SMART HOMES IN HOMEBUYING

NAVIGATING THE SEAS OF TECHNOLOGIES

CONTENTS

- A history of smart homes and how we got here
- Smart homes in the real world, an overview of current technologies and uses
- What homebuyers want from their smart homes
- Navigating smart home anxiety
- Why smart homes of the future will save the world... unless they kill us first

BIO

- COO of Lumiere Fiber
- Developing smart homes at scale in Sterling Ranch
- Background in real estate, healthcare, and engineering

3,400 acre master plan development in Douglas County, CO

30 minutes southwest of Denver

Zone for 12,000+ residential units and a downtown up to 7 stories

Building a 21st century community from the ground up

STERLING RANCH: A CUTTING-EDGE COMMUNITY

OUR PHILOSOPHY

CONSERVATION

CONNECTIVITY

COMMUNITY

A HISTORY OF SMART HOMES

TIMELINE

1966:
The Echo IV

1969:
ARPAnet

1975:
X10

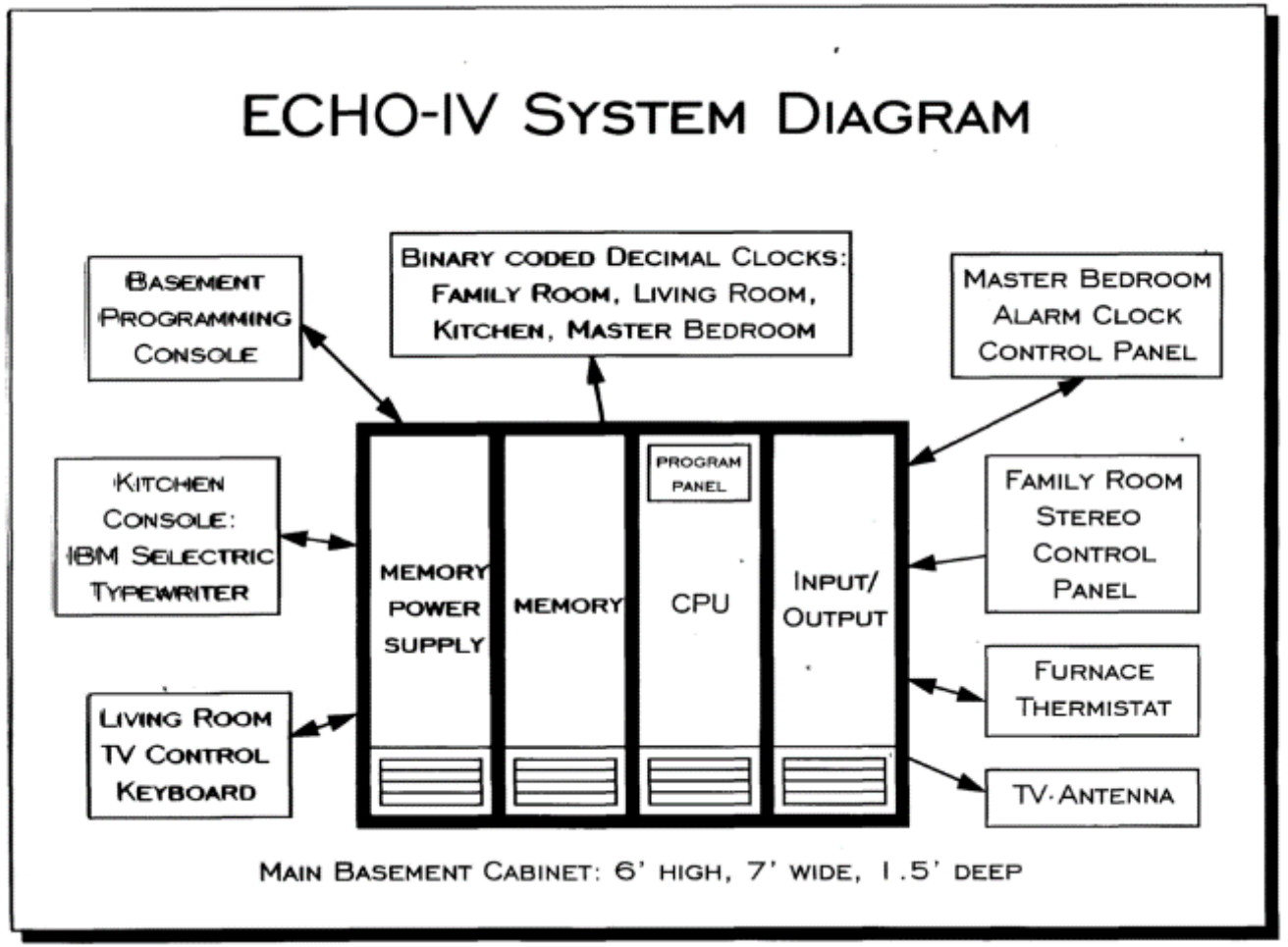
1984:
“Smart House”

1990s:
The Birth of IoT

2000s:
Connected Homes

2014:
Smart Speakers

1966: THE FIRST "SMART" HOME



THE FIRST "SMART" HOME

"At this point, I cannot say or even comprehend all the things that a computer someday will be doing for our homes, but wouldn't it be wonderful if they could provide more time for parents to spend with their children, therefore, making every home a happier one?"
-Ruth Sutherland, 1967

THE FIRST "SMART" HOME

"Turn the lights on when you're gone."

"Control temperature, humidity, and burglar alarm."

"Lock all doors at night."

"Water the lawn."

THE FIRST "SMART" HOME

"Wash the car."

"Handle family accounting."

"Feed baby at night."

