

➤ Is the management of spare parts the last hidden cost in the FM supply chain?

**A ByBox white paper.**



# Contents

<b>Section 1</b>	
Introduction	4
<b>Section 2</b>	
The current approach to management spares	6
<b>Section 3</b>	
The challenge involving spare parts in FM	10
<b>Section 4</b>	
The future of spare parts management in FM	16
<b>Section 5</b>	
Lessons learned from the smart meter sector	18



# Introduction

Facilities management (FM) service providers process millions of work orders a year for their customers. From a simple washer, battery, lamp or air filter through to a more complex expansion valve or new pump; thousands of spare parts are needed at any one time to resolve a multitude of different issues. This ensures buildings are kept up and running and service providers meet their SLAs. ByBox's research of the UK's top FM service providers and consultants shows that spare parts management is an area of unnecessary, hidden cost and hassle for most FM firms.

There is no standardised way of getting spare parts to engineers and most FM firms use a variety of different distribution methods depending on the site, the spare, the location and the client. As a result, engineers spend more time looking for spare parts rather than fixing the site's failure; causing penalties due

to missed SLAs. With the UK FM market worth > £120bn<sup>1</sup>, this is a significant problem. And one that many procurement departments within FM service providers report is too tough to tackle.

At a time when margins are under extreme pressure, how do FM service providers reduce the cost of managing spare parts, while also improving performance and boosting productivity?

In this white paper, ByBox shares insights from leading FM companies about their approach to spare parts management, discusses some of the challenges involved and offers solutions to removing these hidden costs.

<sup>1</sup> Figure regularly quoted by the Institute of Workplace and Facilities Management



## Section



# The current approach to managing spares

## Responsibility for critical spares and spare parts management

For such an important part of an FM business, responsibility for the procurement and management of spares is extremely decentralised. It typically sits with the contract or site manager, with involvement from central procurement functions only in some cases. These supply chain and procurement experts recognise that the purchasing of M&E spares is a specialist area.

And because of this complexity, it is managed quite differently from other spend, such as office consumables which the centralised procurement teams manage.

The M&E teams buying and distributing spare parts have therefore tended to adopt practices that wouldn't be acceptable in other parts of the business. And because it's so specialist many procurement experts have been reluctant to tackle the area. Because of this decentralised site-based model, there is sometimes a disconnect between the objectives of the procurement function (streamlining suppliers, reducing administration and ensuring best value) and the engineers on the ground, fixing the problem to meet the SLA.

And despite the raft of options for third parties to manage this critical area of spend – as they do in other sectors – most FM firms manage the distribution of spares in-house with little support from specialists.

***“I’ve never seen a more unprofessional area when it comes to procurement than engineering. They’re a law unto themselves!”***

Procurement manager

## Distribution of spare parts to site

There are almost as many ways to get spare parts from A to B as there are parts themselves. The following are the most popular options for the top service providers:

- ◆ An engineer picks up the spare from the wholesaler using a purchasing card, credit card, PO or an account to pay. They might do this on the way to site having understood the problem over the phone or through using sophisticated remote monitoring equipment. Or they may travel to site, diagnose the issue and then drive to the wholesalers
- ◆ Wholesalers/ suppliers deliver parts to site, either as an emergency purchase for a critical spare or as part of regular restocking
- ◆ Client organisations hold critical spares and regularly-used consumables on sites, sometimes in a spares store run by the client or service provider
- ◆ Some wholesalers have agreements in place to store limited stock of critical spares for when they are required. In return the service provider guarantees to buy from that supplier
- ◆ Most mobile engineers will hold a stock of consumables in their van, but the contents will differ from van-to-van
- ◆ Overnight couriers are used occasionally, as are taxis and motorbikes when a part is needed urgently

Which method is adopted depends on the site, the spare, the criticality, the location, the client and the individual preference of the engineer or site/ contract manager. In big cities engineers are more likely to drive to the wholesaler, whereas outside of big cities, suppliers tend to deliver more. Inner-city clients are less likely to have the space to store spares compared to out-of-town sites. There are also various regulations around the movement of some spare parts (e.g. fuel and certain chemicals) which means that suppliers will typically deliver these items.

