

A Guide to Technical Cleaning in the Data Centre for Facilities Managers

This guide covers the areas in which you as a Facilities Manager can make a real difference to your company's Data Centre – reducing risk and ensuring business success.

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This Guide is Produced by Computacare Services – specialists in Data Centre Technical Cleaning

Data Centres & Facilities Management

"1 hour of data centre downtime can cost between £50,000 and £500,000 an hour"

IBM Today UK

As data systems become so important to the smooth running and indeed success of organisations, managing the environment of a Data Centre or Computer Room is seen as a high priority factor in terms of Risk Management – the data centre is a 'mission critical' area of any major organisation.

More than ever, Facilities and IT now need to work closer together to achieve a common goal – 'uptime' (the time when a business' IT infrastructure is fully operational).

Without good communications and co-ordination, there is a very real danger of IT & Facilities Management either working at odds or each spending time working on the same issues – resulting in waste or incompatibilities and a watered down Risk Management process.

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Data Centre Management

Your organisation can spend anything from £20k to £100m on building a data centre. However, without proper management it can very quickly become inefficient and with business needs driving IT technology, your data centre could even begin to restrict business growth and profits as opposed to helping the business forge ahead.

Furthermore, in this age of brand reputation, share prices, litigation and corporate governance, 'IT continuity' is very much at the centre of the business environment as 'data failure' can be catastrophic!



Although the following statement relates to specifically IT, as a Facilities Manager, you will be able to relate the core issues to your own FM strategy:

A properly managed data centre will be effective, secure and provide a good ROI (return on investment). Uptime is improved so technical staff can focus on technical issues rather than remedial work.

Tools to achieve this include the following:

1. Data Centre Management team – cross-functional
2. Management processes, method statements & risk assessments
3. SLAs – customers & suppliers
4. Customer Forums to discuss issues and find resolutions
5. Standardisation of key infrastructure equipment
6. Management software
7. Power monitoring & UPS; HVAC & temperature monitoring, leak detection, fire systems
8. Security management
9. Preventative / planned maintenance – equipment, environment & premises

You could say Facilities Management delivers *multi-disciplined services within the built environment* and IT Management delivers *digital services within the digital environment*. And of course, both departments report to 'Management' who focus on the business; P&L; customers and shareholders.

Looking at it this way, it is easier to see how FM and IT share similar challenges.

However, while there may be many comparable core values, in reality the perceptions of FM & IT can be quite different eg:

Cooling

FM traditionally sees this as air conditioning (reducing the temperature of a room by expelling the heat) while in a data centre it generally refers to environmental control (server thermal operational limits, air flow and hot-spots on racks).

Computer Cleaning

Within FM this tends to refer to normal cleaning staff removing dirt and germs from PCs (and not entering the server environment). Data Centre management see highly skilled teams of specialist technicians undertaking decontamination of their 'clean environment' to remove potentially harmful particles that can cause 'downtime'

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Risk Management

Managing risk is an increasingly important part of the job of directors and senior executives. Threats to business from terrorism, fraud or malicious attack are as pressing an issue as the need to make efficiency savings.

For data centres, risk management includes:

- ensuring availability of systems and services (ie minimal downtime)
- planning for disaster recovery and business continuity
- securing corporate systems, networks and data
- complying with government regulations and license agreements
- protecting the organisation against an increasing array of threats such as viruses, worms, spyware, and other forms of malware

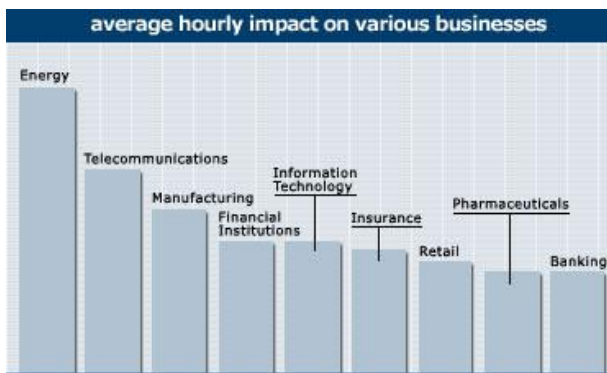
Many Data Centres Still Have No Risk Management Plan

More than 75% have experienced a business disruption in the past five years, including 20% who say the disruption had a serious impact on the business, according to a recent survey of data centre managers.

InformationWeek, March 2006

Clearly Facilities Managers have the first two items high on their agendas too.

The Financial Impact of Data Centre Downtime



Research by IBM TODAY has found that 'Downtime can cost between £50,000 and £500,000 an HOUR'.

You can appreciate that managing risk in the data centre is not just about major problems – even a short time 'offline' can cost businesses a lot of money.