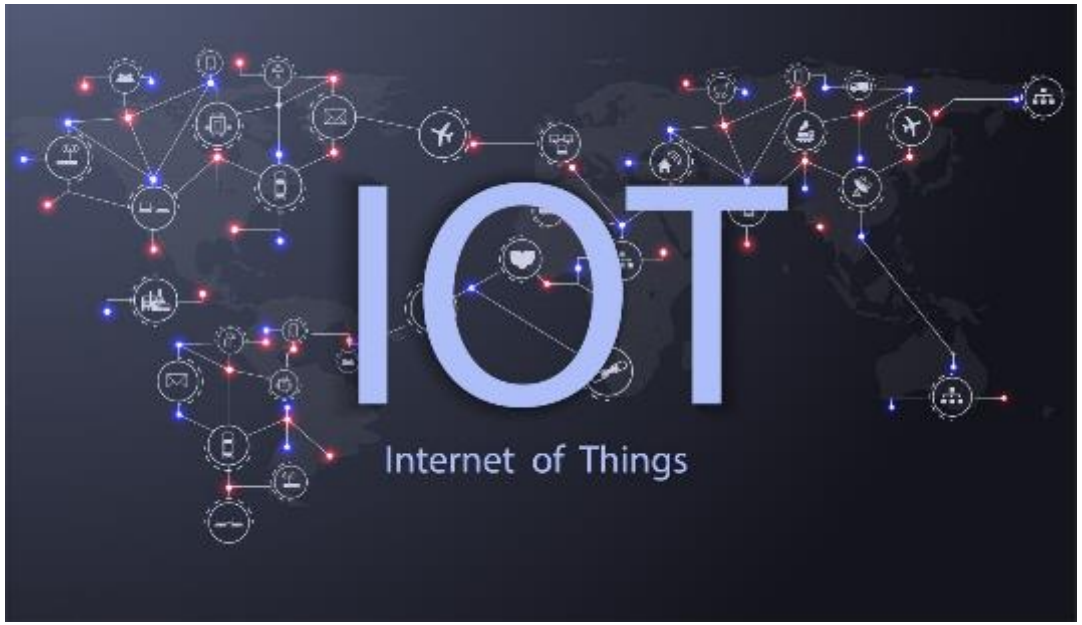
1969: ARPANET

The ARPANET in December 1969

1975: X10 HOME AUTOMATION

1980S: "SMART HOUSE" AND PERSONAL COMPUTING

1990S: THE BIRTH OF IOT

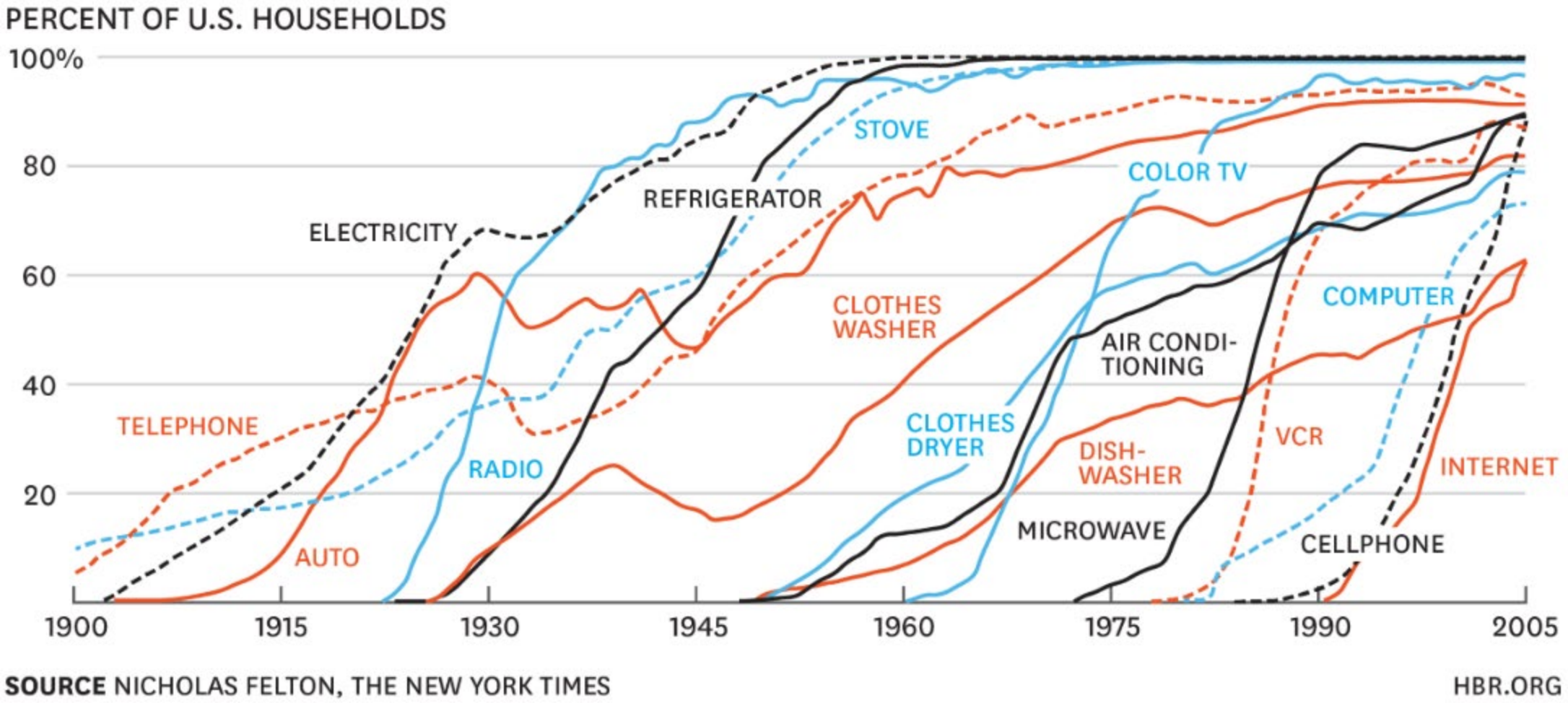


ZigBee®
Control your world

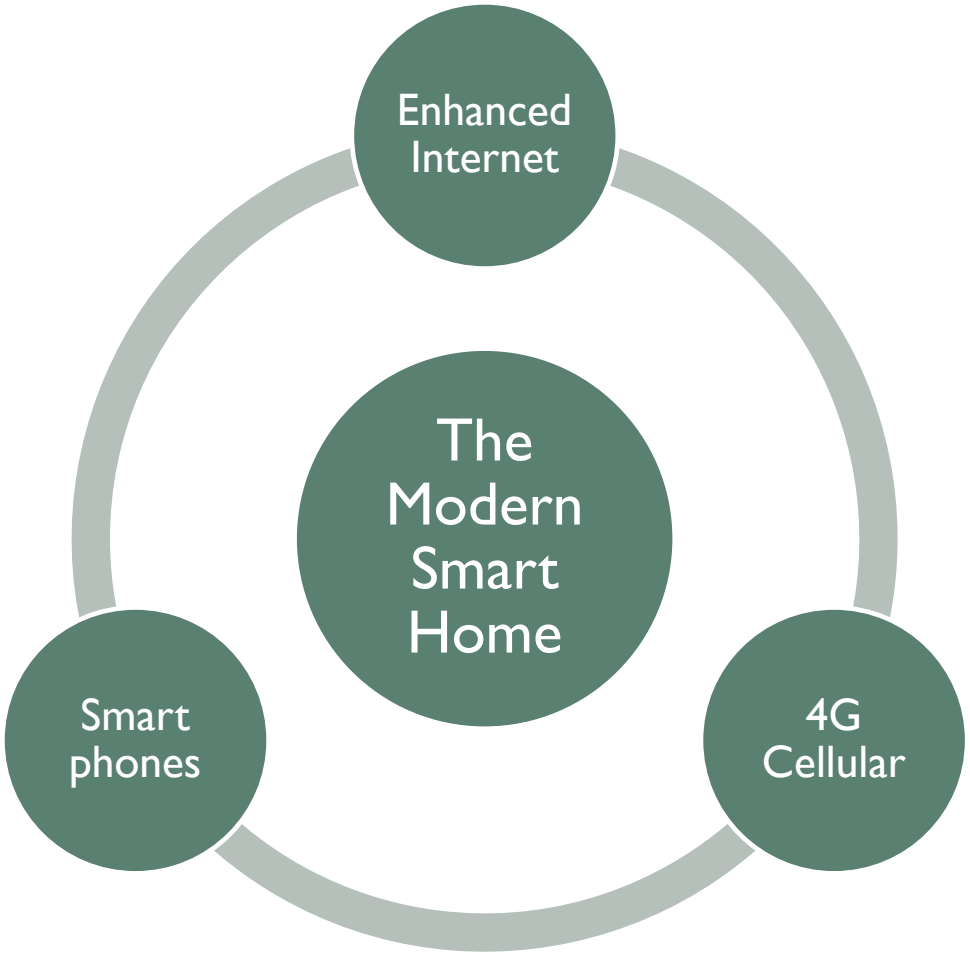
Z-WAVE®

CONNECTED HOMES START BREAKING THROUGH

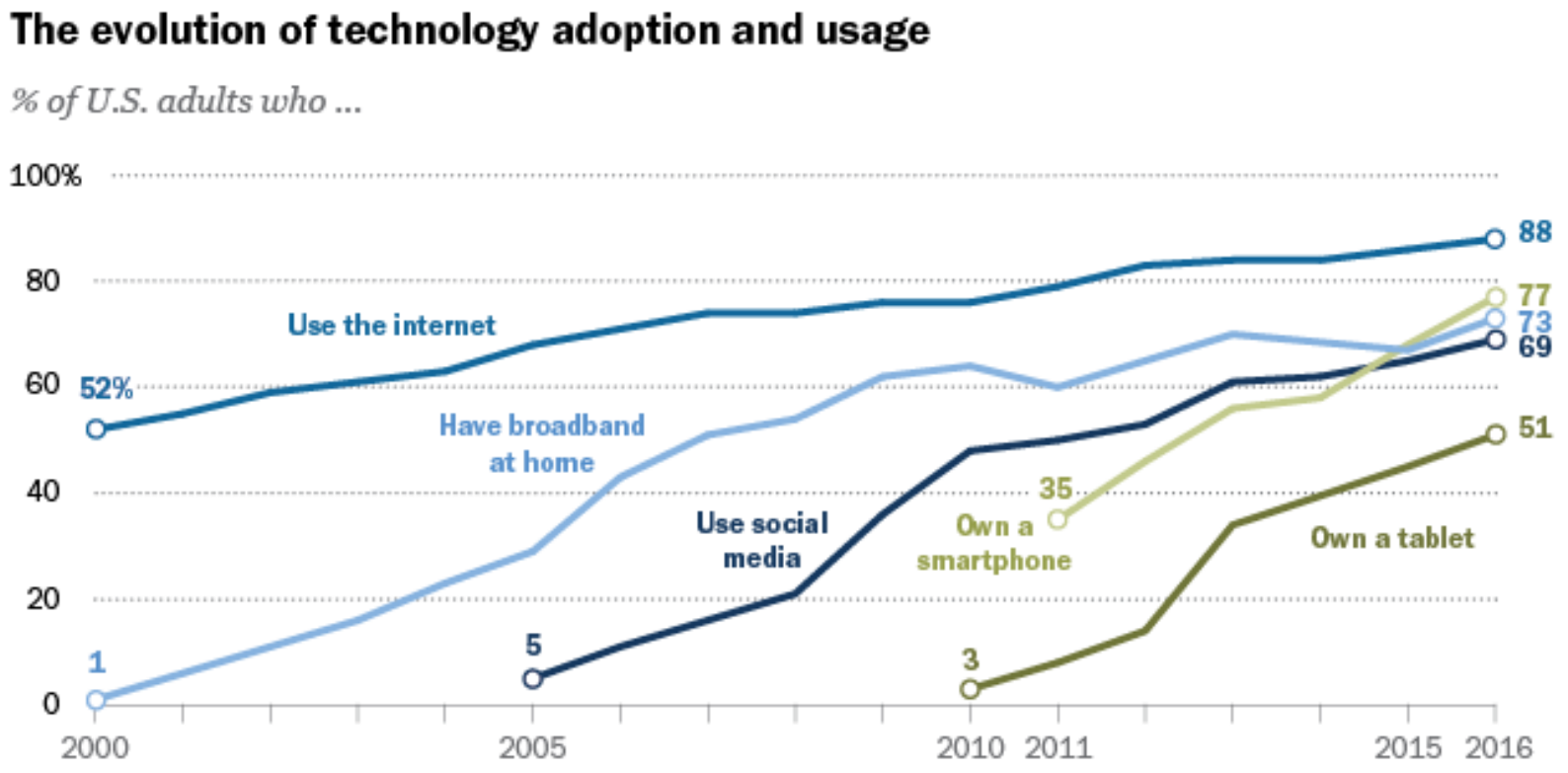
TECHNOLOGY ADOPTION



2000S: THE MODERN ERA TAKES SHAPE



THE MODERN ERA TAKES SHAPE



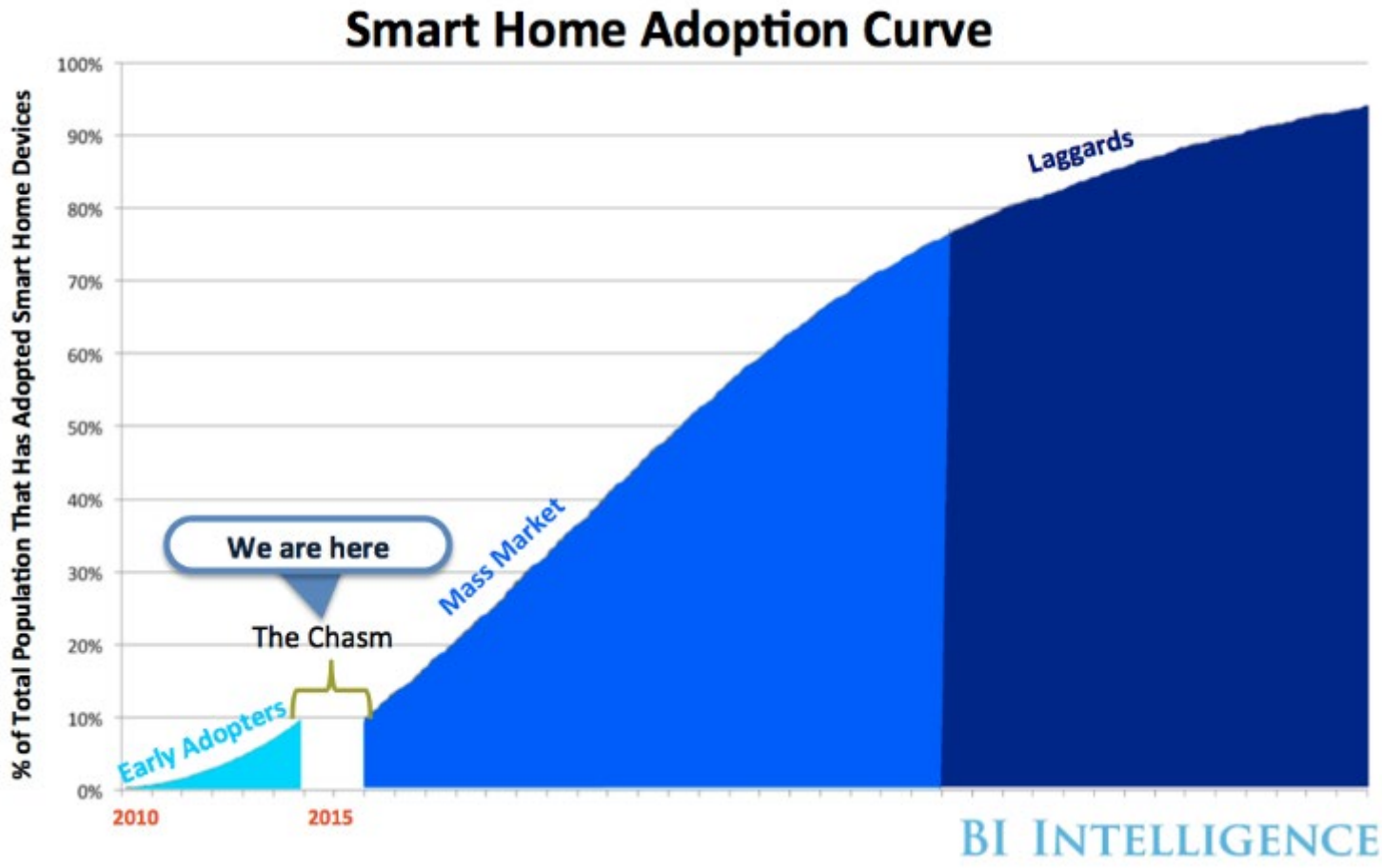
Source: Surveys conducted 2000–2016. Internet use figures based on pooled analysis of all surveys conducted during each calendar year.

