

## The market potential for Smart Homes

Smart Homes technology offers the prospect of significant improvements in the living standards for older or disabled people who are heavily reliant on home care. However, the benefits of home automation for this group can only be realised if a broader consumer market develops - improving both the availability and affordability of technology. Preliminary research from the Consumers' Association assesses whether such a market is likely to develop. The study explores consumers' attitudes towards the Smart Homes concept and identifies the key factors which will influence the supply of Smart Homes technology in the future.

**f** Although consumer views about Smart Homes were fairly mixed, there was a significant level of underlying interest in the concept. Almost half those surveyed (45%) agreed with the statement "I am really interested in having the sort of functions a Smart Home could offer". Four in ten (40%) respondents agreed with the statement "I could see myself living in a Smart Home in 10 years' time". The concept was most attractive to younger, pro-technology consumers.

**f** Safety and security features emerged as the most popular aspect of living in a Smart Home - 70% of respondents agreed with the statement "I would really value the safety and security features a Smart Home could offer". The benefits of remote access also had wide appeal (59%).

**f** While many consumers expressed interest and support for Smart Home features, many also had concerns about living in one. Two-thirds (65%) indicated they would be worried about things going wrong and half (51%) were worried the system would be too complex.

**f** Interviews with industry experts revealed a general lack of enthusiasm on the part of the construction and property industries, manufacturers and suppliers to promote this technology. The lack of common standards, an inappropriately skilled workforce and concerns that "it's just a fad" have meant the Smart Home movement has yet to develop a sustainable momentum.

**f** However, there are changes on the horizon that could stimulate more activity from potential suppliers. These include scale economies from the American market, the development of new technologies and also interest from the consumer electronics industry.

## What is a Smart Home?

Smart Homes use electronic networking technology to integrate the various devices and appliances found in almost all homes, plus building environment systems more common in factories and offices, so that an entire home can be controlled centrally or remotely as a single machine. This technology offers the prospect of significant improvements in the living standards of older, sick and disabled people who, without automated domestic activities, might otherwise be totally reliant on home care.

However, these benefits can only be realised if the technology becomes affordable and accessible to those who most need it. This is only likely if a broader consumer market develops - pushing down prices and increasing availability. This preliminary research explores whether such a market is likely to develop. The research examines both the supply- and demand-side factors which might influence future Smart Homes development.

## Potential demand for Smart Homes

The findings from the study's survey of 1,000 households indicate an underlying public interest in Smart Homes technology that could be unleashed if the market develops - and prices fall - appropriately.

Smart Homes technology offers a range of different benefits to the consumer. These include: safety and security features; centralised control of the home; remote access and convenience. Views about each of these particular features were tested with

respondents using a series of attitude statements (see Figure 1).

The security and safety aspects emerged as the feature which appealed most to consumers (70%) followed by the benefits of remote access (59%). Opinion was more divided on the merits of convenience and centralised control. Groups most likely to value the benefits of Smart Homes were those in work, men, people aged 15-34, households with children and those who already have access to new technology in the home (e.g. DVDs, pay TV, PCs).

