GUIDE TO NAVIGATING SMART HOME TECHNOLOGY

DIY VS. PROFESSIONAL

LUTRON
GUIDE TO NAVIGATING SMART HOME TECHNOLOGY

Use this guide to equip your clients with the knowledge they need to make decisions about smart home technology.

From voice control to smart thermostats to lighting control to the Internet of Things (IoT), awareness of every category of smart home technology is growing rapidly. Unfortunately, consumers are generally perplexed; there are so many smart home options available and decisions to be made, it is easy to be caught in “analysis paralysis” and often they end up doing nothing.

That’s where custom integrators come in. You are the thought-leaders with the expert knowledge necessary to help your customers make the best decisions for their smart home lifestyle.

This special “Guide to Navigating Smart Home Technology” will help integrators impart valuable knowledge to their customers to help them make the best smart home technology choices, and set expectations around a Do-It-Yourself (DIY) system versus a professionally installed system.

SELECTING SMART SOLUTIONS THAT WILL GET SMARTER OVER TIME:

• CHOOSING THE RIGHT TECHNOLOGIES TO MATCH YOUR CLIENT’S LIFESTYLE AND BUDGET
• IDENTIFYING THE DIFFERENCES BETWEEN DIY SOLUTIONS VS. PROFESSIONALLY INSTALLED SYSTEMS
SELECTING IOT EQUIPMENT: KEY CONSIDERATIONS

When speaking with potential clients, it’s important to use terminology they will understand as well as terms that are unambiguous. For example, the “subsystem” term that an integrator commonly makes reference to is likely an alien word to most consumers. “Subsystems” might be best referred to as “smart home amenities” such as:

- Lighting control
- Automated shade control
- HVAC control/energy management (smart thermostats)
- Audio/Video (both multiroom A/V distribution systems and home theater)
- Home networks
- Security/surveillance

Remind your customers that connecting multiple subsystems together is your area of expertise. Product compatibility is important. From the wireless communication protocols to cable to the type of LED light bulb, it often takes only one incompatible product to shut down an entire smart home ecosystem. In every product category, there are MAJOR differences in the capabilities between DIY/entry-level products and professionally installed systems.

It is vital to provide clients with a basic understanding of several key smart home product categories to help them set expectations.
Here is some basic information about the key product subsystems that integrators can explain to their prospective and existing customers.

**Internet of Things (IoT)** — The smart home of today is much more than audio, video, networking and control systems. It now potentially encompasses scores of physical devices in the home — from major appliances to laptops to smartphones to automobiles — all with embedded electronics, software and sensors connected to the network. The term being used to describe this whole-scale interconnectivity is the “Internet of Things (IoT).”

In five years, there will be an estimated 20.4 billion IoT devices in the United States, according to Gartner Group, an industry research firm. The rate at which household IoT devices are being connected to the internet rises 31 percent per year. Indeed, the average U.S. household already has 10 IoT devices. Clients might be dumbfounded to discover they have so many IoT devices in their home already, such as smart TVs; streaming devices like Apple TV, Roku, Google Chromecast or Amazon Firestick; smart speakers like Amazon Alexa, Google Home or Apple HomePod; laptops or PCs and their printers; smartphones; tablets; smart thermostats like Nest; surveillance cameras; smart bulbs and more. Very soon, all kitchen appliances — large and small — will have IoT interconnectivity, predict industry analysts.

The proliferation of IoT in the home opens the floodgates with customers to imagine incredible possibilities in their smart home. One way to take full
According to integrators, these are the fastest-growing product categories for professionally installed equipment predicted for 2018.

Advantage of the IoT is to have a whole-house control system installed. Using a single interface, a homeowner can dim and brighten light fixtures, adjust the settings of thermostats, provide status reports of household electricity usage, and choreograph the operation of complex home entertainment systems.

Security — Integrated security systems are an increasingly important product category for smart-home owners. Video surveillance systems can be simply and effectively deployed, but this product category, like several others, has huge differences in capabilities between the DIY offerings and the professionally installed equipment. The ubiquitous nature of home Wi-Fi has enabled the home video surveillance market to blossom. Indeed, according to the 2018 CE Pro State of the Industry Study, surveillance cameras are the fifth fastest-growing product category among integrators, with 87 percent of custom integrators expecting to see increased sales and installation in the category in 2018.

