

## Home automation

Where we once fantasised about appliances and home fittings making our lives easier, home automation is quickly becoming a reality. Worth around £65 million in 2011, it is estimated that the UK home automation market by 2016 will be worth a staggering £156 million. This growth is being driven by the rapid advance in technology, which is bringing intelligent automation systems to a growing number of homes and work places, allowing control of everything from lighting, heating, communications and entertainment. Marie Parry, group marketing manager at the [Scolmore Group](#), writes for Wiring Matters about this trend for smarter homes and some of the options available for wholesalers.

Home automation technology has been available for many years but demand for systems in the UK have, until recently, been largely limited to luxury homes and specialist projects. However, with declining costs and complexity, plus greater awareness of system benefits, industry experts predict that home automation is set to become one of the fastest growing markets in the UK.

Forecasts indicate that the pace of growth will increase over the next five years as the UK home automation market becomes more established. This can be partly attributed to growing concerns about energy efficiency and the environment and technological developments that will make home automation system products cheaper and easier to use.

Less than 0.1 % of UK homes currently have a home automation system installed (this compares to around 5 % of residential homes in the USA). Although small, the penetration of home automation in the UK is growing exponentially for both new and existing housing stock. In terms of importance, access and security control continues to be the most popular application area for home automation, followed by multi-room audio, home theatre, climate control and lighting control.

The further development of super-fast broadband services is likely to support demand for home automation, with new and improved products taking greater advantage of digital technology. These will deliver a better and more efficient service to the home owner.

Continued growth in this market sector will depend on the extent that home automation technology becomes affordable and accessible to the mainstream market. Declining prices and the increasing availability are likely to accelerate market demand for these systems.

By 2016, it is estimated that the UK home automation market will be worth some £156 million at DSP (Distributor Selling Price). In terms of volume, this equates to around 37,000 systems installed.

No longer the preserve of the rich and famous, the smart home is becoming accessible to us all and a raft of new products, specifically designed to enhance our lifestyles and save energy, is now available. Wholesalers and contractors are in a prime position to take a share of this growth by understanding the products and systems available.

Whether the project involves updating an existing wiring system, or is the start of a brand new domestic or commercial building project, there is a home automation system that will deliver the right solution while meeting the required budget. From radio frequency (RF) wireless control of lighting and heating through to the all-singing, all-dancing, interactive multimedia systems, smart technology is here to stay.

## Intelligent energy saving

By intelligently controlling the lighting and heating throughout a home it is possible to make significant cost and energy savings and this is also the case with wired and wireless automation. For instance, central heating systems, instead of heating the whole house, can be split into different zones so that rooms or areas are warmed as and when they are required. In the same way, lighting systems can be controlled so that the right light output is delivered when and where it is needed.

## Wireless control

To enjoy the benefits of home automation in an existing dwelling but with minimum cost and disruption, a wireless system is the answer. Complete control of the heating, lighting, shutters, blinds, gates, garage doors and appliances is achievable without the need for additional cabling or cutting into walls. Receivers are simply fitted behind the light fittings or into suitable installation boxes and the transmitters are powered by battery so require no additional power supply.

Once a decision has been made on which features are to be controlled, the system can be installed and up and running in a very short space of time. Heating, switching, dimming, control of shutters, window and door openings can all be quickly and easily set and adjusted. Daily and weekly switching programmes can be set and it is also possible to simulate occupancy when a house is empty - setting the lights to come on and curtains to close in the evenings, for example – giving total peace of mind.

## Wired for sound

Operating at the other end of the market is the wired home automation – or BUS – system. This high-specification type of system allows a myriad of different functions to be operated throughout the home or the workplace – even where there is no-one on the premises – thanks to the remote control capability of the whole system via a computer or mobile phone.

With the click of a mouse, a quick text or the sound of a voice, any number and combination of commands can be set in motion to operate the gadgets in a home – lights switched & dimmed, heating regulated & curtains and blinds set to create the desired ambience.

It offers total control over the number of features and appliances to be managed, as well as the configuration of the controllers that will operate them – from wall switches, voice control units, touch screen panels and IR remote controls. Sensors, switches and actuators all interact with each other to deliver the commands that have been programmed into what is effectively a bespoke system.

Because everything is set from the computer via a simple program, it is possible to change or modify the settings of any of the devices and units connected to the system – such as creating or modifying lighting mood scenes and varying the time it takes dimmers to fade up or down. It is also possible to add and extend units at any time, which means that there is ultimate flexibility to adapt the system to suit changing needs and requirements.

With the touch of a button it is possible to regulate the heating and lighting; close the shutters and gates; see who has arrived at the front door; dim the lamp in a child's bedroom and set the coffee machine percolating. The options are endless.

