

# Advanced Power Technology

## Data Centre - Making the best use of space

All Saints Data Centre - Manchester  
Metropolitan University

### Summary

New energy efficient modular data centre to house high powered state of the art servers and unified communications equipment at Manchester Metropolitan University (MMU). This new facility will consume half the energy of the old server rooms and reduce the University's carbon footprint. Existing IT space has been reclaimed and rejuvenated by an innovative solution that has the flexibility and agility for future growth.

### Project partners

Advanced Power Technology built the facility for MMU who used Salix to fund the project.

### The problem

Server and communications equipment was spread about the campus in a variety of rooms that were powered and cooled by conventional means. There was little standardisation on equipment and responsibility for maintenance was split between departments and suppliers. Monitoring of status and energy use was sporadic and dependent upon physical presence in the room. Part loaded rack based UPS, poor air flow management and room layouts contributed to infrastructure inefficiency. All available IT space was occupied with live services that had developed ad-hoc over several years. Potential space was not without possible hazards.

### The approach

Design and build a modular fireproof, waterproof room within a room that could extend out into adjacent space when ready. Bring a new electrical supply to the area sufficient to provision the full potential capacity of the space. Design and install a modular power, cooling and rack solution that will extend out into the room as it becomes available. Install a suitable fire detection and suppression system that can be increased to include the entire potential space. Implement and configure a monitoring and management system that will give operators full visibility of the data centre infrastructure.

**Continued...**



### Company profile

- Data centre infrastructure solution provider to NEUPC managed framework
- Providing high efficiency modular data centres
- APC Schneider Elite Data Centre Partner

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# EAUC Company Member case study

## Time lapse video

As part of the project, APT created a **time lapse video** which charts the entire process of converting the unused space into the data centre in just under 3 minutes!

The video is fantastic way of viewing the processes that take place and seeing the redundant space be transformed before your eyes into something that can make a real environmental difference, despite the perception that it is unachievable.



Before

After

[View APT's time lapse video](#)

## Our goals

- To work in partnership with the University making a complete solution that meets the needs of all stakeholders.
- To maximize capacity and efficiency improvements within the constraints of the project
- To perform above and beyond expectation and make ourselves a valuable asset to the University data centre team
- To communicate effectively with the University by providing clear and concise information, making our specialist knowledge readily available

## Obstacles and solutions

Obstacles	Solutions
Finding a suitable space	Site surveys, discussions, proposing possibilities
Creating a vision that could be communicated beyond those in the organization familiar with data centres	3D visuals, floor layouts, demo site visit
Short design time scale once project initiated	Used 'engineered as a system' power and cooling solution that reduced design period
Permissions for new supply cable route and external plant	Stakeholder meetings, planning, liaising with other contractors
Some live services to remain within the space with zero downtime	Careful risk management and logistics planning. Close liaison with operations staff

## Performance and results

The project was completed on time and in budget and exceeded expectations with the University's project initiator receiving an award for services above and beyond the call of duty.

*"APT has recently delivered on time and within budget a state of the art modular Data Centre in reused space at the MMU. The whole APT team has contributed to a very good experience for us in delivering such a complex and important project." Jeff Hall, IT Operations Data Centre Manager, Manchester Metropolitan University*

## Lessons learned

This project has crystallised our realisation that we need to be promoting the need for rejuvenating and reclaiming existing space within universities. The current perception is that an upgrade of this kind cannot be achieved without considerable impact on services but with modular, scalable architecture and risk mitigating procedures developed through long experience, we have found that great time, money and CO2 savings can be made.

## Further information

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