

# Smart technology can help conserve energy use at home

October 19 2012, by Mary Beth Breckenridge

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Our homes are getting smarter. Smart technology that automates our homes' devices is becoming mainstream, making it convenient for us to rein in our energy use and cut our energy bills.

Come to think of it, maybe we're the smart ones.

Smart technology isn't new, but until fairly recently it's been complicated to install and priced out of most people's reach. Now many systems boast [plug-and-play](#) simplicity, and affordable options are as close as your local big box store.

Probably the biggest factor in that change is the rise of wireless technology, said Ian Hendler, director of business development for Leviton Manufacturing, which makes home automation devices.

Actually, "wireless" isn't an entirely accurate term, Hendler noted. Some technology is truly wireless, using [radio frequency](#) to send signals. Other technology is more accurately called "no new wire" or power line networking, meaning the signals travel over the home's existing wires.

Sometimes the two technologies can be mixed, opening up even more options.

Smart systems allow automatic or remote control of an array of devices that affect our heating, cooling and electrical costs, such as thermostats, lights, window shades, appliances and electronics, said Laura Hubbard, a

spokesperson for the [Consumer Electronics Association](#).

Typically you can use a smart phone, tablet or computer to see what's running and how much electricity is being used, she said. You can then use that information to make decisions, such as turning off your cable box when you're away or overriding your thermostat's programming when you're working late.

Remote access is beneficial because it allows you to override settings you've chosen in advance, Hendler said. Scheduling is great, but "life doesn't always happen on a schedule," he said.

Some of the functions of smart systems won't save on your [energy bills](#), but they do have a wow factor. Imagine entering a code to unlock your front door and having that code automatically turn on certain lights, launch your favorite music and maybe warm up your hot tub. Hendler said Honeywell is even working on a system that will sense your approach using the GPS software on your cell phone, so you won't even have to press a button to make all that happen.

Hubbard said manufacturers are jumping on board, embedding smart technology in everything from air-conditioning compressors to clothes washers. "You're going to see this taking off," she said.

Evidence of the growing reach of [smart technology](#) is Lowe's recent introduction of a smart home-automation system called Iris. It's designed to be affordable for the average consumer, easy to install and capable of accommodating whole-house automation, said Kevin Meagher, general manager and vice president for Lowe's smart home.

Iris comes in three starter kits ranging in price from \$179 to \$299. One kit focuses on home security and monitoring, allowing you to get notifications if a security sensor is triggered. One contains a smart

thermostat and also lets you control one other electrical device in your house and monitor its power use. The third kit combines the features of the other two.

Each kit has a hub, which connects to a broadband router and communicates with the various devices in your home. All the kits are expandable.

The kits come with free basic service that provides a limited array of alerts and gives you remote control of some functions. But you'll have to buy the premium service at \$10 a month if you want a more sophisticated system - for example, one that notifies you when your kids get home from school or automatically turns off items in your house when you use more than a predetermined amount of power.

Iris has been available online and at a limited number of stores since summer, and it's expected to be in all Lowe's stores by early next year, Meagher said.

Another smart device that's gotten a lot of attention is the Nest thermostat, which was designed to automate and greatly simplify the process of programming a thermostat.

The need for the Nest was rooted in the simple fact that most programmable thermostats don't get programmed, said Kate Brinks, director of corporate communication for Nest Labs Inc. Homeowners might program a thermostat once when it's new, but they often neglect to tweak the program as their household schedules change, she said.

The Nest, on the other hand, learns your schedule from the adjustments you make to it, either by turning a dial on the unit or operating it remotely. It also senses your presence, so it can adjust the temperature if you're home when you're normally gone or vice versa.

The occupancy sensor is a far-field activity sensor that detects heat and body fluids, so it can differentiate between humans and animals, Brinks said.

The thermostat has some other features, such as a leaf logo that appears when you make energy-saving changes and an Airwave feature that uses a fan to push out additional cold air when the air conditioner cycles off. It's designed for do-it-yourself installation, using lever connections for the wires that are similar to the connectors on stereo speakers, Brinks said.

It's available for \$249 on Nest.com, or you can buy in from Amazon.com or Lowes.com. Nest also offers installation for an additional cost.

Leviton's Hendler said that of all the home automation options, a smart thermostat probably provides the best payback for your investment.

He recommended choosing a communicating thermostat that's capable of supporting Wi-Fi so it can be connected to a home network. Make sure you have electrical power where the [thermostat](#) is installed, or you'll need a battery-operated unit, he said.

Some smart thermostats switch automatically between heating and cooling, so you don't have to switch manually.

All these smart devices, however, do the best job of saving energy when they're paired with smart metering, said Wilson Gonzales, senior energy policy adviser with the Ohio Consumers' Counsel.

A smart meter tells the utility company how much power you're consuming and when. The company can then send you a signal inviting you to reduce your usage during peak times, when demand and rates are

at their highest. If the meter is connected to a home automation system, reductions can be made automatically, Gonzales said.

That could be especially beneficial to customers with plug-in electric vehicles, because it would allow them to charge their cars when rates are lower, he said.

First Energy has a fairly small pilot program, but Gonzales is hopeful that smart metering will be introduced on a wide scale once utilities are sure it works well.

Even without the smart metering, though, consumers can save significantly by reducing their power use when electricity demand is highest - 3 to 7 p.m. in summer and very hot spells that last several days.

That's just smart behavior.

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