



How Smart is Your Smart Home

Brandon Doyle

What are we going to cover today?

- What is Smart Connected Technology
- The history of Smart Connected Technology
- How many Smart Connected Devices are there
- Who is Buying Smart Connected Devices & Why
- Smart home selling/buying

The History of Smart Connected Devices

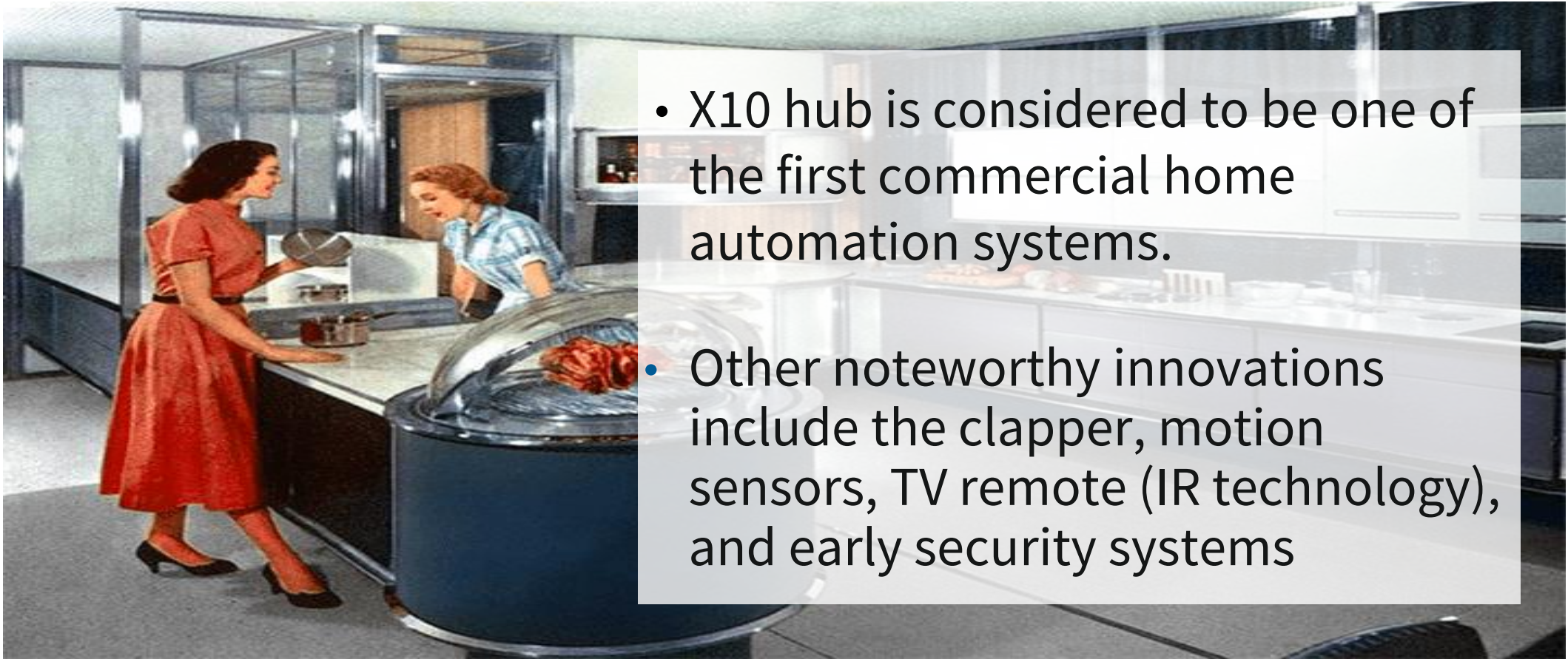


History of the Smart Connected Devices Phase 1 – 1960 to 1980



- Many techies & hobbyists started making integrated smart home infrastructure
- General Electric started making a series of smart/connected appliances including dishwashers & microwaves.

