

Trials of addressable ads are already taking place in the US. Pay-per-view cable channel Starz, working with cable operator DirecTV, has been using data about which subscribers use video-on-demand, or subscribe to premium channels, to pitch ads for its shows to those most likely to open their wallets. It also uses the data to avoid streaming such ads to existing Starz subscribers. The result is a 49 per cent jump in sales, compared to a control group, from households shown the targeted ads. HBO has been using a similar system to promote *Game of Thrones*.

In the UK, targeted TV advertising is expected to come to BSkyB between January and June of 2014, with the launch of the network's AdSmart service. This will allow UK TV advertisers to customise ads for the first time. Targeted ads will be sent to Sky+HD set-top boxes and, based on subscriber information, will be inserted into live broadcast streams. With AdSmart, Sky hopes to approach a comparable level of audience segmentation to that available to advertisers online. Consumers will be targeted based on location, financial status, behavioural influences and preferences, life stage and the age of their children. Virgin Media is also working on developing a similar system for its video-on-demand service.

This will have huge implications for advertisers whose products are directly tied to specific age groups, from nappy manufacturers to owners of retirement homes. A car firm buying an AdSmart slot in a popular show could stream an ad for a family-friendly SUV to a household with children, and one for a sportier model to single viewers.

TV consumption has become an increasingly flexible activity. Viewers watch content on a wide range of devices, in both linear – ie real-time – and on-demand formats. Accordingly, their exposure to targeted ads will be influenced not only by data from their cable provider, but also by their use of devices such as gaming consoles. Both the PS4 and Xbox One, due to launch in time for Christmas 2013, are being positioned as multimedia entertainment systems.

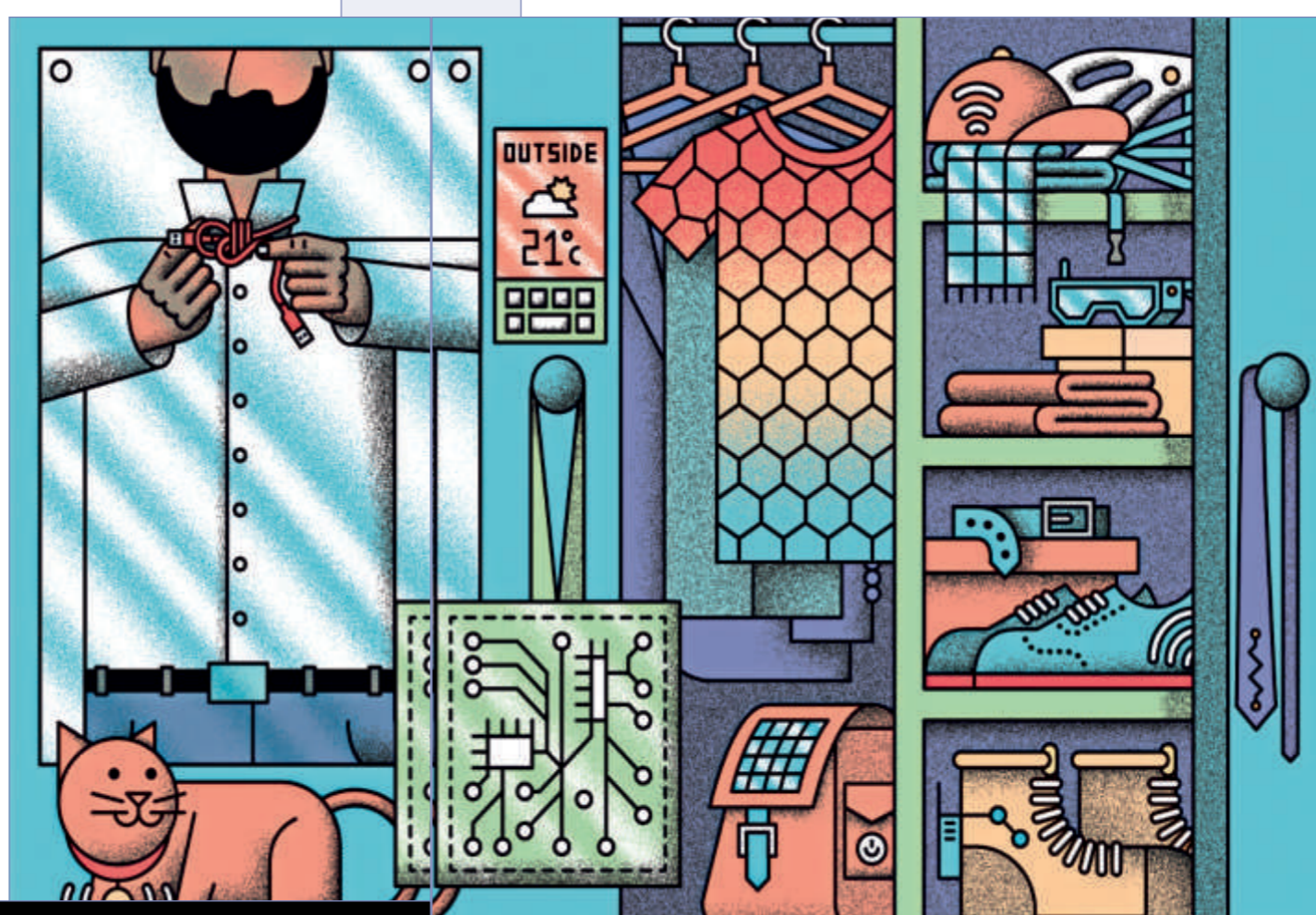
The Xbox One Kinect will be able to work out which users are in the room and refer to their Xbox LIVE account to gather information about them – so advertisers will be able to stream them targeted ads. Companies could be able to serve a seven-year-old, for example, ads based on what games she plays and content she views, while blocking ads that are more suitable for adults.