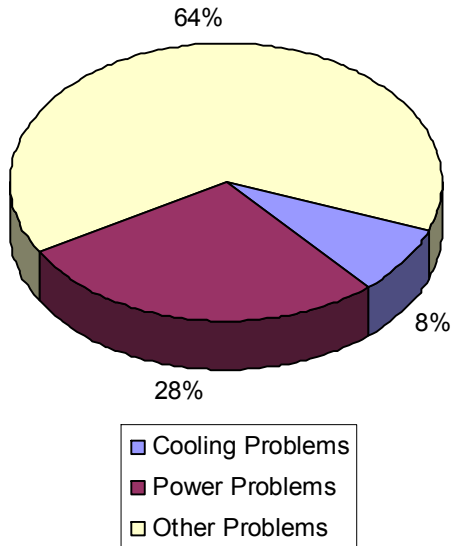
These tables show typical industry sector downtime costs in terms of lost revenue.

Source: *IT Performance Engineering & Measurement Strategies: Quantifying Performance Loss. Meta Group*

Sector	Lost Revenue/Hour
Energy	£1.59m
Telecommunications	£1.14m
Manufacturing	£909,000
Financial Institutions	£795,000
Information Technology	£739,000
Insurance	£682,000
Retail	£625,000
Pharmaceuticals	£568,000

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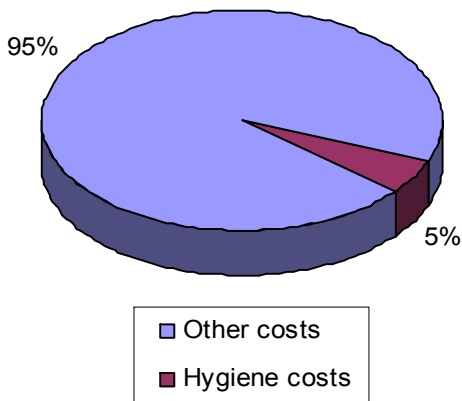
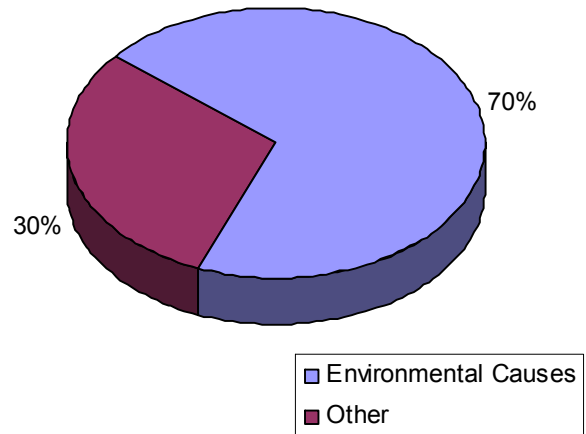
Typical Data Centre Problems



So what kind of problems typically affects data centres? Cooling and power are major factors but there are many other contributors such as:

- static electricity
- dust contamination – paper, concrete, carbon & metal
- zinc-fingers from the galvanised under-flooring

These problems can cause hardware and data storage failure – and even data loss! As you will see from the chart, environmental problems make up the majority of causes.



Of course, dealing with building environment issues is right in FM territory. However, when you look at typical expenditure in data centres, proportionally little money is spent on maintaining a 'clean' environment ie minimising potential contamination problems.

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Bridging the FM / IT Gap

It is clear to see that something like cleaning within a data centre could easily fall between IT and Facilities Management. It is typical of IT to be fearful of the word 'cleaners' and never allow them access to their data centre. Naturally, when considering an office cleaning contract, a Facilities Manager would not include the data centre as part of the contract.



As we have seen, there is a distinct benefit of FM and IT working together to make sure any such gaps are closed – it could mean the difference between financial success or ruin!

Technical cleaning within the data centre or server room is a key example of how FM and IT can work together to make a real impact. Furthermore, the return on investment is high as technical cleaning is a relatively low-cost service compared to the benefits of protecting the organisation's mission critical IT operation.



What Next?

In the UK, data centre cleaning is not yet a fully recognised service and as such is still a fragmented industry. The following FAQs will give you a guide how to choose a professional contractor.

