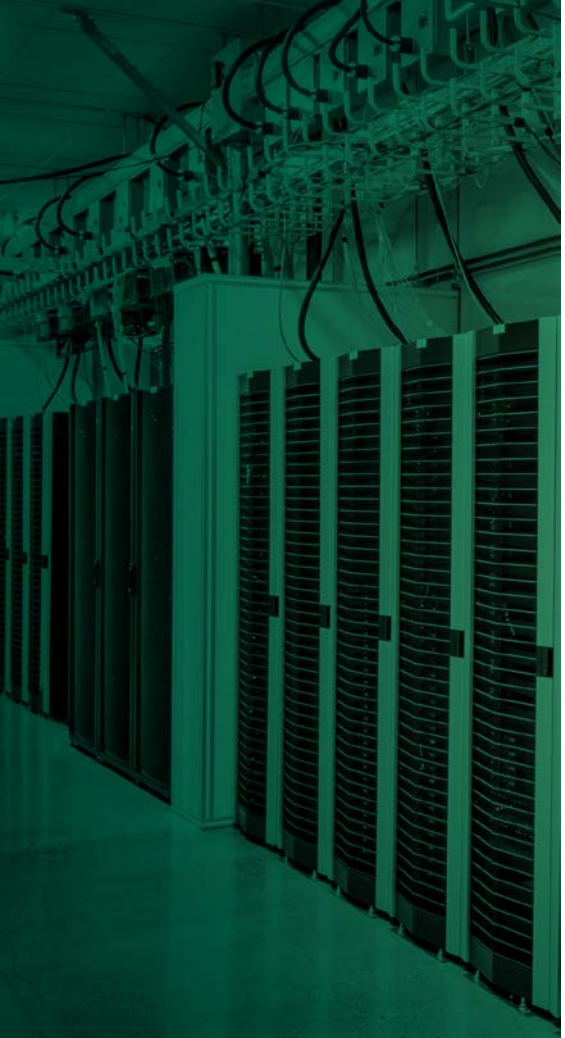


CBRE Data Centre Solutions

2018 DCS Awards

Data Centre Consolidation / Upgrade / Refresh Project of the Year

Project Title

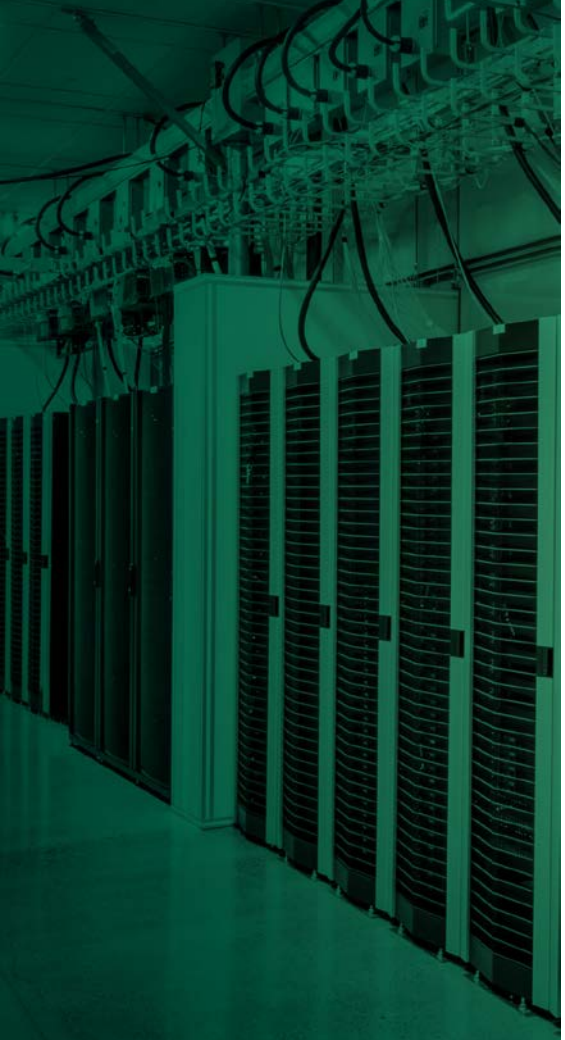
CBRE Generator Control Panel Replacement at an Ageing Enterprise Data Centre

Summary

On behalf of a global professional services firm, CBRE Data Centre Solutions completed a large-scale generator control panel replacement project for an ageing enterprise data centre. The team flawlessly executed the project with no downtime, demonstrating world-class technical expertise, global collaboration, and innovative solutioning.

CBRE Data Centre Solutions manages two data centres in the UK on behalf of an American based global professional services firm. The client uses an American based engineering consultant as a technical advisor and owner's representative for all data centre operations and project works. CBRE's dedicated client team is an award-winning group, having achieved the highest rating for client satisfaction in 2016 and 2017 and an award for a UPS project in 2016.