***“It’s a nightmare having parts delivered to sites where there isn’t a permanent engineer. I’ve lost count of the times that stuff has gone missing”***

FM service provider

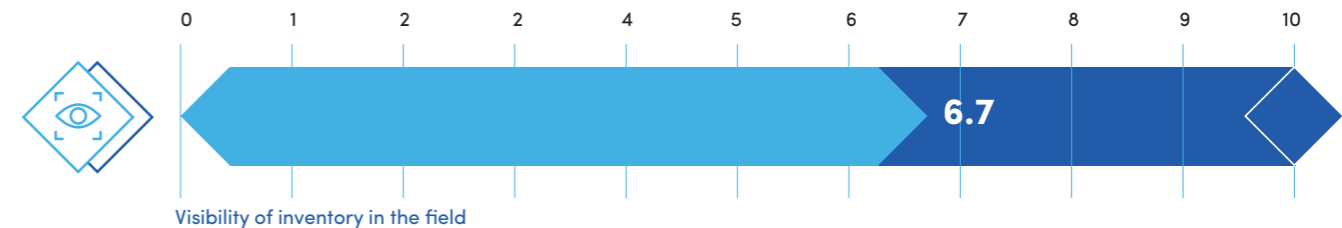


Managing stock levels

Just as the procurement and distribution of spares is managed on a site-by-site, part-by-part basis, the management of stock levels is very much a local affair. While all FM firms have a CAFM system which has the functionality to manage inventory at site, client, regional and national level, many opt to use a site-by-site method to record this data. This varies from a physical checklist to a spreadsheet. And this data is not regularly being recorded back onto the CAFM system. This approach led to FM firms awarding a satisfaction level of 6.7/10 for the visibility of inventory in the field.

*“I have no visibility of how stock levels are managed. It’s not through regular channels, that I know! I wouldn’t be surprised if it was on the back of an envelope”*

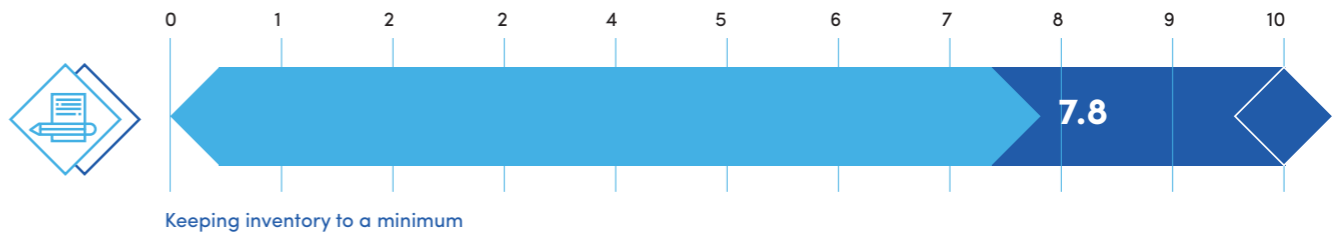
Supply chain expert



One thing that most FM firms have in common is their desire to keep stock levels as low as possible. FM service providers generally run a tight ship, operating a just-in-time procurement of spares where possible because they don’t want to tie up much-needed cash in spares sitting in a store. Client organisations are similarly reluctant to tie up capital in M&E assets. But anecdotally, FM report engineers having well-stocked vans and some site stores being similarly well replenished. This room for improvement saw FM firms give themselves an average of 7.8/10 when asked for their satisfaction in their ability to keep inventory to a minimum.

