MITSUBISHI ELECTRIC

Case Study

Refurbishing to EPC A rating is easier with an empty building

When the owners of Exchange Quay in Manchester wanted to refurbish a vacant office block, they knew that they would need to ensure that it was ready for future legislation affecting energy use and carbon emissions, especially as the nation looks towards legally binding net zero targets in 2050.

Exchange Quay sells itself as an exciting and inviting place to work with seven Grade A buildings offering 472,000 sq ft of office space. The site is in a prime location with excellent transport links to the rest of Manchester and the surrounding area, alongside extensive on-site facilities, including cafés, a nursery, a gym, restaurants and shops.

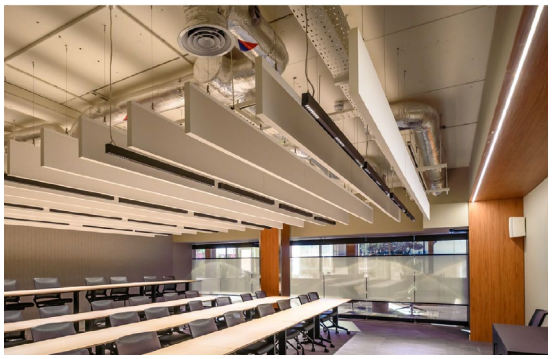
Originally developed in the 1980's, Exchange Quay has been a busy hub of commerce for the city ever since. One of the buildings became vacant giving the Investment Managers, Till Asset Management (Tillam), the opportunity to refurbish and upgrade the building services.

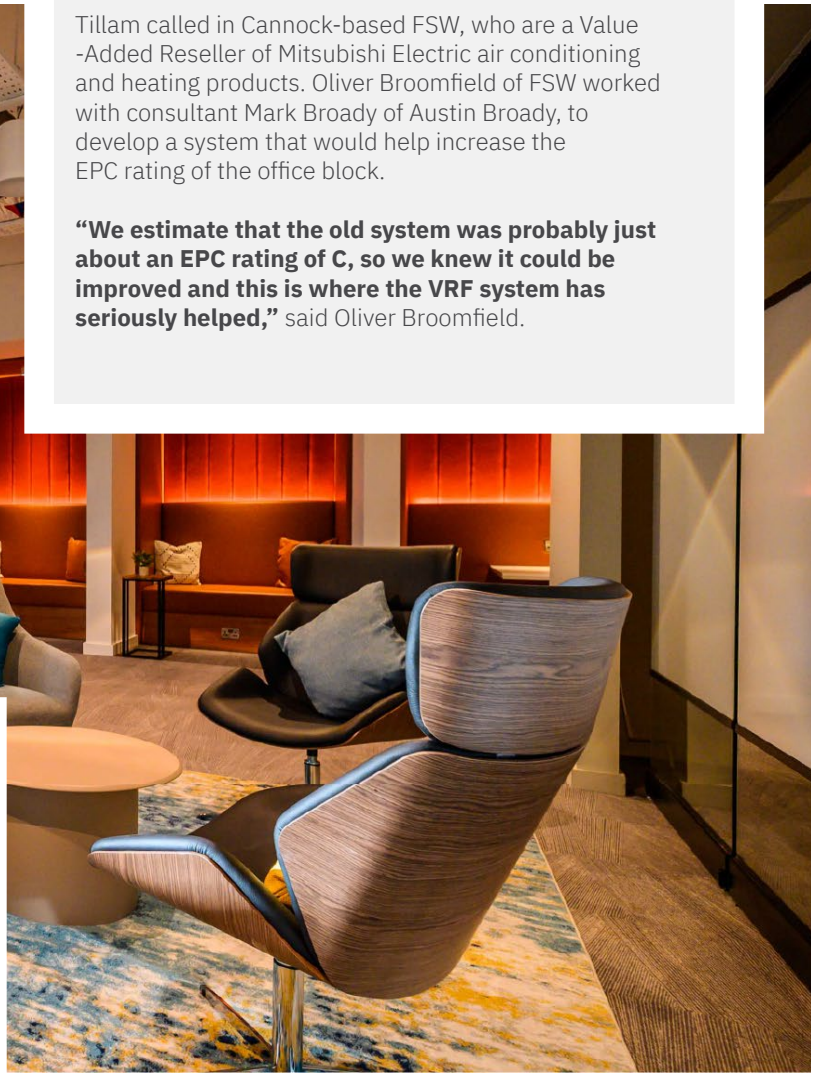
"The 5-storey, Building Number 7 on the site was empty so it was easier to plan a comprehensive refurbishment that allowed us to look at every aspect of the energy performance," explained Les Lang, Investment Manager and Director of Tillam.