History of the Smart Connected Devices Phase 1 – 1960 to 1980



- X10 hub is considered to be one of the first commercial home automation systems.
- Other noteworthy innovations include the clapper, motion sensors, TV remote (IR technology), and early security systems

History of the Smart Connected Devices Phase 2 – 1980 to 2015



Smart Home products were just for the super-rich & had little success, due to the fact they were very complex, required a high level of custom programming & costs

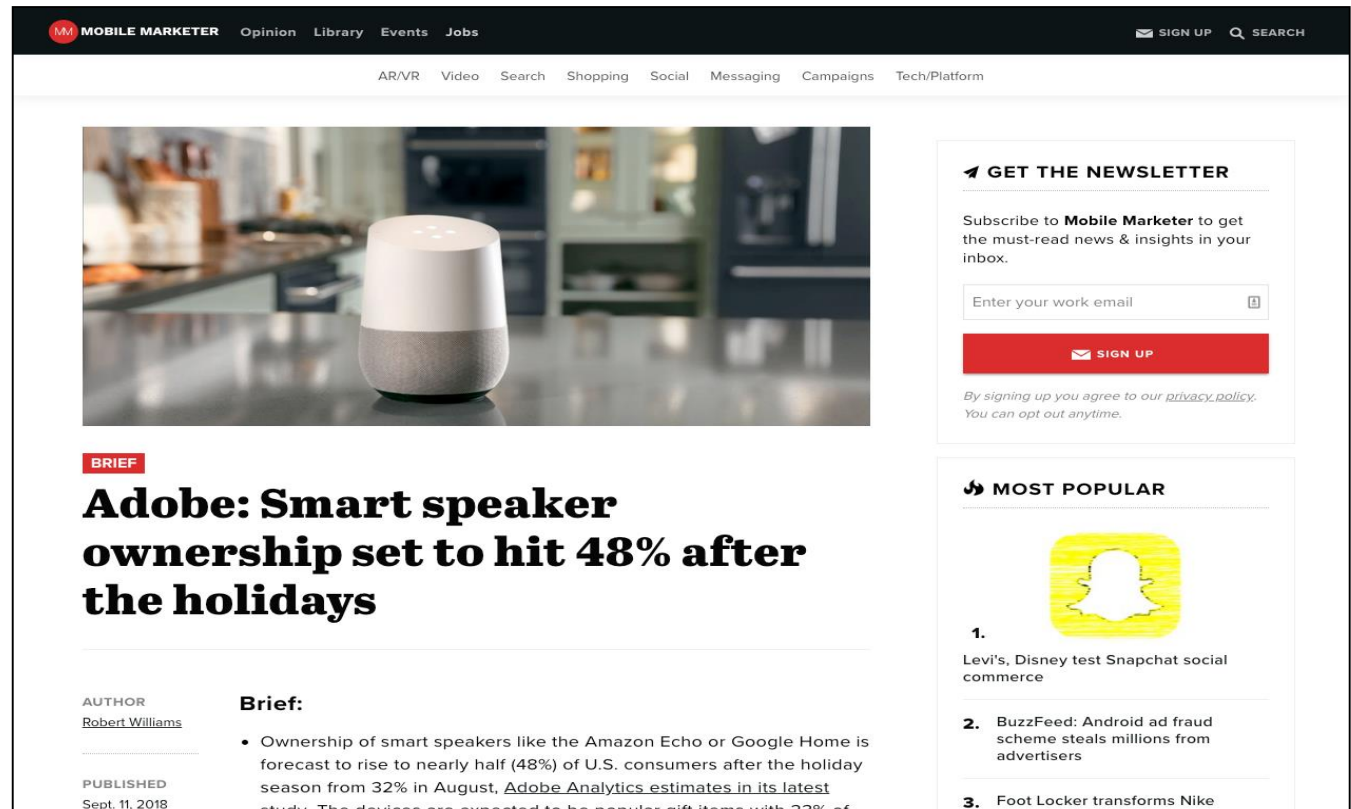
History of the Smart Connected Devices Phase 3 – 2016 to Present

In the last few years, between the significant drop in costs in microprocessor chips, sensors and cloud computing....

Smart Home devices have exploded and have finally gone main stream!

Who Owns Smart Connected Devices?


