

# **SMART PRODUCTS: BUILDING THE MODERN HOME**



# Smart Products: Building the Modern Home

Broadband connectivity, fixed or mobile, is now considered a fourth utility for consumers and is the foundation of enabling connected devices and applications in the home.

This includes an average of 9.2 connected computing and entertainment devices—such as computers, smartphones, smart TVs, and smart speakers, an average of 1.2 connected health and wellness devices—such as heart rate and sleep monitors, and an average of 2.6 smart home devices. Parks Associates forecasts that by 2025, US broadband households will have an average of 20 connected devices.

This growth in connected devices is fueled by the emergence of new product categories solving new problems in the home. With an increase in connectivity and connected devices, the technical landscape of the modern home is constantly evolving, and new homes must be designed with these changes in mind.

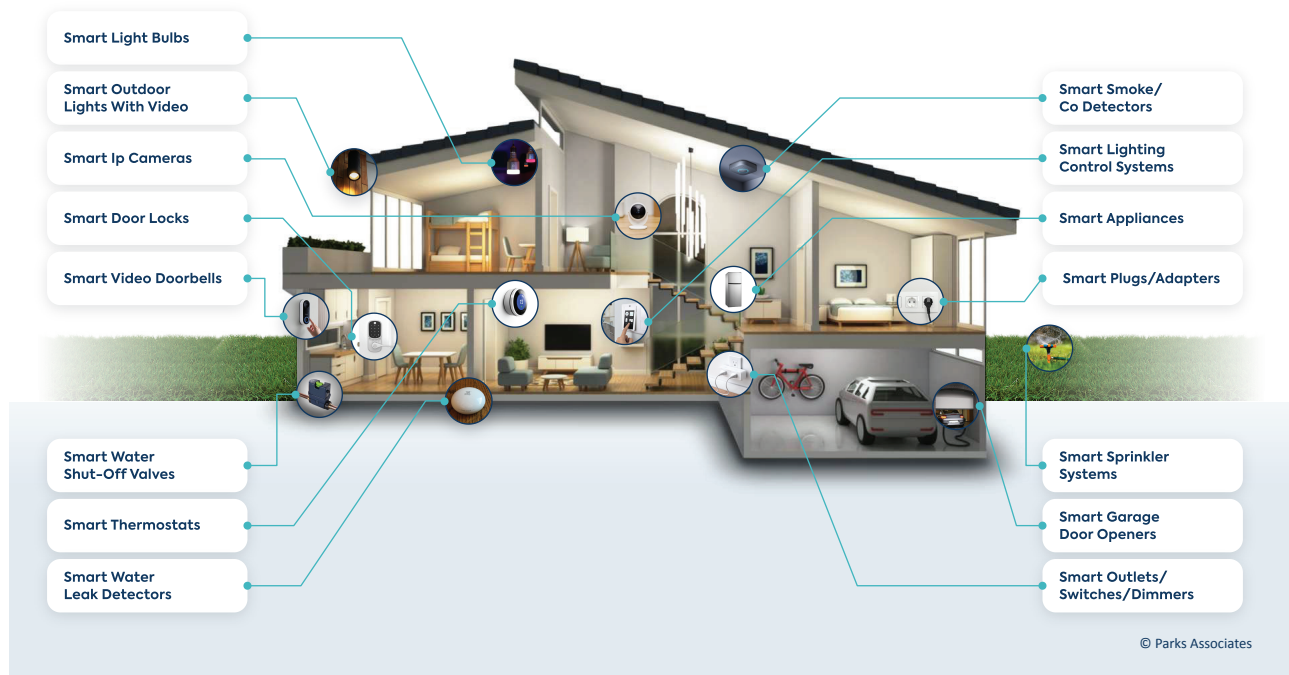
Smart home products are among the newest category of connected devices, and adoption has been growing steadily since 2014.

Currently, **88%** of US households have broadband, and consumers now have an average of 13 connected devices, up from 9.2 in 2016.