"The building is 25,000 square feet of prime office space and we decided to completely strip it out to ensure we could deliver standards that met the requirements of a modern office block," he added.

Tillam called in Cannock-based FSW, who are a Value -Added Reseller of Mitsubishi Electric air conditioning and heating products. Oliver Broomfield of FSW worked with consultant Mark Broady of Austin Broady, to develop a system that would help increase the EPC rating of the office block.

"We estimate that the old system was probably just about an EPC rating of C, so we knew it could be improved and this is where the VRF system has seriously helped," said Oliver Broomfield.





The solution saw the removal of an old 4-pipe fan coil chiller system and its replacement with City Multi VRF air conditioning, which can be installed module by module to match the requirements of the refurbishment.

City Multi is the market leader in VRF technology and can deliver simultaneous heating and cooling, so that energy use can be more balanced across a building, with waste heat from areas that need cooling reused in other areas that need heating.

The system offers complete flexibility in design, installation and operation with the ability to connect up to 50 indoor units with one outdoor condenser.

Five City Multi PURY-EP models were installed in the roof space, with each condenser serving one of the building's floors. These connect to a mixture of ceiling cassette, wall-mounted and ducted indoor units to deliver heating and cooling around the building.

The overall system is controlled by an AE200 centralised controller with 41 PAR-41 wall mounted controllers giving local control to each office space.

The work was completed early in 2023 and the building is now run by Serendipity Labs who provide flexible workspaces, alongside meeting rooms and conference facilities.

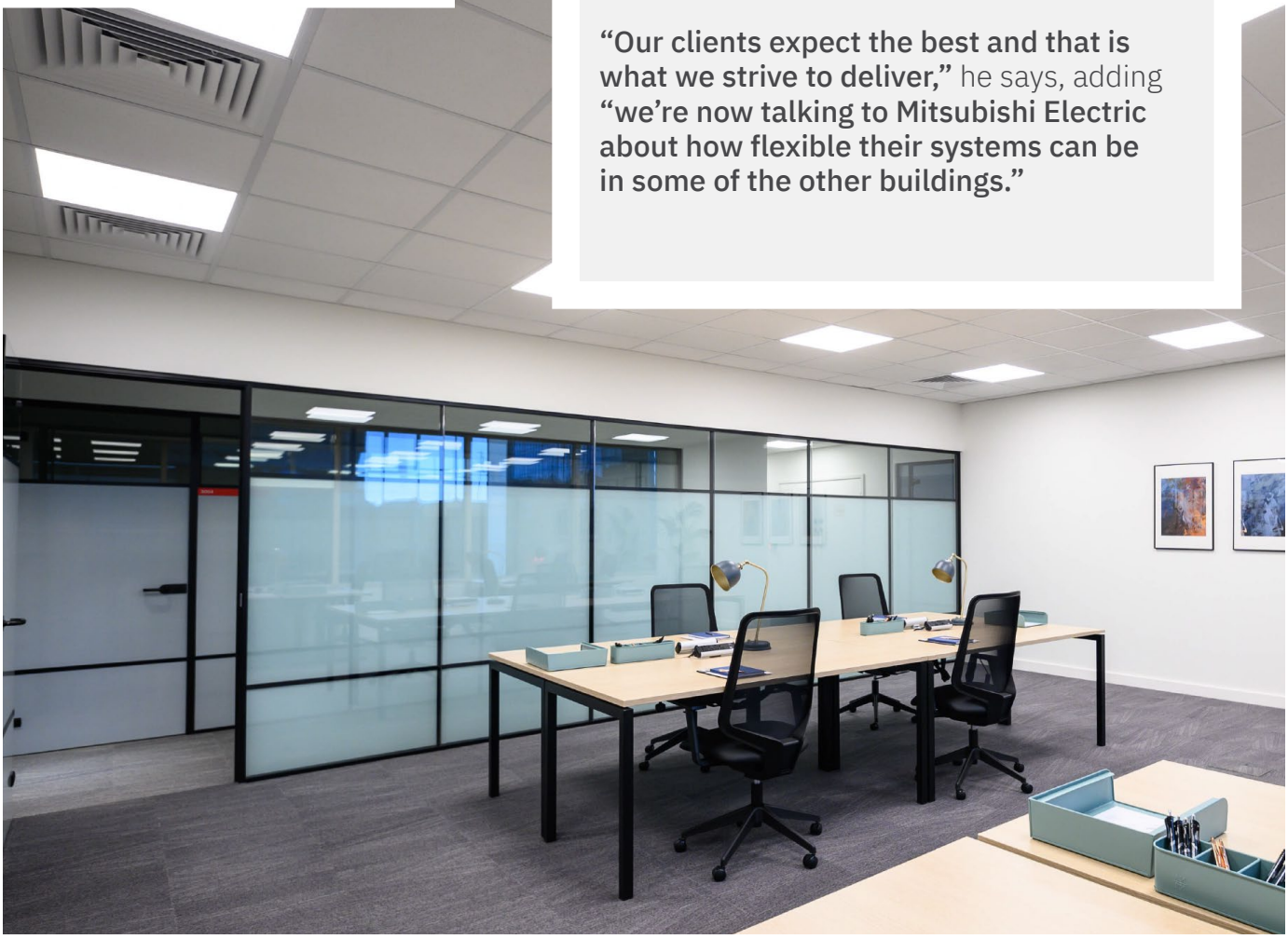
"Our spaces are designed to be a welcoming, inspiring and productive workplace that offer flexible options for our clients and the style, look and feel of the refurbished office matches our ethos completely," explained Dean Haslam, General Manager of the Serendipity Labs site.