PEW RESEARCH CENTER

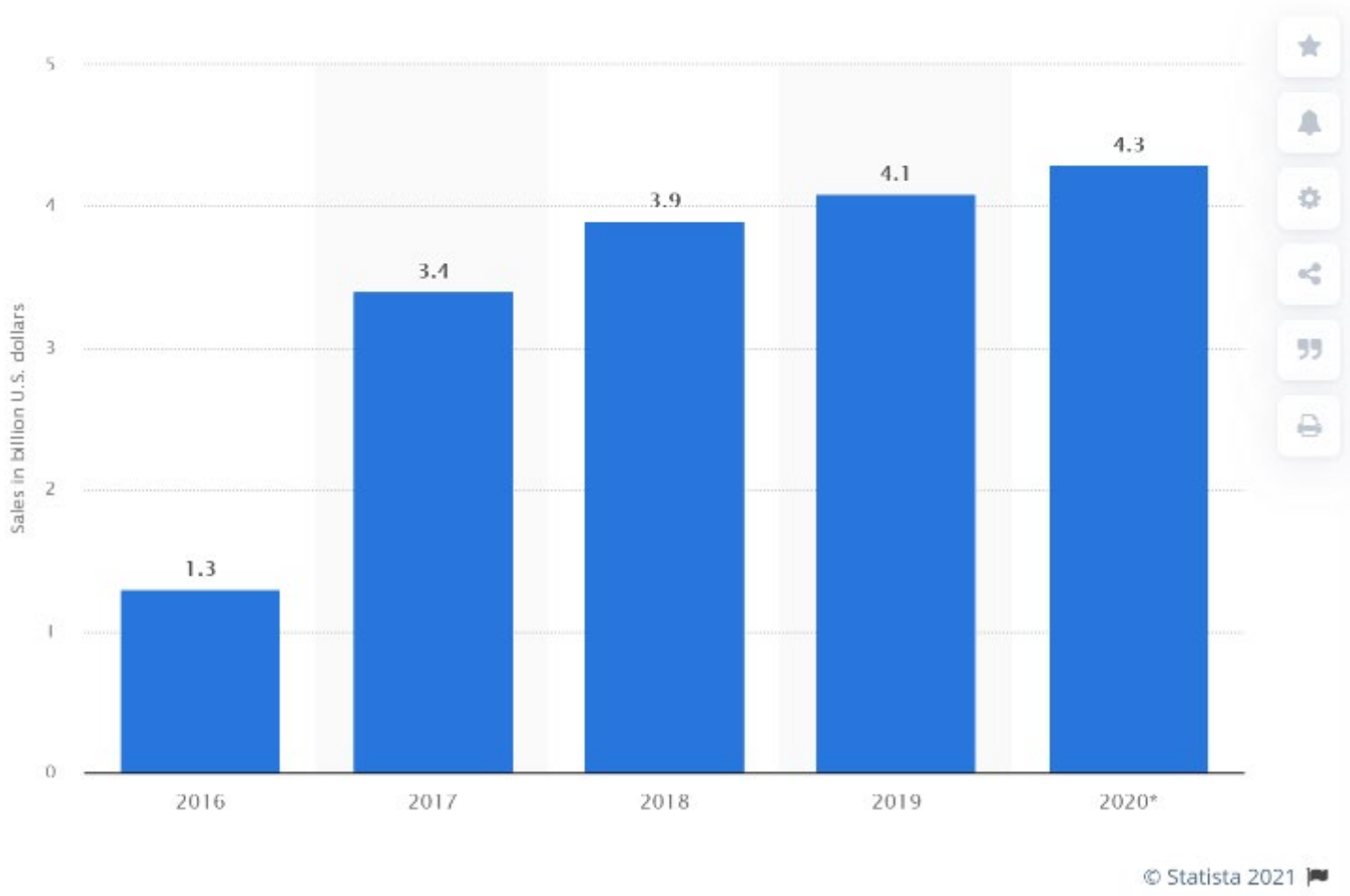
THE MODERN ERA TAKES SHAPE

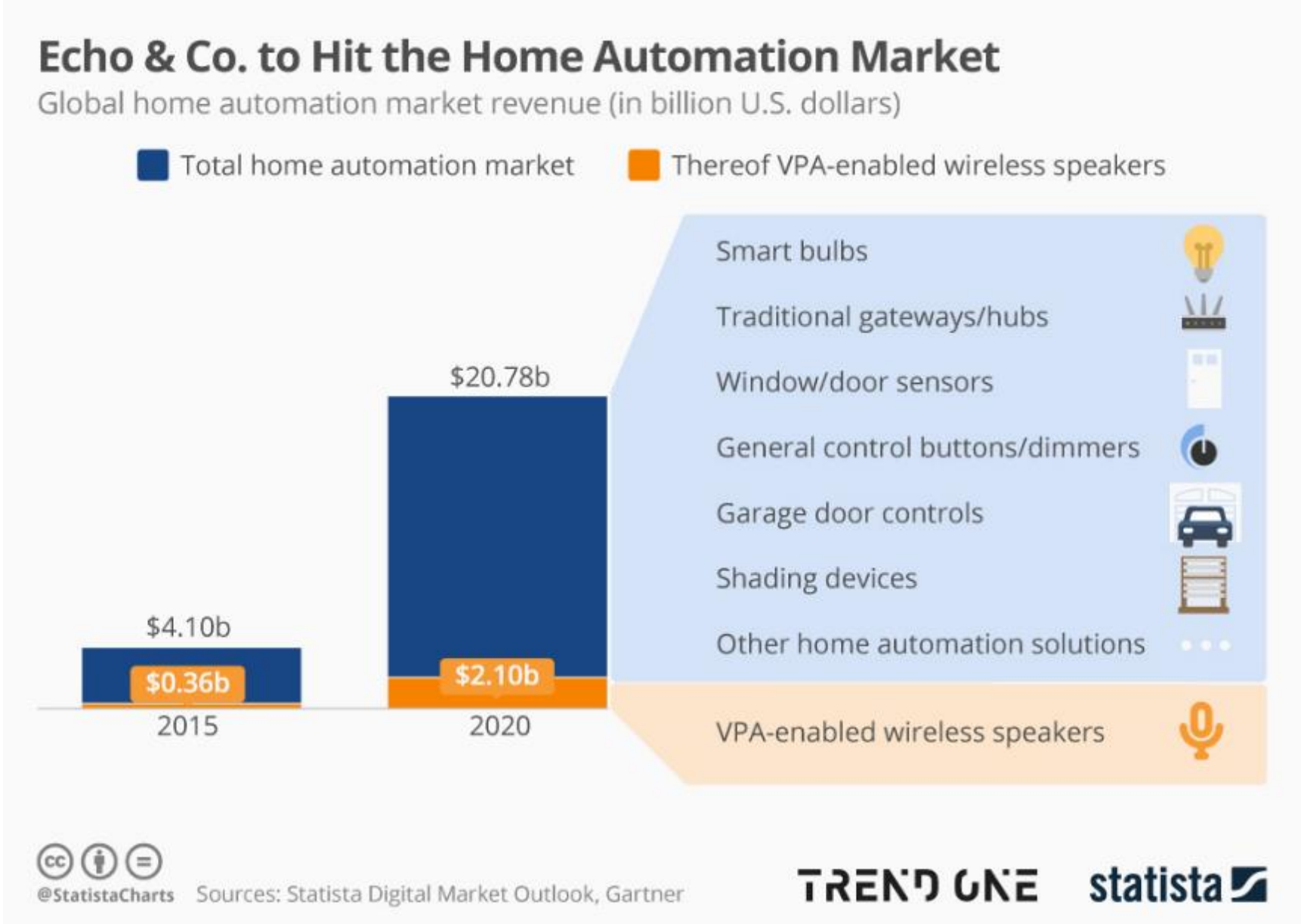
2014: SMART SPEAKERS ARRIVE ON THE SCENE