Like many ageing enterprise data centres, legacy infrastructure within this client's facility have started to reach the end of life and maintenance is often no longer supported by the original equipment manufacturer (OEM). In 2016,



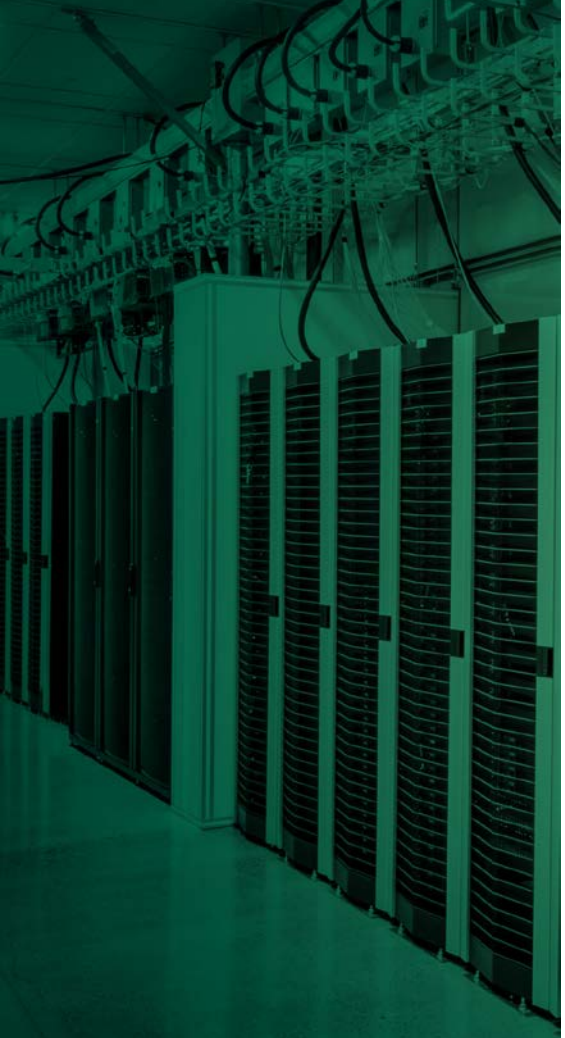
CBRE Data Centre Solutions

2018 DCS Awards
Data Centre Consolidation / Upgrade / Refresh Project of the Year

it was determined that the existing generator control panel had reached its end of life and would be replaced with a new OEM product.

CBRE started this project by first engaging all stakeholders, which included input from leadership, located in multiple countries, representing the client, the client's technical consultant, CBRE, and the OEM. The CBRE team then created a project plan based on the CBRE's proprietary Critical Environment Risk Management (CERM™) methodology that helped to reduce human factor related risk by 80%.

Despite the many variables associated with the project, including the varying operational philosophies from the global stakeholders located across several time zones, the CBRE team was able to put a project plan together that received full buy-in from all parties. The final project plan consisted of replacing the existing generator control system with a dual redundant "A" and "B" PLC based control system and associated synchronisation system within a live operational data centre. It also included a comprehensive service and replacement of components on the existing and retained generator sets.



CBRE Data Centre Solutions

2018 DCS Awards

Data Centre Consolidation / Upgrade / Refresh Project of the Year

The project's greatest challenge was working in a live enterprise data centre without any service interruptions or downtime. The client's global IT leadership team were cautious of an incident-free implementation, as any incident could have resulted in a partial disruption of business activity, or even a total loss of the data centre.

To overcome this and to further gain the confidence of a highly risk adverse culture, the CBRE project team engaged fully with leadership representing the client, the client's technical consultant, CBRE, and the OEM by collaborating and communicating all stages of the project plan. Through open and honest communications, the client's leadership gained trust in the CBRE team.

Using CERM™ methodologies to control potential risks, and following the completion of a site acceptance test for the temporary generators, the CBRE team switched out the house generators and replaced them with two 2N temporary generator systems (one for each utility supply). Lastly, prior to final implementation, the CBRE team, along with the client and OEM stakeholders, performed the new control panel's factory test in France.

The client was completely satisfied with the CBRE project team's results, having maintained uptime throughout the duration of the project. The client has seen immediate benefits resulting from the project through the advantage of greater infrastructure resilience. The new panel has 2N control, which is also viewed

remotely by the dedicated maintenance and engineering site team in their control room. Most recently, the client required the use of the new generator panel system following a utility power failure. The system maintained power with zero interruptions and worked perfectly per design function. Lastly, the CBRE team ensured that the project was delivered on time, on budget, and as request, completed within the client's fiscal year.

Testimonial

> *"There was no downtime to the business throughout the entire process, which included a comprehensive power contingency analysis, provision of temporary standby generation plant and associated connectivity, load-bank testing, Integrated System Tests (IST) and provision of associated temporary controls. [Client's Technical Consultant] are happy to support CBRE with this major standing generator controls replacement project."*
>
> *- Client's Technical Consultant*