

Energy saving is a walk in the Park Lane for Trend

First published January 2017

Right in the middle of London's Mayfair, 49 Park Lane is one of the capital's most sought after commercial locations. In an effort to maximise its energy efficiency, a Building Energy Management System (BEMS) from Trend Control Systems is used to make on-going cost savings, while enhancing comfort conditions.

With stunning views of Hyde Park, 49 Park Lane offers 2,280m² of beautifully designed and stylish office space across nine column free floors. Energy efficiency and sustainability were at the forefront of its construction, earning it a 'Very Good' BREEAM rating, and its sensitive design respects the history of the area and complements the surrounding listed buildings.

Now managed by Savills, the current tenant is a leading law firm that uses the building as its UK headquarters. In charge of the facilities management of the premises is London based KCE FM, which took over the maintenance contract in January 2016.

David Smith is Technical Supervisor at KCE FM, and comments, 'We enjoy an enviable, hard-won reputation for the quality of our services, which we work tirelessly to uphold. Our corporate philosophy derives from our consummate dedication to our clients, with whom we have built steadfast business relationships, and a desire to provide engineering of the highest standards. We were delighted to win the contract for 49 Park Lane and one of our immediate tasks was to reduce the amount of energy the building was using and enhance comfort conditions within it.'

Smith had already surveyed the premises, so knew that a Trend BEMS was in-situ.

He also recognised that achieving the objective of lowering energy consumption would depend upon this technology working as efficiently as possible. A BEMS requires frequent monitoring and fine-tuning in order to be fully optimised. When it is first commissioned it is configured around an existing building layout and occupancy patterns. However, these can change over time and incorrectly configured time clocks and setpoints, new layouts, repartitioning, and the addition or relocation of equipment can all have a detrimental effect on energy consumption.

In order to ascertain what could be done to improve the performance of the BEMS, Smith called in the services of East Grinstead based Gemco Environmental Control Services. Chris Thorne, the company's Strategic Development Director, takes up the story and states, 'We've worked closely with KCE FM for many years on a variety of diverse projects, so when David contacted me about 49 Park Lane we were certain we could help. As an approved Trend Systems Integrator we recognise the importance of energy usage optimisation and after conducting a site study, we configured a plan of action that would meet his objectives.'





The Trend BEMS was originally installed when the building was refurbished just a few years beforehand, so its various components were generally in good condition. However, bad operational habits had crept in – for example, at weekends the whole building would be heated simply to keep security staff warm! Similarly, due to a lack of general maintenance, variable speed drives (VSDs) were running at higher capacity than the BEMS was instructing them to because they have been incorrectly programmed.

‘We went back to basics by correcting the previous VSD settings,’ comments Chris Thorne. ‘That alone made an immediate difference and so we then evaluated the occupancy settings, changing the air handling unit (AHU) demand strategy for varying supply and extract pressures at different times. The system was running at a given hertz (Hz) level on the drive instead of using pressure feedback. This meant that it provided a constant supply of heat that was not determined by occupancy. We have reprogrammed it so that the speed of the motor on the AHU varies at specific times. For example, during weekends and from 6.00am-9.00am during the working week it operates at 50 per cent of capacity. Only after this time does it ramp up to 80 per cent, resulting in a massive energy saving over an entire week.’

Due to the nature of the business

conducted at 49 Park Lane, late night meetings and corporate entertainment are regular events that take place in a bespoke area on the top floor of the building. Gemco has set the BEMS to ensure comfort conditions are maintained in this area without heating unoccupied areas.

A BEMS is not a ‘fit and forget’ solution and constant monitoring and management of energy use is vital in order to identify on-going savings. A Trend 963 Supervisor, which is a real-time user interface, enables KCE FM to monitor specific activities and make any necessary changes.

After just a few months, the savings achieved are highly impressive. David Smith says ‘Looking at the last quarter we have made an electricity saving of 13.87 per cent on units used against the same period last year. This represents a total cost saving of 21.45 per cent, which equates to many thousands of pounds and represents an excellent return on investment. The BEMS has been a major factor in this achievement, as we can make adjustments quickly and easily.’

The work carried out so far is just the beginning of the story though and Gemco sees the BEMS optimisation programme as work in progress. The next step will involve analysing the building’s chilled water system. The building has three chillers and although only one usually operates at any given time, the stop end valves are all open. This means that the water going into the system has to pass through all three chillers and, in effect, is being reheated because the valves aren’t closing. Changes to this strategy will create additional substantial savings, as will initiatives such as seasonal re-commissioning, which will combine to help lower wastage and focus energy use where it is needed most.

Chris Thorne and his team also have plans to carry out a Trend Control Performance Report, which enables a rapid site-wide system analysis of hundreds of data points within the BEMS outstations, something which would usually take a significant amount of time if carried out manually. This innovative service, available through Trend’s Energy & Support Solutions team, extracts the configuration files from the local Trend devices and uses specialist analytics software to identify system points that fall outside of pre-defined tolerance levels. The net result is a report that presents all data points as well as highlighting areas where improvements can be made, further benefitting system performance and energy optimisation.

What has been achieved so far is testament to the determination of all interested parties to get the very best out of the Trend BEMS. The final word goes to Majid Mirza, the tenant’s Facilities Manager, who concludes

“One of the reasons that we chose to work with KCE FM and Gemco was because of their determination to proactively address the issue of energy efficiency at 49 Park Lane. There is a big difference between knowing that an issue exists and having the skills, knowledge and foresight to successfully address it in the way that they have done. It is absolutely amazing what has been achieved and I’m looking forward to working together with them to generate further savings”

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