

Developments in smart home technology are making the house an interactive zone that can be tailored to entertain, secure and comfort its inhabitants writes Katrina Fox.

# BRIGHT HOUSE



A house in an upmarket suburb – typical of the homes that now have installed automation systems.

Among the technological wizardry in Microsoft founder Bill Gates' plush home in Medina, Washington is a series of art frames which can display different paintings on demand, as well as identification badges given to guests that allow music in each room to be tailored to their preferences. Closer to home, Sydney-based property developer Kovelan Bangaru has spent over half a million dollars equipping his apartment in The Rocks with intelligence that allows him to run a bath or check on his car via the internet from a remote location, even abroad, using a handheld computer.

While these are at the 'dream about it' end of the smart home range, the concept is becoming more popular and affordable with those on more modest budgets. The main drivers are entertainment – particularly now it is possible to download movies from the internet – as well as developments in home theatre systems; security and lifestyle enhancements.

But for all systems, whether it is having basic audio in all rooms of a house to full-on home automation, integration is of key importance. This where smart wiring comes into its own. In 1999 the Copper Development Centre (CDC), in conjunction with the National Electrical and Communications Association of Australia (NECA), electrical products manufacturers such as Clipsal and HPM, as well as Foxtel and Telstra collaborated in developing a system where telephony and audio-visual services could all run off one central hub and be distributed through the home – known as smart or structured wiring.

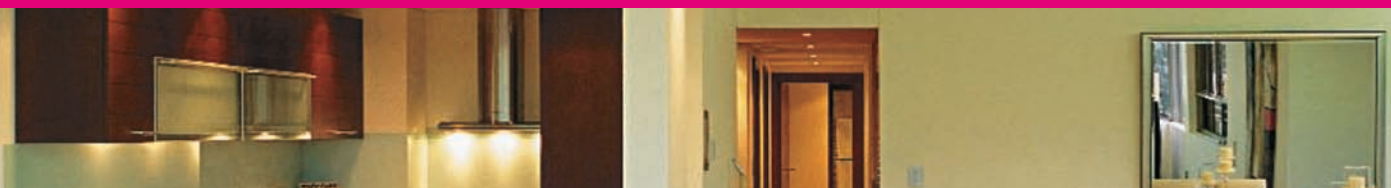
According to CDC CEO John Fennell, research undertaken for the organisation shows an increase in consumer uptake of this smart

wiring. "In 2001 it was 3%, in 2004 it was 11% and we've just finished the latest research and it's 26%," he says, adding that 50% of new homes will be smartwired by 2008–2009.

For the past 18 months, Telstra has been working with property developers in its Smart Communities Initiative, which integrates broadband, standard telephony services, wireless mobile coverage and is aiming to include free-to-air TV in the near future in new builds. The response from developers so far has been "fairly positive", according to national general manager for urban development at Telstra, Peter Ward. "We expect it to increase as consumer demand changes," he says. "The total market uptake of broadband services is 30% in Australia. It was only 10% just 18 months ago and we expect this to increase extensively over the next two years so developers need to be on top of these solutions to make sure their products meet consumer demands. Home theatre and movies online means homes must be wired in a more appropriate manner to allow consumers to take advantage of these.

"Broadband and wireless broadband are going to be the two big demands over the next decade driven by richer content applications coming into the market. Movie downloads are a case in point – if you've got a 256KB network you'll download a movie in three hours but with a 2MB network or 16MB network you'll download it in a matter of minutes."

The starting point for smart wiring is to pre-wire four to six cables out to each room to ensure a home is covered for basic communication, followed by advanced audio, Fennell says. "People





say 'I'll go out from my home entertainment centre and wire up different rooms in the home'. It's easy to do and it means you can open the door and have music playing. This is a cost-effective option."

The next step is security, Fennell adds. "Because you've got telecommunications and audio-visual, they can put in a camera at the front or back gate that's wired into the network, so if you're in bed on a Sunday morning and someone rings the bell, you can flick to channel 13 on your TV and see who it is and let them in. It becomes seamlessly integrated."

An example is the Comfort II, distributed by iQhome which integrates security, intercom, infrared send and receive, telephone and door station answering machine, voice message forwarding, control of lighting (Clipsal C-Bus, Dynalite, HPM iControl, X10, A10 and others), voice reminder messages and time schedules. It also allows the home owner to open the front door using their mobile phone, and has options for air conditioning, entertainment systems, motorised blinds and lighting.