52% of US Households
now own a smart
speaker



The screenshot shows a webpage from Mobile Marketer. At the top, there is a navigation bar with 'MOBILE MARKETER' and links for 'Opinion', 'Library', 'Events', and 'Jobs'. Below this is a secondary navigation bar with 'AR/VR', 'Video', 'Search', 'Shopping', 'Social', 'Messaging', 'Campaigns', and 'Tech/Platform'. The main content area features a large image of a smart speaker on a kitchen counter. To the right of the image is a 'GET THE NEWSLETTER' section with a text input field for an email address and a red 'SIGN UP' button. Below the newsletter section is a 'MOST POPULAR' section with a list of three items: 1. Levi's, Disney test Snapchat social commerce; 2. BuzzFeed: Android ad fraud scheme steals millions from advertisers; 3. Foot Locker transforms Nike. The article title is 'Adobe: Smart speaker ownership set to hit 48% after the holidays' with a 'BRIEF' tag. The author is Robert Williams and the article was published on Sept. 11, 2018. A brief summary states that ownership of smart speakers like the Amazon Echo or Google Home is forecast to rise to nearly half (48%) of U.S. consumers after the holiday season from 32% in August, according to Adobe Analytics.

MOBILE MARKETER Opinion Library Events Jobs SIGN UP SEARCH

AR/VR Video Search Shopping Social Messaging Campaigns Tech/Platform



BRIEF

Adobe: Smart speaker ownership set to hit 48% after the holidays

AUTHOR
Robert Williams

PUBLISHED
Sept. 11, 2018

Brief:

- Ownership of smart speakers like the Amazon Echo or Google Home is forecast to rise to nearly half (48%) of U.S. consumers after the holiday season from 32% in August, [Adobe Analytics estimates in its latest study](#). The devices are expected to be popular gift items with 22% of

GET THE NEWSLETTER


Subscribe to **Mobile Marketer** to get the must-read news & insights in your inbox.

Enter your work email

SIGN UP

By signing up you agree to our [privacy policy](#). You can opt out anytime.

MOST POPULAR

- 
1. Levi's, Disney test Snapchat social commerce
2. BuzzFeed: Android ad fraud scheme steals millions from advertisers
3. Foot Locker transforms Nike

What is a Smart Connected Device?



Connected Devices

Physical devices, vehicles, home appliances, and other items embedded with electronics, software, sensors, actuators, and network connectivity which enable these objects to connect and exchange data.

Connected Devices Data is being collected in Incredible Numbers

50% of all Internet traffic in 2024 will be from IoT or Connected Devices - [Intel](#)

What is a Smart Connected Home?

c|net Defines the “Smart Home”

smart •home

noun

A home that is equipped with products or tools that aid in controlling functions such as temperature, lighting, security, safety and entertainment, either remotely via phone, tablet, computer or with a separate automatic system within the home itself.

CNET's Definition of a Smart Home

Property must have reliable Internet & at least 3 of the following:

Lighting <ul style="list-style-type: none">• smart bulbs• lighting systems	Safety <ul style="list-style-type: none">• smart fire• carbon monoxide detectors	Entertainment <ul style="list-style-type: none">• smart TV• streaming service	Appliances <ul style="list-style-type: none">• smart refrigerators,• washer/dryer,• oven, etc.
Heating/Cooling <ul style="list-style-type: none">• smart HVAC system• fans• vents• etc.	Outdoors <ul style="list-style-type: none">• smart plant sensors• sprinkler/hydration• etc.	Security <ul style="list-style-type: none">• smart locks• cameras• doorbells, etc.	Temperature <ul style="list-style-type: none">• smart thermostats

* Security and temperature must have to have at least two devices to qualify

So, all it really takes to qualify is...



The CNet Smart Home



What is the True Purpose “Smart Home”?

To improve &/or make one's life



What is the True Purpose “Smart Home”?



- Security
- Convenience
- Energy efficiency
- Cost Savings
- Comfort
- And More

What Can a Smart Home Do?

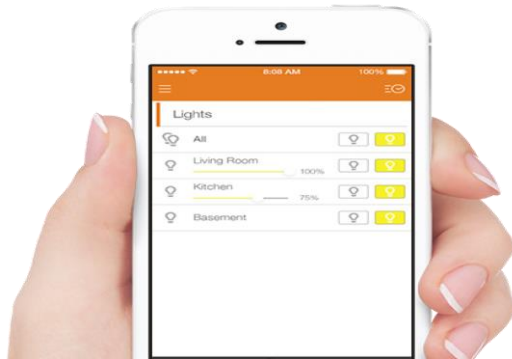


How Do Connected Devices Work?