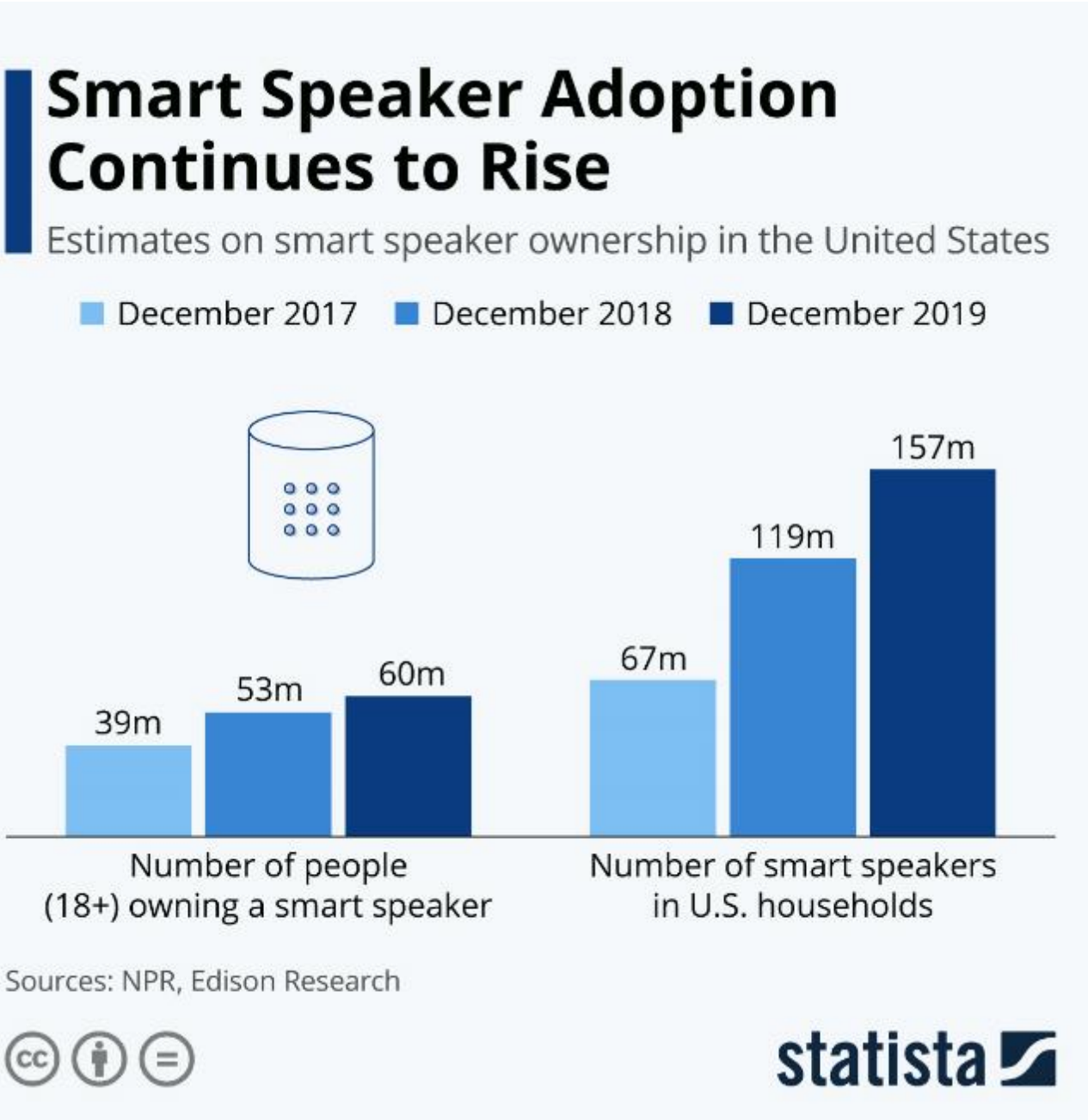
SMART SPEAKERS CROSS THE CHASM

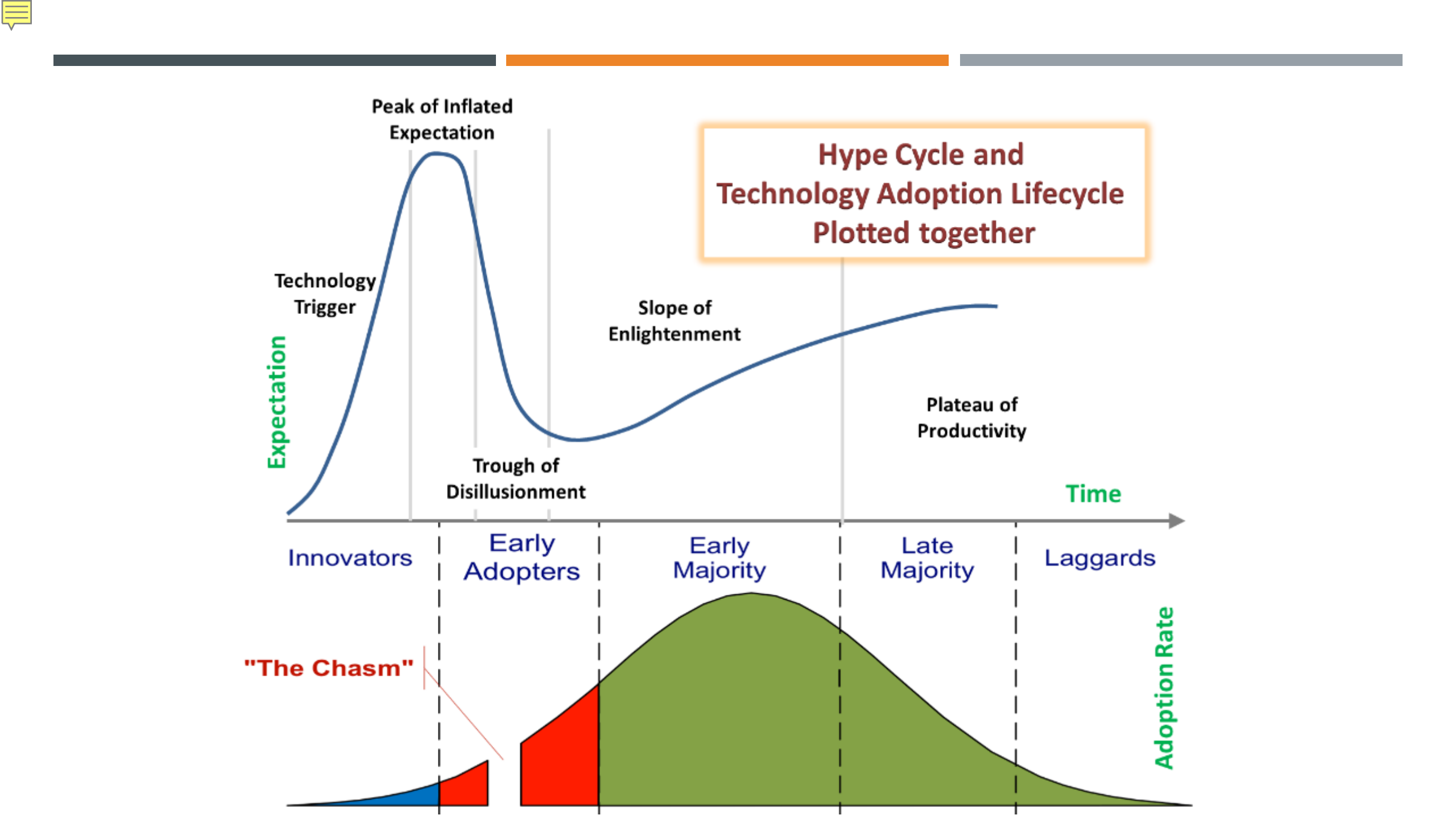


SMART HOME ADOPTION EXPLODES




Echo & Co. to Hit the Home Automation Market
Global home automation market revenue (in billion U.S. dollars)
Total home automation market
Thereof VPA-enabled wireless speakers
$4.10b
$0.36b
2015
$20.78b
$2.10b
2020
Smart bulbs
Traditional gateways/hubs
Window/door sensors
General control buttons/dimmers
Garage door controls
Shading devices
Other home automation solutions
VPA-enabled wireless speakers
@StatistaCharts
Sources: Statista Digital Market Outlook, Gartner
TREND ONE
statista


Smart Speaker Adoption Continues to Rise
Estimates on smart speaker ownership in the United States
December 2017
December 2018
December 2019
39m
53m
60m
67m
119m
157m
Number of people (18+) owning a smart speaker
Number of smart speakers in U.S. households
Sources: NPR, Edison Research
statista


Hype Cycle and
Technology Adoption Lifecycle
Plotted together
Peak of Inflated
Expectation
Technology
Trigger
Slope of
Enlightenment
Plateau of
Productivity
Trough of
Disillusionment
Expectation
Time
Innovators
Early
Adopters
Early
Majority
Late
Majority
Laggards
"The Chasm"
Adoption Rate

SMART HOMES IN THE REAL WORLD

SECTION TOPICS

- Protocols
  - Wifi
  - Zwave
  - Zigbee
  - BLE
- Smart Homes Types
  - Smart Speaker Centric
  - Security System Centric
  - Smart Hub Centric
- Popular Devices
  - Smart Speakers
  - Security Systems
  - Smart Lights
  - Smart Thermostats
- Builder Smart Home Packages