*“We keep levels as low as possible. Who wants to spend money on stock which is just going to sit on a shelf and tie up cash?”*

FM provider





Section

# The challenges involving spare parts in FM

Overall, there is an understanding that the management and distribution of critical spares needs improving across the board. These challenges fall into four main areas: engineering, distribution, procurement and inventory management.

## Engineering

The key cause for concern is the management and distribution of spares as well as inefficient use of engineers' time. At a time when hard service roles are facing a critical skills shortage and qualified engineers are in short supply, paying engineers to drive to and from wholesalers to collect spare parts is nonsensical. And yet, most FM providers acknowledge that their engineering team spends large parts of their time away from site acting as couriers.

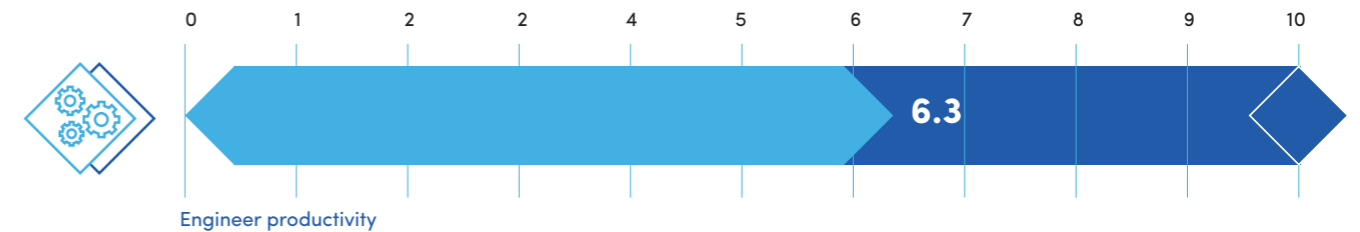
This problem is compounded by regular payment issues when the engineers get to a wholesaler – typically when the supplier has put the

company on 'stop' – meaning that they may have to visit several suppliers before they can purchase a part.

The engineer can be stuck between the client and their own employer's procurement and finance team.

This is demotivating and frustrating for the engineer leading to potential recruitment and retention problems for the service provider. And it can lead to maverick purchasing by engineers which causes the supply chain further issues.

This issue led FM providers to give an average satisfaction rating for engineer productivity of 6.3/10, the lowest score in the research.



***“We keep levels as low as possible. Who wants to spend money on stock which is just going to sit on a shelf and tie up cash?”***

FM provider

***“My mission is getting engineers more and more productive. We’re good at that through vehicle tracking and tablet technology but it’s not ideal that they go to the wholesalers. It would be great if wholesalers could provide parts directly to us.”***

FM provider

***“Engineers are paid to maintain sites and fix failures, not source spare parts. That should be left down to procurement; making the engineer more efficient”***

Supply chain specialist

Critical spares is a widely used term within the FM sector but, perhaps naturally, it differs in its meaning from site-to-site. What’s critical to one organisation is dispensable in another. The criticality depends on the occupants of the building. In a care home, the heating would be critical. In a data centre, it would be power. In retail, lighting is critical (in addition to power and heating). This diversity means that there is no fixed critical spares list and it’s down to the individual engineer and client to work together to create one. This individualisation only serves to fragment an already destandardised process.

### Distribution

FM firms recognise that they could be more efficient in the way spare parts are distributed to site. There are simply too many variables depending on the part, the criticality, the client, the engineer and the location.

Not having a standardised process for all parts

causes unnecessary administrative headaches and delays in engineers receiving the necessary parts. It also costs more money. Using Uber or a motorbike courier in an emergency situation is less cost effective than a more standardised approach.

Customer satisfaction is always put above profit, FM firms will go out of their way to get a spare part to site to keep the client happy; even when it erodes

their profit margin. This led to FM providers giving an average 6.4/10 satisfaction level for the cost effectiveness of their spare parts operation. Interestingly most service providers don't even measure the cost-effectiveness of their spare parts operation, it's not on their radar – although they understand that expensive engineers being used as couriers to collect parts is not ideal when they'd be more effectively used on site.

