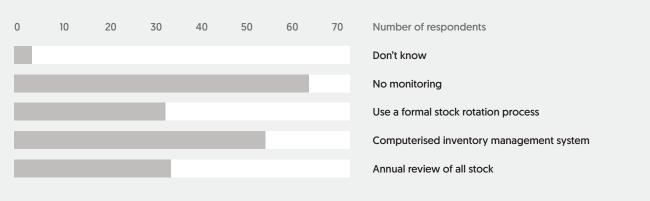


FIG. 7 : Engineering stores management tools



2016

Bespoke software	30.3%
Maintenance	
module	25.4%
Free software	0.8%
Manual system	16.4%
No formal system	13.9%

Bespoke software17%Maintenancemodule28%Free software5%Manual system28%No formal system22%

2023

With the revelation around the problem of obsolescence it's worth looking a little wider into the engineering stores function and we asked our survey candidates to tell us how they were managing their engineering stores function (not just the issue of obsolescence). Again, the picture was a mixed one.

As we can see from FIG 7 the respondents were split 50:50 between those using software and those that are still using spreadsheets or paper or nothing at all to manage their stores! Once again, the sector seems to have regressed in the sophistication of its approach to its engineering stores when we compare 2016 data to 2023.

Once again, we are left asking the question why? If we only consider manufacturing and think how much that sector has changed since 2016 (with the relentless march towards automation, digital transformation and now AI), it seems staggering that a crucial area of the business is being ignored and that new operating practices and new technologies are not being used or considered.



66 Obsolescence is often singularly considered only in the context of the availability of spares for old assets, but it can be a specific problem caused by upgrades to equipment or a facility. **99**

Chapter 3 Procurement



A recent report into rogue spending published by *The Manufacturer* identified that production consumables accounted for 30% of rogue spending, components for 28% and unplanned transportation costs for another 30% - that's nearly 90% of rogue spending that is either directly aligned or closely aligned to MRO (Maintenance, Repair and Operations) spending. Furthermore, when looking at the reasons for this rogue spending 47% of it was attributed to a lack of understanding of the process. As part of this survey, we wanted to explore and understand exactly who is responsible for what activities relating to the purchase of engineering maintenance spares. FIG 8 shows who of the engineering/ maintenance team; the operations team; the purchasing team and the engineering stores team is responsible for which activity.

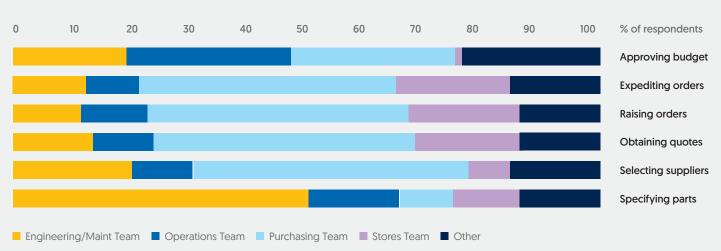


FIG. 8 : Responsibility



There's a lot to unpack here. As can be seen from the preponderance of light blue in FIG 8 the purchasing team is highly involved in all aspects save for the specification of parts (which is understandable). The engineering team is, in many cases, still involved in all areas of the purchasing process and we at ERIKS would view this as an opportunity to involve the stores team (providing they have the expertise) more fully and to release engineering resource to maintain production.

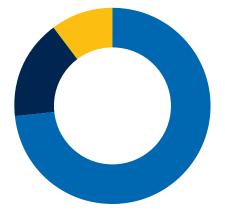
Supporting procurement

For the 2023 survey we have gone deeper into this topic than in the 2016 report and so there is no exact like for like comparison, but the overall conclusion is that the involvement of procurement professionals seems to have increased while those working in the stores has decreased. This trend is surprising given that, anecdotally, MRO spend represents such a small part of a purchasing professional's activity that their experience and knowledge is minimal (which does not support good decision making around continuity of supply and price control).

There's an opportunity here for businesses to involve the engineering stores personnel more fully in the process so as not to not draw engineers away from their key tasks and to fill the knowledge gap that the majority of procurement teams have around the sourcing of MRO spares.