This, though, is just the beginning. We are now very close to viewers being offered a different experience while they simulta-

neously watch the same set. At CES 2013, Samsung launched what it claimed to be the world's first multiview TV. Two viewers can use glasses to see entirely different content. (The glasses are also equipped with their own integrated speakers.) LG has released a similar system, designed for gaming, called Dual Play, whose glasses worn by each player allow for two views of the game.

Take-up of these technologies will depend on enough multiview sets being bought and some significant changes in viewing habits. More likely for 2014 will be for addressable ads to follow viewers across their different devices. If a viewer likes something they saw on their mobile, the same ad could appear on their television. Advertisers will correlate discrete data, such as location and behaviour patterns of anonymous users, to make educated guesses about who is watching when. This parsing of big data to track audiences across devices and media will ensure that the ads viewers see will be much more relevant. And, just as personalised loyalty cards have boosted shoppers' engagement with retailers which use them well, addressable TV technologies could make mobile ads more personal and enjoyable.

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Slip into something more technological

The most interesting devices of 2014 won't come in a box: they'll be wearable, connectable – and maybe even fashionable. **By Imogen Heap**



earable technology is already looking after us. The other night I went to the fridge for a sneaky slab of cheese. While munching, I plugged in my UP wrist band to set it to wake me up after eight hours' sleep, and up popped a message... to remind me not to eat just before bed. I was a bit freaked out, but I quite liked it.

Right now, each piece of tech has its own discrete task. But next year, as their data becomes more easily shared, we will see hybrid wearable technology with much more complex functions. Combine the UP with WristQue, a wearable sensor that interacts with smart

buildings, and you will have a device that can power down everything in your home to ensure you have a good night's rest. Google Glass or Jet heads-up displays will interact with other tech such as Muse EEG headbands and Valencell earpieces to monitor your mental focus and stress rate while you're on a conference call. Information will travel across e-textiles via conductive thread or fibre optics, bringing garments to life. Depending on the occasion, over the top of your Durex Fundaware haptic pants, which can bring you and your lover together whatever the distance, you could wear KOBAKANT's Crying Dress, which sheds tears; Anouk Wiprecht's Intimacy Dress, which reveals more beneath its opaque smart e-foils the closer someone gets to the wearer; or CuteCircuit's full-colour LED Galaxy Dress. And if you can't make up

your mind, you could wear a biomimicry-inspired fabric, developed by a team at the University of Bristol, that can change colour like a squid.

NeuroKnitting, developed by artists Varvara Guljajeva and Mar Canet, will let you "think" a pattern directly on to a scarf. Thinker Thing will aid your mind to materialise 3D objects. Although 3D-printed electronics used to be too fragile for much day-to-day on-body

€130 MILLION

The projected cost of Berlin's museum of twentieth-century art near Potsdamer Platz. Construction starts in 2014.

use, now a team at North Carolina State University has developed an alloy of gallium and indium that can be 3D printed and still remain soft – which means connections inside and between wearable electronic components won't break with movement.

You can get your hands into a pair of ISG Motion Capture gloves for some 3D character animation, or a pair of my own GluvTech gloves to make music on the move, gesturally. With Machina's MIDI-controller Jacket you can plumb in your own configuration of musical gadgets.

Many of our wearables will need power, of course. We will be able to make use of Intelligent Textiles's battery-pack clothing to recharge, with collar- or cuff-ports to plug in to for extra juice. They will also be able to exchange data – and when crowds gather, our various wearables will be able to share connectivity and information for a spot of spontaneous cluster computing.

Imogen Heap is a recording artist with a hand or two in music tech development



THE END OF TERRESTRIAL TELEVISION

According to Andrew Glasspool, managing partner at Farncombe, a digital-television consultancy, 2014 will mark the beginning of the end for terrestrial TV. Germany's RTL will end all terrestrial broadcasting in 2014. In the UK, the number of over-the-top devices streaming content will exceed the number of set-top boxes, as video-quality provided via internet-links rivals that of broadcasters.