PROTOCOLS

PROTOCOLS

User Friendly

Stable

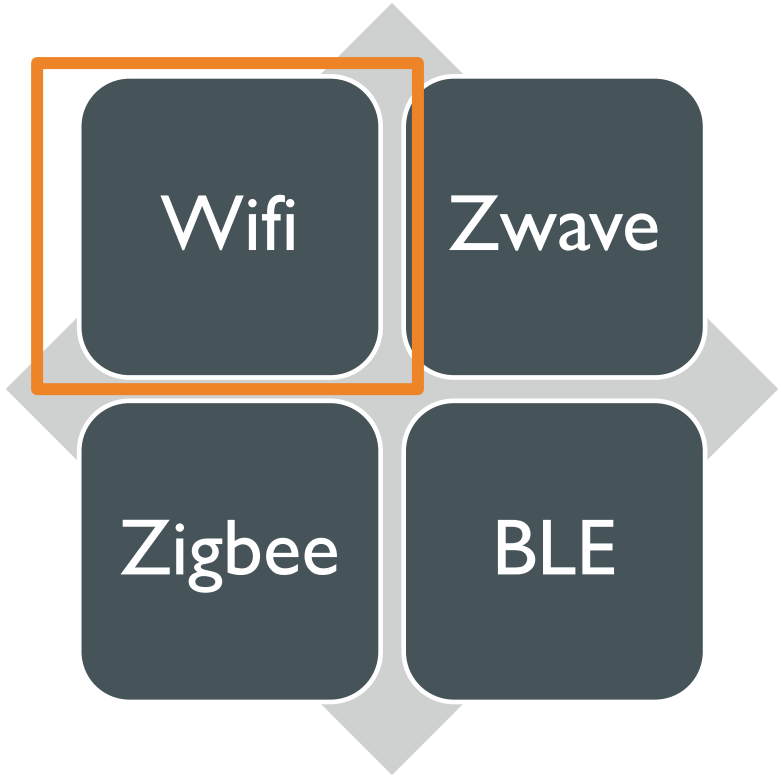
Scalable

Efficient

PROTOCOLS

User Friendly

Stable



Scalable

Efficient

SMART HOME TYPES

Smart Speaker Centric

Security System Centric

Smart Hub Centric

More Cost Effective

More Custom

SMART SPEAKER CENTRIC

Use a smart speaker as the core system

Lots of compatible devices

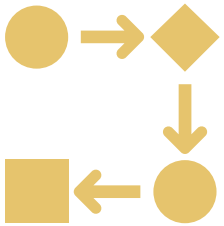
Homeowner can DIY everything

KEY PLAYERS

- Amazon Echo with Alexa
- Google Home with Hey Google
- Apple Homepod with Siri

SECURITY SYSTEM CENTRIC

Security monitoring at its core

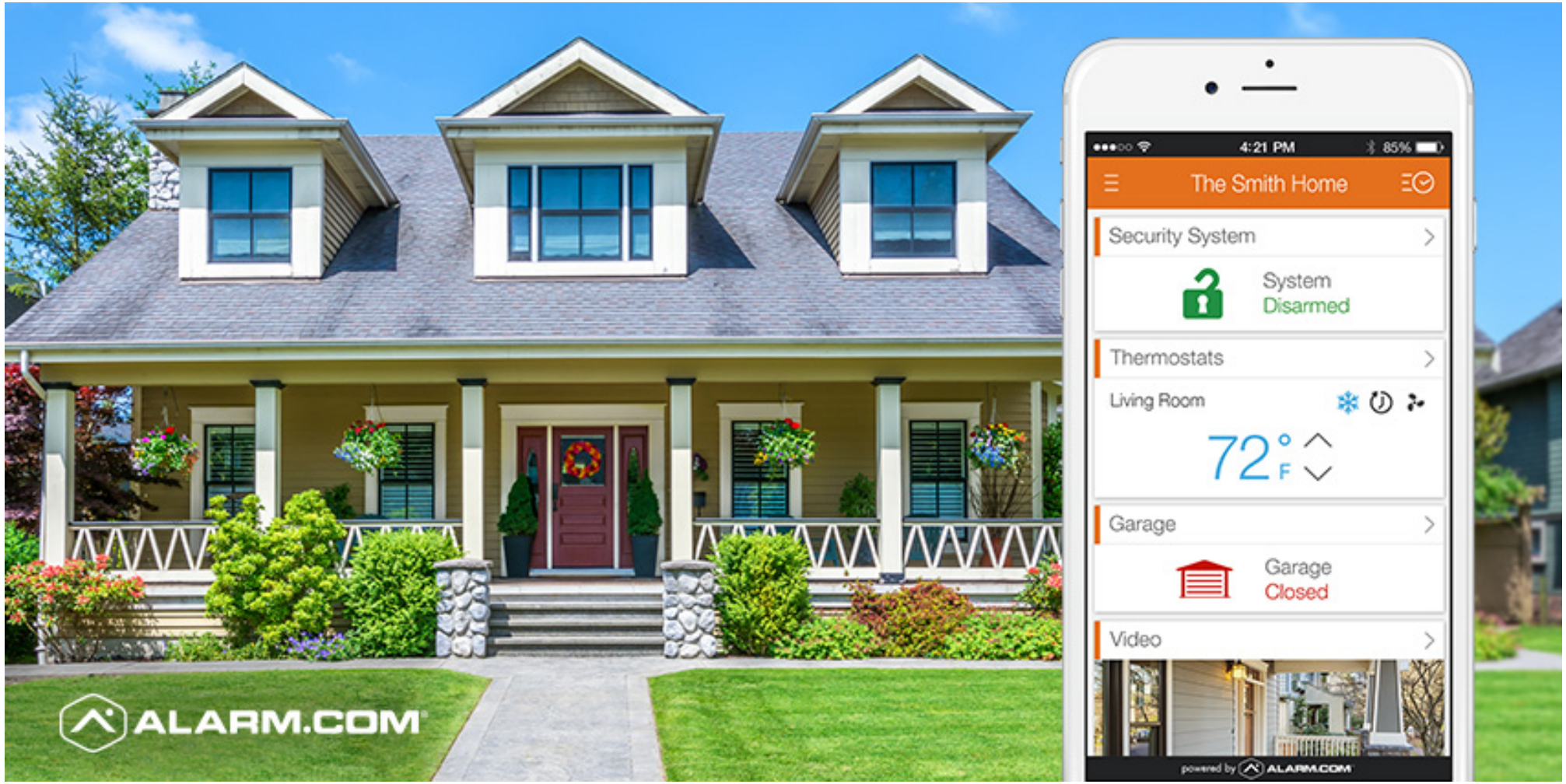


More integrated, controlled experience

Business model based on monthly fees

SOME OF THE KEY PLAYERS

- Ring
- SimpliSafe
- Alarm.com
- Vivint Smart Home
- ADT Command


ALARM.COM
4:21 PM
85%
The Smith Home
Security System
System
Disarmed
Thermostats
Living Room
72°
F
Garage
Garage
Closed
Video
powered by ALARM.COM

