



Smart homes of the future An industry view



The smart home is coming and installers and electricians need to be ready....

Foreword

Andy Mansfield, marketing communications manager, Honeywell

Developments in technology have grown at an extraordinary pace over the last few years, giving consumers the opportunity to live life more efficiently and flexibly than ever before. Whether it's mobile banking, contactless payments, recording your favourite TV shows via an app while you're out, or being able to 'click and collect' your shopping, our lives and homes are rapidly changing and **consumers are increasingly turning to devices and features that allow them to do things whenever they want, wherever they are.**

The demand for smart technology and gadgets in the home is on the rise. More and more everyday devices are now connected to the internet as the desire for greater levels of personal control grows alongside improvements in remote-controlled technology. And heating controls are starting to become a part of this change in the way people control their lives. Over the last ten years, the complexity and capabilities of what are often perceived as simple domestic controls have been transformed. No longer are heating controls a neglected dial on the wall, they are progressively becoming part of people's lifestyles and aspirational products in their own right.

Consumers' demands for more flexibility, convenience and communication in their lives, coupled with the continual rise in domestic energy bills, have meant that homeowners now expect so much more from their heating controls. Homeowners are favouring manufacturers who can provide them with new levels of convenience, efficiency and financial flexibility – three of the most important factors for any modern household.

In a consumer study carried out by the Department of Energy and Climate Change (DECC) in October 2013¹, the ability to remotely turn on the heating before returning home was cited as one of the key expectations from heating controls. Furthermore, the ability to set different temperatures at different times for different rooms, all from one central panel also scored very highly. Combine this with the fact that UK consumers still spend around £27 billion² every year on home improvements, maintenance and repairs, it is evident that there is a real appetite for technology which delivers this. So, what's next in this technological revolution?

It's no secret that homes are getting smarter and more sophisticated and market analysts predict that this is only set to continue. These experts have suggested that the explosion of multi-connected devices, known as the 'Internet of Things'



will grow to over 26 billion³ connected devices by 2020, a thirty fold increase on today's figures, and a market valued at over a trillion dollars.

Perhaps the biggest growth has been in the smartphone and tablet market. Global smartphone usage passed the 1 billion mark in 2012 and is expected to total more than 1.75 billion by the end of 2014⁴. The smartphone has become so much more than a device for communicating with family and friends and is increasingly becoming a gateway where homeowners can control everything, from their coffee machines to their heating, via the internet. This growth is already providing opportunities for many different industries and is paving the way for the birth of the next big technological trend - **the smart home**.



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So, what is a smart home?



Oxford Dictionary: A smart home is a home equipped with lighting, heating and electronic devices that can be controlled remotely by smartphone or computer.

PC magazine: A home that is highly automated. It is entirely networked not only for computers, A/V entertainment and security, but also for heating, air-conditioning and lighting control.

The UK Department of Trade and Industry (2003): A dwelling incorporating a communications network that connects the key electrical appliances and services, and allows them to be remotely controlled, monitored or accessed.

Honeywell: A connected, controllable and intelligent home where all systems, including heating and lighting, communicate with one another and can be controlled from anywhere at any time using a single phone, tablet or computer, with the main goal being energy efficiency.

In reality, a smart home is all of the above – the only variant is the degree to which the homes are connected. But one thing is for certain, the future means more connectivity and the industry needs to embrace this.

According to British building environment market intelligence provider, BSRIA, Europe's smart home market is still niche but there is a growing interest with an upward trend seen in the market size⁵. It says that the key drivers are comfort and convenience, with lighting, blinds control and entertainment systems the major applications in smart homes systems. **However, it adds that there is a growing trend in multi-room control integrated with heating.**

Smart homes may have seemed like a futuristic idea some years back, but the prevalence of smart phones and tablets has meant that smart home technology is gaining real momentum and is becoming easier to use, more intuitive and, importantly, affordable. With the current drive to reduce energy bills as consumers look to make their homes more energy efficient, **the ability to create a smart home is approaching faster than anyone could have anticipated.**

Whether it's smart meters, smart TV devices, internet-enabled heating controls, refrigerators, ovens or coffee makers, **homeowners have already been using smart technology for the last 20 years, possibly without even realising it.**



What the homeowner says

In its 2012 report, BSRIA claimed that consumer awareness of smart home products and systems was low. However a consumer survey carried out by Honeywell in 2014 has revealed that now, just two years later, **over two thirds (68%) of homeowners are aware of the concept of smart homes**, demonstrating that awareness is growing at quite a significant speed.

