mavin POWERCUBE™
CONTAINERISED MODULAR DATACENTRES
+ SPECIAL CONTAINERISED SOLUTIONS

Brunel University London

Mavin Powercube Case Study:

Brunel University London Containerised Modular Datacentre POP

Mavin – Powercube specialise in the design and build of bespoke Containerised Modular Data Centres (CMDC's), Secure Modular Buildings and Rooms.

Following a highly competitive tender, Mavin were selected by Brunel University to deliver a bespoke Containerised Datacentre to operate as a critical Point of Presence (POP). Several factors had to be considered.

Key points

Tight Timescale - As part of the wider Campus Re-development project, we were given a 16-week window from initial design, civils preparation through to deployment and go-live to ensure compliance with the wider projects critical time-line.

Security - Physical penetration was a high-lighted concern.

Noise - With the proximity to Student Halls of Residence and Classroom blocks, noise management was a primary concern.

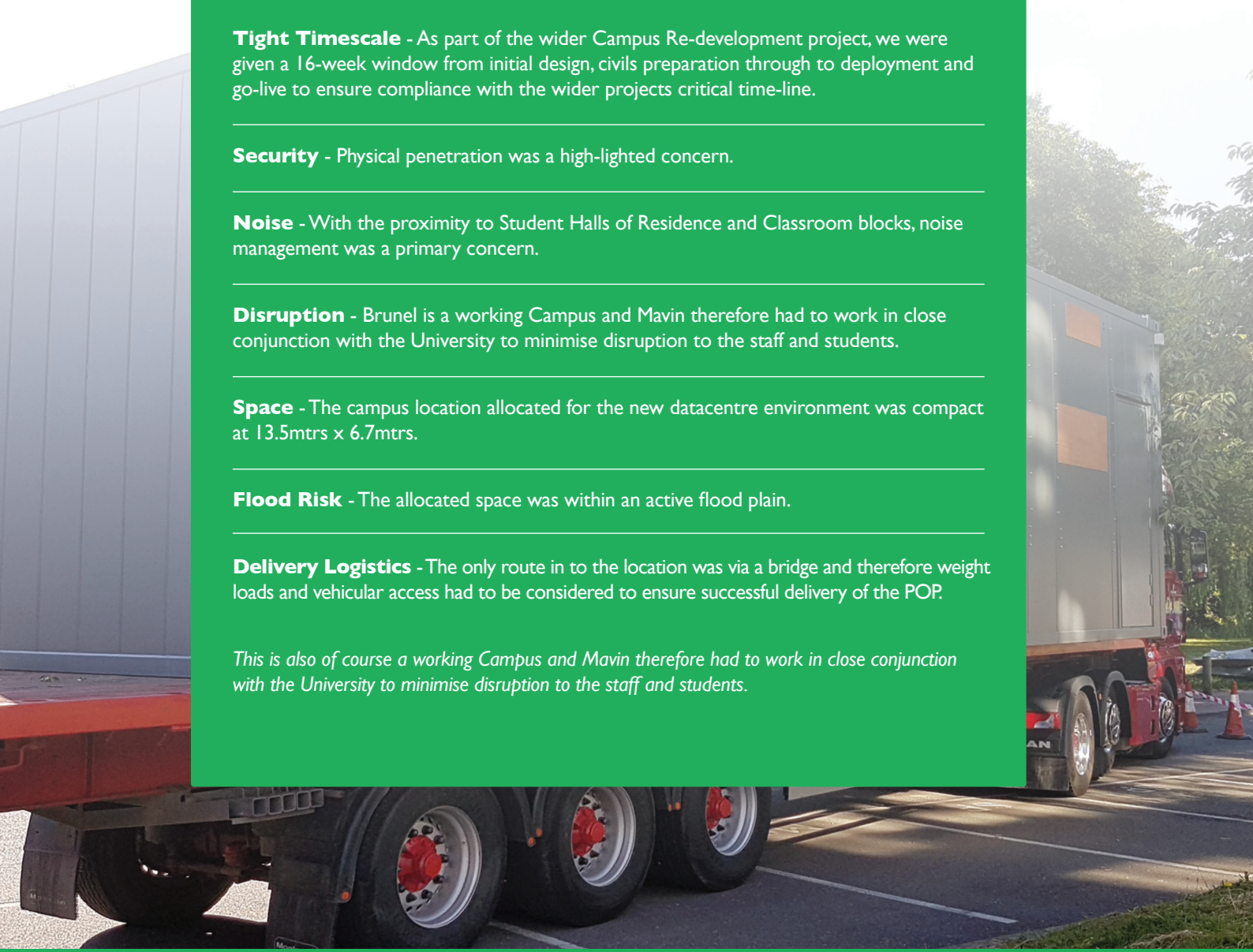
Disruption - Brunel is a working Campus and Mavin therefore had to work in close conjunction with the University to minimise disruption to the staff and students.

