

Technology can bring about changes

By Anders Norén, managing director of Priva Building Intelligence Ltd

With buildings accounting for 40% of the world's energy use, building control systems must now play a vital role in facilitating energy efficiency. While BREEAM-accredited buildings might be the built environment's ideal, the reality is that the vast majority of existing building stock is out of step with the latest in green design.

The World Business Council for Sustainable Development (WBCSD), whose Energy Efficiency in Buildings project aims to present solutions for reducing wasteful energy use, calls for governments, businesses and individuals to work together, since energy efficiency cannot be considered something to be achieved by a facilities manager alone. In fact, achieving energy efficiency is

frequently a balancing act, negotiating the actions of people with the capacity of technology. While technology - such as a BMS - can sometimes, unaided, allow an organisation to cut its energy use, frequently, reducing energy consumption to its lowest possible levels requires the intervention of people at all levels in an organisation.

Building Management Systems (BMS) are intended to intelligently monitor and change a building's internal environment. However, whilst a BMS may be intelligent, it still lacks the rationality that informs our intelligence. Therefore, the key issue in achieving energy efficiency is finding ways to change the behaviours of building staff, many of whom will view their work environment as fixed, even stagnant; thus they often feel

disempowered to make energy-saving changes.

The BMS sector is taking seriously the WBCSD's call to develop and use advanced technology to enable energy-saving behaviours. At Priva, our Top Control (TC) Vision software is empowering end users to make informed decisions about their energy use. To make energy use visible is to make it relevant and understandable. Priva's web browser approach to building control, TC Select, winner of the Technical Innovation of the Year prize at the 2009 Building Controls Industry Awards, allows data from the BMS to not only be collated, but also illustrated prominently for all to see.

Using TC WebVision, staff can access information in an easy-to-understand, web-based format from the PC on his or

her desk. Wall-mounted screens, running dedicated web applications that can import any relevant data from the Priva systems, via Extensible Markup Language (XML), can also be placed in common areas for all staff to access. When information is made public and easily-accessible in this manner, it is much easier for staff to engage with its meaning.

Consequently, the building's interior environment no longer feels static - when people choose to make energy changes they can see the landscape of the building's energy use change on screen. It becomes easier to identify branches or outlets that are using more energy than the average and it is then possible to find the cause of the problem and correct it.

Priva has found notable success in the public sector,

allowing schools to engage pupils in thinking about the environment and energy use. At the Archbishop Ryan School in Dublin, for example, the Priva system exports data via XML to a dedicated web application, which has made understanding energy information easy enough to appeal to even young children. Using TC WebDisplay, the school's headmaster can access information in an easy-to-understand, web-based text format from the PC on his desk. TC WebDisplay then makes available a wide range of data relating to the building's operation which can be easily accessed by staff.

Students and staff are also able to access their own dedicated web application from a specially mounted touchscreen. This web-based approach uses the structured cabling of the school's IT

network and removes the need to provide a dedicated and inflexible cabled front end.

With the Top Control suite of engineering and end user applications now gaining popularity in the private sector, facilities managers and BMS operators are finding it an invaluable tool for encouraging staff to change their behaviour. Due to the new transparency it provides, the building's energy use becomes a talking point among staff.

Effective behavioural change programmes require constant reminders for people to go with their best inclinations of how to use energy. The building controls sector must continue to encourage the use of these tools to make real steps towards changing user behaviour and limit the built environment's impact on climate change.