Smart Home Devices - How it Works

- Any connected device is both a transmitter & a receiver.
- So they can send & receive messages.



Remote or Local Control

- You can trigger actions while in the property, remotely (ex. using an app) or by setting up schedules or automations.
- Any unexpected activity can notify you remotely



Automate Processes

Individual Tasks or Sequences (ex. turning on lights, ac/heat, music, etc.)

can be set up based on:

- Schedules
- Proximity/motion (ex. when you enter the room)
- Geolocation (ex. 5 miles from home)
- Milestones (ex. tides, sunrise/sunsets, temperatures, etc.)
- Etc.

Smart Home Devices - How it Works

The major short-range wireless protocols used in connected & smart home devices are:

- Wi-Fi
- Bluetooth
- Z-Wave
- Zigbee



Reasons for a Smart Home



Smart Home

Bedroom

Smart books interact with the house's 3D and virtual reality system, bringing to life what you read.



Bathroom

Doctors will be able to give you virtual medical checks. Toilets will analyse waste for medical problems such as colon cancer.



Roof

Power collected through solar panels and stored in backup resources to power house and car.



Bedroom

Clothes made with smart fabrics regulate your temperature and monitor your health. E-commerce will become F-commerce - online consumers will be able to enjoy a tailored shopping experience based on Facebook 'Likes'.

Kitchen

Smart surfaces identify what's on them and have the ability to react accordingly - keeping coffee cups warm and iced tea cold. Refrigerators will advise on recipes based on what's in stock and creates personal diets.



Living Room

All appliances connected through invisible networking system. Entertainment system creates life like sounds, images and experiences to completely envelop you in near 4D experience.



Garage

Camera at entrance has facial recognition software which is linked to criminal database. Car which is able to drive itself.



Office

See-through electronics, screens, touch panels and tactile displays deliver 3D holographic experiences. Contact lenses allow you to access infinite information resources instantly before your eyes.



Who Owns Smart Home Devices?

