

/ SMART HOMES /

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 David Ross, supplied

WELCOME  
TO THE

# FUTURE

No longer a futuristic niche for tech geeks and luxury homeowners, smart homes have become an integral part of life, raising your home's IQ and its value

**T**oday's high-tech home knows when you're on your way back from work, switching on the lights, turning up the heat or air-con and streaming your favourite music in preparation. It knows when the best times are to run the washing machine, clean the dishes and water the garden. When you leave a room, the lights are turned off. At the intersection of rapidly developing technologies such as the internet, mobile communication and renewable energy, home automation has taken a significant technological leap forward over the last few years. Where, until fairly recently, automation was mainly focused on installing controllable power outlets or light switches and wiring infrared controls around the house, today's wireless networks (3G, LTE, Wi-Fi, LoRa) and smart devices with wireless communication interfaces (Bluetooth, ZigBee, Wi-Fi) allow the user to take home control to the next level.

The smartphone and tablet revolution has finally brought the personal, universal remote-control device into the home, says Ivan Potter, MD of Gauteng-based home automation product and services supplier iLED ([iled.co.za](http://iled.co.za)). 'The days of wall panels are gone,' says Potter. 'We live in the age of apps, which are easy to operate. Their employment in home automation is simply an extension of this lifestyle.'

With smartphone voice assistants having entered the mainstream market, *Star Trek*-style voice control for smart homes may well be the next frontier. 'Voice recognition software is becoming increasingly viable. Telling your home to switch on certain lights, change the channel on your TV or arm your security system while lying in bed is the next big thing,' maintains Demos Rouvis of Nuru Intelligent Buildings ([nuru.co.za](http://nuru.co.za)), home automation specialists with offices in Cape Town and Johannesburg.



SMART THINKING

With improved usability and new capabilities, the motivation for installing smart home technologies has become broader, too. The vision of green buildings capable of significantly reducing energy and water consumption is finally becoming real. It is in the eco-efficiency arena that the most exciting developments in home automation are taking place, claims Brad Sale, owner of residential automation systems provider Elas Africa ([elasafrika.co.za](http://elasafrika.co.za)). Monitoring current and past power consumption and identifying load profiles provides the basis for intelligent power management.

'Smart appliances coordinate their operation with smart meters (home gateways), reducing overall energy consumption and avoiding peak loads,' says Sale. Capabilities include heating control to manage room temperature, smart lighting to control illumination and water-consumption reduction through sensor taps and plant watering systems.

Studies report that automated lighting leads to domestic electricity savings of up to 30%, with automated heating saving between 15% and 20% of energy. Sales notes, too, that smart homes allow for integration with smart power grids. These, driven by the rise of renewable energy generation, are in

the process of being built globally. 'Smart meters and smart gateways can only work if a home control and automation infrastructure is in place,' he says. 'This infrastructure can then interact with the supply and demand-driven electricity cost in smart power grids and schedule high-energy processes, such as turning on the geyser, operating the dishwasher or washing machine, and cooling the fridge or freezer. In this way, smart home automation can contribute to significant energy savings without impacting the comfort levels of residents.'

Indeed, home automation standardisation based on open internet technologies, omnipresent smartphones and sensor-equipped devices has been the catalyst for manufacturers to start integrating control functionality into their products as a default. According to Potter, the broad wave of Internet of Things (IoT) technologies has embraced the smart home, making it an integral part of its concepts. 'These intelligent devices can communicate with each other, forming a network around ourselves, our house and our environment,' he explains. 'The interchange of information allows decisions to be made to improve our lives by simplifying tasks, automating functions and communicating with us.'

Confirming Potter's statements, in August, Samsung ([samsung.com/za](http://samsung.com/za)) announced that IoT technologies have become the centre of the electronic giant's strategic focus, with more than R17 billion to be invested in IoT research and development over the next four years. Paulo Ferreira, director of enterprise mobility at Samsung South Africa, says Samsung aims for all of its devices to be IoT-enabled by 2020.

But IoT cannot succeed in a vacuum, he notes. Samsung is actively promoting cooperation that will result in smart ecosystems of intelligent devices. 'With Samsung's SmartThings platform, we are now able to support the convergence of a range of smart devices – from fridges to light bulbs – on an open platform to make the smart home a reality,' he says.