A further challenge is getting specialist parts from outside of the UK, particularly from Europe in the summer months when some factories close for the holidays. There are concerns within the FM sector that Brexit will have an adverse effect on an already problematic issue.

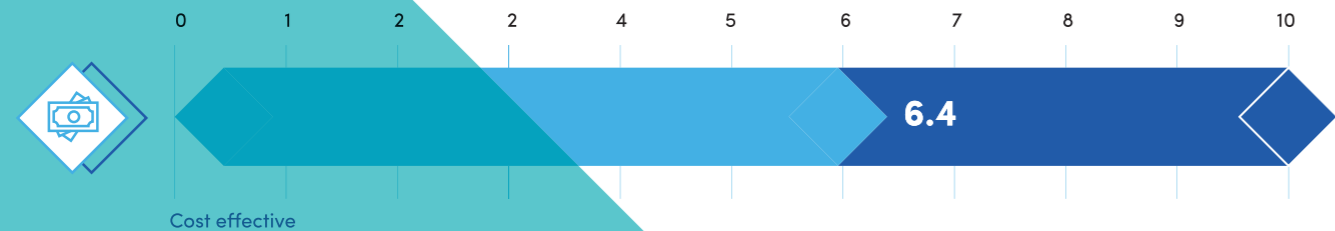
Distribution is a particularly challenging area for smaller sites where there isn't a resident team of engineers to sign or receive delivery of spare parts. A supplier might deliver a part to the client site and it goes missing. This can result in FM firms paying for the same part twice, or missing their SLA, therefore eroding their profit margin. Our research also found that theft of parts was also an issue.

***"We've used Uber to get a part across London. Anything to get the job done."***

FM provider

***"Our biggest challenge sounds simple. Getting the right spare to the right engineer in time for them to fix the problem before any penalties are incurred."***

FM provider



***"You can always find things cheaper, that's not going to save significant money. It's when you're paying £30-40 an hour for an engineer and he's spending two hours in Screwfix picking up parts. That's where the money saving is."***

FM provider

## Procurement

If the management of spare parts is a headache for the ops team on the ground, it's a serious migraine for procurement teams back at head office; who are used to much more stringent and standardised procurement processes. Procurement leads at FM firms acknowledge that there's often a clash between the supply chain and operations teams.

The complex structure of M&E parts purchasing is one issue. FM firms will purchase parts from regular suppliers, such as Screwfix, Travis Perkins and B&Q, but also the original equipment manufacturers (OEMs) and other smaller, local or

specialist suppliers which make the supply chain difficult to negotiate with and manage. Also there is often thousands of suppliers – from the major chains mentioned to small 'one-man-bands' – reducing their ability to negotiate on areas such as price and delivery time-scales as well as causing overcomplicated administration.

FM procurement experts complain that field teams don't appreciate the cost of raising a purchase order. One service provider estimated this at £75 a PO from the life-cycle of raising a PO to getting the invoice paid. As FM firms buy numerous low-value M&E consumables, if they are purchased from lots of different suppliers, then it can easily cost more to process the purchase of the part than the part did itself. But the engineer just sees the cost of the product, and considers they can get it for cheaper elsewhere, not appreciating the processing cost.

At the same time, there is pressure to maintain a network of suppliers to ensure there's no single point of failure if a wholesaler runs out of a particular part – or goes bust.

Single sourcing remains a major problem within M&E spares, particularly critical spares. While any wholesaler will stock the right type of filter, lamp or battery, some critical parts are only available from one specific source which can be a major risk, particularly if it's a small business or based overseas. This has caused some notable failures in FM firms' operations including obsolescence in critical assets where the critical spare was no longer available.