At the DIY level, there is a proliferation of wireless cameras that can be set up to watch the dog or the nanny, or provide a general level of peace of mind by looking out for intruders. However, in many cases these cameras do not communicate with response authorities, but instead notify the homeowner of movement. Many do not include any form of image recording capability. The latest iteration of these entry-level surveillance systems are video doorbells from companies like Ring and August.

At the professional level, integrators offer sophisticated surveillance cameras with cloud-based or on-site recording capability. Cameras can include advanced analytics to identify motion (and record only when motion is detected) and night-vision capability to see exterior images in pitch-black darkness. Typically, a professionally installed camera system will be fully...
Wireless audio systems are simple to set up and can provide a great way to whet your client’s appetite for whole-house music.

Multiroom Audio/Video — Multiroom audio and video will surely be among the most-utilized, and therefore most popular, smart home amenities an integrator can deploy for his clients. It is, in its most simple form, the ability to send fully synchronized music or video throughout the home (or to specific rooms) via speakers or TV displays located throughout the house.

One great way to discuss the power of multiroom A/V is to discuss scenarios for your clients, like a favorite song greeting the homeowners as they enter the house after a long day of work, or the convenience attained when they wake up to the morning news displayed on their bathroom TV. Lastly, integrators can set the stage for the homeowners to offer the perfect ambiance for a dinner party, romantic evening at home, or festive gathering with the push of a single button.

All that (and more) is possible when a home’s audio and video components are managed and controlled by an automation system. Multiroom audio systems come in various forms. Wireless systems are simple to set up and can provide a great way to whet client’s appetite for whole-house music. There are drawbacks, including potential latency between speakers as you walk room to room in the home, so customers should be forewarned that speakers might not be totally in sync. Also, there is the matter of sound quality. Audio integrated with a home’s intrusion and fire detection system that includes first- and second-floor motion sensors, door contacts, glassbreak detection, carbon monoxide (CO) detectors and more. Most professionally installed systems offer short- and long-term monitoring contracts for response from law enforcement or the fire department.

It’s important to remind your clients that convenience is a major benefit of integrating their security system with a whole-house automation system. From the same device or interface used to control various other electronic subsystems in the house, the homeowner will be able to view the status of the security system, arm and disarm sensors, and even view real-time images captured by surveillance cameras.

Moreover, the security sensors can be used to enact certain automation routines. For example, sensors that are intended to trigger an alarm when they detect motion can also activate a pathway of lights. Another popular feature is the ability to control the security systems and lights remotely — providing valuable peace of mind for your clients.

Security systems can also be set up to monitor certain areas, or zones, while other areas remain unmonitored. For example, the motion sensor in the backyard can be on guard while the ones inside the house are off. Or, when the homeowner is working in the yard the system can watch only the front of the house while the zone near the back of the house and around the swimming pool is disengaged.
is all about “air movement” and undeniable physics show that small, table-mounted, omni-directional speakers cannot match the audio quality of larger freestanding or in-ceiling loudspeakers.

From the video distribution standpoint, much of the same above applies. High-quality 4K video requires the proper size cable based on the distance the signal is being sent throughout the home. Wireless video distribution is not ready for primetime and will result in poor signal. It is doubtful homeowners want to watch grainy or frozen movies or sports. Quality video distribution will require signal amplification and power, which means a centralized equipment rack with a video matrix switching device. Having said that, new advancements in 5G cellular technology could open up the door for more de-centralized video distribution topologies. Professional integrators are staying on top of this trend.

**Home Networks** — The home network is the backbone of today’s smart home. Period. It is the engine that drives the car. And, the growth of IoT devices makes the home network even more vital. This point cannot be overstated enough to your clients. Consumers need to know there is a major difference between the cable company-supplied router and a robust home network capable of managing a fully connected home. A professionally designed and installed system has full cybersecurity protection via encrypted passwords for every device on the network, multiple encrypted-password-protected Virtual Local Area Networks (VLANs), a stand-alone modem, a stand-alone router, encrypted Virtual Private Networks (VPNs) (such as Guest Networks), multiple firewalls in place, separated Wi-Fi channels, secure Bluetooth, ZigBee and Z-Wave wireless, a cyber-attack proof remote access system, and more.