'All of this will impact us dramatically in the years to come – and by years, I'm talking one or two,' continues Potter. 'If your home is enabled to take advantage of this technology explosion, then you will have a major advantage over homeowners where the infrastructure has not been planned into the fabric of the home.'

# MAD ABOUT SOUND

Whether you want to play your music in one room or in every room, from your bedroom or next to the braai, HEOS from Denon ([denon.co.za](http://denon.co.za)) is the ultimate wireless music system. Sleek and stylish, each speaker delivers high-quality sound anywhere in your home as you stream it from your favourite music service, phone or network – all via an easy-to-use app. Available from between R5 190 and R12 690 at Homemation. [homemation.co.za](http://homemation.co.za)



**THIS PAGE** Available from Homemation ([homemation.co.za](http://homemation.co.za)), the Control4 fully-automated smart-home operating system allows movie buffs to design a theatre to rival any professional cinema. Press the movie button and the projector screen descends, the DVD player fires up, the surround sound is activated and the lights dim **OPPOSITE, CLOCKWISE FROM TOP** Bang & Olufsen's ([bang-olufsen.com](http://bang-olufsen.com)) new BeoVision 14 ultra-HD TV features stylish oak lamellas and a sleek aluminium frame. It is also powered by the Android TV platform, which provides seamless access to web-based content and apps for entertainment, news and gaming; controlled from an easy-to-use app and capable of producing room-filling energy, Denon's ([denon.co.za](http://denon.co.za)) HEOS 5 is the middle-weight champion of wireless speakers; either standing tall or positioned on its side, Denon's compact fit-anywhere HEOS 3 speaker is the perfect way to spread stunning sonics wirelessly around the house; today's smart homes are controlled by apps, which are both simple to operate and affordable to upgrade **OPENING IMAGE** Combining cutting-edge design with the latest technology, Samsung's ([samsung.com/za](http://samsung.com/za)) 360 Cassette air-conditioning unit creates a circular air wave, which consistently controls the temperature of a room by providing an even distribution of air without a cold draft





### SELLING POINT

'An exercise in extreme micro-design and ingenious storage, this 70m<sup>2</sup> apartment has increased in value five (?) -fold. Bought for Rxx million, it is now valued at Rxx million,' Tony Mariano, design studio Mariano Rossouw



### CASE STUDY: MIRAMAR, BANTRY BAY, CAPE TOWN

Briefed to create a transformable space that would simultaneously maximise the dimensions of a compact footprint and make the most of the ocean views, Tony Mariano, founder of interior design studio Mariano Rossouw ([marianorossouw.com](http://marianorossouw.com)), pushed technology to the extreme in this Atlantic Seaboard apartment. The diminutive 70m<sup>2</sup> open-plan living area incorporates a fully functional kitchen, living room, dining area and bar. By employing an ingenious system of bifolding doors designed by Ian Smith of Interjoin ([interjoin.co.za](http://interjoin.co.za)), living spaces seamlessly appear and disappear on demand. 'We only had two walls with which to work – one for the kitchen area and a longer wall to accommodate the entrance feature, dining room table, TV/entertainment display unit and bar area with integrated fridge,' says Mariano.

An exercise in extreme micro-design, the joinery running the length of the longer wall was clad in grey solar-shield glass, which effectively acts as a two-way mirror, reflecting the view and throwing light into the apartment by day. At night, it is sufficiently transparent to illuminate a series of backlit display niches behind it. In addition to creating the illusion of enhanced space, this 'wall of mirror' also houses a retractable

six-seater dining table (which can be collapsed for use as a desk), as well as a backlit panel for the display of the owner's favourite artwork and a pair of ottomans for use when additional seating is required. 'The carcass of the system was built from light but strong birch ply. The doors have aluminium frames onto which the glass is laminated,' says Smith.

A similar multifunctional concept was used in the kitchen, this time with 2mm rock cladding inspired by the boulders that front the apartment. For this reason, the 2.8m-wide space still manages to incorporate a fridge-freezer, dishwasher and oven as well as ample cabinetry.

Finally, strategic lighting was essential for space enhancement and hidden storage. For this, the clever interplay of reflected, indirect and mood lighting was employed by lighting designer Roland Chemelli of Novo Illumine ([novoillumine.co.za](http://novoillumine.co.za)). 'Combining the principles of chromotherapy with the latest colour-changing technologies, the intensity and hue of the individual lights can be adjusted according to the time of the day and the desired mood [above]. This creates the illusion of altered space while also evoking an emotional response from the user,' he says.