**Thirty-four percent** of U.S. broadband households report owning at least one of the smart home devices or a smart major appliance, up from **17%** in 2016.

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## The Smart Home Market



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Convenience, comfort, and peace of mind are leading drivers of adoption. Other factors influencing growth include an increase in product familiarity; co-marketing partnerships with brands in other industries such as energy providers, builders, and insurance companies; and an increase in production of DIY smart home device models. Not only are more consumers owning smart home devices, but smart home device owners are buying more devices.

**The percentage of US broadband households owning three or more smart home devices increased by over 64% in the past two years from 14% in 2018 to 23% at the end of 2020.**

Video doorbells experienced the highest growth, increasing by 86% over the past six years. They allow consumers to monitor the perimeter of the home remotely and address visitors to their homes, even when they are away. Through the Neighbors app, the device also gives consumers the ability to contribute to the overall safety of their communities by posting videos of suspicious activity and videos that help to solve crimes.

## Leading Smart Home Devices

Smart video doorbells – 13%

Smart thermostats – 11 - 13%

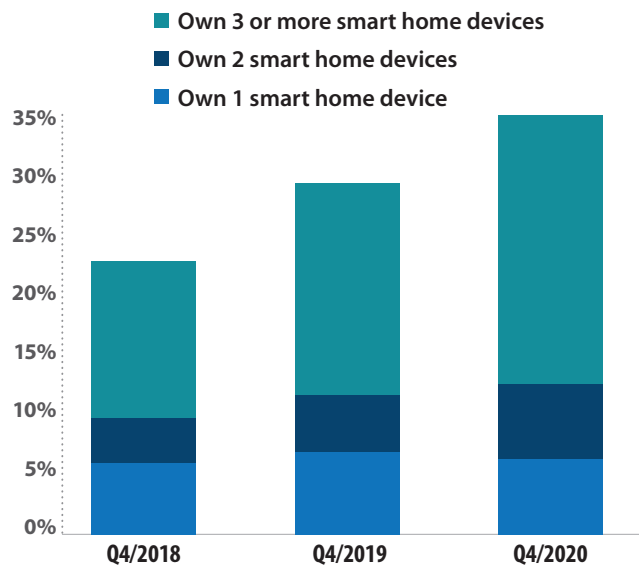
Smart light bulbs – 11%

Smart cameras – 10%

**Smart Major Appliances 13%**



## Number of Smart Home Devices Owned Per US Broadband Households



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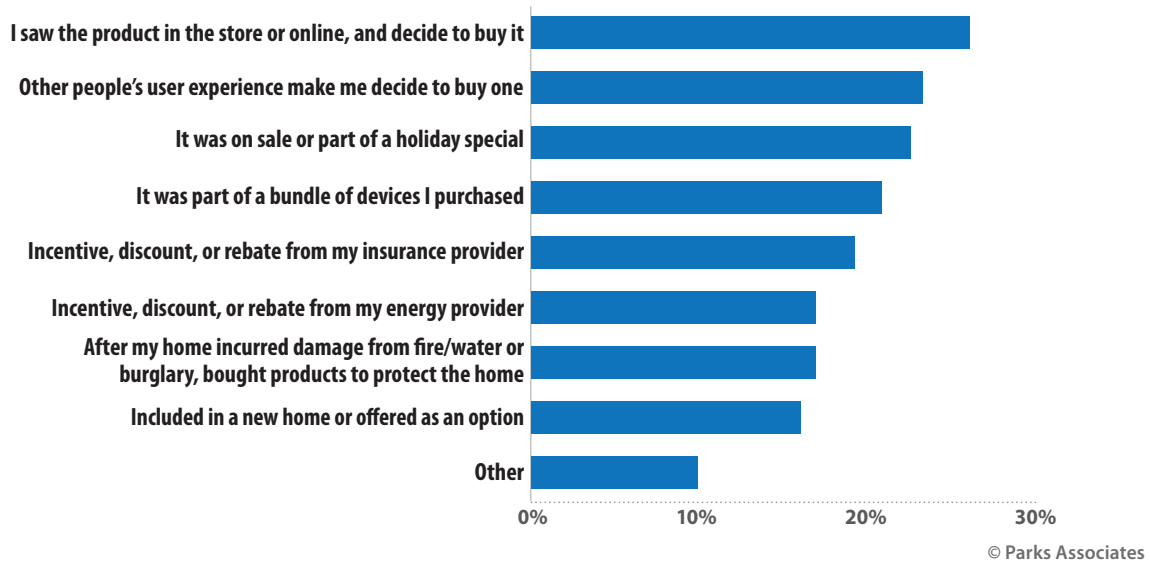
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While smart thermostats maintained the leading position for smart home devices prior to 2020, growth in adoption of smart thermostats is now about even with adoption of video doorbells. Smart lightbulbs and smart cameras have maintained strong leadership positions for over four years. Adoption of smart lightbulbs is driven, in part, by relative affordability and easy installation, compared to other smart home devices. Adoption of smart cameras is driven, in part, by their use in residential security systems, along with strong value in providing information, keeping the home safe and secure, and monitoring and alerts when homeowners are away.

