

SmartHouse – between myth and reality

by Eugen Rotariu – Intelligent Building Solutions



It has been talked about smart houses a lot lately. Some are enthusiastic about the house of the future, considering it an excellent but a far idea. Others say that the notion has been lost its credibility due to the broken promises. Some consider modern houses, equipped with digital multimedia technologies, to be the embodiment of smart houses. Finally there are some who also believe in the reality and contemporaneity of smart houses, but deny the share of the multimedia equipment in the growth of the intelligence quotient of the house. Everyone is right in a way because nobody has yet defined the human intelligence. Why should it be different with house?

We can however talk about some elements that are indispensable in a smart house: sensors, elements that allow commands of the installed systems, a

communication network and a central unit that runs programs and monitors information, makes decisions and gives out commands based on these decisions. Furthermore, with hardware and software interfaces, the owner of the house can access all the information gathered by the central unit, he can control the commands individually or grouped on scenarios and can configure the way the house makes decisions. These are decisions which complexity divides houses into smart houses and automated homes.

The installed sensors are the house senses: the house sees, hears and smells through these sensors. The most common sensors are sensors like movement, humidity, gas, smoke, temperature, microphones, video cameras digital key readers, etc. In the future there will surely be sensors that can detect earthquakes, floods or the smell of the flowers forgotten in a vase, and based on these information houses will be able to make better and more intelligent decisions.

The components act like muscles: they receive commands and execute them. These are: electrical relays, light dimmers and switches, motor-driven sun shade and shutters for windows, electro-valves/actuators for heating devices, electronic door locks, infrared transmitter like universal remote controls or communicating devices as for sound systems, projectors, air-conditioning or video surveillance devices like PTZ cameras and others.

The communication between the sensors, the components and the central unit has to be provided by a network, even wireless, like human nerves. If the communication

network is wired it can use other existing networks' wires, like power supply or computer and phone network. The main requirements for any of these networks are established, security, transfer speed, projection, installation and expansion. The network has to be chosen for each project, based on its requirements. There is a possibility to install a combined solution, that uses more types of communication for either greater installation flexibility, or to comply components of different manufacturers.

The central unit is like human brain, a computer capable to coordinate all the installed systems, offering at the same time a flexible interface between the owner and the house. This interface can use modern auxiliary components like touch screens, laptops, mobile phones, keyboards, remote controls or infrared. Of course, the interfaces will develop towards voice control or why not telepathy.

Finally, the component that really makes the difference between a smart house and an automated home is the software that controls it. This is where the line must be drawn and must be counted how many communication protocols can control, with how many devices can communicate, how well can it read the information gathered by the sensors, how easy it can be configured and used by the owner, how well can it learn the owner's customs, how well does it know when to intervene, how easy it is the maintenance and how secure it is. The evolution of the software that controls the smart house will never come to an end, and when the barrier between automated and intelligent is trespassed there will be long discussions over this.

In conclusion, automated homes are a reality and have all the chances to become a mass phenomenon. The necessary technologies are mature and examples can be found on the market. If these are, or might become intelligent in an expected

matter of time, it depends on how one conceives intelligence. One thing is sure, we can offer our home senses, muscles, nerves and brain. With a little patience and faith, it can become a loyal and intelligent friend.

Naturally, this article cannot come to an end before reviewing the benefits of a smart house: comfort, security, saving costs. For details about these advantages, about how life changes in a smart house, case analysis or technical details please visit IBS' homepage <http://www.ibs-smarthouse.com> .

Eugen Rotariu - the author of this article is the manager of IBS - Intelligent Building Solutions, that manufactures software and hardware equipment dedicated to smart houses. IBS provides all necessary tools for controlling, monitoring or report histories of these devices.