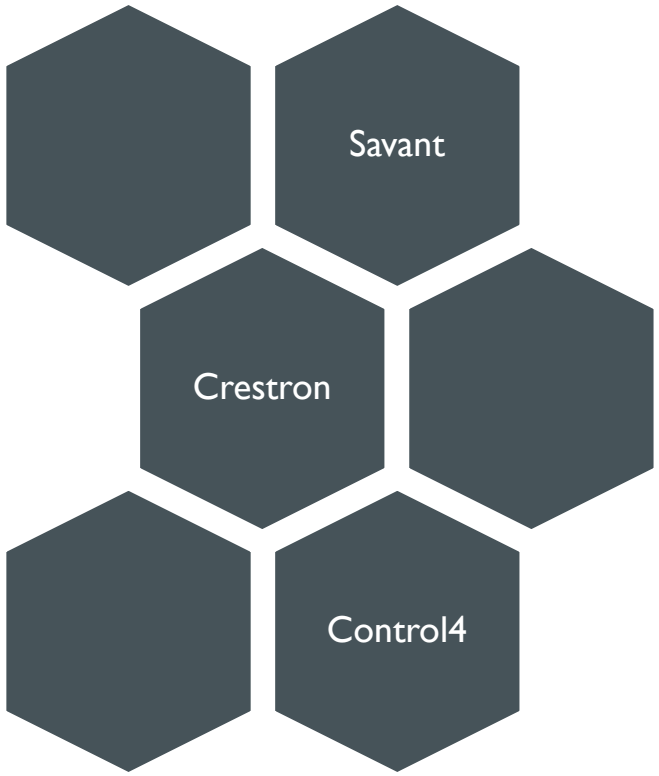
SMART HUB CENTRIC

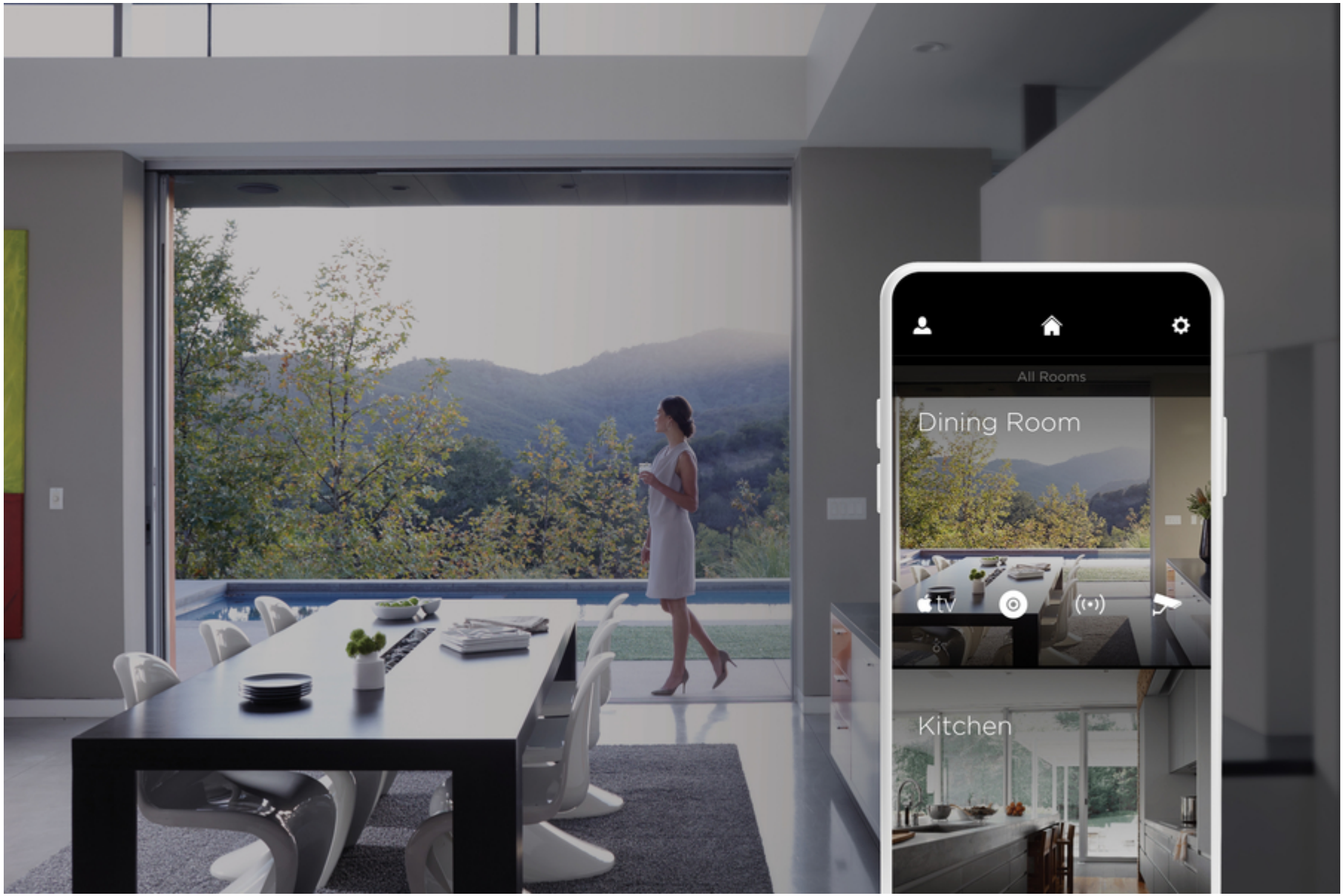
Home automation at its core

Very integrated, controlled experience

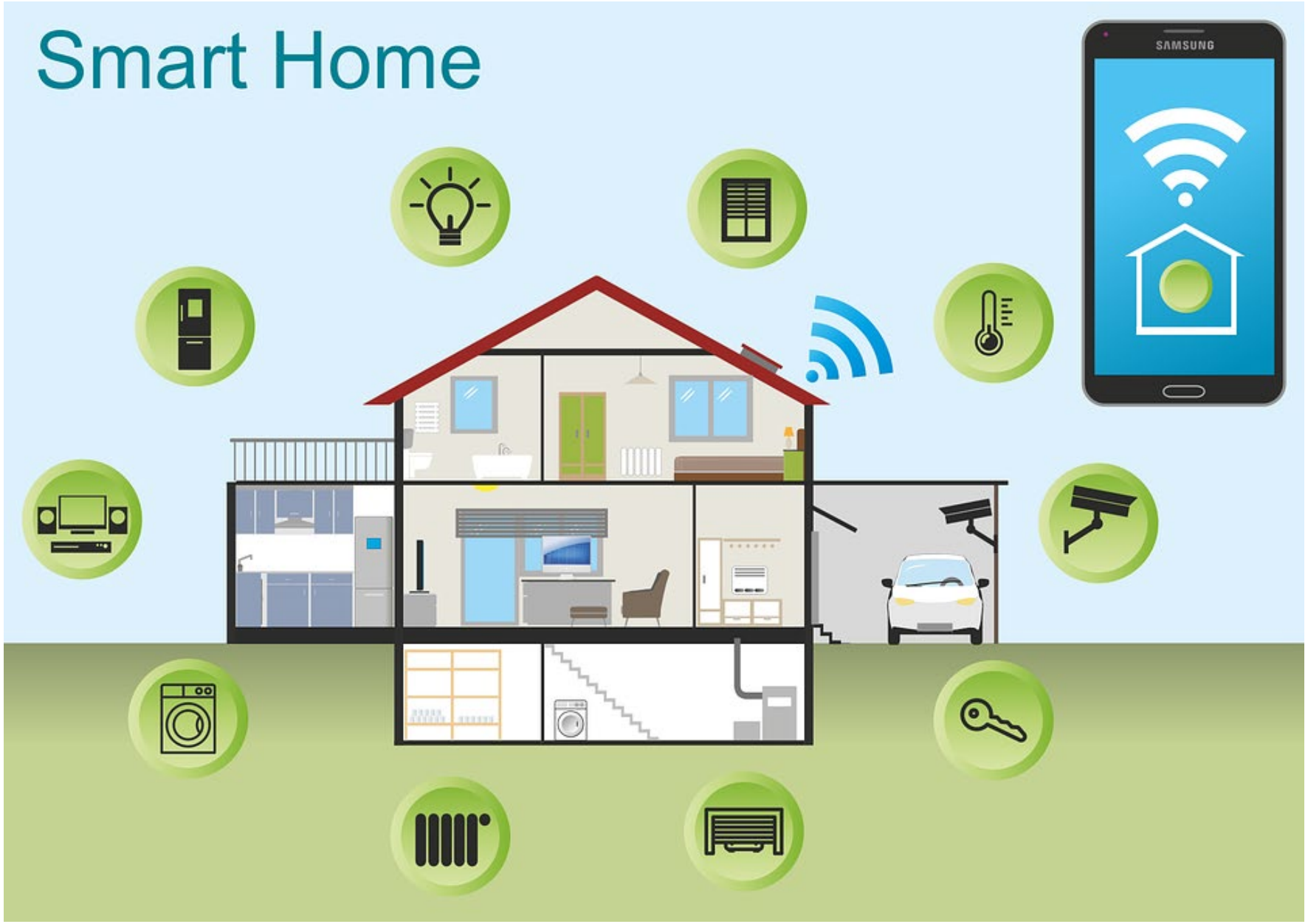
Most expensive option

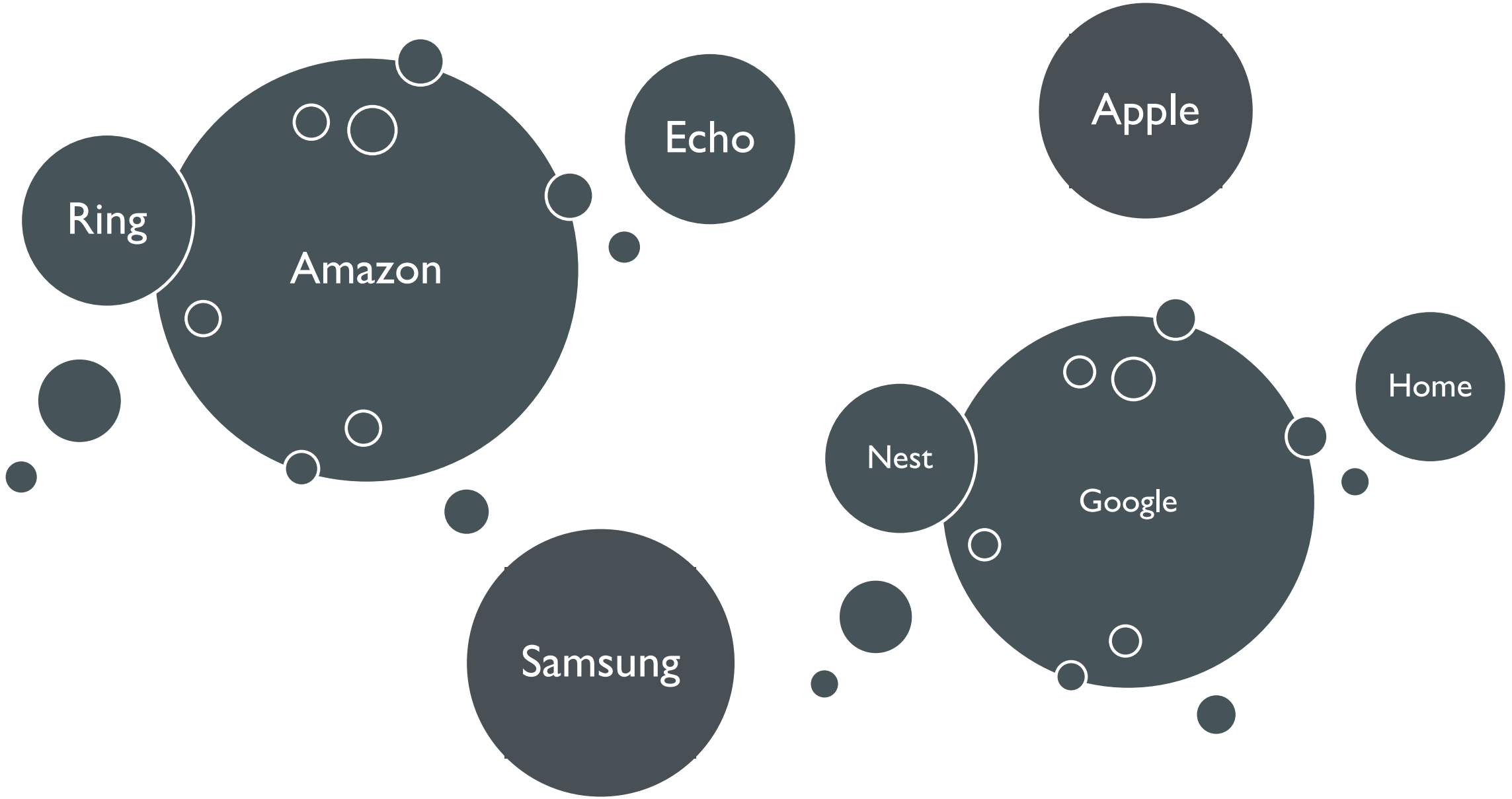
KEY PLAYERS




All Rooms
Dining Room
Kitchen