It's evident that the understanding amongst UK homeowners is there, so is a smart home something they would really want in their lives? The results are encouraging. **Nearly half of all respondents (47%) would be interested in having a fully connected smart home** where they could control everything from a tablet or phone. When asked the reasons, **71% cited lowering their energy bills and a third said it was down to convenience, flexibility and controlling their home to suit their lifestyle.**

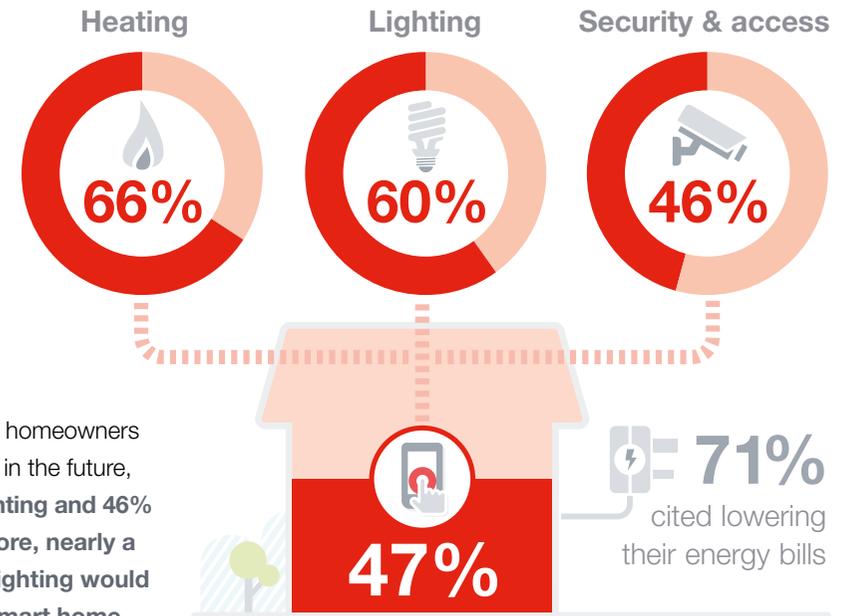
Cost came up as the biggest perceived deterrent for having a smart home installed, with **49% of respondents saying they thought it would be too expensive. 11% said they didn't feel they knew enough about smart homes and interestingly, almost 40% said they wouldn't know where to start**, who to talk to or how to go about achieving one.

When asked which different household systems homeowners would like to be able to control remotely now or in the future, **66% identified heating, with 60% stating lighting and 46% highlighting security and access. What's more, nearly a quarter (38%) said integrated heating and lighting would be the most important thing for them in a smart home.**

With 26 million homes in the UK in 2013⁶, there is a great opportunity for installers to make sure they have this type of installation covered.

So, what's next? The biggest challenge in the next stage of introducing smart homes as a plausible and realistic solution for today's homeowners is to better educate them. It seems that homeowners understand what a smart home is but they need to understand where they can get reliable advice and installation services from. There is a real opportunity for the installer to be this trusted source.

Educating homeowners about smart home technology is probably not the installer's prime responsibility but it is up to them to explain the benefits and cost savings a connected home will bring. For example, even with relatively simple thermostats, consumers often struggle to effectively program them and achieve maximum benefits and savings. It will be a similar story for smart homes if the technology is not used



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2014 Honeywell

correctly so it's extremely important for installers to be the recognisable and friendly face, helping the homeowner every step of the way.

Initially, the likelihood is that consumers won't go out of their way to make their house a smart home from top to bottom, as the concept is too broad. However, people are beginning to see the value in solving one nagging problem that saves them time or money or makes their life easier – such as remote-controlled heating controls. Once they do this, experts predict they will see further value in solving another problem and then another and, before they know it, they will be living in a smart home. **This modular process is the start of a platform to build a smart home from and provides installers with a number of ongoing new business opportunities.**



The installer and the smart home

Often with new technologies, questions are raised over how relevant they are to the general public and whether they are just a fad, soon to be forgotten about. However, when Honeywell asked installers whether they had been approached yet by their customers about 'smart' or remote-controlled technologies, **54% said yes, claiming that customers are becoming increasingly interested in home gadgets.**

And it seems installers are also positive about smart homes and enthusiastic to capitalise on this growing trend, with **74% of them admitting they would like to become a smart installer, capable of providing fully-integrated systems. 86% said they would also be eager to learn more about smart home technology.**

Encouragingly, many of the installers surveyed said they were already starting to install smart technology for some homeowners, with the majority referring to smart heating and hot water controls.