33%

Of US Households now qualify as Smart Homes

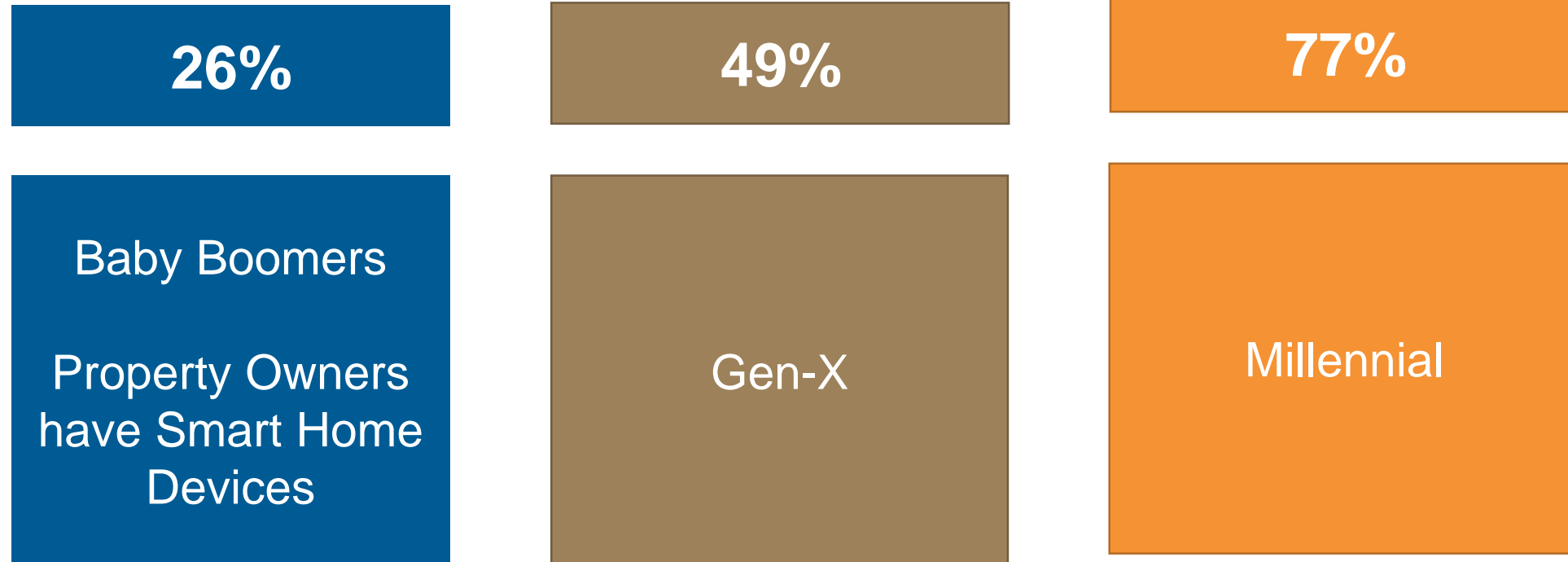
54%

Expected to reach by 2023

54%

Home Owners plan on buying Smart Home Technology this Year

Who Owns Smart Home Devices?



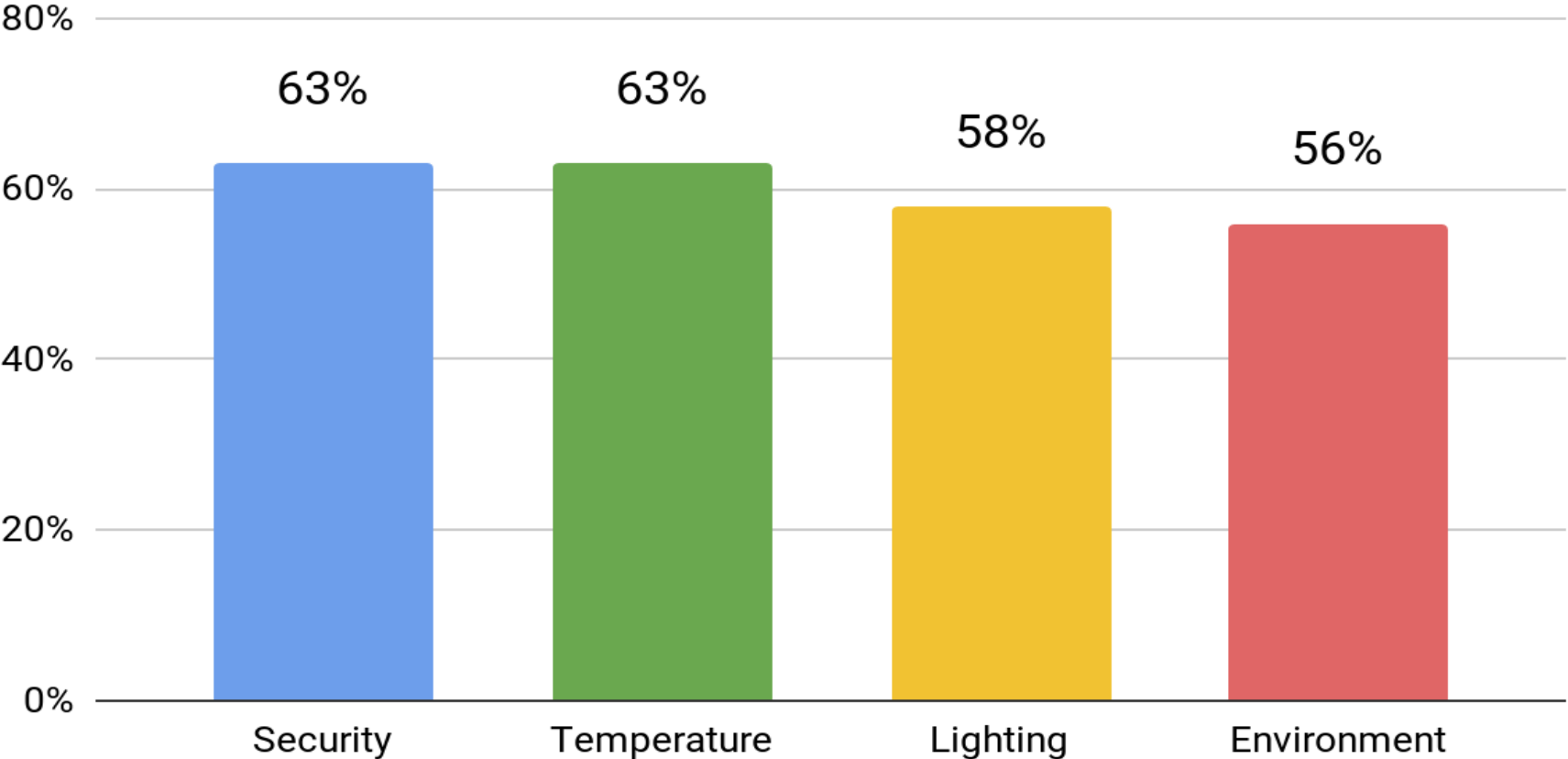
Who Owns Smart Home Devices?

