



Smart home systems save energy, reduce home operating expenses, provide increased comfort while helping our environment

A smart home system adds the intelligence necessary to automatically manage many systems found in today's homes. Smart home systems are able to seamlessly integrate a home's security system, its heating and cooling infrastructure, lighting, and a home's appliances by linking them to an intelligent, programmable controller. These systems can even be remotely controlled by the homeowner via phone and the internet. Smart home systems offer an increased level of safety and convenience, while saving energy.

Saving energy while increasing comfort

A smart home system is able to save energy by allowing the homeowner to remotely or automatically control heating and cooling, lighting, hot water production and the control of appliances. This ability saves energy while also providing a level of convenience and comfort not previously possible.

Heating and Cooling

Connected thermostats can automatically control a home's heating and cooling system by a number of variables including time and date, humidity, outdoor temperature, whether the house is occupied or not, and even the cost of energy. The heating and cooling system can be remotely monitored and controlled for just-in-time comfort so that a home isn't overly-heated or cooled when unoccupied. Up to 50% of a home's energy consumption is for heating and cooling. A home's energy costs decrease 1% for every 1 degree the thermostat is lowered.

By controlling air temperature (heating and cooling) at times when a home is vacant, and providing for optimum temperature control when the home is occupied, not only makes sense but reduces energy consumption, lowers costs, while providing for maximum comfort.

Today's technology frees us from entering a cold house in the winter or a hot one in the summer or unnecessarily heating or cooling an empty home.

Lighting control

Lighting can account for up to 25% of a home's total energy consumption. Smart lighting can automatically turn outdoor lights off at sunrise and interior lights off when a house is unoccupied. Smart switches can be set to bring lights up to 90% brightness instead of 100%. Though this difference is imperceptible to the human eye, homeowners benefit by a 10% energy savings and the doubling of bulb life.

Occupancy sensors can turn lights on and off when a room is entered and exited. Light sensors can measure the amount of natural light in a room and dim artificial lights accordingly. Remote lighting control enables a homeowner to turn path lights on when needed instead of leaving them on unnecessarily.

Smart systems provide the homeowner with control over lighting such that lighting is optimized, bulb life extended, expenses are reduced and energy consumption minimized.

Hot Water Production

Why heat water 24/7/365 when a home might only be occupied 100 days a year, or when the homeowner is asleep or at work? A hot water heater is the second largest energy user in a home and is responsible for up to 25% of a home's total energy consumption. A smart home system can provide large energy and cost savings by providing just-in-time hot water.

Control of Appliances

Appliances such as TV's and ovens can be automatically turned off when a house is unoccupied. Interior blinds and drapes and outdoor irrigation systems can be controlled by input from sensors and even by weather report data gathered from the internet.

Numerous devices are now available for tracking the energy consumption of individual appliances and the home's total consumption along with the current electric utility rate. This information is available to the homeowner via the internet and can be used by smart home controllers to tell dishwashers, for example, to delay running until the electric rate drops.

Smart home systems, building science issues and a healthy home

Controlling temperature inside the home when one is away sounds like a simple issue. On the contrary, the outside temperature and wind conditions influence and in part dictate the safe interior temperature to avoid frozen pipes. The ability of smart controls to react to changes in outside conditions can prevent what could have been a disastrous condition. The peace of mind and reduced costs smart systems provide to homeowner are truly remarkable.



Building science tells us that the design of today's wall systems must take into account many factors. The climate, inside and outside relative humidity and the outside layer are some of the more obvious factors. The ability to control not only inside temperature but also relative humidity hold the promise of eliminating possible sources of moisture which can be the precursor to mold. Thus smart electronics can make an important contribution in maintaining indoor air quality, ensuring a healthy home.

Energy efficiency and monitoring is becoming a key driver for the adoption of smart home technology. Homeowners and builders alike are recognizing that a smart house is a smart investment offering a rapid ROI, increased property value, and the homeowner the special satisfaction of being simultaneously smart and green.