

## SMART HOME

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**Annotation.** A smart home refers to a residence equipped with internet-connected devices that automate typical human tasks and provide remote monitoring and control over various functions. The evolution of smart home technology has made it more accessible and user-friendly, offering convenience and transforming lifestyles. It saves time by automating routine tasks, enhances home security through real-time monitoring, and improves accessibility for the elderly or people with disabilities. Smart home technology also promotes energy efficiency by adjusting device operation based on habits, leading to significant savings. However, challenges such as security risks exist.

**Keywords:** technology, smart home, home automation, internet of things (IoT), convenience, lifestyle, energy efficiency, security, accessibility, Cost savings, security risks

**Introduction.** The idea of a ‘smart home’ has grown increasingly common in recent years. But what does it truly mean? At its core, a smart home is a residence equipped with various devices that automate tasks typically handled by humans. These devices are internet-connected, offering remote monitoring and control over various home functions such as lighting, temperature, security, and more. As with many other technological advancements, smart home technology has evolved significantly over the years. In its early stages, home automation was seen as a luxury, restricted to the affluent and technologically advanced households. However, with the proliferation of the internet, smartphones, and subsequently, the Internet of Things (IoT), smart home technology has become more accessible, affordable, and user-friendly (Figure 1).

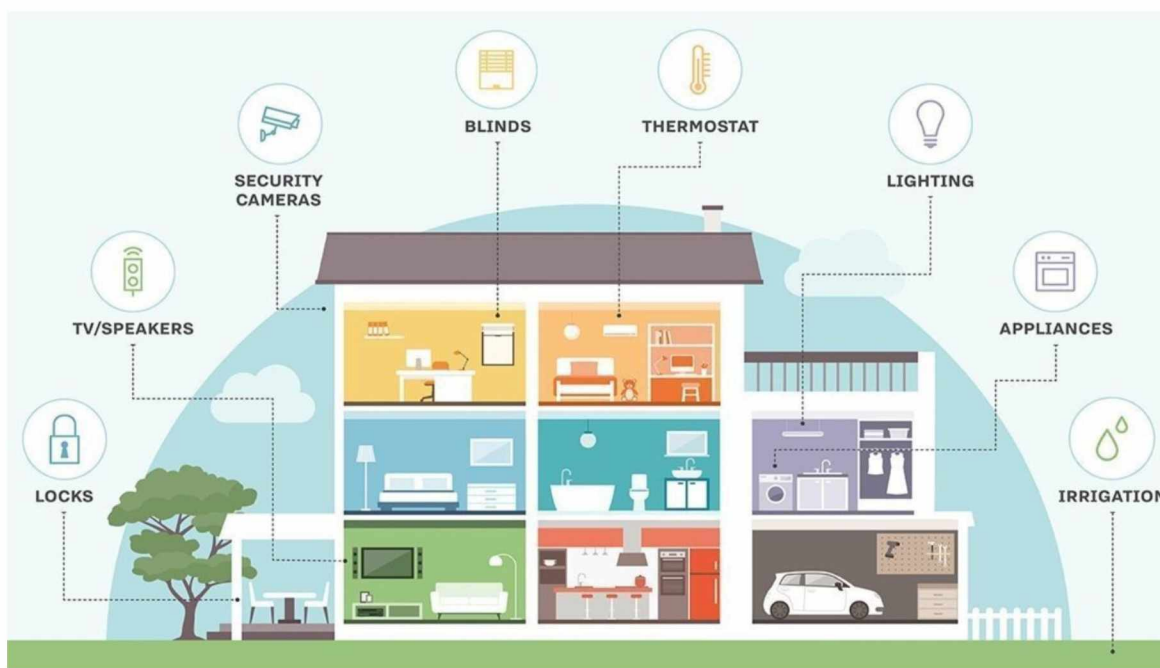


Figure 1 – Example of smart home

**Main part.** Installing a smart home technology system provides homeowners with convenience. On a lifestyle front, smart home technology introduces unprecedented convenience.

Home automation saves time by taking care of routine tasks. For example, smart coffee makers can prepare your morning brew as you wake up, smart locks can secure your home when you forget, and voice assistants can perform tasks at your verbal command. This automation frees up time for other activities and reduces the mental load of keeping track of such tasks. Smart home technology also enhances home security. With smart cameras, doorbell cameras, and smart locks, homeowners can monitor their property in real-time from anywhere. This constant surveillance provides a sense of security and peace of mind, knowing that you can always keep an eye on your home. Furthermore, smart home technology enables improved accessibility for the elderly or people with disabilities. Voice assistants can perform tasks without the need for physical interaction, while smart home automation can manage potentially challenging tasks, making homes more accessible and comfortable for everyone. From an energy perspective, smart homes are incredibly efficient. Devices like smart thermostats, smart lights, and smart plugs adjust their operation based on your habits, ensuring energy is used judiciously. For instance, a smart thermostat can lower the heating when no one is home, and smart lights can turn off when a room is unoccupied. These adjustments lead to significant energy savings over time.

Overall, smart home technology not only simplifies our lives but also promotes a sustainable lifestyle by encouraging efficient energy usage. Rather than controlling appliances, thermostats, lighting, and other features using different devices, homeowners can control them all using one device—usually a smartphone or tablet. Since they're connected to a portable device, users can get notifications and updates on issues in their homes. For instance, smart doorbells allow homeowners to see and communicate with people who come to their doors even when they're not at home. Users can set and control the internal temperature, lighting, and appliances as well. For the cost of setting up the smart system, homeowners can benefit from significant cost savings. Appliances and electronics can be used more efficiently, lowering energy costs. While the smart home offers convenience and cost savings, there are still challenges. Security risks and bugs continue to plague makers and users of the technology. Adept hackers, for example, can gain access to a smart home's internet-enabled appliances. Measures to mitigate the risks of such attacks include protecting smart appliances and devices with a strong password, using encryption when available, and only connecting trusted devices to one's network.

**Conclusion.** In conclusion, the future of smart home technology is exciting, promising an elevated level of comfort, convenience, and energy efficiency. However, addressing the challenges of security, privacy, and interoperability will be essential to realizing this potential fully.

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