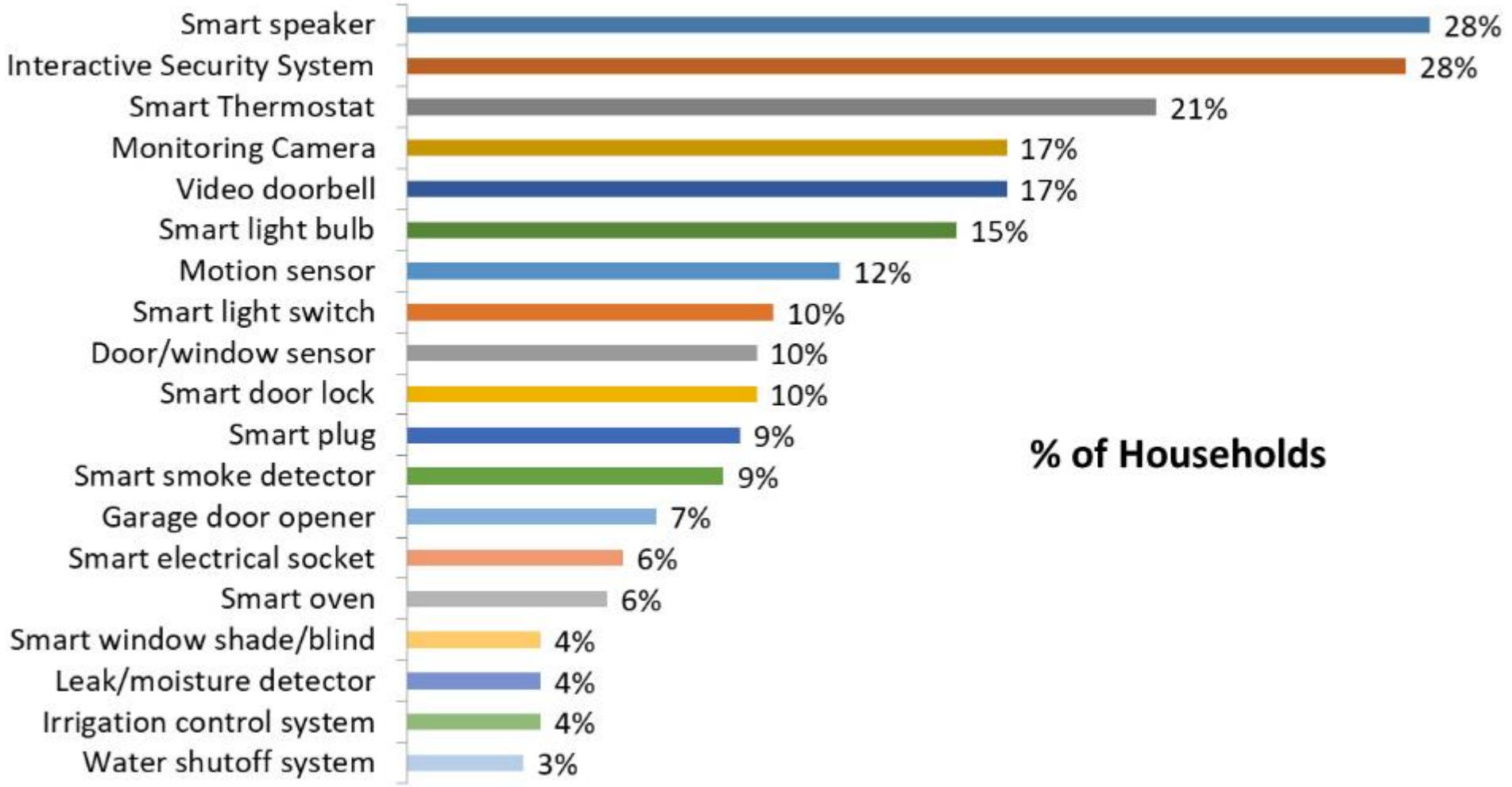
POPULAR DEVICES


Smart Home
SAMSUNG


Ring
Amazon
Echo
Apple
Nest
Google
Home
Samsung

STRATEGY ANALYTICS

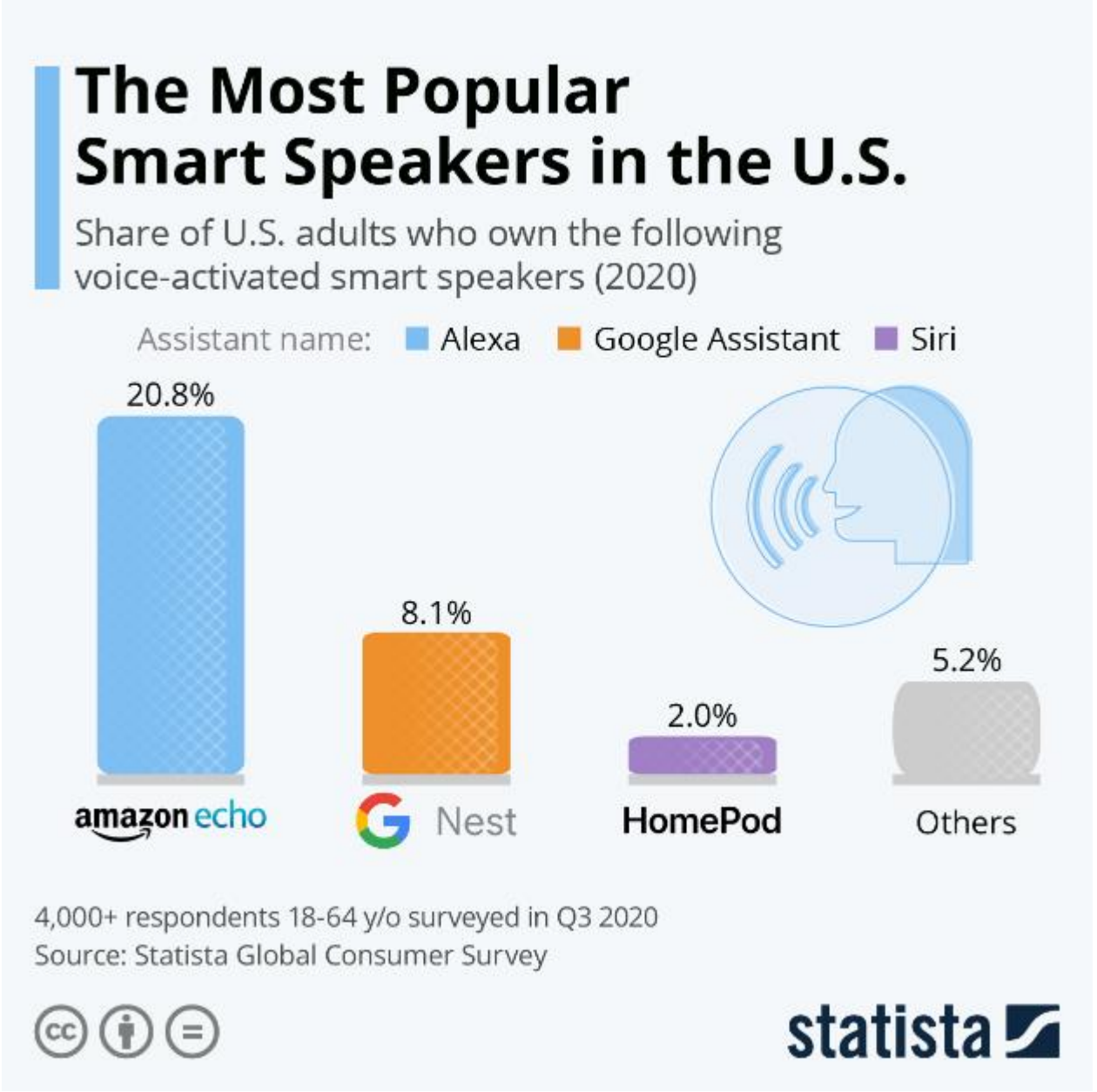
Ownership of Smart Home Devices in US Homes



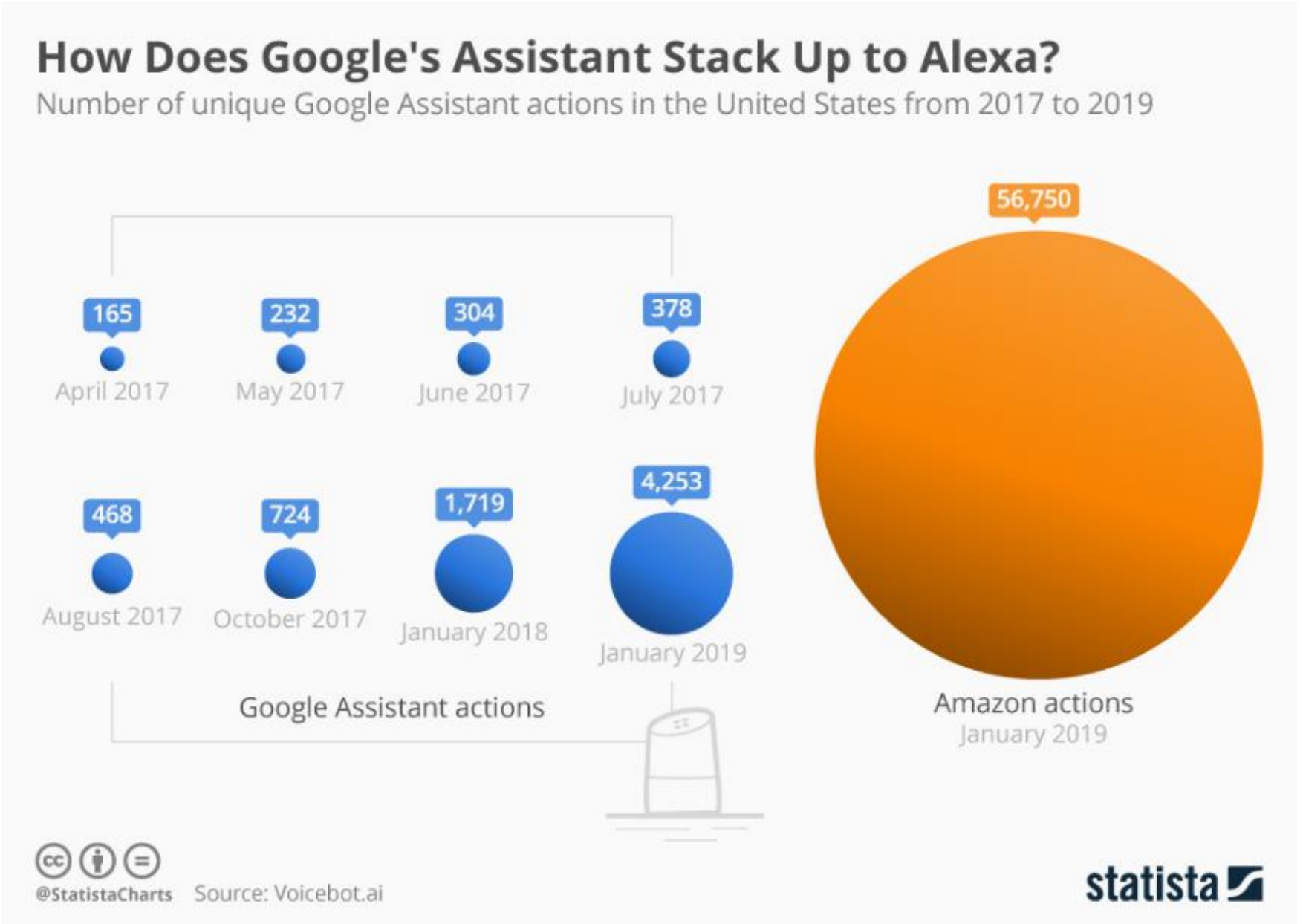
Note: Based on survey of 2642 US homes in Q4 2019