One other important element of a home network is that they constantly need to be updated. Regular firmware updates (just like consumers are familiar with doing on their smartphones already) need to take place to keep a home network safe, secure and operating at maximum efficiency. This need for consistent updates is one reason a homeowner should consider an annual service program with their professional integrator.

**Energy Management** — Integrators must be able to articulate the finer points of IT-connected thermostats with learning capabilities, geo-fencing technology and more. Manufacturers of thermostats have improved the usability of their products over the years, making them vastly easier to program. As a result, a home’s temperature can adjust automatically and in sync with the homeowners’ daily routine.

Adjustments for smart thermostats can be made on the device itself, but also via an app or via a whole-house automation system interface. A single
interface is much easier for homes with multiple thermostats. Rather than program each thermostat individually, a home automation system lets the homeowner set them all up from the screen of a tablet, touchpanel, smartphone, or some other user interface. Smart thermostats also adjust the temperature automatically based on certain conditions like when the garage door opens, the home theater system activates, the motorized window shades close, or when you drive a certain distance away from the home using geofencing technology via the smartphone.

**Lighting Control** — Probably the most popular and practical of all automation subsystems, an architectural lighting control system enables all types of light sources, including incandescent, compact fluorescent, halogen, and LED, to be dimmed and brightened to prescribed levels to achieve greater energy savings, provide visual interest by changing color, enhance security, and set the mood for certain occasions. When managed by a home automation system, the operation of a home’s lights can be synchronized with other subsystems. This provides even greater benefits; for instance, the lights can turn on and off according to the settings of a security system or the position of motorized draperies.

According to the U.S. Energy Information Administration, lighting is the fourth biggest user of electricity in a home. Dimming a bulb by 15 percent can save 15 percent of that energy usage. Changing over to LEDs that use a fraction of the wattage used by conventional incandescent bulbs of the past can also cut energy waste.
There are several tiers of lighting control that should be explained to your clients. At the most basic level, lighting control systems can be a simple smart LED light bulb (meaning IP-controllable via an app on a smartphone) that changes color or brightness. But that is just scratching the surface. Smart vendors like Lutron are responding to the market with lighting control systems designed to meet the needs of homeowners at various levels. Lutron’s entry-level, app-controlled Caséta wireless lighting control systems can activate and dim up to 50 LEDs in the home. They are even controllable via voice using Amazon Alexa, as well has geofenced to the homeowner’s smartphone for automatic illumination when the homeowner is within one mile, for example, from home. Lutron’s new RA2 Select wireless lighting control can handle up to 100 devices, while the company’s RadioRA 2 system can manage scene control for up to 200 devices. At the highest end of the market is Lutron’s hardwired HomeWorks system, which has a limitless number of devices that can be controlled.

Automated Shade Control — At first glance, homeowners might think shade controls are a supercilious add-in to a smart home. But in fact, automated window treatments have become vital to the smart home experience by providing enhanced privacy/security, natural light control, energy management, protecting furniture from harmful UV rays, as well as elegance. Automated motorized shades, blinds or curtains can also be tied to an astromonic clock to automatically raise and lower during the day based on the time of day and the season. For example, during the winter when the sun is lower in the sky, the motorized shades can be preprogrammed to allow in more sunlight to heat the home. On the flip side, the shades can be programmed in the summer to close to keep the home cooler. They also provide an insulating factor for windows, improving energy performance even more.

Other Smart Home Subsystems
Other potential areas of the home to discuss with your clients that can be automated include swimming pool and spa systems, motorized gates, electronic door locks, garage doors, irrigation systems and decorative fountains.

With the advent of the IoT, smart home automation is only limited by the imagination. Remind your customers that smart home technology is not about having “the latest gadgets” but more about bringing convenience, efficiency, comfort and peace of mind to their lives.

To find out more about smart home solutions, click here.
To find a professional or where to buy, click here.