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# Case Study: University of Plymouth

*HVAC Planned Maintenance  
Contract and BMS Integration*



# JCW and University of Plymouth

Working with this higher education establishment for the maintenance of all Heating, Ventilation, Air Conditioning (HVAC) and refrigeration systems



JCW has looked after the current **HVAC** contract for this higher education institution since 2019. However, history between JCW and The University of Plymouth actually dates back to 1998.

When the contract grew in volume and in value, a satellite office was set up in **Plymouth**. The retender in 2004 saw another contract growth with the addition of **boilers** and **ventilation** services. By 2010, our contract with the University had grown to include **air handling equipment** and **ancillary mechanical equipment**.

Read our case study to find out more about our history with this very important client.



# The Relationship

The original maintenance contract for **air conditioning** and **refrigeration equipment** was awarded to JCW Bristol in August 1998. As the contract grew in volume and in value, it was recognised that a **dedicated local team** was required to manage, administer and deliver this contract. This was a proposal that the University Estates team were very pleased to hear, so from the year 2000, a satellite office was opened in Plymouth where, a dedicated contract manager, admin support, and a team of 4 engineers, were based full time. Back up and support continued to be provided from the Bristol office, but the greater part of the relationship and communications had been moved seamlessly to Plymouth.

The contract was retendered in 2004 to include **boilers** and **ventilation**, increasing the base maintenance to £35k per annum. JCW were awarded the contract in August 2004, and it was extended until retendered in 2010. By this time, our contract with the University of Plymouth had grown to include **air handling equipment** and **ancillary mechanical equipment** such as pumps, booster sets and pressure vessels.

However, due to a complex change of circumstances within JCW, we were not successful in the next retender, although this was by no means the end of our relationship!

The contract manager for the University, John Burgoyne remained in contact with the Estates team and continued to support them through periods of change and helped them build and develop a database capturing all mechanical equipment in preparation for the next tender in 2018.

In 2018 the preparation of retender began, released in 2019. After successfully passing the PQQ and ITT stages, JCW were awarded a 5-year contract which commenced in November 2019.

1998

2000

2004

2010

2015

2018

2019



# Scope of Contract

## Scope of the Planned Maintenance Contract to 71 University buildings:

- Air Conditioning
- Air Handling Units
- BMS
- Boilers (gas and oil)
- Chillers
- Cold Water Services
- Fan Coil Units
- Fan Convectors
- Fire Dampers
- Gas Distribution
- Humidifiers,
- HWS and LTHW Distribution
- Supply and Extract Fans
- Ventilation and Duct Cleaning
- Water Boilers and
- Water Treatment

## Additional Challenges

### Combined Heat and Power Systems (CHP)

For the generation of electricity, as well as useful heat at a number of buildings, there are 4 CHP systems on the University premises. These engines were designed to save on utility bills. Not previously maintained however, means one system in particular had become unusable. Therefore the University were not getting the financial benefits they had expected. JCW took responsibility for the CHP plant. One CHP system in particular received substantial repair works, which included complete replacement of the controls to allow open protocol. This means, moving forward, we use our own specialist subcontractor, and our own engineers to carry out the required service and maintenance, rather than upholding to the manufacturer. We now work closely with our specialist subcontractors, have all 4 CHP units running correctly and began immediately saving utility costs for the University.



### Solar Power and PV Panels

The University had not previously set up maintenance agreements for the solar panels and equipment that can be seen on the roofs of the buildings, most of which were not working. Again, with our network of specialist subcontractors and local suppliers, we now provide a service and maintenance cover, and the University can rest assured they are in good working order.



### TM44 Energy Inspections

Using our in house energy inspector, we carried out the 5 yearly energy inspections where required, providing the University with comprehensive and official reports. We have also made several recommendations for energy saving remedial works.

### Faculty Equipment

Working closely with the University's Estates team, we have carried out a full survey of the equipment owned by Faculties, established how much of this equipment requires compliance maintenance and are now in the process of putting together a proposal to add this equipment to the maintenance contract. This has demonstrated our experience and ability to add equipment to the clients CAFM system and to programme in the planned maintenance visits ready for when each departmental head accepts the planned maintenance proposals. This has also allowed us, once again, to demonstrate our willingness to go over and above the contractual requirements and offer a great service rather than just a good one.



