Many of us consider science fiction novels, trying to imagine the future described in them. What will our life be like? What will be clothes, cars and houses? Not so much time has passed as we ended up in that very future.

Of course, humanity has not yet conquered distant worlds and galaxies, but our homes, of course, have become "smarter". Technologies are developing so fast that we do not have time to master and even realize many of them.

We are already used to the fact that our cars are equipped with various computers: on-board computers, rain and light sensors, parking sensors, cameras, alarms, etc. Not everyone knows that they look like their homes. Using your smartphones. Such systems are called Smart Homes.

Today I'll talk about "smart" technologies that have been used for a relatively long time in interior design and are gaining more and more popularity. And also we will try to understand the pros and cons of such systems, in what is their real cost and payback.

First of all, you need to understand what is a "Smart Home"?

"Smart home" and its advantages
Now the design of a modern residential building or apartment more and more includes various security and management systems. Equipment suppliers offer both individual modules and off-the-shelf "packages." In terms of meaning, I would break down all "smart systems" into several categories:

Security systems: fire, burglar, video surveillance, leak control, etc.
Systems that help save money: motion sensors, light sensors, sensor mixers, heating control
Systems that make our lives more comfortable: curtains, gates, lighting control, climate control, built-in vacuum cleaners, appliance control, outlet control, pet feeding, Smart Garden
Entertainment systems, multiroom, home theater
Can you imagine how long it takes to manage all this manually or from different monitors? Therefore, such a system is usually displayed on a common touch panel. You can also enter the system from a smartphone or computer, even remotely.

Now let's look at the functions of the "smart home" in more detail.

smart home control panel

Security
Using a video surveillance system, from anywhere in the world you can monitor the image from cameras installed in your home. You simply connect via the Internet to a camera server equipped with a wi-fi sensor.

By installing a special security system, you have the opportunity not only to view images from video surveillance cameras, but also remotely turn the alarm on and off. The system also includes a spotlight and a siren if penetration has occurred. Then she sends a signal to the security service and the owner.

Another interesting feature of the security system is imitation of presence. The program tries to mislead attackers, periodically turning on the lights in different rooms, simulating the sound of a radio or the whistle of a teapot. A special spotlight casts shadows with the contours of people on the windows. Remember how in the movie "Home Alone" the boy wanted to frighten off the robbers, portraying a party? Well, something like that.

The main goal of the fire system is not only warning residents or the fire service, but also fighting the spread of fire.

For this, all the necessary sensors are installed: smoke, gas and heat. If the system detects smoke, gas leakage, or fire, the first thing it does is stop the flow of oxygen into the room by turning off the ventilation system. A siren sounds and the system shuts off power and gas. All that remains is emergency lighting so that residents can get out of the house.

The removal of smoke begins with a fan, which removes smoke from the premises into special mines. After that, the system sends a signal to the fire department and sms to the owner if he is not at home.

After that, the security system activates a powder or gas fire extinguishing system. The fire system can also be equipped with an elevator control, which in case of danger drops to the level of the first floor and remains there with the doors open.

Leak control can be part of the overall system and can be displayed on the control panel. Separate inexpensive kits are also sold, which include wired or wi-fi sensors, a controller and an emergency water shutoff tap.

How it works? Sensors lie on the floor in places where leaks are possible: next to the toilet, washing machine under the sink, under the kitchen sink, etc. If a leak occurs, the sensor is triggered and sends a signal to the controller; it, in turn, immediately closes the taps on the riser. The system can send SMS to the owner, if necessary.

Saving

Despite the fact that the full payback of the Smart Home system is designed for 5-8 years, it immediately allows you to save up to 30% on utility costs.

Firstly, the system turns off all devices that you are not currently using. This allows you to reduce the load on the network and significantly save on electricity. In a passive state, the equipment also consumes it.

You can save on heating too. It makes no sense to heat the premises to the "whole extent" if you are not at home. The program sets the minimum temperature for the whole working day, for example, 16 degrees and an hour before your arrival raises it. The system also provides a "night mode", lowering the temperature in those rooms that you do not use. Or you can set different temperatures in the rooms.

We cannot but mention the motion sensors already familiar to many. They are used to control lighting, and as part of a security system. Sensors turn on lighting or alarm only when someone enters the sensor coverage area and turns it off automatically. In the same way, you can program the hood or ventilation in the bathrooms.

Comfort

What does morning look like in a modern comfortable house? You wake up from the sound of a "smart alarm clock", which itself opens the curtains or blinds, and the system already prepares you coffee and toasts. Fantasy? No, this is also part of the smart home.

Lighting and electrical control allows you to turn on and off any device or lamp in the apartment while sitting on the couch. You will not forget to turn off the iron, because the system will monitor it and turn it off by itself.