It's clear that the appetite is there from both consumers and installers, and a clear market is beginning to emerge, so where does the installer start in trying to break this market and bridge the education gap which exists between the market and homeowner? What's more, how do they avoid being left behind?

Installers doing business

In Honeywell's consumer survey, **three quarters (76%) of homeowners said they wouldn't know who to look for to install a smart home**, meaning currently, their heating installer is not front-of-mind for this role. **Only 18% said they would speak to their local heating and plumbing installer or electrician.** Currently a grey area exists around who a smart installer is and where a homeowner can find one, so there is an opportunity here for installers to position themselves to fill this gap.

This is also an area that the consumer media are also not addressing – **they are discussing the products but not providing the calls to action.**

However, despite these results, **almost 80% stated their first port of call would be the internet, with 19% of these saying they would go directly to the manufacturer's website.** These research findings provide further evidence of the growth of the internet and how homeowners are searching for information in this way.

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86% eager to learn more



2014 Honeywell

76% of homeowners said they wouldn't know who to look for to install a smart home



Developing an online profile should therefore be the first port-of-call for an installer, to ensure they are visible to their potential smart home customers. This too applies to manufacturers who should be ensuring their online visibility reflects the consumer searches that are being performed.

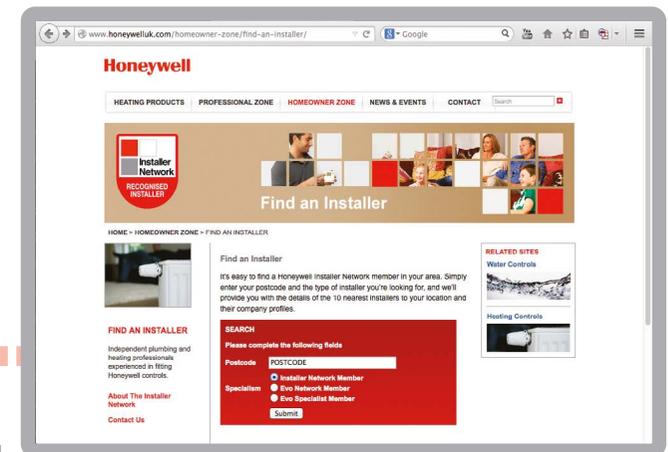
Forming alliances with the manufacturers who are at the fore of smart home technology has proved beneficial for many installers as many host a 'Find an Installer' database on their website, which installers can sign up to and develop their own profile. Honeywell receives thousands of searches a month for installers in its Installer Network. What's more, Honeywell has found that **up to 40% of its online traffic is actually from the consumer,** showing that homeowners are using manufacturers' websites in order to learn about heating controls and benefits.

Installers also need to look to update their own personal websites and information pages to sell their successes and remain visible in the search rankings when a homeowner searches for a smart home installer or for general smart home information online.

The installers surveyed also realised the importance of forming partnerships in the wake of this revolution, with **almost 30% recognising the need to work more closely with other systems integrators** who provide smart technologies. However, it's clear there is still scope for improvement in this area and installers need to capitalise as much as possible on the help and support manufacturers provide, while the market is still young, in order to 'own' this area.



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Installers interacting with the homeowner

No longer will installing heating controls be a case of ‘fitting and forgetting’ a simple thermostat. Installers will need to be in the position to offer customers their consultancy and expert advice, and ultimately add value.

Training and up-skilling is therefore key. The installation of smart home technology will obviously require different processes to those of more traditional thermostats, giving rise to an entirely different set of questions which the installer will need to ask the homeowner during installation and configuration.

It's vital that installers look to their manufacturers for guidance and training on these areas now, while the industry is in its infancy and the products are still new, to avoid being left behind in future when smart technology becomes the norm.

It's important for installers to invest as much time as possible into researching the information and tools which are available to them. Making the most of training courses, tools and

manufacturer support will not only help an installer add value and reduce energy bills for their customers but also help build a trusting relationship which will encourage repeat-business in the future – and give the installer the foothold in the market.

Installers and the way smart technologies are sold

If smart homes are to become a viable solution for homeowners then they need the buy-in from the industry and that includes manufacturers, installers, builder's merchants and the media.

