

Case Study:
Nottingham Trent University
deploys Modular Data
Centre Technology (MDC)
Designed & Manufactured by
Workspace Technology

NOTTINGHAM
TRENT UNIVERSITY

Nottingham Trent University

Nottingham Trent University is ranked amongst the UK's greenest universities within the Green League for its environmental commitment. Nottingham Trent University has 28,000 students and has invested £350 million since 2003 across its three campuses to create an inspiring learning environment for its students.

The Challenge

As part of the ongoing investment strategy at Nottingham Trent University the buildings located at the Clifton Campus were due for imminent demolition. As a direct result a replacement secondary data centre was urgently required which needed to adhere to the University's environmental programme in order to ensure their environmental standards were met.

The Clifton Campus whilst expansive, had no suitable available space to construct the replacement secondary data centre within the existing building infrastructure. Subsequently an alternative solution was required that offered agility and eliminated the need for a traditional 'bricks and mortar' building to house the data centre.

The Solution

DataCube™ Prefabricated Data Centre



With a large campus supporting many open spaces the deployment of a self-contained 'modular data centre' was the obvious choice in order to meet the University's requirements. By combining the innovative industry leading Freecool® direct evaporative free air cooling system and agile modular, mobile data centre systems Workspace Technology was able to provide the ideal solution for the university.

A dual pod was delivered for Nottingham Trent University consisting of two standard 12m L x 3.5m W x 3m H MDC housings with link corridor. In total 24 x Schneider Electric APC NetShelter SX mutivendor equipment racks were installed combined with APC intelligent metered rack PDUs. APC's leading Symmetra PX160kW UPS system complete with integrated bypass and power distribution. Due to the low energy consumption all Freecool® fans and control are supported via the UPS ensuring continued cooling under power failure scenarios.

The MDC data centre is supported by Schneider Electric's leading Netbotz Environmental Monitoring combined with StruxureWare Data Centre Expert and Data Centre Infrastructure Management (DCIM) technology.

As part of the turnkey MDC deployment a 250kVA Generator set was installed to support extended power outages along with Belden 10GX cabling which is specifically designed to support mission critical needs of data centres.

The Benefits

Due to the accelerated speed of the ongoing demolition, data centre deployment time was limited. The selection of an organisation with the ability to provide a preengineered solution within less than 12 weeks was essential. Workspace Technology's in-house design team delivered comprehensive site specific drawings within a matter of days from existing reference templates.



Workspace
Technology Limited
Technical Prefabricated Building Solutions

Throughout the process Workspace Technology's Project Team provided a professionally managed service for the University and worked in partnership with the University's Estates Department to ensure that the site was pre-prepared for pod deployment during the off-site build stage.

A complete turnkey deployment formed part of Workspace Technology's package including connection and hook-up of power and water services.

"The University's team were extremely pleased with the project given the incredible tight deadlines due to scheduled demolition works, failure to get the site ready for server relocation was not an option. The final Modular Data Centre installation quality has exceeded our expectations and will provide an energy efficient data centre for the foreseeable future.

Workspace Technology's site engineering team also deserve extra recognition as they were extremely committed and worked very hard to achieve project completion by the required deadline".

**Amanda Ferguson,
Infrastructure Services Manager,
Nottingham Trent University**

MDC Key Benefits & Features

- Scalable 'Pay-As-You-Grow' Infrastructure.
- Reduced Capital Outlay.
- Rapid System Deployment.
- Pre-Engineered Technology.
- Agile Future Proofed Design to meet the increasing demands of compute technology.
- Environmentally Responsible Infrastructure.
- Disaster Recovery and Business Continuity.

Typically a Modular Data Centre will reduce overall capital expenditure compared to a traditional large scale data centre by over 40%.

Freecool® Design Features

- **Double Filtration** delivered through a combination of G3 and G4 air intake filtration systems eliminate data centre contamination'.
- **Atemperation** accurately mixes the percentage of hot exit air with cold intake air to produce a stable equipment intake temperature irrespective of external ambient conditions.
- **Dynamic Mode Temperature Control** allows cold aisle temperatures of 18oC for the vast majority of the operating period without any compromise in energy efficiency.
- **Reduced Fan Power** utilising energy efficient EC fans that use significantly less energy than conventional fan technology.



Interested in finding out more?

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