

# Why It's Still So Hard to Build a Smart Home

We are slowly edging toward a house you can control with your phone, from anywhere. But for now, expect headaches.

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The smart home, when it works perfectly, is supposed to act like an invisible-yet-all-knowing butler: When you wake up, your blinds open autonomously and your coffee starts brewing. The thermostat adjusts the temperature on its own, keeping the house comfortable while conserving energy and money. Your front door automatically locks when you leave.

That's how we all want smart homes to work. Unfortunately, the industry hasn't quite caught up to this idyllic vision. The product category is fraught right now with fragmentation, varying protocols and standards, and competing interests. To put it in the simplest terms: You can buy cool stuff, but it doesn't all work together yet. Small startup types dominate, but that could change: Apple and other giants are quickly catching up.

## A SPRINKLER SYSTEM THAT ADAPTS TO WEATHER

Instead of using preset timers, the **Rachio Iro Smart Sprinkler Controller** (from \$249) pairs with your smartphone and uses the location data to track local rain, wind, and humidity, creating a system made just for you. You can even designate zones in your yard so that your cactus garden gets less water than your petunias.



**A MOWER THAT FOLDS IN HALF**  
The **Toro Recycler with SmartStow** (\$369) helps maximize every inch of valuable garage-floor space. It features a forward-folding handle and an engine that won't be damaged by being turned and stored sideways, so you can stand it on its end.



What makes it all so complicated? Each smart-home gadget has specific requirements for communicating on your home network. Manufacturers must decide whether their devices will send data back and forth via Wi-Fi, Bluetooth, ZigBee, or one of the other wireless technologies—and new options are still being added. In July Samsung joined Nest (maker of smart thermostats), software company ARM Holdings, and four other companies in launching Thread, a new, wireless mesh-network protocol designed for smart-home use.

Gadgets typically come with a separate portal for controlling them—and makers must choose: iOS, Android, or the Web? Invest in one platform or all? Most smaller companies are building support for everything, but some bigger players try to lock their competitors out. Don't be surprised if, in the future, you can't use all the functionality of your Google Nest thermostat should you end up buying into Apple's ecosystem. In June Apple announced HomeKit, a development environment that lets device makers connect to iOS. The software framework may produce a centralized smart-home control panel on your iPhone or iPad.

If you're a pioneer type, start with a hub, and know which wireless technologies it supports—the more the better. Wink and Home Depot's new Wink smart-home collection and hub launched in July; it stands out by giving you five wireless options (Wi-Fi, Z-Wave, ZigBee, Bluetooth, and Lutron's Clear Connect) for having your appliances communicate. Staples' new \$80 D-Link hub supports four of those protocols. SmartThings, Revolv, and Staples Connect also offer multiple options.

Then, when you're getting a new speaker system or lightbulbs, check that each one works with those wireless technologies. Yes, you have to do it every time. As an early adopter, that's the rutted path you chose.

Of course, you could wait until the behemoths sweep in and force large swaths of the population in one direction or another: Do you want an iOS or Android home? With Apple making its first move, Siri could eventually become like that all-knowing butler.

But we respectfully submit that you need not worry about such eventualities. Yes, that new OS might disable your refrigerator, and it'll be annoying to have to get your things talking again. But when the mainstream moment arrives for smart-home technology, the futzing around you do now will serve you well later. —*Davey Alba*

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