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## **Smart Home**

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A smart home is a term used to describe a home that has a computer – automation system that controls various functions in the home. When smart homes first became available, the answer was a bit vague. But as larger players join the industry, they make it easier for consumers to understand and acquire the technologies needed to get started.

What you need to turn your ordinary home into a smart home is 1) a Wi-Fi connection, 2) smart home appliances (or smart home devices) and 3) a smart home system to connect, monitor and control these devices. This system uses intelligent technology that allows you to connect devices to a network, which provides access and control of devices at a distance. The system can be used for monitoring, warning and performing various functions. Intelligent technology provides automatic communication via mobile phones, the Internet. [2]

Advantages of smart homes:

1. Allow you to better control your energy consumption by automating things like temperature control, turning lights on and off, opening and closing windows, and adjusting watering depending on the weather.

2. Provide information about energy use that can help you become more energy efficient and be mindful of environmental factors.

3. Can pinpoint areas where you use more energy than you need, which will allow you to cut costs in these areas and save money. Smart technology uses different electronic

components that perform different functions. These components are divided into the following general groups:

- Sensors: to monitor and represent any changes, for example, humidity sensor, smoke sensors, motion and heat sensors, thermometers, etc.

- Actuators: These components perform physical actions; examples are automatic light switches and door and window openers.

- Controllers: These components do control based on programmed rules.

- Central blocks: used when programming and making changes to the system, a good example is a computer.

- Interface: These are components that help the user communicate with the system.

The most important aspects that need to be taken care of in order for a house to be considered smart are:

- Energy management
- Security
- Lighting system
- Emergency management
- Entertainment
- Smart devices.

Energy management

Smart homes are considered to be very efficient in energy management. Electronic devices are installed in the house to control the use of energy and the number of people. When there is no one in the house, the temperature settings are automatically lowered, and all unused appliances and lights are turned off. The energy management system also manages the heating system, fans and air conditioners in a way that saves energy. The smart home's power system also automatically shuts off power from an outlet that is not being used.

The smart home's energy management system helps reduce energy costs by up to 65% compared to a home where energy consumption is controlled manually.

### **Security system**

A smart home is much safer, as it is easy to protect and harder to hack than the current home. Alarm systems are installed in a smart home. The security system puts the house into security mode, automatically closing all windows and doors.

As part of the security system, surveillance cameras are installed and hidden throughout the house. These cameras are monitored via the Internet, and the owner of the house can check the entire territory of the house and any events taking place around and inside the house.

### **Smart technology**

In order for a house to be considered smart, smart devices using smart technologies are installed in it. The devices are networked to perform a specific task at a given time.

Examples of smart household appliances include a remote-controlled coffee maker that brews coffee just before the owner of the house wakes up. The coffee maker is connected to an alarm clock to wake up the owner of the house when the coffee is ready. These smart devices are connected to a computer that turns the devices on and off.

Smart technology makes people's lives calmer, and technology makes it easier to plan the day. This calmness helps people focus on a specific task.

### **Entertainment**

Smart entertainment systems are designed to control the operation of a home entertainment system, including TV and home theater functions. The Smart TV user can switch channels by talking or connecting to the TV via the Internet, telling him what to record and at what time. Ultra-thin reverse projection TVs have been developed using digital lighting

technology (DLT), they have huge screen sizes, and are thin and light enough to be hung on the wall.

Internet-enabled smart home theaters stream music from multiple computers on the Internet and store it on internal hard drives. This home theater can be accessed remotely via the Internet.

### **Emergency management**

The smart home emergency system is designed in such a way that it informs the occupant of the house about the occurrence of an emergency situation and at the same time contacts the relevant emergency management authority for a quick response. For example, in the event of a fire, the fire detector sends a signal to the central computer, which triggers an alarm and simultaneously calls the fire department.

Another example is when there is a gas leak in the house; the emergency protection system will block the main gas supply and turn off all electrical appliances to prevent a fire. After that, the system will turn on the alarm and send a signal to the owner of the house about a gas leak via a mobile phone or via the Internet to a personal computer. [1]

### References:

1. Smart House System Technology Explained. [Electronic resource]. – Mode of access: <https://studycorgi.com/smart-house-system-technology-explained/>. – Date of access: 14.04.2022.
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