Consumers are increasingly aware of smart home devices and their benefits/value. Beyond the key benefits of convenience, safety and security, and peace of mind, certain factors are stronger triggers for purchase than others. Seeing the product in a friend's or family member's home is a leading purchase trigger; experiencing damage to the home from fire, water, or a burglary can also trigger purchases. Adoption of voice assistant speakers and family size also play a role in the adoption of smart home devices and appliances.

## Triggers for Purchasing Smart Home Device

Among US Broadband Households that Acquired a Smart Home Device in Last 12 Months



## Voice control and the smart speaker influence

Adoption of smart speakers, a connected entertainment device, has outpaced smart home device adoption but also acted as a gateway to adopting smart home devices.

- **Sixty percent of consumers who own a smart speaker** also own a smart home device.
- **Fourteen percent of consumers** who intend to purchase a smart home device rank the smart home device's ability to work with their smart speaker or smart display as a leading purchase consideration.
- **Twenty-one percent of smart speaker users** use the device to control smart home devices.





## The role of the family

Households with children are often early adopters and market influencers as they provide the viewing and recommending experiences for new products to the more average buyers. Their assessments of specific brands and product types guide the overall marketplace.



Almost 30% US broadband households or about 32 million households have children at home.

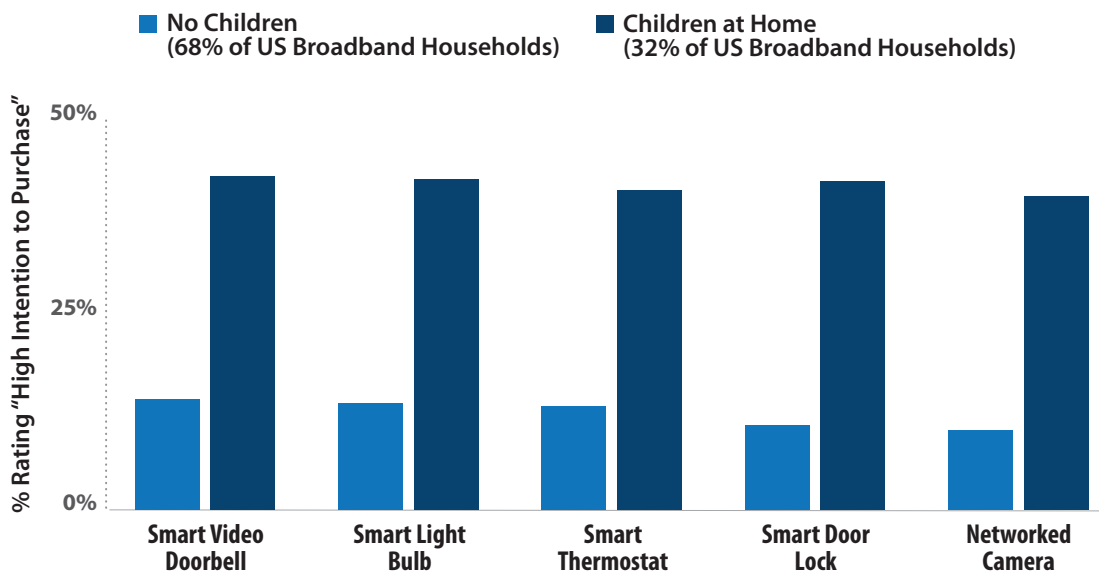
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Households with children own 11-13.3 connected devices, compared to 7.8 devices on average for households without children. Roughly 80% of respondents with children use some digital technology applications to support communication with their children and help to educate as well as entertain them.