43%

Smart devices are
owned by 18-34
year-olds

Consumer Motivations for Smart Home Technology

Home Buyers Want the Following Smart Features



Who Owns Smart Home Devices?

\$98.30

The average monthly savings for Smart Home Owners

30 Minutes

The average time saved per day by Smart Home Owners

Why Don't More People Own Smart Home Devices?

5 C's

1. **Cost**

(regular light switch \$3, smart light switch \$30)

2. **Confusion/Complexity**

3. **Compulsion** - is it worth the effort

4. **Cohesion** - many of the products don't work together or talk to each other easily without hubs

5. **Concerns with Security & Privacy**

Why Some Don't Go Smart?

33%

Home Owners experience issues setting up a Smart device

22%

Smart devices are returned due to confusion or set up related issues

70%

Home Owners are more likely to purchase another smart device once they have success with another

Smart Home Technology & Seniors





Minnesota
Realtors®



 NATIONAL
ASSOCIATION of
REALTORS®
Official Designation

 GRADUATE
REALTOR®
INSTITUTE

Seniors & Aging in Place

76%

Home Owners 50+
would like to stay in
their Property longer

77%

Would like to stay in
their Community
longer

Smart Home & Seniors

- Remember to eat & take medications
- Provide companionship/company
- Allow family &/or caregivers to interact with them
- remotely fall detection & notification of care givers
- Voice Activated assists the blind, visual for the hearing impaired, etc.



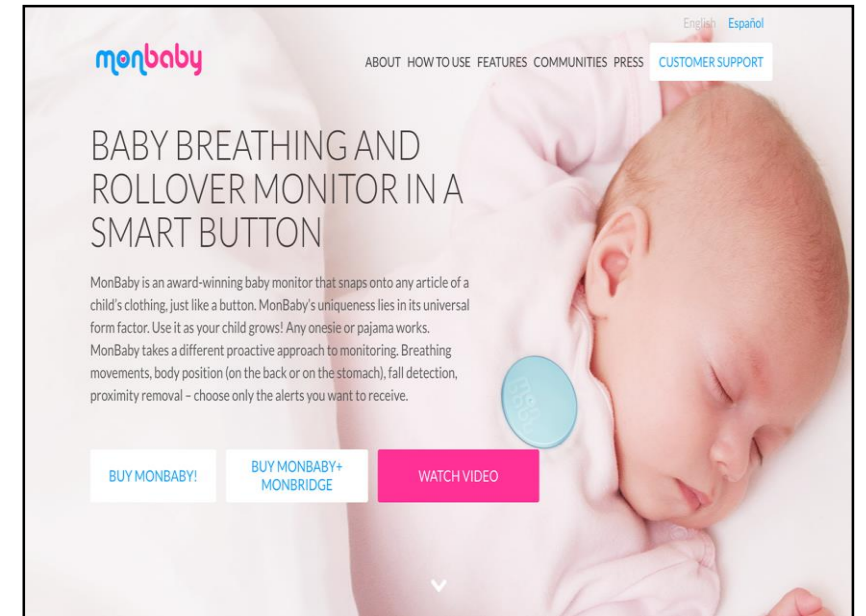
Smart Home & Seniors

- Provide security & interact with visitors without having to go to the door
- Help upkeep the property including monitoring mechanical systems for spikes or anomalies
- And much more