Nearly half of all installer respondents (47%) said that they often hear or read about the latest home gadgets and smart solutions via national newspapers and online sources rather than via dedicated installer communication where they said they'd prefer to find out more.

With the explosion in use of the internet, everything is becoming more accessible. Many homeowners are now buying heating controls for installers to fit directly from the likes of Amazon and eBay, meaning that the traditional route

to market is changing. **As more than 70% of homeowners admit to using the internet as a source for all smart home related products and information**, there is a real need for installers to minimise risk and ensure they are firmly cemented as the go-to expert on and provider of smart homes.

This reiterates the importance of installers maximising their online presence and working closely with manufacturers to ensure they are utilising every possible means of raising their profile to consumers.

Despite the use of the internet, **71% of all installers said they would go to their local builder's merchant to buy all smart gadgets**. In this way, manufacturers also have a real duty of care to work more closely with merchants, to ensure they are stocking and providing the correct training and products for installers when it comes to smart technology.

So, what does the electrician think?



The electrician and the smart home

Almost 90% of the electricians surveyed by Honeywell knew what a smart home was and defined it as a house where all appliances integrate to provide control from a central point both inside the house and via a remote connection. 95% of respondents identified heating controls as topping the list of smart home appliances, closely followed by lighting (92%), security (88%), energy monitors (82%) and finally underfloor heating at (80%).

The survey also revealed that 58% of electricians have been recently asked by their customers about smart or remote controlled technology, as they become more and more interested in home gadgets. However, only 21% admitted to being able to tell their customers all about the latest smart gadgets and products.

Despite a clear understanding of what a smart home is and what appliances it comprises, **only 37% are currently installing smart home products and of those, only 10% covered smart heating controls and a further 10% lighting.** So, it is clear that though there is an understanding within the market place, a gap exists between the awareness of smart homes and the installation of them.

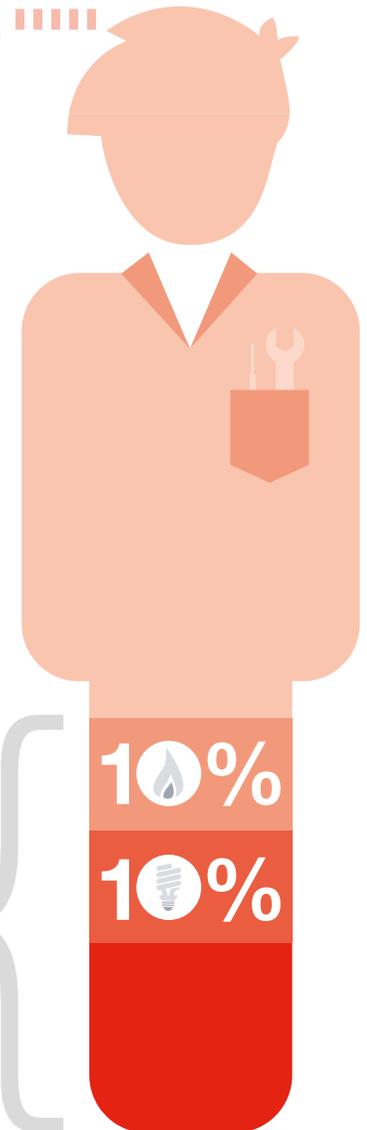
The good news is that there is real positivity in this area amongst electricians and an appetite to learn more, as **100% of respondents expressed an interest in smart home technology. More than 60% of respondents said they would like to become a smart installer, capable of installing and specifying fully-integrated systems for homeowners, with more than 70% expressing an interest to learn more about connected solutions.** So why does this gap between awareness and installation exist? The answer lies in information...

The electrician and information

A third of electricians surveyed stated that although they have an interest in smart gadgets and technology, they wouldn't know where to start when it comes to being able to offer these solutions to their customers. As with the installer, **more than 50% said they hear or read about smart home solutions and gadgets on the TV or in the national press, instead of via their dedicated electrician trade press where they would value it more. More than 42% also said they hear about the products but rarely have access to any training on how to install them.**

100%

of respondents expressed an interest in smart home technology



Only **37%** are currently installing smart home products



Again, it is apparent that to ensure electricians can retain a place in the traditional route to market, the whole industry needs to pull together and get behind smart homes. Manufacturers need to make sure they are providing the trade press with the information and tools they need to pass onto the electrician, as well as offering the electrician the support and training they require. **Electrical wholesalers – which are still the first port-of-call for 47% of electricians when looking to buy smart technologies** – need to be fully equipped with both the products and the information they need to supply the electrician. Finally, the electricians themselves need to proactively promote themselves to ensure they aren't left behind.