It's important to note here that we are focused here on the purchasing of stock items – those that the business would consider core parts and consumables and not exceptional items, part of the MRO long tail of spares that are required in response to a particular set of circumstances that may have arisen. This is the meat and potatoes activity.

FIG. 9 : MRO Spending Guardrails

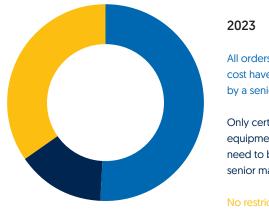


2016

All orders over a specified cost have to be signed off by a senior manager 73%

Only certain types of equipment and stock need to be signed off by a senior manager 16.4%

No restrictions 10.7%



All orders over a specified cost have to be signed off by a senior manager 50.8%

Only certain types of equipment and stock need to be signed off by a senior manager 14.5%

No restrictions 34.5%

So, what discernible strategy do most businesses have when it comes to the purchasing of MRO spares? From our respondent's data we can see that there are certainly some rules in place, and we compared how the guard rails around purchasing compared in 2023 to our 2016 data.

These numbers indicate that purchasing strategy and discipline have veered wildly out of control in the post-Brexit, post-COVID environment. The 'pile it high'

mentality which has pervaded as a result of the supply chain issues that macro events have created has not been reversed in the face of the pressure to maintain production – at any cost seemingly.

While authority to spend is one aspect of purchasing another question is: how do businesses monitor that stock is being ordered at the most competitive price? We compared our data from 2016 with that from the most recent 2023 information.

FIG. 10 : Competitive pricing guardrails



2016

All engineers/storeroom managers are encouraged to source competitively 26.8%

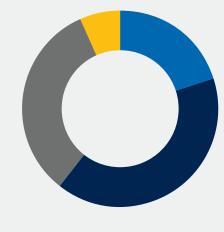
Multiple quotes are required for orders over a certain threshold 35.8%

Centrally controlled ordering process 41.5%

No monitoring (don't know) 9.8%

Between the information in FIG 9 and FIG 10 there seems to be a mixed picture occurring. While FIG 9 indicates that MRO spares purchasing has become something of an unregulated, unmonitored 'free for all' FIG 10 counters that by showing that, of those purchasing MRO spares (irrespective of which team they sit within) then the need to compare quotes from different suppliers at least points to a desire within some businesses to purchase efficiently and effectively.

The feeling is that those businesses that have purchasing authority and spending controls are also the ones that are monitoring how competitive their purchasing is. The disparity between good practice and poor practice is stark.



2023

All engineers/storeroom managers are encouraged to source competitively 20.2%

Multiple quotes are required for orders over a certain threshold 40.4%

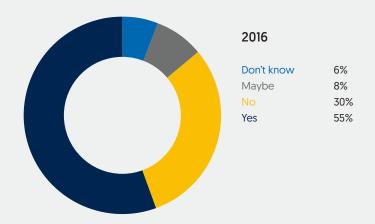
Centrally controlled ordering process 32.7%

No monitoring (don't know) 6.55%

Lastly, one corroborating piece of information, that supports the impression that purchasing discipline around replacement parts for stock is in a poor state, is the fact that when asked if their engineering team kept their own spares in a more convenient location than the official stores (FIG 11a) 55% of survey respondents admitted to having their own secret stash or 'squirrel stores'.

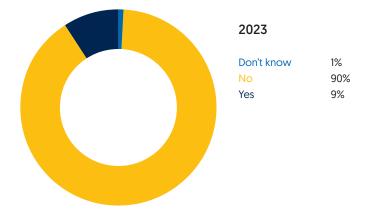
The cute terminology should not deflect attention from the fact that the presence of 'squirrel stores' fundamentally means that the system is broken and that all data around inventory levels, write-offs or obsolescence is meaningless.

FIG. 11a : Prevalence of unofficial stores



The high number of unofficical or 'squirrel stores' is of great concern but also points to a number of simple solutions. There is, of course, a human nature aspect to this in that people will always look for ways to make their lives easier. On a large site a trip to the engineering stores might require a long walk or even a cycle and therefore it's 'easier' to have a little stash of what you need placed locally. The answer to this perhaps lies in a greater use of vending for this purpose but it's a solution which our survey respondents seem not to be adopting.