"Many of our clients ask about the sustainability of our spaces, so it is reassuring to know that Tillam have thought about this and built energy efficiency into the building."

For Les Lang, the refurbishment of Building Number 7 has shown how straightforward it can be to upgraded and improve the energy efficiency of your premises, especially when the building is empty.

He's now looking at the slightly different challenge of upgrading another block in Exchange Quay, but doing so floor-by-floor. For now though, he is delighted with how well the VRF system is coping in Building Number 7.

"Our clients expect the best and that is what we strive to deliver," he says, adding **"we're now talking to Mitsubishi Electric about how flexible their systems can be in some of the other buildings."**



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Exchange Quay
Manchester

Installation Summary

Outdoor Units:

5 x PURY-EP700 / 750 / 800 / 850 YSNW-A1

CITY MULTI

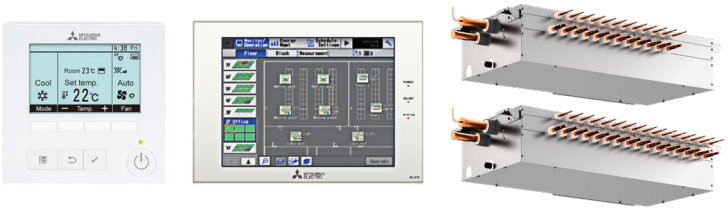
Indoor Units:

2 x PKFY-P40 / VLM-ER1
10 x PLFY-M32 / 50 VEM-E
50 x PEFY-M50 / 63 / 80 / 100 VMA-A
1 x PUZ-ZM1VHA2
1 x PKA-M71KA2

CITY MULTI Mr.SLIM

Controls:

5 x CMB-M1012 / 1016 V-JA1 Branch Control Boxes
1 x AE200E centralised controller
41 x PAR-41MAA remote controllers



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Changes for the Better

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Note: Refer to 'Installation Manual' and 'Instruction Book' for further 'Technical Information'. The fuse rating is for guidance only and please refer to the relevant databook for detailed specification. It is the responsibility of a qualified electrician/electrical engineer to select the correct cable size and fuse rating based on current regulation and site specific conditions. Mitsubishi Electric's air conditioning equipment and heat pump systems contain a fluorinated greenhouse gas, R410A (GWP:2088), R32 (GWP:675), R407C (GWP:1774), R134a (GWP:1430), R513A (GWP:631), R454B (GWP:466), R1234ze (GWP:7) or R1234yf (GWP:4). *These GWP values are based on Regulation (EU) No 517/2014 from IPCC 4th edition. In case of Regulation (EU) No.626/2011 from IPCC 3rd edition, these are as follows. R410A (GWP:1975), R32 (GWP:550), R407C (GWP:1650) or R134a (GWP:1300).

Effective as of September 2023

Green Gateway greengateway.mitsubishielectric.co.uk