The electrician and the manufacturer

Working closely with the manufacturers of smart solutions is therefore key for electricians and installers alike to ensure they remain at the fore of the latest developments in the market. Aligning themselves with a manufacturer will guarantee they hear about the training courses available to them to enable them to upskill and bridge the gap to install smart

home solutions for their customers. It also gives electricians access to the latest training videos, apps and downloadable information to keep them informed and refresh their training.

Becoming a manufacturer's recognised installer or similar is a great starting point to make electricians more visible to the homeowner and position them as a smart installer. Equally important for electricians is ensuring their own online presence is optimised, so all websites and profile pages carry the right information to enable homeowners to find them easily. **We already know 80% of consumers today would look online first when it comes to searching for smart home technology and this figure is only set to grow.**

The future for electricians

When asked where the electrician's role lay in the future in regards to smart homes, **more than half (53%) of electricians surveyed recognised the need to work more closely with other systems integrators who provide smart home technologies.** This would not only enable them to upskill, but also provide a 'one-stop-shop' for the homeowner looking for a fully integrated smart home.

There is already evidence within the marketplace of electricians upskilling and training to provide an installer's role for homeowners and similarly, installers training to equip themselves to carry out an electrician's job.

This marks a change in the market and the traditional domestic electrician or installer needs to recognise that they have a part to play in it. If the future is smart, no longer will electricians be regarded in isolation as having one specific role to play in the home. Instead, we will see the birth of the true smart installer, who can collaborate to provide all services in one.

Joining forces with skilled partners will help cement the electrician's role in the journey from manufacturer to homeowner and position them as the go-to expert on smart homes.



What does the future hold?

One thing is for certain – there is a growing appetite for smart domestic technology across all sectors of the industry – from the consumer to the installer, electrician and manufacturer. However, one thing which is currently lacking is education.

Homeowners have a desire for smart home technology but don't know who to look to or where to go – beyond the internet – to turn this into a reality. While the installer and electrician want to fill this role and become a smart installer, they currently have little access to, or don't know where to look for the right information they need.

The UK's domestic appliance market is in a transition phase, with consumer and national media exciting homeowners – and contractors alike – on a daily basis with the latest intelligent gadgets. **But what is missing and needs defining are the links in the chain between the manufacturer and the end-user. There is a whole new market emerging which is there for the taking for the UK installer, electrician and merchant. The key is tapping into it.**

The next few years will see the smart home market evolve, and with it, the role of the traditional electrician or installer. Their jobs will expand, to encompass new, advanced skills as they partner with other systems integrators, manufacturers and fellow professionals and become a 'smart installer'.

The explosion of the internet will play a leading role and electricians and installers alike need to make sure they maximise their online presence to remain visible to homeowners and align themselves with the right manufacturers of smart technology. **However, reaching this point relies on the whole industry getting behind smart homes today – championing the installer, electrician, wholesaler, merchant, manufacturer and homeowner.**

Smart technology will become increasingly sophisticated and accessible as consumer demand for connected homes grows and the market becomes more innovative. What's vital is that installers and electricians stake their place in it now, to avoid being left behind when it's too late.

Harry Swinbourne
Honeywell commercial building controls expert

The commercial sector has utilised building management systems for over 30 years to monitor and control the heating, ventilating and air conditioning in a wide range of building applications. Initially restricted to large complex systems, the ever-increasing drive for integration at reduced engineering costs has resulted in the development of 'Open Systems' that greatly simplify interoperability at systems and device level. This technology has been readily embraced by the network of independent professional systems integrators who install the majority of building management systems in the UK.

Open systems have not only expanded the horizons of large commercial building management systems but have also greatly increased the opportunities for small scale integration within the scope of domestic buildings. The smart communicating technology, made possible by the universal consumer acceptance of the internet, has bridged the gap between the commercial and domestic control systems. The high octane combination of open systems, home internet and smart devices will not only revolutionise home automation but generate the need for smart home system integrators who can provide the traditional electrical installation and the IT based control system. Honeywell with a long experience of system integrators and domestic control installers, understand that training and product support are key for the successful development of a network of smart home integrators.



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