



Scene control switch



Companion Touchscreen

# THE 'SMART' HOME



Handheld remote control



Comfort keypad

The technologies available today can offer the homeowner much more than just a standalone security system to guard against intruders. By integrating security and home automation systems, homeowners can achieve not just home security, but also home control. It is now possible to not only check on your home in real-time, but also control lighting, air conditioning, TV and other home appliances from your couch, office or even while on holiday. Fire & Security Today finds out more about the modern intelligent home from **LY Chiu, Director of Cytech Technology Pte Ltd**, a Singapore manufacturer of integrated security and home automation solutions.



**FST:** How would you define the 'smart' home of today?

The Smart Home, or Intelligent Home is one in which motion and other sensors, lighting, heating, air conditioning, home entertainment and other appliances are linked together to behave like an intelligent entity so as to provide comfort, convenience, energy savings and security for the home. This goes beyond electronic lighting switches which allow you to use a remote control to control a light. This by itself is not "smart", as it just replaces a mechanical switch with an electronic one. Such switches can be part of a smart home if it can be connected to a system which can coordinate its operation with other devices in the home.

However, it is not necessary for a smart home to control all appliances. A basic smart home system can have just a few lights controlled by the system to provide practical benefits.

**FST:** Can you give us an idea as to how this integration (of security and home automation) came about, and in your opinion, how it has impacted the security industry so far?

A security system has motion and contact sensors which can become the eyes and ears for a smart home. Hence it is a natural progression to extend the function of an alarm system to allow it to control lighting and other appliances in the home.

The integrated system has given system integrators an opportunity to move beyond the very competitive generic low cost alarms to a higher value-added playing field. Alarm installers have the basic skills and knowledge to switch to these newer systems but it takes training and acquiring of new skills. Even manufacturers of traditional security systems are increasingly looking to add home automation features to their products.

**FST:** In terms of providing security, what can an integrated solution do?

An integrated system enhances the security of a home as well as provide convenience. For example, external motion sensors can turn on outside lights and play a warning message when motion is detected. When occupants are away, lights and sound (radio, TV) can be programmed to come on and off at various times to give the impression that the home is occupied. In the event of an intruder

alarm, all lights or certain lights in an area can be turned on automatically. Similarly, when someone comes home at night, the hall lights can be switched on. Lights in the corridor can be turned on at night when motion is detected and switched off a few minutes later. When the security system is armed, lights and air conditioners can be switched off automatically. The security system can even be automatically armed at night and disarmed in the morning.

**FST: How is the Asian market for such 'intelligent' homes, in terms of awareness, the current trend, available technology and affordability?**

Asia is a significant market for Intelligent Homes, primarily because of high-end residential projects in condominiums and cluster housing. The products and technology are available from many manufacturers in many countries. Awareness is relatively high in countries like Singapore, Korea and Malaysia where there have been large-scale projects since the 1990s but it must be said that widespread adoption still has a long way to go, as smart homes are perceived to be something for multi-million dollar homes. However, the cost of such solutions is now affordable for the average homeowner, given the added security and convenience provided. An increasingly important need filled by these systems in today's world is in energy conservation, e.g. to switch off or turn down air conditioners, heating and lights when the room or home is not occupied.

**FST: What are some features/functions homeowners in Asia are specifically looking for that you have incorporated or will incorporate into your products?**

Young professionals with a taste for technology would be interested in features like access from the Internet, PDA or 3G phone and touchscreens. However, the programmable behaviour of the system, as described in question (3) are practical and useful even for those who do not care about fancy gadgets. We will continue to develop the more flashy features as technology evolves as well as the more mundane but useful aspects. A useful feature of our Comfort system for landed properties is the Door Station which allows users to answer the doorbell using any telephone in the home or even their mobile phone when they are out of the house. This allows them to let in visitors by opening the autogate, while also deterring potential burglars who want to check if anyone is at home.

**FST: Any important factors/potential disadvantages that homeowners should consider before deciding to implement an 'intelligent' home?**

Most systems require some degree of wiring, so owners whose homes are not new should take this into account. The cost of equipment and installation ranges widely according to the extent of the system, from US\$1000 for a security-only system to more than US\$10,000 for a comprehensive installation.

**FST: What concerns do system integrators usually**

**have about integrating home automation with security and what's one important thing they should know about this industry?**

System integrators come from the security industry as well as the Lighting and AV industry. Security integrators have to make the leap from the relatively simple programming for an alarm system to the more challenging requirements of programming the security, lighting and home appliances to work together. This requires training, and familiarity with the use of a laptop for programming and downloading.

Lighting and AV system integrators have to contend with the need to learn how to do a security survey to determine the proper placement of alarm points and selection of security sensors. In time, these may converge into a new category of "Smart Home Integrators".

**FST: The Comfort integrated security and home automation system is your flagship product and has undergone enhancements over time. Tell us a bit about what it offers, its compatibility with third party systems, and the technology it is now using.**

The innovations introduced by the first generation Comfort in 1996 included control of the system through the telephone, integration of security/home control with voicemail, and the Door Station which allows users to talk to visitors from the home telephone or mobile phone. Now, Comfort can be accessed from keypads, touchscreens, Internet browsers, PCs, handheld remote controls, or by SMS. Infrared signals can be sent through any output to control air conditioners and AV systems.

A key focus of the company is to enable integration with as many products as possible, especially lighting systems like Clipsal's C-Bus, the European Installation Bus (EIB) supported by many European manufacturers, Lutron and many others. We have positioned ourselves as a manufacturer of a Home Control System, i.e. the brains of the home, while the choice of sensors, lighting and other systems are left to the end user depending on the needs of the installation. Hence Comfort is not a plug-and-play or DIY product or a one-stop solution (although there are many users who have installed Comfort in their homes in Europe). The product is primarily sold through system integrators. We have opened up the communications protocol to any third party manufacturer or integrator. There have been many applications over the years from software to touchscreens and web servers which have been developed by others to work with Comfort.

**FST: In close, where do you see this industry heading in the next 5 years?**

The adoption of home networking, broadband and wireless technologies should herald a growing awareness and adoption of Smart Home systems. The falling cost of technology should reduce the cost of adoption, and new technologies should bring more innovative benefits to end users. Traditional security integrators will increasingly see home automation as an important part of their basket of products and services.