



## Mavin Powercube Case Study:

### Queen Victoria Hospital NHS Trust Containerised Data Centre Project

Mavin - Powercube Ltd specialise in the Design and Build of bespoke Modular Containerised Data Centres. Following a highly competitive tender, Mavin were selected by Queen Victoria Hospital NHS Trust to deliver two bespoke Containerised Datacentres, integral to the Trusts implementation of a new Patient Imaging and Records Management System. The client was faced with two major issues when it came to planning the implementation of their new Patient System. Firstly, the existing Data Room was not suitable, neither in terms of physical space nor power and cooling. Secondly the new system had to be fully redundant which would have required a second Data Room, unfortunately the site didn't have any suitable areas within the hospital to relocate a single Data Room, let alone two!

The Project was time critical as the new system had to be ready for testing in May 2016 if the Trust were to avoid delays in going live with the solution and subsequently face financial penalties. This is also of course a working hospital and Mavin Powercube therefore had to work in close conjunction with the Trust to minimise disruption and ensure that the Theatres and Patient Access areas were available at all times.

#### Key points

Time critical

Space and scalability

Innovative design

Re-deployable

Resilience



"As a team, the guys at Mavin have a great can-do approach that makes them easy to do business with."

For more information please contact us today:

**T:** +44 (0) 845 612 1155 **E:** [contact@mavin.global](mailto:contact@mavin.global) **www.mavin.global**







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## Deployment

The Trust identified the timescales, budget and future use of the designated locations meant the build of a traditional bricks and mortar Data Centre wasn't viable. Furthermore, the Trust is undergoing a major refurbishment programme and the locations identified will likely be earmarked as new wards which would result in wasted investment for any permanent Data Centre. As such Mavin Powercube's Modular Containerised Data Centres were selected as these have the potential to be moved if required, can be deployed at a fraction of the time of a traditional built Data Centre and a fraction of the cost.

Following an order in late December 2015, Mavin Powercube delivered a fully operational Data Centre Solution to the client within 12 weeks.

Furthermore, Mavin Powercube provided the client with an efficient, cost effective system that not only took full advantage of the environment through the use of fresh air cooling, but also utilised full BMS and DCIM management combined with Intelligent Rack Management which offered the client the ability to truly maximise efficiency within the Data Centres, none of which had been possible within their previous Data room.

Powercube Containerised Data Centres are designed and manufactured from scratch which gives the added benefit of the Trust being able to choose a fully bespoke system ensuring that features may be designed in or out as required.

**From a financial perspective, the client received two fully operational and fully redundant Data Centres for less than £650,000.00 including a full civil works package.**



"The team at Mavin don't just make you think you are important to them as a customer, they ensure this really is the case and prove it, time after time."

