



Few areas of the corporate world have seen such dramatic growth in recent times as risk management. Historically, risk management and assessments have primarily focused on a company's finances, but it now also takes into account a company's reputation, business strategy and compliance with regulatory authorities and corporate governance legislation.

Furthermore, in this digital age where information storage and security is paramount, a company's data centre needs to be locked down tighter than Fort Knox – it's business critical. Therefore, data centre protection has to be meticulously built into every business' risk management and business continuity plan, with all eventualities explored. This means that a data centre is closely considered in an organisation's business strategy and future business performance.

In the high-tech world of data protection, Digital Realty Trust (DRT) is one of the global leaders in the provision of data centre space. DRT recently chose MITIE's engineering services team to deliver their new multi-million pound data centre to the west of London. Our specialists were awarded the contract after demonstrating their technical expertise, sector knowledge, innovation in construction methods and desire for a true partnership approach.

Turning designs into a digital reality

Based in the USA, DRT acquires and develops technical real estate. They are the market leaders in North America and have acquired 12 European properties since entering the European market.

Building on our recent success in the science and technology sector, we secured the multi-million pound project with DRT for the provision of a state-of-the-art facility. The facility will be a key data centre in DRT's UK portfolio.

The project, with MITIE as principal contractor, involves fitting-out and installing a new data centre, including all fabric and engineering works. It covers 2,000 sq m of technical space and is supported by the highest levels of resilience on all power and cooling systems. The facility will be provided by DRT to clients within the data storage and financial services industry.

Customer alignment

Aligning ourselves with DRT's drivers and goals, demonstrating our sector knowledge and engaging our integrated supply chain were key factors in the award of this contract. MITIE's technology and infrastructure team displayed passion for the project, as well as an inherent understanding of what makes the technical space market tick.

The final design of the state-of-the-art Cressex 1 data centre was achieved on a tight timeframe with DRT and MITIE's specialists working together from the early stages to turn the original outline design into a practical and operational reality.

Meticulous planning

Any data centre project requires painstaking design and planning, and this was no exception. In fact, the timescale from initial enquiry to the first hard hat on-site was just five weeks. The plan is so precise that there is a macro programme on the project. For the non-techies among us, this means that

mission critical

doesn't mean mission impossible!

if something doesn't get done on the day it is scheduled then the whole project is affected.

There are two main data halls, which are housed within a huge, sealed, free standing composite walling box. Innovatively, the box has no columns to make maximum use of the technical space. Resilience level here is extremely high, meaning that this data centre is designed to ensure there is no unplanned downtime.

There are two independent UPS and generator backed power streams to each data hall, so that if one power stream ever went down, the other kicks in.

Drives have been installed on the chillers and data hall downflow units to ensure the site runs as energy efficiently as possible, and the whole site is constantly monitored for energy efficiency by the building management system.

Keeping the site clean is a massive consideration. Data centres are operated as clean rooms once constructed, so it is essential that all building works are completed prior to handover. Dust particles must not enter the environment at any cost – if any stray particles got into the servers they would cause severe problems. Also, no galvanised materials can be used due to 'zinc whiskers' which are micro-fibres that shed from galvanised metals and could cause short circuits in servers.

Testing, testing...

One of the most important parts of the whole project is Integrated System Testing (IST). This is basically testing the site against all eventualities. In true sabotage fashion, the team carry out their best James Bond villain manoeuvres and try to create all sorts of faults, to make sure that if the worst happens, the facility is prepared for it. When a data centre passes this phase, it's nearly ready to roll.

On a mission

With MITIE's expertise, together with the high resilience of the Cressex 1 data centre, Digital Realty Trust can be safe in the knowledge that they have a world-class facility, delivered in partnership with the mission critical experts of a world-class company.