***"There is often a clash between what we do in the supply chain team and what engineers want on the ground."***

Supply chain expert

***"I want to see centralisation of M&E spare parts procurement. It should be the centralised team's responsibility to deal with stock and distribution of stock rather than the engineer. Let the engineers fix things rather than order things."***

Supply chain expert

## Inventory

FMs are strict when it comes to maintaining inventory. They operate just-in-time procurement where possible to avoid tying up much-needed FM cash in spares sitting in a store. There is enormous frustration that the organisations with the critical assets – and the risk if things go wrong – are reluctant to invest in storing spares on or near site. This is particularly the case in inner-city locations where real estate is at a premium, and in new builds where engineering storage space is an afterthought. No organisation wants to use expensive lettable space to store M&E spares, however critical.

Where FM service providers do source client-specific spares themselves, there's the risk that if the client ends the contract, they could lose that investment, which can be a significant loss.

Human error is a major bone of contention in managing inventory. Engineers are notorious for removing a part and failing to record it. Thanks to the huge number of models and parts available, there's also the problem of people ordering the wrong part which is then a hassle to return.

FM is a fast-moving sector and there is a constant drive to develop new technology to solve problems, which has led to numerous new products and suppliers entering the market. This changing technology results in quick-changing spare parts. The lighting industry, for example, is moving from incandescent lamps to CFLs and LED resulting in obsolete spare parts. This churn in spares makes service providers even more reluctant to maintain stock levels.

The move from planned preventative maintenance to condition-based maintenance has also made managing an inventory more challenging. Under the PPM model, the engineer would generally know when he would need a standard spare. Under CBM, many assets are run until failure and the patterns of spares usage is more varied.

# 4

Section

## The future of spare parts management in FM

With such deeply engrained behaviours and challenges, how can the FM sector improve the way it manages spare parts and reap the benefits of more productive engineers, a more efficient supply chain and lower costs? The FM firms ByBox spoke to for this report had five key recommendations:

### 1 More standardisation of assets and parts within buildings

Both procurement and operational people we spoke to in some of the leading FM providers argued that there are simply too many different types of possible spares. This is largely because there are too many different types of assets from too many different manufacturers. A level of standardisation across buildings where feasible would reduce costs significantly and ensure greater supply chain certainty.

In a similar vein, there were also calls for architects, specifiers and construction firms to stop installing systems manufactured / maintained by 'one-man band' organisations where any spares come from a single source supplier. This single point-of-failure should be unacceptable.

### 2 Store critical spares near sites

A major bugbear from the supply side is many clients' refusal to make space for critical spares in their own facility so that any downtime is reduced to minimal levels. That's despite the fact that an asset failing could cost the client millions of pounds a minute and considerable reputational damage. This is also linked to clients who come from a non-technical background having a better understanding of the

impact of technical failure, and both clients and their service partners having a better understanding of what's a critical spare for that organisation.

Educating clients is one solution, but there is no guarantee the client will be receptive. Furthermore, staff turnover on the client side makes this a time-consuming and ultimately unsustainable option. A better solution is to have stock available pre-8am en-route or close to site to provide engineer efficiency gains.

### 3 Centralisation of procurement

Procurement teams within FM services providers generally have little to do with the purchasing of M&E spares. But that needs to change. Allowing central procurement to take on the purchasing and distribution of spares would allow them to negotiate contracts on a national level and benefit from significant economies of scale. It would free up engineers' time to spend on site solving problems, rather than in wholesalers, and allow FM firms to get better at meeting tough SLAs.

### 4 Greater reliability and pro-activity from the supply chain

FM providers are frustrated by the fragmented spares supply chain. They want more certainty that parts can be sourced from one location before the working day starts. They also want to reduce the times that engineers and management have to collect parts. This will reduce the incidence of the engineer being caught between the finance and procurement teams, rationalise the supply chain and professionalise the management of spares.