Wireless technology is also making its way into the smart homes market, sitting alongside fibreglass and traditional copper wiring. Another development is broadband over electrical power lines, something Aurora Energy, in conjunction with Mitsubishi, is rolling out in Tasmania. "They're getting 14MB a second out of the plug in the consumer's wall," says Fennell. "We're not competitive

technologies, we are simply providing a service so we don't have a lot of proprietary systems happening then in two years' time they're out of date. That's what has been happening with wireless, it's a great enabler but it needs a wired platform into the home and the challenge for wireless is bandwidth – there's a lot of protocol clash."

Wireless will not replace the wired world, according to National Business Development Manager Automation Systems at HPM, Eduardo Yudowski, who believes there is room for both. "Wireless is practical and easy to install but there's always a question mark about performance and security," he warns.

"Also, the person next door may have a super access point and interferes with yours and they may use your internet access – you may be paying for it and you wouldn't know."

As people work longer hours, the trend towards wanting things simplified is being exploited by manufacturers in the US which offer gadgets such as the Shopping Mate whereby the user can scan the barcodes of their groceries and send them to be delivered.



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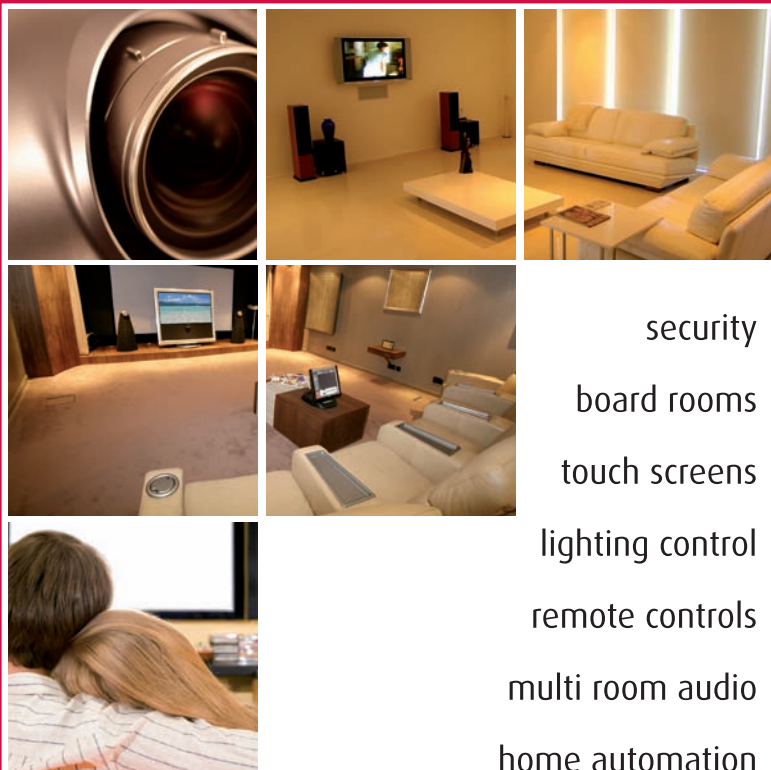
Another trend in the US, driven by energy awareness, is for appliances in the home 'talking' to each other whereby the air conditioner, in peak energy periods, will recognise that the dishwasher is on its third cycle and turn itself off. Fennell expects this trend to reach Australia, as consumers' awareness of energy saving increases. "Peaks in energy demand cost the energy companies money when it's a hot day and everyone switches on their air conditioners," he says. "One of the things they're doing involving home automation is that Mitsubishi, Hitachi and Panasonic have enabled appliances to talk to each other and refer back to the energy provider over broadband."

An issue holding back smart technology is the lack of standardisation among platforms and the need to ensure that the technology remains relevant. To this end, HPM is developing

products that can be updated. Cost is another drawback, although Fennell argues this depends on when in the building process the technology is installed. "As any architect knows, if you're talking \$2500 at the end of the process, it's a lot of money, but if you're looking at a \$500 000 home and you've got \$2500 that you're bedding into the system at the start, it's nothing."

Yudowski agrees: "The perception is that these are luxury items. But if you look at it in proportion to the value of the home, you can add thousands."

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