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Data Centre Cleaning & Decontamination FAQs

What is data centre cleaning?	The removal of dust, debris, static and other contaminants from the computer environment followed by static level testing and treatment if required.
How does Technical Cleaning help reduce the risk of service outages in the mission critical environment?	You understand the importance of properly scheduled preventative maintenance of your IT equipment. The same importance also applies to maintaining the correct environment for your mission critical systems. Professional decontamination of your dedicated data centre and your valuable IT assets can help to prevent data loss and hardware failure caused by dust or static electricity... What evil lies out of sight beneath the raised floor?
Why do we need our data centre cleaned?	Research by the I.T. industry has concluded that around 70% of hardware & storage failure are caused by environmental factors such as humidity, room temperature and dust particles. These contaminants can be concrete, dust, carbon dust, metallic dust and paper dust etc. Any of these elements can threaten computer mainframe and storage equilibrium. Lower dust and static levels would in turn result in reduced failure rate, consistent availability of data and greater reliability and productivity. A further benefit of regular cleaning is the enhanced environment for both staff and visitors.
What are the key benefits of professional data centre Technical Cleaning?	<ul style="list-style-type: none"> • Reduces risk of outage / downtime and data loss • Return on investment - LOW data centre cleaning costs vs. HIGH business interruption costs • Regular situation, recommendation and early warning reports identifying hidden problems ie zinc fingers, pests, high static levels and contamination (concrete, paper, carbon and metal dust) • Optimises equipment performance and so reduce expensive maintenance and replacement costs - IT and HVAC equipment
What is the frequency of data centres cleaning?	A structured environmental cleaning programme would help to keep dust and static levels to a minimum within your data centre. The scheduled programme of work could range anywhere from daily to annually – depending on individual requirements. A detailed site survey and contamination analysis would identify the most suitable frequency for your IT facility.
Will day-to-day operations be affected during a scheduled clean?	They should not be – scheduled cleans are often carried out in 'live' environments. However, you must ensure that the contractor's staff are fully trained to be aware of potential hazards within sensitive areas so that your operations will continue to run smoothly whilst the clinical clean and antistatic treatments are in progress. Steps would be taken to ensure that temperature and humidity levels remain consistent.
Can we use our site office cleaners to clean our data centre?	Yes you could, however this would not be advisable. Many organisations have found to their cost it is best to avoid office cleaning companies who say they can undertake sensitive area cleaning. Data Centre cleaning and office cleaning are very different operations, and the level of training and competency of the staff used are in stark contrast. Similarly the techniques, disciplines, equipment and materials used when servicing data centres are NOT the same as those used in office cleaning.
Can we use our IT technicians to clean our data centre?	Using highly skilled and expensive staff for technical cleaning may not be the best use of your company's resources. In addition they may well lack the specialist training, equipment and materials required for professional data centre technical cleaning.
What 'Value added' will I get by using a professional Technical Cleaning firm?	While fulfilling the scheduled programme of work, professional data centre cleaning companies will often also carry out a site survey. This survey will give an up to date static level reading and inform you of any potential hazards for your environment. These can include rodent damage, underfloor problems, poor cable maintenance etc. This survey is sent to you with your invoice so you have always got an up to date picture of your data centre environment.
What is the ROI of an environmental cleaning programme?	Research by IBM TODAY has found that 'Downtime can cost between £50,000 and £500,000 an HOUR'. Compared to these costs, the investment of a structured environment cleaning programme to minimise downtime is negligible.

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This Guide is brought to you by Computacare

Computacare can handle all your Data Centre and Computer Room Cleaning needs covering London and the South East of England.

Computacare Services was established in 1980 initially providing specialist computer cleaning services for high-tech office equipment such as PCs, keyboards, printers, telephone systems, photocopiers and laptops.

As technology has progressed, Computacare now specialise in data centre, server / computer room cleaning, decontamination and preventative maintenance services.

Trained Technicians

Computacare's highly trained technicians have extensive experience in the specialist cleaning and maintenance of data centres, IT hardware and associated equipment.

Specialist Equipment & Techniques

Computacare's approved, specially manufactured cleaning chemicals to provide second-to-none cleanliness and effective protection from static discharge. Computacare's specialist knowledge and techniques ensure that your data centre can be kept running whilst they undertake the cleaning process, to minimise any disruption to your day-to-day business.

Customer Care

Computacare are committed to understanding the needs of their customers, and ensuring that they deliver the highest levels of quality service and workmanship at a fair price. Their extensive list of long-term customers is testament to their professional and effective service.

Some of the largest organisations in the country already appreciate the value of Computacare's specialist cleaning and hygiene services.



Computacare offer a FREE detailed data centre environmental contamination & static electricity analysis report.

This report highlights any problems within your data centre and is totally free, informal, confidential, and without any obligation on your part.

Please see www.computacare.co.uk/sitrep.htm or phone 01322 310 728

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If you have any questions about Computacare's services, would like an informal chat about technical cleaning in the data centre or would like to book your FREE environmental contamination & static electricity analysis report, please call 01322 310 728 or email info@computacare.co.uk