

Measuring, Analysing and Implementing Environmental or Financial Improvements with Home Automation



Once seen as a luxury, smart home automation is now a necessity for many. It offers the user unsurpassed control over domestic systems saving you time, energy, and money. It can improve security, and help you reduce your negative impact on the planet.

So, how can home automation improve life for the consumer and improve the environment?

Let's look at three examples of home automation and consider the benefits of each.

Central heating

With a traditional heating system, we set the thermostat to a level that we find comfortable, and the timer switches the system on or off according to how we programme it. Sometimes this could mean we're wasting energy and money to heat an empty house. A smart system learns how you use your heating, including which rooms tend be used at what times, and adjusts accordingly.

You can control the system through your smartphone or tablet. So, if you're out and you know the house is empty, you can check the heating and turn it off if necessary. If you're on your way home from work earlier than usual, fire up the heating from your phone so that you return to a warm house.

By including smart radiator valves in your system, you can even take charge of the temperature of individual rooms. Smart radiator valves self-adjust so that the room temperature is exactly as you want it. They are easily installed and can all be controlled via your phone or tablet, wherever you are.

A system like this gives you previously unheard-of control over the temperature of your home, saving you money, saving energy and helping the environment.

Clearly, when a smart heating system is installed on a large scale such as in an office complex, warehouse, or factory, the possibility of saving on energy costs increases dramatically. Businesses can also benefit by exploiting the data produced by these systems to make improvements and deliver even greater efficiencies.

Light bulbs

These switch themselves off when there is nobody in the vicinity, so besides saving money, you are saved the bother of going around the house checking that lights are off. They also come on when you're nearby which is ideal for those times when you arrive home in the dark with your arms full of shopping.

Again, you can control smart light bulbs via your smartphone or tablet so if you're away from home for an extended period, you can create the illusion of your home being occupied by switching lights on and off remotely.

Whilst smart lighting can save businesses money by ensuring that lights are switched off in areas that aren't in use, retailers can increase revenue by using smart systems to deliver accent lighting in retail spaces. Done correctly, this can encourage the flow of customers through the space and increase the time that customers linger.

Sprinkler systems

In certain parts of the world, a lawn sprinkler can be the difference between a lawn of vivid green and a patch of dusty ground. But it's wasteful to have a sprinkler that comes on automatically regardless of need.

Taking into account weather forecasts, a smart sprinkler system monitors humidity and air temperature, and activates only when necessary. This will reduce water bills and the energy required for pumping, while helping the planet.

Owners of golf courses, grass tennis courts, football grounds and so on, spend a lot of money on irrigation. Simply by reducing water consumption, bills can be slashed. In addition, with a system that ensures grass is watered whenever necessary, members of golf clubs and the like can be proud of their grounds and will not only renew their membership each year but will also encourage new members.

Having installed your smart devices, you will want to know how much you are saving. In the case of some heating systems, you can receive a monthly email which compares your consumption with that of others so that you can see what you're saving on average.

Even without such a facility, you can get a good idea of how much you are saving. You could, for instance, compare your next energy bill with the one for the same period the year before. The difference is likely to be significant, particularly if you are comparing two winter heating bills, or even in the summer if you live in a warm climate and rely on air conditioning.

According to [calculations](#) from smart technology provider ecobee, smart thermostats can save homeowners an average of 23% on heating and cooling

costs, while a [white paper](#) by Nest Labs boasts savings of 10-12% on heating and around 15% on cooling. In either case, there seems to be no disputing that these technologies save you money.

As for the impact of our energy use on the planet, a [study by Jean-Nicolas Louis](#), indicates that automation can reduce energy consumption and bring down CO2 emissions by 13%.

Overall, home automation appears to save us money, help the planet, and make our lives more comfortable. There is no doubt that the technology is still very much in its infancy allowing plenty of room for improvement. Inefficiencies in some smart meters, for example, have resulted in increased energy costs. Nevertheless, updates are on the horizon and the future is looking bright.