Space - The campus location allocated for the new datacentre environment was compact at 13.5mtrs x 6.7mtrs.

Flood Risk - The allocated space was within an active flood plain.

Delivery Logistics - The only route in to the location was via a bridge and therefore weight loads and vehicular access had to be considered to ensure successful delivery of the POP.

This is also of course a working Campus and Mavin therefore had to work in close conjunction with the University to minimise disruption to the staff and students.



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Partner

Selection

Having carried out extensive consultation, the University identified the location, timescales and budgets for the CMDC POP Unit and established that neither a new build traditional bricks and mortar design, or utilising space with an existing building would support their future plans nor provide the flexibility for future growth and or re-deployment. During the final selection round Mavin Powercube held a Technical Design Workshop with Brunel, where the core capabilities around collaboratively creating a fit-for-purpose, scalable and bespoke solution were tangibly demonstrated to Brunel. Subsequently Mavin Powercube were selected as our solution was able to meet all the design briefs, including the tight deployment time-scale and allocated budget.

Design Stage

Following receiving the build order in March, Mavin Powercube and the Brunel University London IT and Estates teams, collaborated via workshops held at the Mavin Powercube build facility and the University site, liaising with our M&E specialists and design team, establishing the final technical design scope for the CMDC POP itself and the supporting Civils requirements, incorporating the main foundation plinth, sub-terrain power and data ducts, delivered a fully operational CMDC POP Unit within 16 weeks. Furthermore, Mavin Powercube provided the client with an efficient, cost effective system that not only took full advantage of the environment using combination DX & fresh air cooling systems, utilising full DCIM management and combined Intelligent Rack Management, providing Brunel with the ability to truly maximise efficiency within the Data Room. Powercube Containerised Modular Data Centres are designed and manufactured from scratch which enabled the University team to tailor the internal layout and specification to suit their particular day 1 requirements, while future proofing to ensure scalability.

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Detailed Project Breakdown

CMDC POP Unit Design and Build Programme

- Work with the University to design the CMDC POP Unit to meet the strict requirements including physical space restriction, acoustic consideration and food plain considerations
- Physical build of the CMDC POP Unit, the dimensions and characteristics being:
    - 3.46 metres in width x 10.5 metres in length x 3.2metres in height
    - Separate Staging Room and Data Room
    - Space for 7 X 42u (800 x 1200mm) IT racks
    - Secure external panelling system for additional Security
    - External Step and Ramp Access to both Main Entrance and Emergency Exit

Fully Managed Maintenance Service and Support Contract

- Full M&E Maintenance programme to provide scheduled maintenance to all equipment as required, includes:
    - AHU maintenance
    - Fire Suppression Tests and Certification
    - Bi Annual IT room cleaning
    - CCTV / Door Access Test and Maintenance
    - UPS Maintenance
    - Generator Service
- Proactive monitoring of the BMS & DCIM solution providing alert notifications to the Trust and Powercube Service Desk in the event of any status alarms being triggered.
- 24x7 Break Fix Support Contract

M&E Characteristics

- UPS N+1 to provide minimum 10 minutes failover
- Cummins C150 canopied Diesel Generator with extended Capacity base tank to provide 24hour fuel
- N+1 External Air Handling Units with combination free air cooling and DX to provide 65kw cooling
- Hot Aisle and Cold Aisle containment with cold air delivery via ceiling plenums
- VESDA and Stat-X Fire Suppression in both Staging room and Data room with integration to Mavin Powercube's DCIM Systems and the University's on-site Fire Alarm System
- Door Access control to both main entrance and internal Data room. System fully integrated to Campus Wide Door Access System
- Internal and external mounted IPCCTV integrated to Campus wide Security Systems
- Fully integrated Intruder Alarm System
- Fully managed combined BMS / DCIM solution providing full monitoring, management and reporting of:
    - UPS
    - Door Access
    - Fire Suppression
    - CCTV
    - Intruder Alarm
    - Intelligent PDUs
    - Air Handling Units

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Project Completion

Following the success of this high-profile project, the University has provided reference visits to prospective Mavin Powercube clients, to showcase to several prospective clients, with two already placing orders with Mavin Powercube, again highlighting their satisfaction.

From a Financial perspective, the project was delivered within the agreed budget, including an inclusive 5-year Service Maintenance Contract.

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