As we can see in FIG 11b just 10% of people surveyed are using vending for the spares and this would therefore seem to present a good opportunity to empower the engineering stores team to do more than unpack boxes.

Squirrel stores and the poor state of discipline around the purchasing of spares for stock begs the question: are the stores team trusted? By bringing some supply chain knowledge and technical skills into the storeroom it's possible to release an enormous amount of resource and to create a self-contained powerhouse to drive the facility forward. Our survey tells us that there is, sadly, little evidence of this type of behaviour currently taking place.

References: *Rogue spending in manufacturing 2023

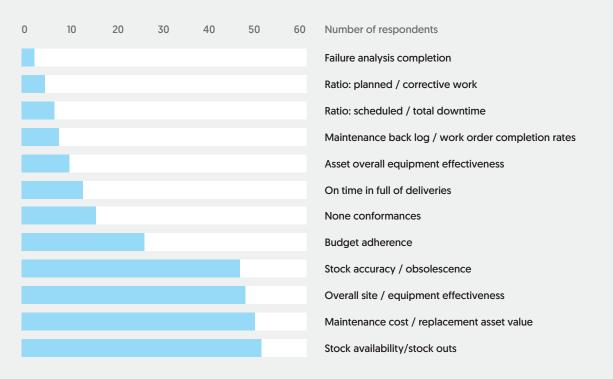
66 While authority to spend is one aspect of purchasing another question is: how do businesses monitor that stock is being ordered at the most competitive price? **99**

Chapter 4 Performance



Operating costs are always a major concern to businesses of any type, but they are particularly keenly monitored in manufacturing businesses where, even when budgets are being cut, asset availability is expected to increase. With such pressure we asked our survey respondents how they measured the performance of their store's operation. FIG 12 shows the answers.

FIG. 12 : How to measure performance of the engineering stores?



But, while measurements to monitor overall performance are in place, we also asked our survey respondents about the time it takes them to get what they need. We compared the data from 2016 and 2023 in terms of how long it takes them to locate a part (which they have in store). In 2016 63.6% of respondents were getting what they wanted in under 30 minutes and this pattern is replicated in 2023 when the timing increments were made even narrower.

FIG. 13 : Time taken for an engineer to find and book out a part in the engineering stores?

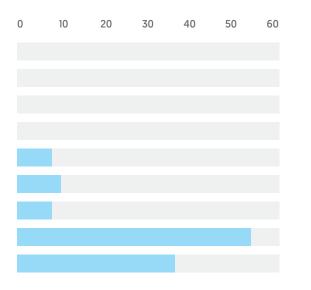
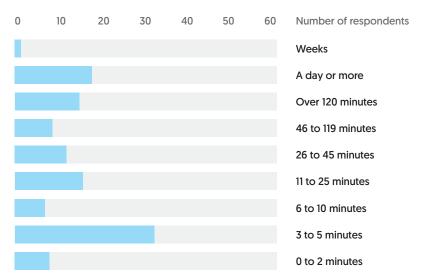


FIG. 14 : Time taken to source and order a spare NOT stocked in your engineering stores



As can be seen from FIG 13, finding and booking out a part is for the most part a less than five-minute job, which indicates that the majority of engineering storerooms are at least partly organised. But the picture changes dramatically when an engineer wants to source and order a spare that is NOT stocked in the engineering stores.

From the additional interviews conducted in relation to the survey it seems there are two major bottlenecks in the process of sourcing and ordering a spare part not kept in the stores as a matter of routine. Firstly, the time taken to get a quote from a supplier and secondly the involvement of purchasing personnel adds to the delay in terms of getting the price back to the engineer for them to make a decision.