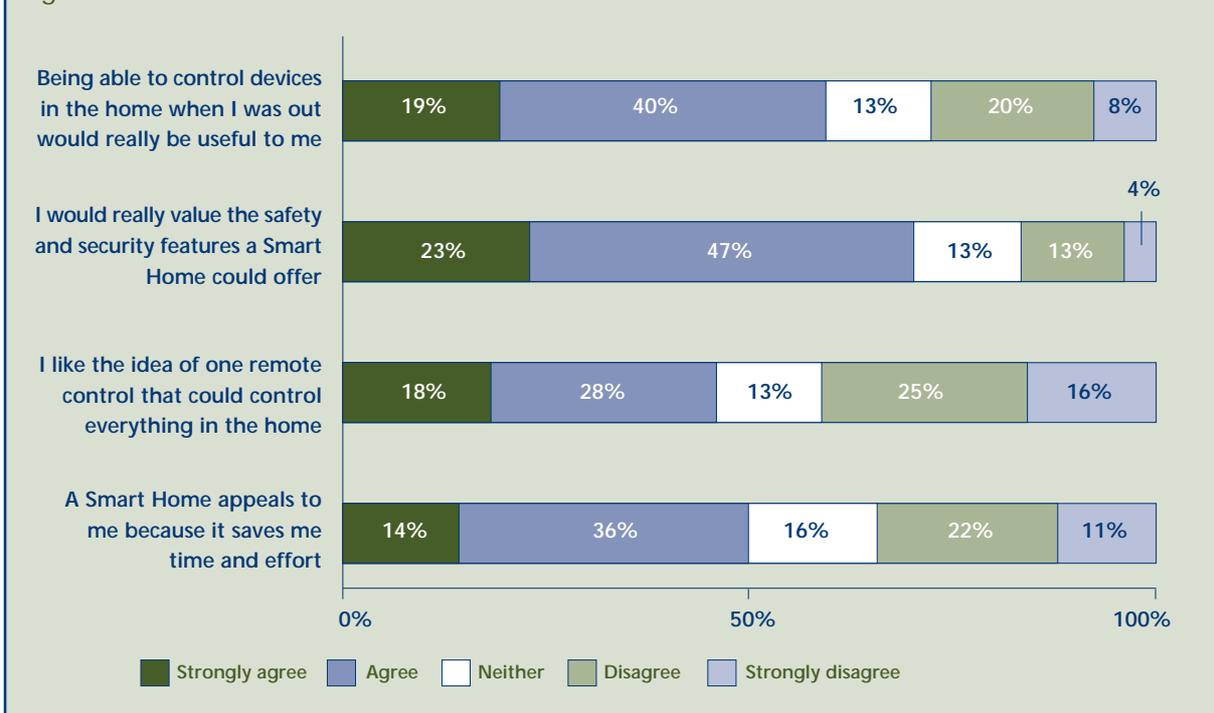
## Concerns about Smart Homes

Despite the support for Smart Homes features, many respondents expressed worries about actually living in one. People were most concerned about "technical hitches and things going wrong" (65%) and around half (51%) indicated that they were worried that the system would be too complex. More than half (55%) said they would worry about the system being difficult to override. Older people (aged 55+) were the group most likely to be concerned about potential technical problems.

## Interest in living in a Smart Home

Opinions were fairly mixed in relation to how interested respondents were in living in a Smart Home themselves (see Figure 2). Less than half (45%) of those surveyed agreed with the statement "I am really interested in having the sort of functions a

Figure 1: Views about Smart Home features



Smart Home could offer", while 37% disagreed. The remainder (19%) of those surveyed were ambivalent about the prospect of Smart Homes living.

There was also some support for the idea of moving into a home with new technology although this was weaker (39%). In terms of future expectations, two in five people (40%) said they could see themselves living in a Smart Home in 10 years' time.

Age emerges as one of the strongest predictors of someone's interest in living in a Smart Home. Generally, younger respondents reported higher levels of agreement with each interest statement. Those households which already owned home entertainment equipment or a PC were also more likely to be in favour of the idea of having a Smart Home.

The results suggest that consumers fall into one of three groups in terms of their attitude towards Smart Homes:

- **'The interested' – those interested in living in a Smart Home:** most likely to be people aged 15-34; family households; those with pay TV and home entertainment systems (i.e. DVDs and video games consoles); those with PCs and/or Internet access; those on higher incomes; those who hold positive attitudes about new technology.
- **'The ambivalent' – those who were neither interested nor uninterested in the idea:** well-

represented across all groups in the population, though marginally more likely to be older and on medium/low incomes.

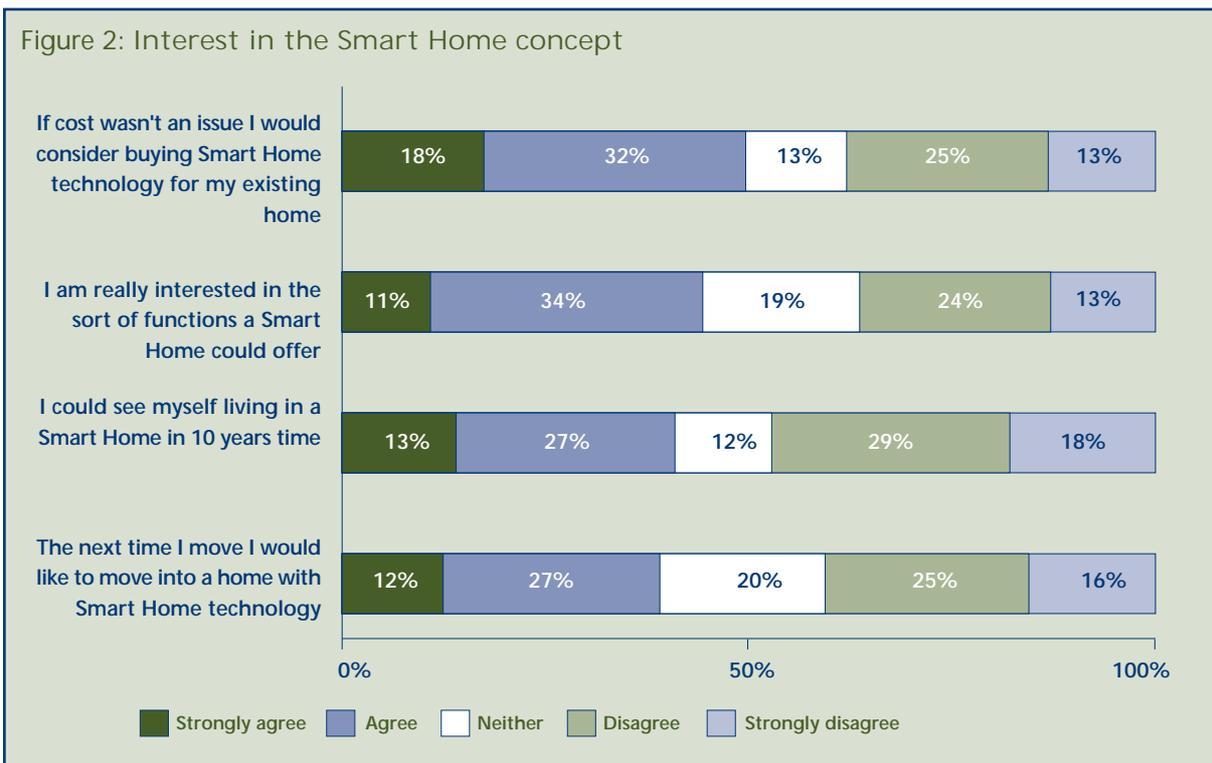
- **'The uninterested' – those not interested in living in a Smart Home:** most likely to be aged 55 and over; households without children; households without PCs, Pay TV or home entertainment systems; those who hold negative attitudes towards new technology.

