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Smart attack

Tennant, Marketing Director of smart homes technology specialists Cyberhomes, explains how the company delivered the latest smart features and technologies into a 12,000ft² house in Surrey.

Home-buyers are increasingly looking for high-end technology incorporating the latest smart features and automation technology. A fully integrated automation and entertainment system was recently designed, built and delivered by Cyberhomes, in a 12,000 ft² Surrey house.

The brief for this project was to maximise the opportunities presented by new technology but with as little on show as possible, minimising 'wall clutter' or impact on interior design. Cyberhomes worked closely with the M+E consultant to integrate the latest automation, entertainment and security systems into the overall development and extensive cabling into the building programme. A flexible, user-friendly approach to control proved essential and the latest intuitive software applied, using touch-screen controllers and occupiers' smartphones.

Multi-room control & entertainment
Every light in the house and garden can be dimmed or switched on and off with the touch-screens and smartphones, as well as discreet local wall panels. Pre-set options are also available to create the right lighting mood for the moment. All the lights in the house can be turned off with a single button or the lighting can be set to holiday mode, creating the impression that the house is occupied. Outside, atmospheric lighting

Touch screen panels provide control over the integrated smart systems

enhances the swimming pool area and landscaped gardens.

The multi-room audio and video system features a music player for each family member to enjoy his or her own diverse music collection. Any of the nine televisions can stream video content from multiple Sky, Virgin TiVo and Apple TV boxes, Blu-ray discs and a Kaleidescape movie server. Even the laundry room has a fully connected TV. Ceiling speakers in all the rooms and external speakers in the gardens, organised into 17 audio zones, provide music and sound selected from the AV system.

Automatic home cinema
The main living room is the heart of the entertainment system. This room has to work both as an everyday living space and also a high-specification 3D home cinema. It has a 65" smart

TV for day-to-day viewing but, at the touch of a button, a projector descends from the ceiling, a 250x140 cm screen gently lowers in front of the TV, the lights dim and the motorised blinds close creating the ultimate home cinema experience with stunning picture quality and jaw-dropping surround sound.

Cyberhomes also designed the cabinetry that houses the screen and front speakers. This incorporates a tilting mechanism so the centre speaker can be adjusted to suit the precise distance to the seats, once furniture positions have been finalised, optimising acoustic performance. The speakers are hidden behind removable, 'acoustically-transparent' fabric panels allowing future adjustment for furniture changes.

Security and peace of mind
With such a large home in extensive grounds, Cyberhomes made sure that discreet CCTV cameras cover every part of the property. There is also a video door-entry system and remotely-operated gates at the driveway entrance to give advance notice of visitors' arrival. Smart technology allows any of the CCTV cameras to display on any of the touch-screen control panels throughout the house or on smartphones, including when away from home.

Owners don't have to worry whether they have turned down the heating because they are

away, or left the lights on downstairs when going to bed. The integrated smart system lets them double-check and make any adjustment necessary wherever they are.

The comprehensive intruder alarm system for the house is also integrated with the home automation system, allowing additional actions to be triggered automatically. For example, when the intruder alarm is armed, lights can be turned off, vacation mode occupancy simulation started and heating reduced. Then, once the alarm is disarmed, an entry lighting scene automatically activates and the heating returns to comfort levels.

Whilst the system is unarmed, security sensors can be used as occupancy detectors, for example turning lights off if rooms are unoccupied for a length of time. An astronomical clock enables programming to take account of changes in sun rise and set times when determining what happens when sensors are triggered at different times of the year.

Long-term reliability

With this level of automation and technology, reliability and long-term performance are essential. The Cyberhomes founders have a background in outside-broadcasting technology for the BBC and take the same rigorous approach with the equipment, cabling and software behind home automation projects. The AV racks were built and tested at Cyberhomes' rack building facility in Thame and all the wiring looms created in a controlled environment. This approach minimises the connections and other work on a building site.

Careful consideration was given to how all parts of the racks and cabling infrastructure could be accessed for maintenance and future upgrades within the space available. The plant room houses two full-height equipment racks for the audio and video systems, and two low racks for CCTV and networking.

To avoid having to move racks for access, front-mounted power breakers were installed for all equipment and made easily available at the top of the two main racks. The rack room has just won the Control4 2015 Award for 'Most professional AV rack' and was a finalist for 'Best Dressed Rack' at the 2014 CEDIA awards.

Now completed, Cyberhomes monitors the house system remotely. This has already proven important, with remote thermal monitoring in the plant room enabling the owners to be alerted that third-party-supplied air conditioning had failed.

WANT TO KNOW MORE?

Tennant is Marketing Director of smart homes technology specialists Cyberhomes. For more information **circle readerlink 117**

There is multi-room audio and video throughout

Atmospheric lighting enhances the swimming pool area

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The main living room features a high specification 3D home cinema