Smart Home Technology & Children

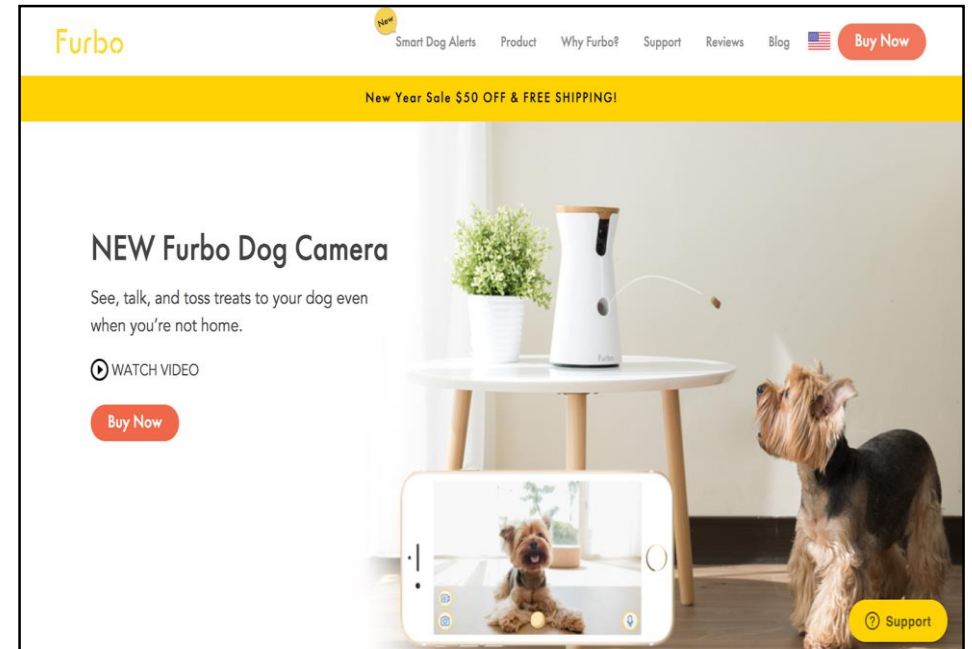
- Allow family &/or caregivers to interact remotely
- Provide security
- Monitor window/door sensors for movement or unexpected activity
- Monitor behavior & location tracking
- Monitor sleep & breathing (ex. infants & SIDS)
- And much more



The screenshot shows the MonBaby website homepage. At the top left is the MonBaby logo. To the right are navigation links: ABOUT, HOW TO USE, FEATURES, COMMUNITIES, PRESS, and CUSTOMER SUPPORT. In the top right corner, there are language options for English and Español. The main heading reads "BABY BREATHING AND ROLLOVER MONITOR IN A SMART BUTTON". Below this is a paragraph of text: "MonBaby is an award-winning baby monitor that snaps onto any article of a child's clothing, just like a button. MonBaby's uniqueness lies in its universal form factor. Use it as your child grows! Any onesie or pajama works. MonBaby takes a different proactive approach to monitoring. Breathing movements, body position (on the back or on the stomach), fall detection, proximity removal - choose only the alerts you want to receive." At the bottom of the text area are three buttons: "BUY MONBABY!", "BUY MONBABY+ MONBRIDGE", and "WATCH VIDEO". The background of the page is a close-up photo of a baby's head and shoulder, with a blue circular smart button attached to their clothing.

Smart Home & Pets

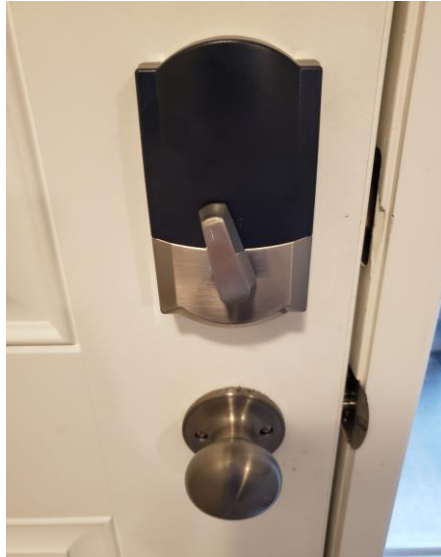
- Allow owners to monitor behavior & provide companionship
- Allow owners to feed & walk pets remotely
- And more