Additionally, 38% of US broadband households with children note purchase intentions to buy a smart video doorbell over the next 12 months, compared to 14% of households without children. In general, households with children are young enough to be receptive to smart home technology but old enough to have the income and educational levels associated with smart home adoption.

## High Intention to Purchase Smart Home Devices

US Broadband Households



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## Consumer Lifestyles Rely on Smart Products

Connected devices are gradually forming deep integrations in consumers' lifestyles. The frequency of use of the smart features of smart home devices is another relevant factor, indicating how deeply integrated these products have become in consumers' lives.



**52%** of video doorbell owners, or **7%** of all broadband households – about seven million households – currently report monitoring their entryway with the device.

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More than 70% of smart home device and appliance owners report using the smart features of their devices always or frequently. Consumers do not tire of smart features and do not revert to simply mechanical features. Eighty-four percent of smart door lock and smart water shut-off valve owners report using the smart features of their devices always or frequently, making the smart features of these devices the most highly used.

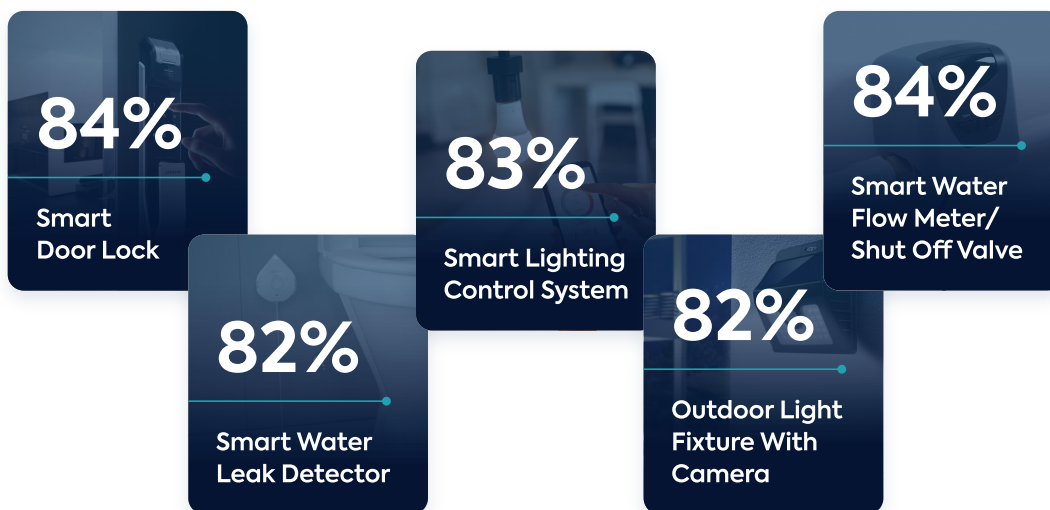


Among video camera owners with children in the home, **30%** are using the device to monitor a child and **11%** use it to monitor a nanny or babysitter.

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## Top 5 Most Frequently Used Smart Home Devices

How often do you use the smart features of the smart home devices that you own?



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**Consumers’ consistent engagement with smart home devices and appliances is indication of the value provided and solid user experience.**

As smart appliance manufacturers work to increase the feature-sets available to consumers, they must also work to keep products easy and intuitive to use. Product reliability and ease of use improve NPS scores and ultimately accelerate market adoption.