### 5 Better use of CAFM systems

FMs want to see better inventory management at site and company level. When an engineer uses a part, this should automatically inform the CAFM system at a local and company level and the appropriate action (re-ordering etc) take place. The CAFM system should cover not just the parts on site but also the engineers' vans and reserved in wholesalers. The current manual system doesn't work and is leading to duplication and overstocking.

CAFM Systems could offer further productivity gains through data analysis once visibility is established. With data collected of what parts are needed and when, forecasting breaks and predictive maintenance can start to eliminate the need for urgent fixes.



## Section

# Lessons learned from the smart meter sector

*The aim is to replace traditional meters with systems which can record energy consumption in real-time and communicate with energy suppliers and network companies enabling a future smart energy system*

**The FM sector is not alone in managing thousands of spare parts across hundreds of sites. The smart meter sector faces similar challenges.**

In 2010, the Government changed energy suppliers' licence conditions requiring them to roll-out smart meters to every home and business by the end of 2020. The aim is to replace traditional meters with systems which can record energy consumption in real-time and communicate with energy suppliers and network companies enabling a future smart energy system. This involves replacing 53 million residential and non-domestic gas and electricity meters in Great Britain, in a process led by energy suppliers. Currently energy suppliers are installing 9.7 meters every minute<sup>1</sup> and believe that they are on track to replace 75% of meters by smart meters by the deadline.

With such a significant programme, energy suppliers looked for new ways of streamlining systems and processes and making the roll-out more efficient. Several of the big six suppliers shone a light on spare parts and inventory management as a key area which needed improving. By looking at the way spare parts are managed and distributed to engineers, they discovered they were dealing with a fragmented supply chain, mis-allocation of parts to engineers, long engineer waiting times and high mileage. Companies were incurring penalties as a result of missed deadlines and there was over-ordering of stock and overall a complicated processes and system architecture. All a rather similar picture to the FM world!

Several of the big energy companies worked with ByBox to improve their speedy and effective roll-out of smart metering. This included ByBox liaising directly with suppliers and distributing parts to one of ByBox's 1,500 locker banks through-the-night, ready for the engineer to collect. Lockers solved the problem of marrying part and engineer. But the stock is also distributed and tracked using ThinInventory™ so customers can see where stock is at all times – en route, in the locker, or with the engineer. And if a part turns out to be faulty, the returns can be completed at the locker with the part being sent to where it needs to be.

## The results were immediate:

- ◆ Decreased spend on consumables by 75%
- ◆ Reduced STEM mileage
- ◆ Increased installs per engineer
- ◆ Improved engineer satisfaction
- ◆ Streamlined parts allocation to engineers
- ◆ End-to-end visibility of parts via use of full serial numbers
- ◆ Better forecasting and demand management
- ◆ Efficient handling of returned meters and waste
- ◆ Seamless integration into system architecture
- ◆ Lower operational costs

## Research methodology

In March 2019, Magenta Associates conducted telephone interviews with individuals involved in the management and distribution of spare parts in the FM sector. These ranged from fast-growing mechanical and electrical (M&E) specialists to full-service FM providers and FM consultancies which advise around this area. Magenta spoke to both operational FMs with responsibility for this area and also procurement specialists. The smallest firm employed just 40 field service engineers while the largest employed more than 6,000. Interviewees were guaranteed complete anonymity and were reassured that their details would not be passed on to anyone else. They were incentivised to do the call by the promise of a £10 charitable donation per call to Oxford Gatehouse, ByBox's charity.

### What's next?

- ◆ Do you have an urgent need to carry out repairs, returns or keep spare parts at multiple critical locations?
- ◆ Do you have locations which are challenging to deliver into?
- ◆ Do you have time-sensitive service level agreements (SLAs) in place with customers?
- ◆ Do you rely on premium delivery services to achieve SLAs?

If your answer is yes, we are confident we can help.

Why not put us to the test via [Marketing@bybox.com](mailto:Marketing@bybox.com).