Smart Home Functions in a Property



From the Car or At the Front Door



- Lock/Unlock Doors
- Open/Close Garage Door
- Monitor Visitors & Deliveries with Video & Audio (even remotely)
- Turn On/Off Alarm System
- Start Vehicle
- Initiate Welcome or Leaving Home Sequence

In The Yard



- Exterior Lighting
- Mow the Lawn &/or rake leaves
- Sprinkler/Irrigation
(on schedule or based on moisture sensors)
- Warm Sidewalk &/or Driveway
(melt snow or ice)
- Clean &/or heat pool

In the Kitchen



- Refrigerators
- Microwaves



In the Bathroom



Smart Shower

- Lighting with motion detection
- Fans based on humidity
- Smart Mirror (check email, news & social feeds)
- Set Optimal Shower or Bath Temperature
- Self Cleaning Shower/Tub or Toilet
- Smart Scale assess body weight, diet progress, etc.



In The Bedroom



- Lighting with motion detection
- Fans based on humidity
- Smart Mirror (check email, news & social feeds)
- Set Optimal Shower or Bath Temperature
- Self -Cleaning Shower/Tub or Toilet
- Smart Scale assess body weight, diet progress, etc.

In the Family/Living Room



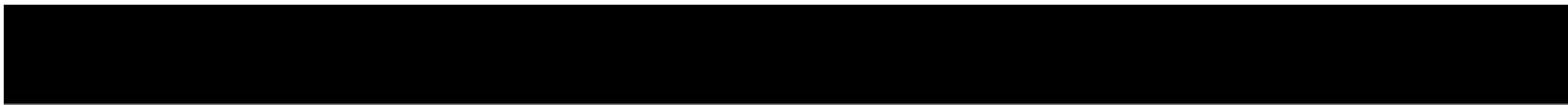
Smart Shades

- Lighting with motion detection
- Fans based on humidity
- Smart Mirror (check email, news & social feeds)
- Set Optimal Shower or Bath Temperature
- Self Cleaning Shower/Tub or Toilet
- Smart Scale assess body weight, diet progress, etc.

Security & Monitoring



- Smart Thermostats help monitor temperature
- Smart Solar Grid can provide alternative power source
- Chemical (smoke, CO2, etc.) & Moisture Sensors help detect potentially dangerous issues in the property
- Security Cameras, Systems & Motion Sensors help protect entire property



But for the very tech savvy or wealthy,
the goal is for

WHOLE HOME AUTOMATION

Whole Home Operating System & Universal Remote Control



Whole Home Security & Monitoring

- App & Voice Control
- Security Cameras
- Door & Garage Locks/Monitoring



Whole Home Environment Control

- App & Voice Control
- Thermostat
- Smoke, Water, & Air Quality Monitoring



Whole Home Lighting

- App & Voice Control
- Security Cameras
- Door & Garage Locks/Monitoring
- Smoke, Water, & Air Quality Monitoring



Whole Home Entertainment

- App & Voice Control
- Multi-Room Audio
- Streaming Music Service Integration
- Intercom Everywhere
- Home Theater



Whole Home Device Control

- App & Voice Control
- Appliance Control
- Shower/Tub & Toilet Control



Whole Home Automation



Smart Home OS 3



Whole Home



Smart Lighting



Home Security



Multi-Room Audio



Universal Remote



Voice Control



Intercom Anywhere



Home Theater

Real Property Versus FF&E

Minnesota Standard Residential Purchase Agreement

DISCLOSURE STATEMENT: SELLER'S PROPERTY DISCLOSURE STATEMENT

179. Page 5

1

180. THE INFORMATION DISCLOSED IS GIVEN TO THE BEST OF SELLER'S KNOWLEDGE.

181. Property located at _____.

182. Are there any items or systems on the Property connected or controlled wirelessly,
183. via internet protocol ("IP"), to a router or gateway or directly to the cloud? Yes No

184. Comments regarding issues in Section C: _____

185. _____

2

276. **LINKED DEVICES:** Seller warrants that Seller shall permanently disconnect or discontinue Seller's access or service
277. to any device or system on or serving the property that is connected or controlled wirelessly, via internet protocol ("IP")
278. to a router or gateway or directly to the cloud no later than delivery of possession as specified in this Purchase
279. Agreement.

Questions?



