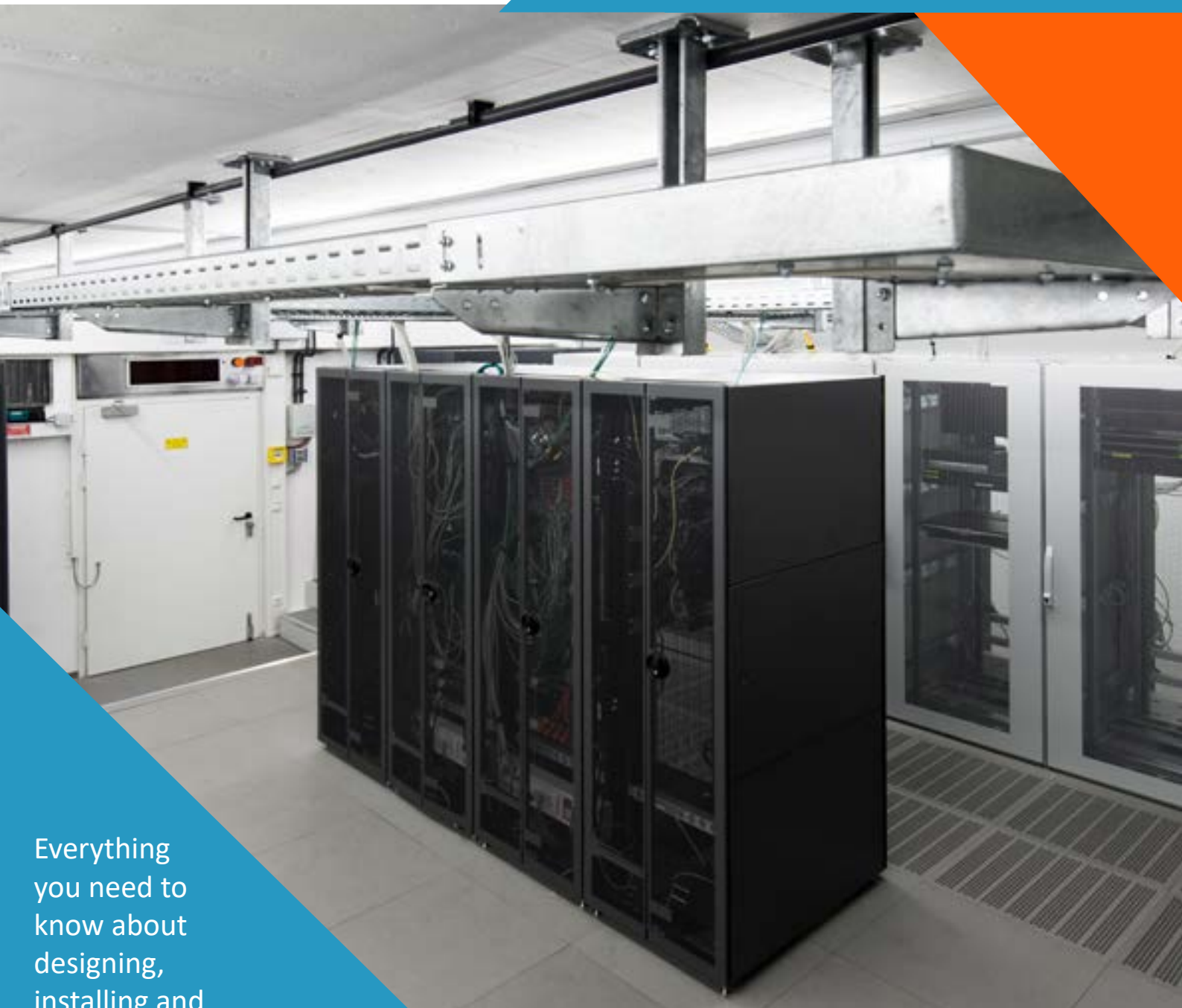


Data Centre Design and Build



Everything
you need to
know about
designing,
installing and
maintaining a
Data Centre



UPS



Generators



Maintenance

Data Centre Design and Build



Introduction

You are looking to install a data centre on a new site or need to relocate one now that it has outgrown its existing building. Where do you begin?

DCResponse are a data centre design and build specialist, capable of taking on any part of the project. Our skills range from site surveys, initial design, build, full installation of infrastructure through to refurbishments, upgrades, all ongoing maintenance and support contracts.

We have experience working with both the public and private sectors to create data centre solutions that are tailored to meet all of your specific needs. Our considerations include site selection, power availability, future scalability, budget and timescale.

Whether you are looking to build a simple comms room, server room or state of art Tier rated data centre, DCResponse will help you find the best solution for your project

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Consultation

Before design can begin, it is important to appreciate what you want from your data centre.

DCResponse understand the technical and commercial risks involved with data centre projects. We begin by ascertaining requirements and expectations from the project. We discuss in detail what you want from your data centre along with budgets and timescales. We will not only understand your project, but can advise you on whether its possible.

A free site survey is then carried out to assess the viability of the project.

'DC Response have experience design and building data centres. Whether they are large or small or in the public or private sector we can provide the complete data centre solution for you.'

**Jack Ogden,
Commercial Director,
DCResponse**

Design

The most important phase of any project, the design, is especially critical with data centres!

DCResponse have extensive experience of data centre design to ensure that that it meets the full specifications of our customers. Our understanding includes not only the design, but also the Health and Safety and principles of operation, planning for future growth as well as compliance with appropriate regulations.

We provide comprehensive space layout and capacity planning to support efficient power and cooling, modular growth strategies combined with maximum availability.

In addition, DCResponse ensure that fundamental physical build and location criteria are addressed during the intial design phase.