More than **80%** of smart appliance owners report that their products are easy to use and reliable.

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**Beyond ease of use, certain appliance features are more important to owners and purchase intenders.**

Smart refrigerator features that save energy and manage the food inventory rise to the top of the list in terms of importance. For example, the smart refrigerator feature that automatically adjusts refrigerator settings to minimize energy consumption is ranked highly by 28% of consumers who own or intend to purchase a smart refrigerator. Some refrigerator manufacturers offer an “away” or “vacation” mode that minimizes energy use when consumers are away.

**Other highly ranked features for smart refrigerators:**

- Ability to view refrigerator contents
- Tips for saving energy
- Tracking for needed groceries and food expiration



Generally, consumers find the most value in features that provide convenience and comfort as well as solutions that take the guesswork out of household tasks like cooking and washing—ultimately improving the outcome of those tasks.



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# New Smart Products Entering the Home

As consumers grow increasingly aware of the smart devices already on the market, new categories of smart products are emerging, offering added benefits that address different pain points. New categories include solutions that monitor indoor air quality and facilitate independent living, safe package delivery, and energy resilience in the home.

## Emerging Smart Home Solutions



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### Indoor air quality products

New indoor air quality monitoring devices include smart air quality monitors, air purifiers, and fresh air ventilation systems. These products can identify volatile compounds and other air quality issues that spur respiratory illnesses and automate actions, such as activating air purifier or humidifiers to improve air quality. Three to four percent of US broadband households report owning each of these devices. According to the Association of Home Appliance Manufacturers (AHAM), air quality is now a consideration of household cleaning. Forty-six percent of US consumers who now clean and tidy their homes more since COVID-19 take measures, such as purchasing air purifiers, to improve their indoor air quality.

### Smart products/systems for independent living

The US Census Bureau estimates that ~20% of the population will be age 65 or above by the year 2030. Nearly 90% of consumers aged 65 or above consider it very important to live independently in their own homes for as long as possible. US residents who are 65 years and older are most interested in independent living solutions that provide home safety and security, along with solutions that automatically alert first responders, if they are experiencing a security breach or exposed to a safety hazard

### Package safety solutions

According to the Rensselaer Polytechnic Institute, 1.7 million packages are lost or stolen every day in the US. Research conducted for *The New York Times* finds 90,000 packages are lost or stolen per day in New York alone, a 20% increase from 2015.<sup>1</sup> Package safety solutions allow retailers and package couriers to deliver purchased goods to consumers securely and combat an increase in package theft. Solutions include services like Amazon Key that monitor indoor package deliveries, video doorbells that can alert users when packages are delivered or removed, and smart storage containers that can be accessed only by delivery personnel and the package owner.

### Energy resilience solutions

Energy resilience solutions include batteries that store excess power. **Nine percent of US broadband households report having battery storage for excess power, and new concerns about energy resilience may drive further adoption.** The rolling blackouts in California last summer that affected many consumers and businesses, and the Texas blackouts in February 2021 that led to the loss of lives, have put energy resilience solutions top-of-mind for many more consumers.



# The Modern Home and Lifestyle



While use of smart home devices and appliances is mostly among early adopters, many markets will inch closer to the early majority in the next few years. The integration of new technologies in consumers' lives will force homebuilders to think about their buyers' expectations and how to design homes to meet those needs.

The majority of large-scale homebuilders report that smart home products are important for product sales:

- 76% report that smart appliances are important
- 66% perceive smart energy, air, water, and safety products as important

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## Single-Family Homes

As the market for smart products grows, offering them in new construction can provide builders with differentiated products that can command higher price points. With wide-scale adoption, new buildings must be designed to accommodate these products. Nearly one-half of large-scale single-family homebuilders estimate that 40% or more of new single-family construction will include smart home devices and systems as a standard by 2025.

## Multifamily Homes

Currently 30% of US broadband households live in MDUs, and 41% already have smart home devices. These devices are gaining popularity among multifamily residents as well as property owners and managers.