**The supply of Smart Homes technology**  
Although the main thrust of the research concentrated on consumer attitudes, as part of the study the views of a small number of industry experts were also canvassed. These included architects, building contractors, property developers, equipment manufacturers and academic researchers all of whom were asked to give their views on potential future market growth. Desk research was also carried out to build up a picture of the current market.

The research revealed that although there are currently very few Smart Homes in the UK, there has been a recent, albeit fairly modest, increase in the building and conversion of properties that have embedded Smart Homes technology. Moreover, there has been increasing access to the technology for 'expert home improvers' and 'DIYers'.

There was a general lack of enthusiasm on the part of the construction and property industries, manufacturers and suppliers to push - or even

Figure 2: Interest in the Smart Home concept



properly promote - this technology. The lack of common standards, an inappropriately skilled workforce and concerns that "it's just a fad" have meant the Smart Home market has yet to develop a sustainable momentum.

However, the research did indicate that there might be changes on the horizon that could stimulate more activity from potential suppliers. These include:

- **Scale economies from the American market:** The growing use of Smart Homes technology in the US could deliver the economies of scale necessary to reduce average costs and, hence, prices. Although it may take time to feed through, this could reduce prices here in Britain.
- **New technologies:** Up-coming technologies that will add to the functionality, ease of use and convenience of Smart Homes systems, while improving their cost-effectiveness. Moreover, the development of new communications technologies - such as 'Bluetooth' and the 'XML' language - offer the not-too-distant prospect of common standards for electronic dialogue between Smart Homes devices (although it is still unclear how many standards will exist).
- **Interest from the consumer electronics industry:** With an ever-increasing range of home and personal electronic gadgets available, many major corporations in the consumer electronics industry consider the user-friendly integration and combined control of multiple devices as crucial to their future success. As such, the addition of Smart Homes devices to home entertainment systems is a realistic medium-term prospect.

## Conclusions

With the infant Smart Homes and other associated high-technology markets changing so rapidly, any predictions for their future are highly uncertain. Nevertheless, this research does identify reasons to be optimistic that a mass consumer market for Smart Homes type technology could develop if the market grows and prices fall appropriately.

There appears to be significant consumer interest in the concept which could be unlocked at the right price. Unsurprisingly, the Smart Homes idea is most attractive to more pro-technology consumers, including the so-called 'early-adopters' vital to the early development of high-technology markets. But, in addition, the Smart Home also could appeal to a

broader range of consumers because of its potential safety and security benefits.

If a market does develop, it seems less likely to come from impetus in the building, construction or property sectors. The greater opportunity for growth in the use of Smart Homes technology appears to be from its addition to the burgeoning array of consumer electronics - especially home entertainment and personal communication systems - and initial demand from the more technology-literate early-adopter households.

## About the study

This study was undertaken by the Consumers' Association [Consumer Intelligence Unit]. The study team were Mark Pragnell, Lorna Spence and Roger Moore.

The study comprised:

- Desk research to provide background context to the potential development of a mass Smart Homes market.
- A survey of 1,000 households, which examined consumers' attitudes and interest in the Smart Homes concept.
- A series of interviews with relevant experts to identify their views on the prospects for Smart Homes.

The consumer survey was carried out in April 2000 and covered 1044 adults aged 15+. The fieldwork was carried out by Ipsos-RSL as part of their in-home Capibus survey.

## How to get further information

The full report, **The market potential for Smart Homes** by Mark Pragnell, Lorna Spence and Roger Moore, is published for the Foundation by YPS (ISBN 1 84263 010 5, price £10.95).