'BEFORE LEAVING THE HOUSE, ALL ENERGY SOURCES CAN BE DEACTIVATED AT THE PRESS OF A BUTTON, EFFECTIVELY PUTTING THE HOUSE INTO ECO-EFFICIENT SLEEP MODE'

KLAUS GEYER, GIRA SYSTEM INTEGRATOR

### CASE STUDY: BAUHAUS SMART HOME, ZIRNDORF, GERMANY

Designed by award-winning German architect Dagmar Pemsel ([bp-arc.de](http://bp-arc.de)), this striking Bauhaus-style home incorporates groundbreaking technology from Gira ([gira.com](http://gira.com)), a global leader in intelligent building technology. At the heart of the system is a KNX-certified management system, which links the home's many technology components. A powerful Gira HomeServer, meanwhile, functions as the 'brain' of the system, merging and evaluating all data before sending corresponding commands to the machine control mechanisms (actuators). All the lights in the house can be activated from here, blinds can be raised or lowered and heating can be regulated. Several functions also run automatically in the background – the blinds, for instance, are raised when the Gira weather station detects strong wind.

The system is intuitive and easily controlled from within the home or remotely using an iPad or iPhone. The house is entirely future-proof, says Gira system integrator Klaus Geyer, who worked on the project. 'It is especially practical that the system can be reprogrammed, adapted or retrofitted at any time without having to prise open the walls because the infrastructure (such as the cables) is already installed,' he says.

In addition to isolated functions, entire scenes can be programmed into the push-button sensors in the rooms. For example, a reduced-light scene with lowered blinds can be set for cinema evenings, as can targeted lighting at the dining table with subtle background music. Door communication with video function provides security, while selected light fittings and loudspeakers are discretely integrated in the architecture as ceiling or wall installation variants. A multiroom system supplies music to four independent zones from central audio sources. 'Before leaving the house, all energy sources can be deactivated at the press of a button, effectively putting the house into eco-efficient sleep mode,' adds Geyer.



**THIS PAGE** Spacious rooms, huge windows and exposed concrete are combined with a well-designed energy concept and intelligent home technology in the award-winning Bauhaus ([bauhaus.info](http://bauhaus.info)) Smart Home **OPPOSITE** Miramar's ingenious 'wall of mirror' folds away to reveal a dining room, a TV/entertainment display unit and bar area complete with integrated fridge. Colour-changing technology is also employed in the compact apartment to enhance the illusion of space and to change the mood





SELLING POINT

'While guests have the latest smart-home gadgetry at their fingertips, it is so inconspicuously integrated into Synergy's design that they feel immersed in nature,' India Rostad, Synergy Tree House

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**THIS PAGE** While it appears to be completely open to the elements, Synergy Tree House can be put into full lockdown at the touch of a button, thanks to automated frameless glass doors and integrated shutters

THIS LUXURY TREE HOUSE IS PROOF THAT HIGH-TECH CAN ALSO BE WHOLLY ORGANIC

**CASE STUDY: SYNERGY TREE HOUSE, SCARBOROUGH, CAPE TOWN**

This luxury tree house is proof that high-tech can also be wholly organic. Situated amid the gnarled boughs and boulders of its coastal setting, it is the last word in automated enterprise. Bound on three sides by frameless glass walls ([framelessglasspartners.co.za](http://framelessglasspartners.co.za)) that, at the touch of button, open up completely to stupendous sea views, the house can just as easily be put into full lockdown mode thanks to automated shutters ([acscreens.co.za](http://acscreens.co.za)) with adjustable slats.

The blinds throughout are remote controlled, as are the TVs that lift from discreet boxes at the foot of each bed (above). Also adjustable from the soft-touch access panel is a striking water feature, together with the pool pump and light ([eaglelighting.co.za](http://eaglelighting.co.za)), and even the coffee machine. In the kitchen, which features Smeg appliances, cooking odours are eliminated thanks to an automated extractor fan that slides from the counter when activated.

Manager India Rostad sums up the bipolar appeal: 'While guests have the latest smart-home gadgetry at their fingertips, it is so inconspicuously integrated into Synergy's design that they feel immersed in nature.'