Multifamily property managers derive many benefits from the integration smart home devices:

- improving operating efficiencies through remote energy and access control management
- attracting and retaining residents
- increased revenues through premiums on rental fees.



Parks Associates anticipates strong growth for smart home solutions in the multifamily space, given the benefits to both residents and property managers. Futureproofing multifamily properties will involve building to accommodate efficient deployment and effective operation of these technologies.

While many different technologies and deployment types bring these products into homes, home networking solutions including broadband form the backbone of these systems. In the past, builders viewed wireless networking investments as post-sale issues for the homebuyer to work out with their preferred ISP.

**Today, builders are motivated to include networking hardware.** The majority now report installing these products as a standard or an upgrade. Fifty-seven percent have chosen to include Wi-Fi routers in single family homes as a standard; 39% have installed Wi-Fi extenders / repeaters or mesh networking systems in single family homes as standard. As consumers navigate this new COVID-19 world, they are increasingly aware of pathogens on shared surfaces. Creating touchless systems for building access and control is another key consideration for builders of multifamily properties as they attempt to increase property appeal.<sup>2</sup>



**60% of MDU renters are highly interested in at least one specialized apartment feature**, with more than one-third interested in smart home features, such as touchless lighting controls and smart thermostats. More than 70% of MDU renters who are interested in remote climate control using a smart thermostat are willing to pay more money in rent per month for it.

**With these MDU renters willing to pay extra per month for these smart home-related products and services, the opportunity for new revenue is easily more than \$1 billion annually.**

## Modern Living Driving the Future

Given the many benefits of connectivity to device manufacturers, connected versions will increasingly replace traditional products. Device manufacturers perceive the homebuilders channel as a way to drive market awareness of smart home products beyond the traditional tech-centric buyer to the mass market and perceive the multifamily channel as a way to drive product sales at scale. By including smart home devices in new buildings, builders can increase home value and appeal. Similarly, multifamily property managers can increase property appeal and property value, derive efficiencies that dramatically reduce operating expenses, and increase revenue by offering premium smart amenities.

The market is ripe with opportunity to continue providing value to consumers through integration of devices, advancements in technology, and new partnerships.

<sup>2</sup> <https://www.forbes.com/sites/forbestechcouncil/2020/08/26/touchless-interaction-in-a-post-covid-19-world/?sh=103559f82891>





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## About Parks Associates

Parks Associates, a woman-owned and woman-led internationally recognized market research and consulting company, specializes in emerging technology solutions serving the consumer and small to medium business (SMB) markets. Celebrating its 35th year in 2021, Parks Associates is a partner to companies navigating the changing consumer technology landscapes through data-driven market insights, extensive consumer and industry intelligence, custom marketing services, and executive networking experiences and conferences.

The company's expertise includes home automation, control systems and security, digital media and platforms, entertainment and gaming, home networks, internet and video services, connected health and independent living solutions, mobile applications and services, support services, consumer electronics, and energy management solutions.

Each year, Parks Associates hosts industry webcasts, the CONNECTIONS™ Conference Series, Connected Health Summit, Smart Energy Summit: Engaging the Consumer, and Future of Video: OTT, Pay TV, and Digital Media. [www.parksassociates.com](http://www.parksassociates.com)

## About The Author



### Patrice Samuels, *Senior Analyst, Parks Associates*

Patrice covers smart home products and services and leads Parks Associates Smart Home Tracker product, keeping clients informed of industry developments and competitive shifts across more than 10 smart home product markets. She also leads digital home technical support services with a focus on market trends, business models, and provider strategies. Patrice manages custom research projects and strategy workshops that help companies understand the consumer experience in the connected home.

Patrice earned her MBA from Texas A&M University at College Station and BSc in Psychology from the University of the West Indies.

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for Emerging Consumer Technologies

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Smart Home Devices and Platforms



Digital Media and Platforms



Home Networks



Digital Health



Support Services



Entertainment & Video Services



Consumer Electronics



Energy Management



Home Control Systems



Home Security