# BMS Integration Project

As part of the contract, we were required to include the maintenance of the BMS controls, which meant integrating the planned, reactive and remote monitoring of critical alarms and bureau control into the HVAC contract.

The University has experienced significant growth over the past 10 years, which has involved acquisition of new buildings and in doing so, have inherited a combination of different control systems. The systems are Continuum, Andover, Sigma and Trend, which until recently, were all operating as standalone systems.

For the first 6 months of the contract, whilst gaining a better understanding of the BMS systems and the University's requirements, JCW used the University's preferred controls providers, however, it was quickly realised that this fragmented approach was not the long-term solution.

The challenge was to find a **single solution** to ensure all 4 BMS systems were able to communicate through one front end common dashboard. This needed to include the planned and reactive maintenance, as well as remote monitoring and first stage rectification of critical alarms through an external bureau with 24/7 cover, all encompassed under one contract, to ensure the client received a smooth, trouble-free and cost-effective service.

Following a series of meetings with the client to ascertain the best solution, we approached a larger BMS company and, in partnership with Schneider, we were able to combine their wealth of experience with the older, and more challenging Continuum and Andover controls and with their all-round knowledge of the more modern Trend and Sigma products, offer the University a fully integrated proposal.

The next challenge was to negotiate an ideal price. Therefore, we arranged for the JCW site-based engineers to attend a basic training course with Schneider to give them a better understanding of the control's strategy. This combined with their mechanical expertise, now enables JCW to provide the first response to call outs, thus complying with the SLA's of the contract and often resulting in first time fix, which satisfies the contractual requirements whilst offering the client a cost-effective solution.

Our proposal was accepted and since this, the BMS controls, PPM and reactive call outs have been managed more smoothly and the client is very happy with our service.

We are now working with both the University's energy department, and the BMS company to come up with a solution to replace the, soon to be obsolete, Continuum BMS controls, and subsequently integrate all remaining controls on to a **single platform**.

# Delivery Team

## Contract Manager

Martin Cornish is an experienced and fully qualified engineer who has made the transition from being a senior engineer in the region to Contract Manager. Martin was part of the initial dedicated team for the University of Plymouth back in 2002. His vast technical and site experience offers the client exactly what they want. Martin is based on site full time, where he manages his dedicated team as well as the contract.

## Contract Administration

Nicky Short is an experienced contract administrator, who has made the transfer from her previous administration duties for the JCW Bristol office to the Plymouth Team. Nicky was involved in all pre-contract preparation work leading up to the eventual successful tender in 2019. Her wealth of administration and contract support experience has enabled Martin to manage the client effectively.

It is this combination that has ensured JCW score exceptionally highly in each month's KPI's. Nicky now manages the satellite Plymouth office as well as providing dedicated admin support to the contract, and JCW are now ready to expand the business into Devon and Cornwall.

## Site Team

We currently have a fully qualified air conditioning engineer, a fully qualified heating engineer, a junior HVAC engineer as well as a plumber, all based permanently on site at the Plymouth campus. The engineers carry out all planned and reactive repairs.

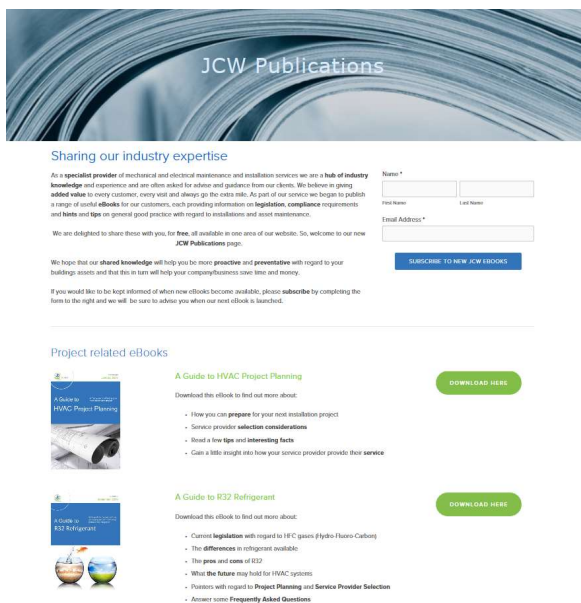
This is a team specifically put together for this contract, and although new, they are already a close knit, effective team and together they provide a high level of service to the University.

# Conclusion

JCW take pride in the success and longevity of the relationship with this long valued client.