The climate control system itself regulates the temperature and humidity in the rooms. You can always make it warmer from your smartphone.

You can also program a "smart feeder" that will feed your dog or aquarium fish while you are not at home.

Entertainment

If you want your favorite music to follow you around the house, then you need a

multiroom. This system allows you to create audio and video accompaniment throughout the house. You go about your business, move from room to room, and in each of them there is music or a movie. You can program an individual background music for each floor or room.

The Home Cinema system is not just a set consisting of speakers, a subwoofer, a screen, etc., but a whole scenario of actions. You select the "Watch Movie" function: the lights are dimmed, the curtains are closed, the screen goes down, the TV and speakers turn on. The session begins.

The Smart Garden feature, which is responsible for autowatering, additional video surveillance and a security system, is gaining more and more popularity.

Cons of the Smart Home system
The capabilities of modern technology are truly mesmerizing; such a home control system seems to be one big plus.

But it would be wrong not to mention its cons, but they are enough:

1. Firstly, this is the price. Russian suppliers and installers give a "plug" cost from 5-15 thousand cu This is the price for an apartment or a small house. In reality, the cost is much higher, and in the course of implementation, it can grow significantly. A complete system with high-quality equipment designed and installed by a reliable company can cost several million rubles.

"Smart home" for 5 thousand cu - This is a simple set with security cameras, motion sensors, smoke, leakage control, etc. They can be bought separately and installed for less money.

2. An important role is played by the experience of the installers and the quality of the equipment. Like any complex system, a smart home can break. We do not have many companies that are able to "assemble" everything together correctly, on time and at declared value. Not all equipment is compatible with each other.

If in the West they often sell a ready-made system, then we assemble it in parts, so there is a better chance that errors will occur during assembly.

3. Any technique, even the most modern, periodically breaks down, and if just one thing fails in the home control system, then a decent part of the entire system can "fly". Therefore, at a minimum, an additional guarantee is required from the installers and the manufacturer.

4. Expediency. You need to understand that the technology was developed more for country houses where there is autonomous heating and it is more difficult to ensure safety. In the case of cottages, it really pays off after some time. The full-fledged Smart Home system in a small apartment with centralized heating is rather an expensive toy. It's easier to equip the apartment with a good split system and the necessary sensors, a separate security system.

5. The full-fledged Smart Home system is, in fact, a whole "computer workshop" in your home. Be prepared to provide a separate soundproofed room for the equipment.

6. The system is very sensitive to pressure drops. Of course, you can provide uninterrupted power with the help of backup equipment, but you cannot insure the equipment from interruptions in electricity, the Internet, etc.

7. At the moment, the "smart home" is mainly wired technology. Therefore, you can install the system only at the stage of "rough" finish. Although in the West they mainly offer wireless systems.

8. Remember how much the first cell phones cost? Until recently, a touchscreen smartphone was a new technological miracle, and now every first grader has it. New technologies are emerging very quickly. Old ones also quickly become obsolete, and, accordingly, their value falls. Even this article will become outdated very quickly, because the technologies to which it is dedicated will change.

There is a great chance that the most modern "Smart House" at the moment will completely become obsolete in a few years. The necessary parts and components will disappear from sale. Most likely, new cheaper solutions will appear.

A couple of years ago, such systems were controlled from a remote control or panel and were quite complicated to master, now they are controlled from a simple application in your smartphone. More and more elements communicate with each other via wireless networks. Soon there will be no need to lay, literally, kilometers of cables.

Finally
If you are faced with a choice: whether to make a "Smart Home" or not, then, first of all, study all the offers of firms in detail. Not all systems with sensors can be called "Smart Home". This is, first of all, centralized management, a smart computer that manages all processes.

I can also advise you on the appropriateness of installing a system designed for a large country house in a relatively small apartment. By setting up centralized management in a "girl", you pay mainly for doing the usual actions "without getting up off the couch".

Many useful functions, such as light, smoke sensors, leakage control and even lighting control in a room can be installed separately for 20-30 thousand rubles, and the quality of life will change radically. In a three-story building with a separate water supply, heating system, security, automatic gates, a cinema and automatic watering in the garden, a single "brain" may indeed be appropriate.

The full-fledged Smart Home system is definitely not the thing that is done once and for all. After 5-10 years, technologies will fundamentally change, and the old system will lose its relevance. Basically, of course, because of speed, with the bark we fly "into the future."

If you can find a reliable contractor and high-quality equipment, then, apparently, there is no stopping the progress. On the other hand, you can always "look at the departing train" and wait for something better, instead of living in a comfortable modern house right now.