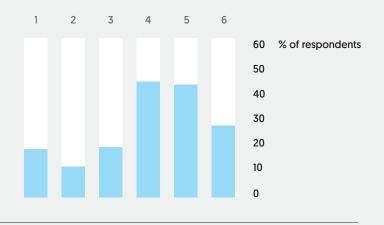
Understanding the significance of the difference between FIGS 13 and 14 is crucial as FIG 14 relates to the 'showstoppers' - critical pieces of equipment that can bring production to a halt. FIG 14 is about the 'long tail' of MRO spares that are not regularly used items. If it takes more than a day to source and order a critical spare part, then production is most likely to be impacted as these timings do not include the shipping, delivery and fitting of the item. If, as the graphic shows, it takes more than a day to source and order an item then downtime will stretch into days and not hours.

The how and what

With the overall theme of this report encouraging businesses to look more closely at their engineering stores and their MRO procurement to improve 'how' they do things, it's also an opportunity to analyse 'what' they do. While a dozen types of measurement were listed as to how businesses currently measure their stores none of these mentioned 'technical knowledge' or 'supply chain knowledge', despite the fact that, as FIGS 15 and 16 show, these factors are deemed to be highly important by those surveyed.

When asked to score from 1 to 6 how important it was for engineering stores team to be able to add technical value to the engineering/ maintenance teams (for example should they be able to suggest product alternatives or upgrades) a vast majority responded that it was important. The average score was 4.02. In an outsourced environment it's possible for the engineering stores team to be able to provide root cause analysis information and advise their engineering and maintenance 'customers' about potential solutions. In an engineering resource constrained world this additional technical knowledge can assist immeasurably when it comes to solving a recurring problem or procuring parts from a new supplier to perform better.

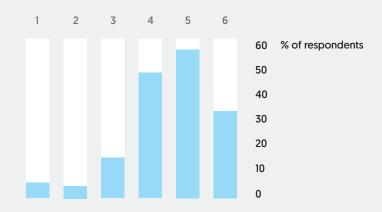
FIG. 15 : Importance of product technical know-how



Similarly, when looking at the subject of the supply chain we asked respondents to score from 1 to 6 how important it was for stores teams to be able to add commercial value to the sourcing of parts for engineering and maintenance teams (for example to suggest alternative suppliers, channels or delivery times) then the response was even more positive with an average score of 4.52 out of 6.

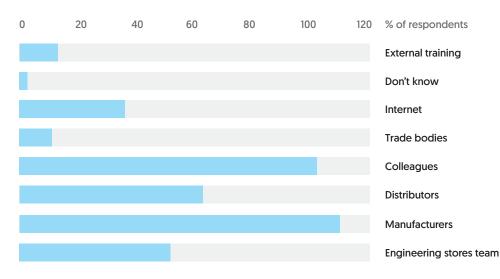
The expectation for the stores team to be able to provide technical and supply chain knowledge to the engineering team is not something that many businesses have formalised and certainly they are not measuring it in any way, but it's obviously viewed by those accessing the stores as highly important. This data indicates that there is an opportunity to improve efficiency and productivity by having this knowledge within your engineering stores team and to begin to measure it in some way. Currently it is an organic 'value add' entirely dependent on the individual employee. Using the engineering stores team as a knowledge hub is clearly something that only the minority of our respondents do currently.

FIG. 16 : Importance of supply chain know-how



When asked 'Who do the engineering team turn to for advice to overcome a technical problem, to find out about a new innovation or to discuss a new way of approaching something?' relatively few mentioned the engineering stores team as FIG 17 shows.

FIG. 17 : Sources for technical advice



Again, there's an opportunity here for the engineering stores function to add value to the teams that they service. If the stores are run by ERIKS as part of their OnSite solution or serviced through ERIKS then the advice comes from a neutral source, that is able to compare equipment from different vendors with great insight into the supply chain regarding confidence in delivery times etc.