The sense of closeness and our immediate response to any problems are reasons why the University of Plymouth feel that they are “not just another client”.

## Would you like to read more?



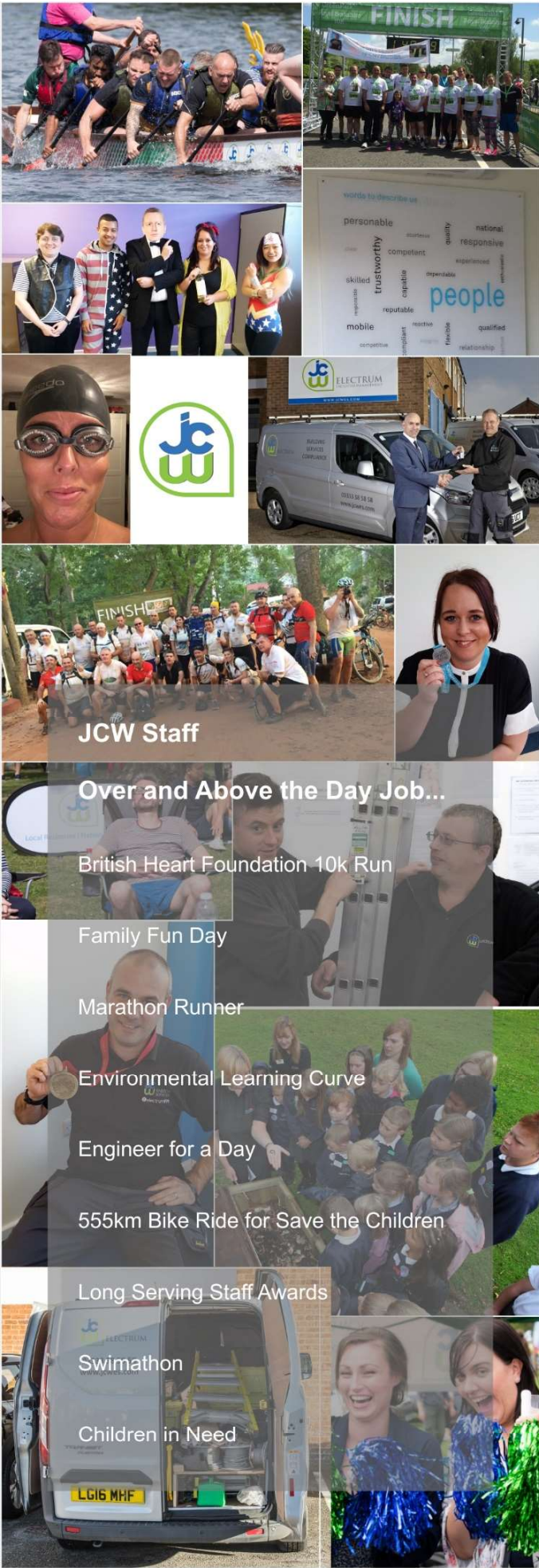
The screenshot shows the 'JCW Publications' section of a website. It features a header with the text 'JCW Publications' and a sub-header 'Sharing our industry expertise'. Below this is a subscription form with fields for 'Name \*', 'Email Address \*', and a 'SUBSCRIBE TO NEW JCW BOOKS' button. The page also lists 'Project related eBooks' with two examples: 'A Guide to HVAC Project Planning' and 'A Guide to R32 Refrigerant'. Each eBook entry includes a small image, a 'DOWNLOAD HERE' button, and a list of key points or topics covered in the eBook.

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## About JCW Energy Services Limited

We provide complete project management, installation, in house maintenance and tailored managed solutions to a broad range of clients across the UK.

We are a national mechanical and electrical building service provider, offering integrated planned preventative as well as reactive maintenance services across all property portfolios.

Although JCW Energy Services Limited in its current form is a relatively new company, the group has history within the industry dating back to 1903.

Today JCW is in a unique position where it not only employs nearly 200 dedicated staff but also can offer mechanical and electrical services with an equal amount of engineers within each discipline. This means that we can self deliver hard services nationally through our mobile engineering workforce as well as provide full project management and installation services through our network of six offices.

Our offices are strategically placed and take ownership of their areas customers to provide a fast, reliable, local service. Our engineers are fully qualified, have a wealth of experience, are accommodating and genuinely care about the work they conduct and the service they provide.

## Contact us

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