Whichever system provides the required solution, what they have in common is a means of reducing costs and saving energy, and with the 2016 deadline that will require all new dwellings to be 'zero carbon' looming, it is within everyone's interest to embrace the technology that is helping to shape the future of our homes and work places.

## **Click iNELS RF Wireless System**

The Click iNELS Radio Frequency Wireless Control System from Scolmore is suitable for both refurbishment and new build projects and can be used to update an existing wiring system.

Simple and flexible installation, significant energy savings and easy programming are the key attributes of the new system, and the unique one touch centralised control panel means that everything can be easily set and adjusted from this one single control panel.

Because of its flexibility it can be easily installed into any property – with a whole house installation taking on average no more than three days. This makes it a very attractive proposition for electrical installers who can offer it to their customers as an entry level smart home solution.

## **Interview with Karl Rawlins – smart home installer**

**What is the scale of home automation – does it need to be a complete refit of the customer's electronics, or are there minor installations that can nonetheless make a big difference to the customer?**

Home automation is available in various formats, wired 'BUS' systems which utilises data cables with programmed control via a central computer, X10 which uses the electrical cables already fitted and then RF 'radio frequency' which uses wireless technology.

For full refurbishments and new builds people have generally looked at wired home automation systems with wireless previously being for smaller, simple installations and solutions. Today, due to the digital wireless technology available and the reduced costs, wireless control is now being requested for most areas, be it new build, full refurbishment or retro-fit.

**Is this very much 'customer driven' or are there any challenges/barriers to home automation that need to be discussed with the customer? For example, are there concerns about changes in technology making today's installations redundant too soon? Are there concerns about costs?**

Customers are looking at how they can add security and energy-saving features to their property whilst at the same time adding a little bit of luxury with automated control. The additional bonus of it potentially adding value to their property is also a big advantage. This is where the cost factor will play a big part in terms of which brand they look at, the different technologies available and how long the product has been available.

Product and component longevity is key in customers' thoughts. Replacing obsolete products can be both costly and time consuming and may be beyond the capabilities of the home owner themselves. As a result, reassurances will be sought that simple software updates will future-proof the installation for an acceptable timeframe.

The fact that the components are electronic devices will mean that they will at some point need to be replaced. This is something that needs to be conveyed to the consumer and a plan put in place to maintain the installation. In most cases, updates will take the form of simple software updates.

For installers, this is where vital information can be learnt during the training process so that the installer is made aware of the procedures for product updates, enabling the relevant information to be passed on to the customer.

**Is there a particular segment that is driving home automation trends – for example, new builds?**

The largest sector for home automation is now retro-fit, where home owners are adding wireless security and energy saving features without having to alter their wiring or disrupt their decor. The new build market and home automation installations are on the increase as sales add-ons, with wireless control being specified more often due to costs and the flexibility of the systems now available.

**How can I get involved in specialising in home automation or working in this area? Is there any training available?**

With the number of electrical events now available around the country, there is no easier way for contractors to see systems working and to ask questions. Most manufacturers will offer a comprehensive training support offer, which is always recommended on any system, as you learn about the system and what it can do and offer, but also to understand its limitations, be it cable runs with wired systems or the signal range with wireless systems.

**What are the particular skills you would recommend?**

With general wiring skills it is then down to the system being installed and the data to be logged.

For wired systems it can be installing the cables as necessary with no additional skills required, to then progressing to be trained on the final terminations and PC programming and commissioning.

For wireless systems, retro-fitting small installations (single receiver with transmitter) can be achieved without any additional skills other than reading the manufacturers installation requirements. For larger installations I would always recommend additional training to help in understanding more about the components, programming, their signal range and also their transmission through the various building materials.

**What has been your most satisfying home automation project so far?**

There have been quite a few, with the majority being small to medium-sized solutions using wireless control. Eliminating the disruption to walls, gardens and driveways by switching the required circuits via radio frequency gives the greatest satisfaction. One project saved a primary school thousands of pounds when they realised they had not provided power from the main school building to the security gates at the front of the premises – we were able to overcome the problem using wireless controls.

## **In your opinion, what will home automation look like in the next ten years?**

For most home owners, a typical installation will be automated control whilst monitoring energy saving and security elements based on our everyday movements. Systems will then allow us to control and over-ride manually via smart phones, watches and tablets.

Most of these features are available today at a cost, but as energy companies and the government strive for us to reduce our carbon footprint and consumer's requirements become more and more sophisticated, more home owners will look to install home automation features sometime in the future and this will become a standard requirement within the building industry.