



As a key part of the collaborative programme between *Modern Building Services* and the Building Controls Industry Association, we the last of four features for 2015. These features are designed to keep readers abreast of the latest developments and thinking in the control and management of building-services systems and other systems in buildings.

## A view on data

**Steve Harrison** of the Building Controls Industry Association explains why data visualisation is the key to helping building managers get the most from the information from their BEMS.



Making data useful — Steve Harrison.

**B**ig data' has become one of the key catchphrases in the building controls industry in recent times. Building energy management systems (BEMS) are now capable of collecting and collating a lot of data on energy and building performance. However, precisely how much of it is used or useful is a challenge that building managers are still getting to grips with.

Nevertheless, managing and using data on building performance is increasingly recognised as a very important element of optimising operation, identifying areas of energy waste and as the basis for a robust energy-management strategy.

As with all data for business, presentation is at the heart of good analysis and the production of actionable information. But good data visualisation, as it's known, requires planning.

Ian Ellis, marketing manager for Siemens Building Technologies, says, 'It's important the end user of this information gets involved early and clarifies what it is that they actually want to know [from their BEMS] rather than take an off-the-shelf pack and be disappointed they are not getting the data they want — or in a format that makes sense to them.'

This opens up another important question — who is looking at the data? This has changed a great deal in the past decade. Once, the BEMS would be

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the preserve of building engineers who wanted to look at plant status. Diagrams of fans and boilers would be high on the requirements for this sort of user, and emulating the plant room on screen would be the main goal.

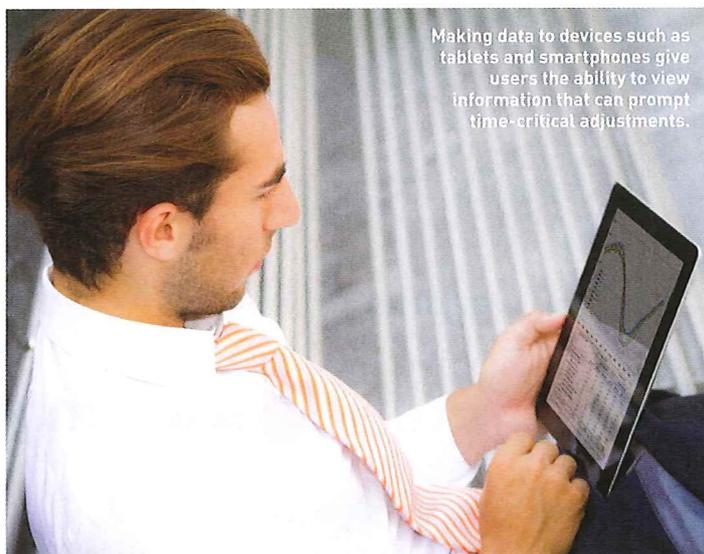
Graham Lewry, of Trend Controls says that changes in the personnel managing buildings are having an impact on what information BEMSs are expected to deliver. 'It used to be the case that a building was managed by five or six people who might be interested in viewing the BEMS. Now, a building is operated by someone, perhaps part time, whose primary role may well be finance. So a picture of an air-handling unit with riveted ductwork probably means

absolutely nothing to them. So the better way to visualize building performance is to make it less technical and more accessible.'

One of the consequences of a requirement by non-engineers to understand building-performance data is that third-party software specialists are entering the market. IT companies with the necessary skills to create dashboard-style pages presenting performance data in 'consumable' graphics are emerging, empowering 'data-driven' decisions.

One benefit is that these dashboards are completely system agnostic, taking raw data from a BEMS and aggregating it into one central place.

Stuart Hutchison, technical services director of Matrix Control Solutions (EON Connecting Energies), which creates such dashboards for the monitoring of entire buildings, emphasises that the key is to provide pertinent information, not all of it. And what's more, different stakeholders in the building need



to visualize different types of data.

He explains, 'Technology developments and price-point reduction in edge technology allows for increased level of penetration across building estates and data integrations. Detailed estate analysis now allows a finance director a view that their building(s) or estate are operating within budget. A facilities manager may want an overarching dashboard relating to his building's environmental conditions and any critical alarms. And then a BEMS engineer will be looking from an operational and functional point of view, so visualisation should be layered in different ways for different users.'

A benefit of offering slices of data to different users is that the information can also be used across different sites or for remote monitoring. Richard Bush,

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technical support manager of Priva UK and chairman of the BCIA technical working group, says, 'These pages enable building owners to look at energy usage and benchmark easily between buildings, helping to highlight plant that may not be

performing as well as its counterpart on another site. All that energy data is there on the cloud from the BEMS; having it presented in charts and graphs can help identify problem areas.'

This possibility opens up the power of a BEMS. Well-conceived dashboards can allow a business to make those data-driven decisions based on building performance.

'The key point,' says Stuart Hutchison, 'is empowering people to make the right decisions.'

And making this data available across a range of platforms is also crucial to making it more 'useful'. Tablets and smartphones give users the ability to view information that can prompt time-critical adjustments.

Ian Ellis says, 'Being on the move and being able to see it remotely can allow people to do a

lot of preventative maintenance or fault finding without having to drive to site.'

He adds, 'Being able to get information quickly which says that a building is using more energy than we expect, and then being able to go in and look at why is a real benefit.'

The key though, must be those early conversations with the BEMS installer or data-visualisation expert to ascertain the information needed by the client. Only then can the dashboards that result provide the most value to the customer. It's the very crux of how to manipulate big data from an ocean of statistics to a useable tool.

*Steve Harrison is president of the BCIA and business-development manager for Belimo Automation AG.*

## About the Building Controls Industry Association

The Building Controls Industry Association serves the UK building controls industry, promoting the use of building controls for energy-efficient, comfortable and productive environments. The BCIA supports its members in their efforts to establish and maintain high standards in product and system development.

For information about joining the BCIA see [www.bcia.co.uk](http://www.bcia.co.uk)