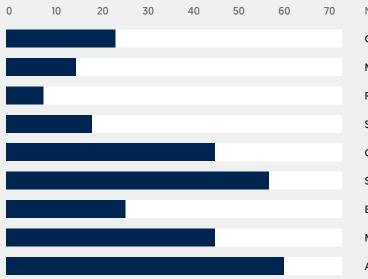
> **66** Operating costs are always a major concern to businesses of any type, but they are particularly keenly monitored in manufacturing businesses where, even when budgets are being cut, asset availability is expected to increase. **99**

Chapter 5 Business Impact



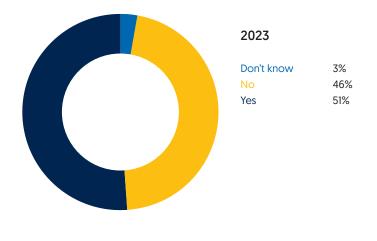
At its best streamlining the operation of the engineering stores function and the procurement of MRO spares can assist world class manufacturing sites to run even more efficiently, optimising engineering, stock and cash flow, procurement timings etc. But what is the effect of regarding these aspects of a business as an 'outlier' or a 'necessary evil'? The answer, quite simply, is downtime. We asked our respondents, 'What are the main causes of unscheduled down time at your facility?' FIG 18 shows their answers and most directly correlate with activity that takes place as part of the engineering stores, the supply chain and the MRO procurement function.

FIG. 18 : Main causes of unscheduled plant downtime



Number of respondents
Obsolescence
Maintenance induced failure
Reduced operational budget
Skills shortage
Operator error
Spare part availability
Electrical failure
Mechanical failure
Ageing assets

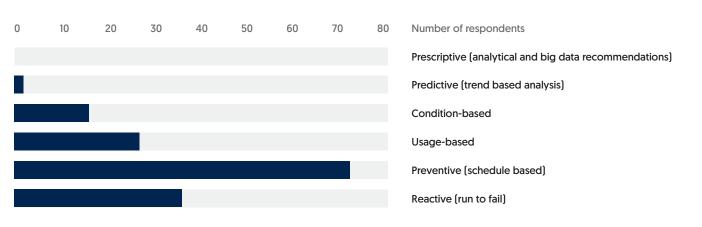
FIG. 19 : Downtime due to spares availability



Even more blunt was the message that came back through the data in answer to the simple question 'Have you experienced down time in the last year due to spares availability?'. As you can see from FIG 19 a worrying 51% answered 'Yes' and responses in FIG 18 showed lead time was the number one concern our respondents raised when asked.

Getting behind these numbers there's a direct correlation between the maintenance strategies of those we surveyed and the incidence of downtime. We asked our respondents to tell us which maintenance strategy they mostly use, and the responses are shown in FIG 20.

FIG. 20 : What maintenance strategy do you mostly use?



The big question when analysing FIG 20 is how can the supply chain react in time to prevent downtime when Preventive or Reactive strategies are used? When businesses are using Predictive, condition or usage based strategies there's a lot more insight into the process and therefore the procurement process can be undertaken without the cost and efficiency pressures that downtime brings. There is some mitigating information however as to the surprisingly high number of businesses that are seemingly taking a chance on maintaining their production (but if we remember the downtime number it's clear that even this mitigation must be looked on as not really solving the problem).

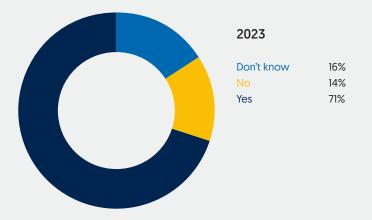


FIG. 21 : Maintenance strategy based on equipment criticality

FIG 21 Shows the number of businesses that select their maintenance strategy based on the criticality of equipment.

As we can see a healthy 71% were taking calculated decisions about the types of maintenance strategy to be used on a certain type of equipment. The condition monitoring of critical equipment and communication between the engineering and maintenance team and the stores and procurement function allows the right information to be available in advance to have the right spares at the right time.

There are savings to be made by having the correct stock profile and with the tumbling cost of using IOT technology to remotely and automatically monitor the condition of critical machinery the incidence of downtime can be reduced dramatically. Here at ERIKS we have always maintained that the supply chain, MRO procurement and the engineering stores function is an area of business to optimise and that this optimisation can be achieved through a variety of solutions including the full outsourcing of the function, as is done by many household name manufacturers in the UK.

As we have identified in this report, the opportunity to strengthen the overall profitability and resilience of manufacturing businesses through the improvement of the engineering stores function, MRO procurement and the supply chain is a real one.

If you'd like to discuss any of the topics raised in this report, then please visit https://eriks.co.uk/en/ onsite

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