

Trends in HVAC and smart building technology

By  Neil Cameron

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Over the last decade we have seen a continual refinement in heating ventilation and air-conditioning (HVAC) and building technology. Currently, 'smart' and 'IoT' are the new buzzwords and integration is still a core component of this as we move swiftly into a digital era. Here are a few of my predictions for 2018.



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More facility automation

Smart building technology is coming into its own. As facility management solutions continue to become more intelligent, facility managers and owners are replacing physical management processes — people flipping switches and turning dials — with the automation, control, integration and reporting that building management systems (BMS) bring.

Quite simply, facility managers want more consistency and optimisation, especially of the kind that brings energy savings. BMS and advanced HVAC solutions, when paired with sensors and smart algorithms, can offer that. Continual diagnostics that enable optimisation is a big deal — the technology identifies the opportunity for enhancement and facility managers or HVAC professionals make the decision to implement. That is a lot more efficient and cost effective than break-fix or scheduled maintenance approaches to managing plant and facility equipment.

‘Green’ takes a backseat to savings

The global shift to a focus on greening facilities with sustainable use of resources in mind is no longer a primary driver. As the economy continues to shrink, tougher measures are being put in place to cut costs and drive efficiencies. While efficient use of energy is a green measure, the savings it delivers is what is being counted. This is perhaps a more mature way of approaching ‘greening’ strategies and ensuring they are sustainable. This focus on savings is also impacting HVAC choices, driving the trend to implement integrated solutions that facilitate greater automation, control and enhanced efficiencies. This does not mean that green strategies will lose impetus, however, tougher regulation is compelling equipment manufacturers to ensure their solutions are environmentally friendly and safe. For now, everyone wins.

IoT brings security concerns

As the internet of things (IoT) and industrial IoT becomes more integrated into facility management systems, security

concerns are rising. Access control, CCTV and security systems, for example, are all connected to the internet, making it easier for cybercriminals to access sensitive security or even enterprise information. This is creating emphasis on ensuring facility management systems are encompassed within the enterprise security management net.

Chillers are getting smarter

Every generation of chillers is smarter and more efficient, and total cost of ownership is becoming an important factor in the purchase decision. Chillers are high-value assets and careful maintenance ensures longevity. Vendors are consequently making chillers smarter, adding sensors that report the condition and performance of key components, and connecting these machines via the cloud for diagnostics and benchmarking. This ensures facility managers and administrators are continuously aware of the status of equipment, and receive prompts and recommendations for maintenance when performance thresholds are reached. This ensures lower cost and more effective maintenance of equipment — and improved longevity.

South Africa keen to make buildings smart

In South Africa, architects, owners and managers are very open to putting the best and smartest technology into buildings to ensure effective management. While the tough economic climate in the country is making organisations cautious in terms of spend, this is being weighed against the need for greater efficiencies, which smart equipment and smart buildings deliver.

The low cost of property and rentals in South Africa does play a role in limiting investments, however. For example, in Europe, lights in bathrooms automatically switch on and off. In South Africa, this is still a luxury. Landlords do not want to make a huge capital investment and tenants, who are rarely tied to long-term rentals, are looking at what payback they will get from such an investment... and are consequently reluctant to invest. This is likely to change as utility costs continue to bite.

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