We can complete the entire project implementation or just the design phase to match the client's existing resources and expectations.



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Project Management

Committing a brand new data centre is one thing, but how can you ensure everything will run smoothly. You do not want servers arriving before racks, when you have no place to store power, cool or protect them!

DCResponse can manage the entire project for you including the budget, timescale, deliverables and implementation. Although we can follow different project management methodologies and approaches, most projects follow these stages:

- **Engagement:** – the project manager defines what the project needs to achieve.
- **Planning:** – the project manager records all the tasks and assigns deadlines.
- **Execution:** – the project manager collects and allocates the resources and budget available to specific tasks.
- **Monitoring:** – the project manager oversees project progress and updates the project plans to reflect performance.
- **Testing:** – the newly installed equipment is assessed to ensure it works as expected.
- **Completion:** – the project manager ensures the outputs delivered by the project are accepted by the business and closes down the project team.

'DCR were magnificent, the team communicated with us brilliantly so we could manage the installation successfully. Thanks to them we were able to keep working, and maintain our business and our relationships with our clients.'
Nathan Harper, IT Systems Lead, CFMS

Maintenance

To support your data centre long term, you need services in place to ensure any problems are resolved efficiently. When something fails, you need action! Fast!

DCResponse offer a wide range of maintenance contracts to suit your business's demands. We are experienced and qualified to effectively support all your data centre equipment including:

- Air conditioning systems
- UPS systems
- Generators
- Fire suppression systems
- Monitoring technology

DCResponse's range of maintenance contracts can be anywhere from a 4 hour response time, for critical equipment, to for ancillary NBD systems. All contracts include regular maintenance and can be customise to your requirements.

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Critical Power

Data centre equipment are sensitive to power disruptions. A single drop in power, even for a moment can cause data corruption!

An uninterruptible power supply (UPS) solves all of these problems. If there is a power cut, the UPS will either provide power long enough for all of the data centres equipment to be shut down safely or ride through the outage until the long term standby power solution activates. Any other variations in power will be completely smoothed out.

DCResponse work with all UPS manufacturers, meaning we can supply the one best suited for your requirements, be they total power of equipment, battery run time or dimensions.



Standby Power

With the critical power installed, you are safe from most of the damage a power cut can cause. But what about the most damaging? Long Term Downtime!

A generator is the solution. A correctly specified generator (with an ample fuel supply) can provide power to a data centre for as long as your requirements dictate last, whether its hours, days or weeks.

When designing a data centre, DC Response select the perfect generator for the job, capable of supporting regardless of the configuration you require.

In addition, a generator can be used to sell energy back to the national grid, earning you money, from a backup system that will still be there when you need it.



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Cooling Systems

Data centres produce heat!

All of the equipment contained in a data centre, whether its servers, computers or the backup systems like UPSs or monitoring systems generate heat. So much heat in fact that it can be damaging to the equipment its self. This makes air conditioning essential all year round.

DCResponse provides one of the most complete ranges of IT cooling products on the market, from the smallest server room to the largest data hall. IT cooling applications are covered by room, row or rack cooling. Precision air conditioning units are available from 6-233kW, medium and high density rack cooling solutions from 2-67kW. It does not matter if you need low, medium or high density cooling; we have a system which will exceed your requirements in a wide range of configurations.

The right air conditioning is really energy efficient, as it costs less to maintain a room at a temperature. In addition the excess heat from the data centre can be used as district heating, taking the excess heat and using it to heat other parts of the building.



Fire Suppression

With countless electrical systems as well as a potential to generate a massive amount of heat, data centres are at risk from fire!

Fire suppression systems prevent or extinguish and we the spread of fire in a building. A mix of wet agents and/or dry chemicals to suppress equipment fires. Fire suppression systems stop fires in the early stages meaning the damage to building and internal systems are reduced.

Fire suppression systems can be either manual or automatic. Manual ones operate with human feedback, like when a fire alarm is pressed. Automatic fire suppression systems operate without human intervention allowing a fire to be dealt with before anyone is even aware there is an issue. Automatic fire suppression systems are key to protecting data centres, as there is not always a person present to raise the alarm.

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Monitoring

Finally, it is important to ensure that not only are all these systems working, but that they are working holistically to maintain the uptime and efficiency of the data centre.

DCResponse can supply you with data centre infrastructure management hardware and software designed to provide a neutral monitoring platform.

Using both your internal network and/or the WAN, it can be configured to provide customisable graphical displays and reports based on feedback coming from the data centre. Real time and historical data allow power, temperature, security and more to be monitored. System information can be displayed alongside more traditional asset register data for a comprehensive data centre monitoring solution.

'DCR made this large complicated project look easy; we were delighted with their ability to work around a huge number of obstacles to provide a solution to a serious issue in a very short space of time. I would not hesitate to use DCR for any future projects.'

Simon Atack, Senior HPC System Administrator, University of Bristol



About DCResponse

DCResponse (or Data Centre Response) specialise in data centre design and build.

DCResponse is a British company based in Shrivenham, Oxfordshire. Our main aim is to support the building of new data centres and to provide protection for clients' critical data, equipment and premises from the abnormalities of the power supply.

DCResponse offer a total solution approach from pre sales advice, consultancy and planning through to installation and commissioning. An in depth understanding of client need is our core philosophy, made possible by the expertise and experience of our sales, engineering and technical staff.

DCResponse ensure all equipment is in working order and will perform as needed in an emergency. We offer a range of maintenance contracts to test your new systems once we have installed them.



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UPS Systems Group

UPS Systems Group is comprised of three companies specialising in power protection.
Contact us for all your backup power enquires.



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