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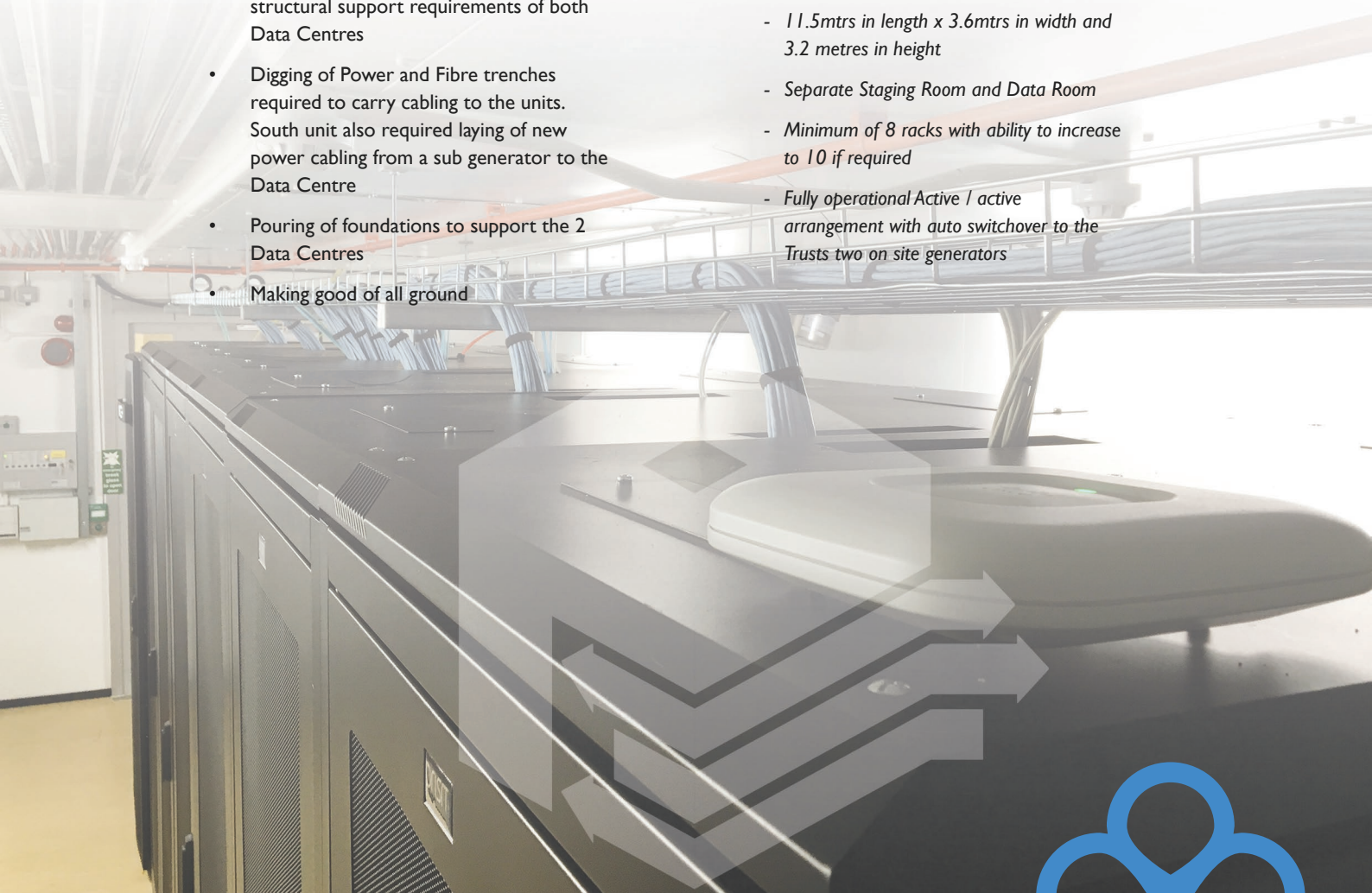
## Detailed project breakdown:

### Civil Works Programme

- Provision of Principal Contractor Services throughout the build phase
- Full Ground survey throughout the site including areas identified for trench runs
- Full Asbestos survey (ground based asbestos was identified and had to be removed prior to any works commencing)
- Ground penetration testing to calculate structural support requirements of both Data Centres
- Digging of Power and Fibre trenches required to carry cabling to the units. South unit also required laying of new power cabling from a sub generator to the Data Centre
- Pouring of foundations to support the 2 Data Centres
- Making good of all ground

### Data Centre Design & Build Programme

- Work with Trust to design 2 bespoke Modular Data Centres to meet the strict requirements of the Trust including physical space restrictions, acoustic considerations due to proximity of patient wards and timescales for deployment
- Physical builds of 2 identical Data Centres the physical dimensions and characteristics of each being:
  - 11.5mtrs in length x 3.6mtrs in width and 3.2 metres in height
  - Separate Staging Room and Data Room
  - Minimum of 8 racks with ability to increase to 10 if required
  - Fully operational Active / active arrangement with auto switchover to the Trusts two on site generators



"The Team at Mavin have been with us every step of the way from conceptual design right through procurement, installation, configuration and into production. Additionally, they have supported our full Business Continuity setup, testing and validation process required to support a full ERP implementation."

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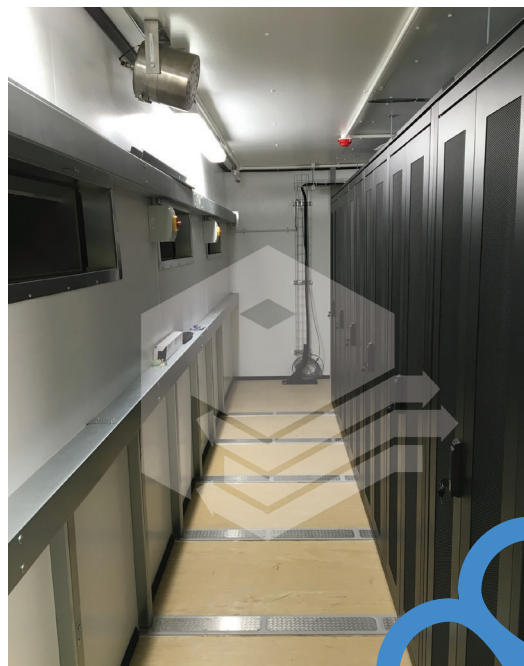
## Project breakdown continued:

### Installation of M&E to meet the specification requirements of the Trust

- UPS to provide minimum 10 minutes failover
- N+1 External Air Handling units to provide free air cooling with DX to provide 70kw cooling
- Hot Aisle and Cold Aisle containment with cold air delivery via ceiling plenums
- Vesda / StatX Fire Suppression in both Staging room and Data room with integration to Powercubes BMS system and the Trust's on site Fire Alarm System
- Door Access control to both main entrance and internal Data room. System to be fully compatible with the Trusts own Door Access System
- CCTV located both internal and external with link back to Security office
- Intruder Alarm system compatible with the Trust's own alarm system
- Fully managed BMS and DCIM solution providing full monitoring and reporting of:
  - UPS
  - Door access
  - Fire Suppression
  - CCTV
  - Intruder Alarm
  - Rack Management, PDU monitoring
  - Air Handling System

### Fully managed Support and Maintenance Service

- Web based portal access for the Trust to raise support and change tickets
- Full M&E Maintenance programme to provide scheduled maintenance to all M&E equipment as required
- Proactive monitoring of the BMS & DCIM solution enabling Powercube to alert the Trust in the event of any alarms being triggered
- Quarterly meetings to provide full rundown of BMS & DCIM reports with a view to identifying further areas of efficiency improvements, for example increasing internal ambient temperature, highlighting rack over or under utilisation



"Just as our Clients are critically important to our business, so are our people. Each and every member of the Mavin team has been hand-picked for their particular skills and expertise."

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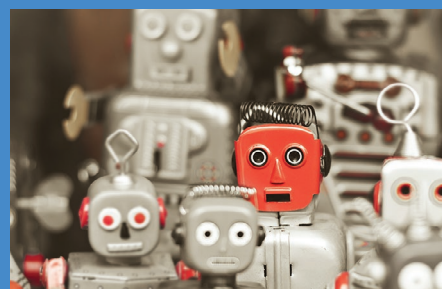


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## Project Completion

In delivering the above solution within the tight requirements of the Trust, Powercube again demonstrate turn-key capability as a leading Containerised Modular Data Centre provider. We continue to work with the leading vendors in order to improve and take advantage of the latest technologies whilst ensuring that our clients receive a fit for purpose cost effective solution. Following this project, the Trust has demonstrated the units to a number of prospective clients, with two already placing orders with Powercube, again highlighting their satisfaction.



For more information and detail on this Case Study or other products and services we offer please call our team today: 0845 612 1155 or email us: [contact@mavin.global](mailto:contact@mavin.global)



"Mavin's customer base is diverse. The majority of Mavin's clients are recognisable brands or organisations."

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