Source: Strategy Analytics' Smart Home Strategies service

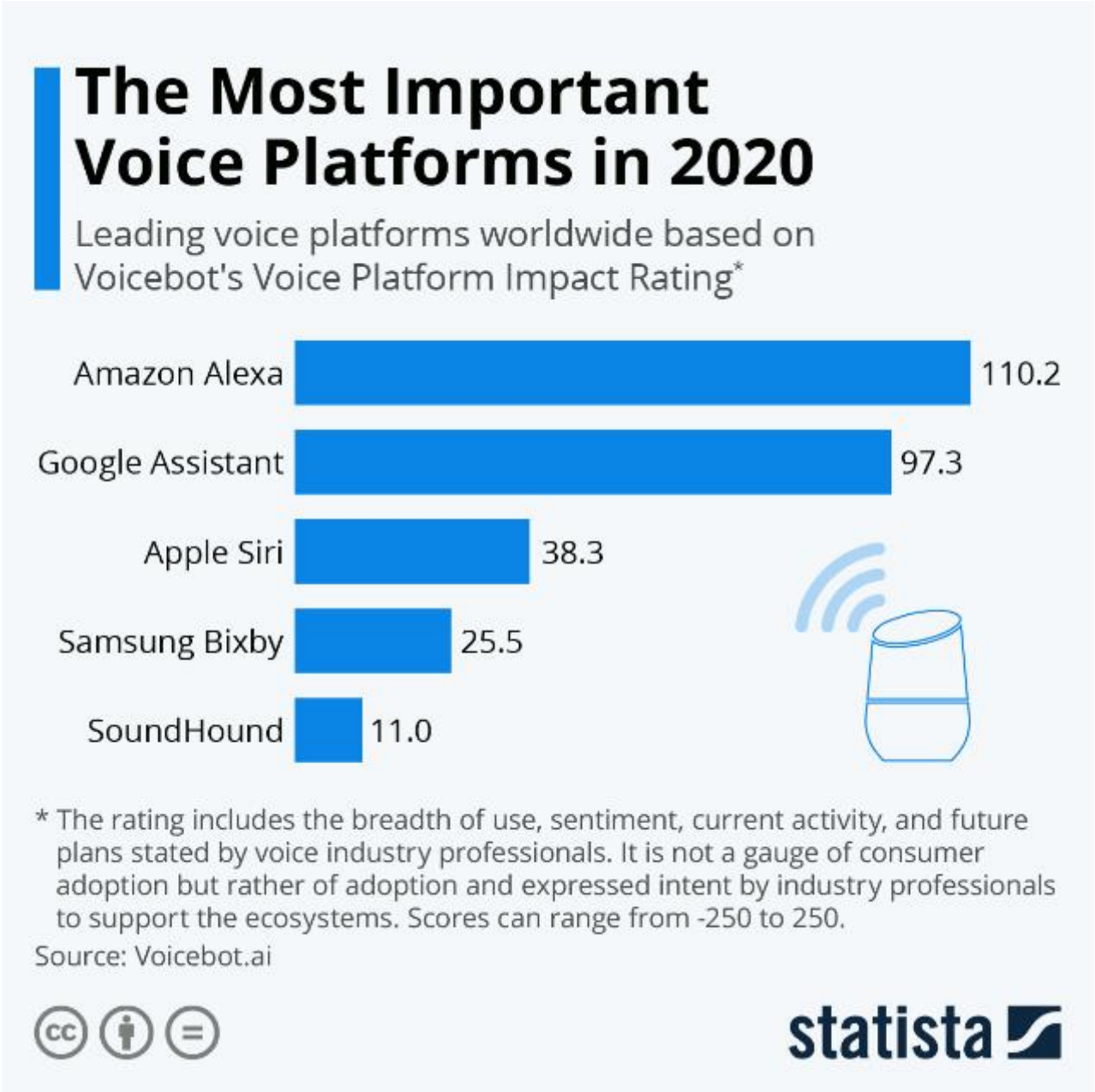
SMART SPEAKERS



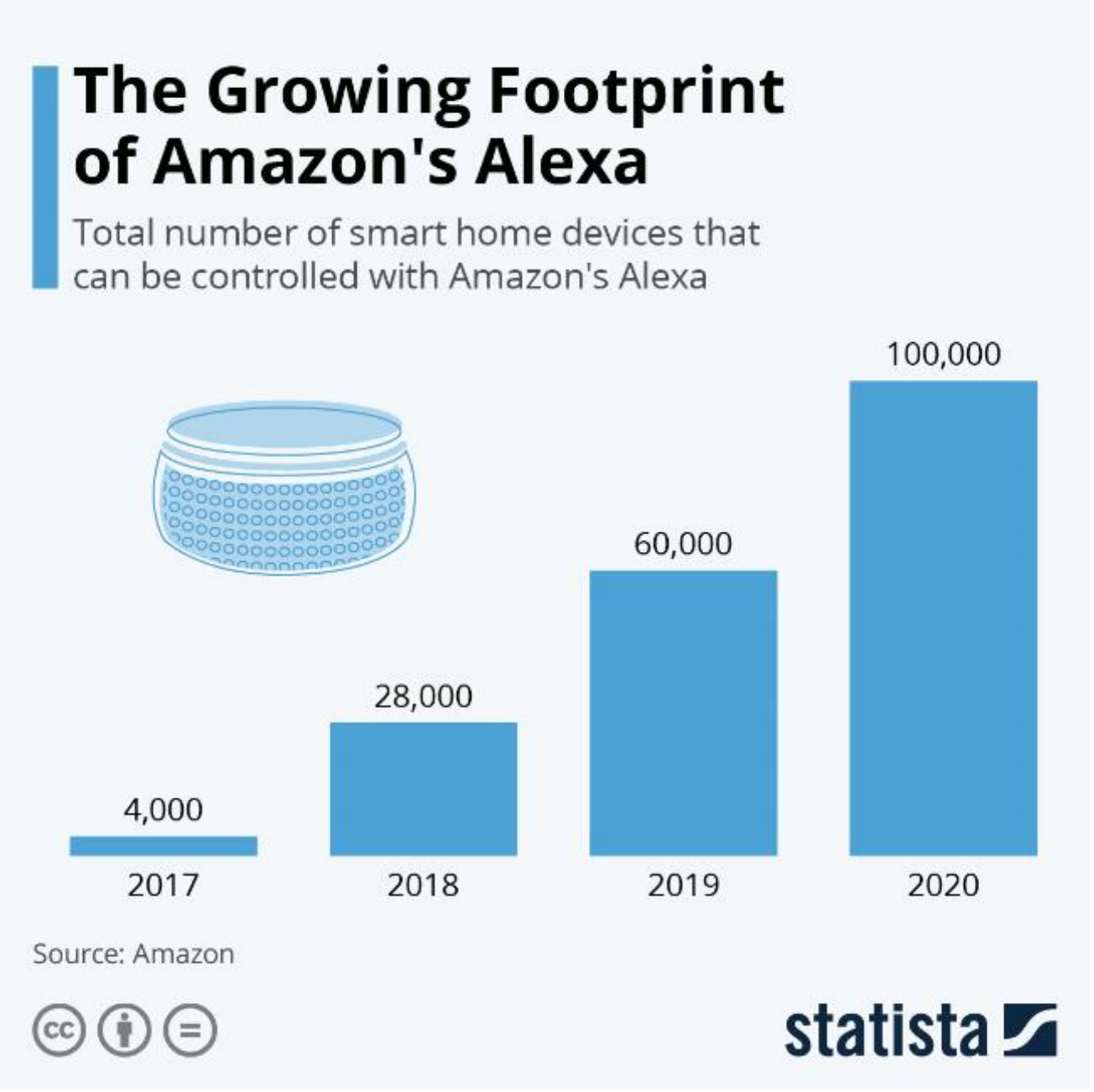
SMART SPEAKERS



SMART SPEAKERS

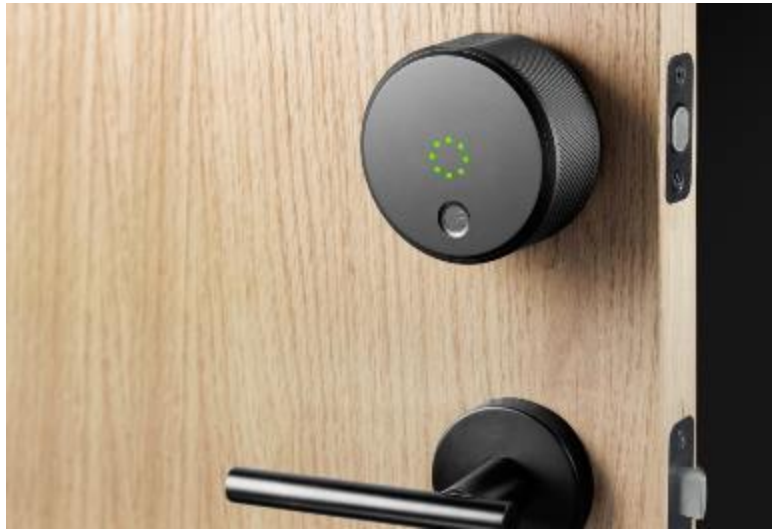


SMART SPEAKERS



SMART SECURITY

SMART LOCKS



SMART THERMOSTATS

SMART LIGHTS

MOST COMMON BUILDER APPROACHES

- Amazon Ring
- Alarm.com
- Control4
- Standard Device Suite
- Custom Packages

COLORADO BUILDER APPROACHES*

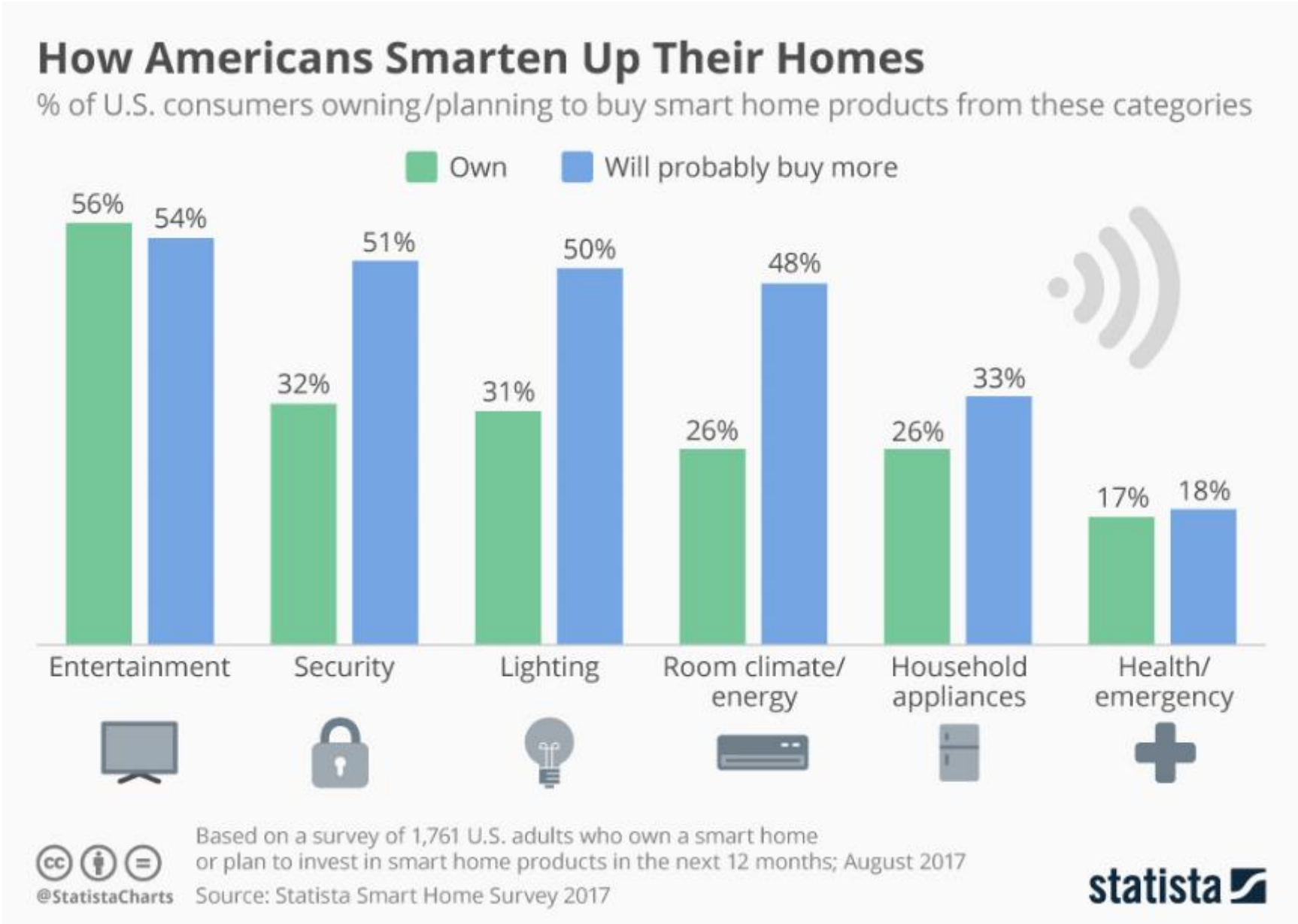
- Lennar - Ring
- Toll Brothers – Alarm.com or Control4 depending on homebuyer
- DR Horton – Alarm.com
- Brookfield – myCommand brand agnostic platform
- Taylor Morrison – Legrand | AV Custom Device Suite
- Meritage – Standard Device Suite
- Century – Standard Device Suite
- Tri Pointe – Variable Device Suite
- Richmond – None

*Based on latest information available, subject to change

QUESTION

- Do you have any smart home tech in your house?

WHAT HOMEBUYERS WANT


How Americans Smarten Up Their Homes
% of U.S. consumers owning/planning to buy smart home products from these categories
Own
Will probably buy more
56%
54%
32%
51%
31%
50%
26%
48%
26%
33%
17%
18%
Entertainment
Security
Lighting
Room climate/ energy
Household appliances
Health/ emergency
Based on a survey of 1,761 U.S. adults who own a smart home or plan to invest in smart home products in the next 12 months; August 2017
Source: Statista Smart Home Survey 2017
@StatistaCharts
statista

AUTHOR:
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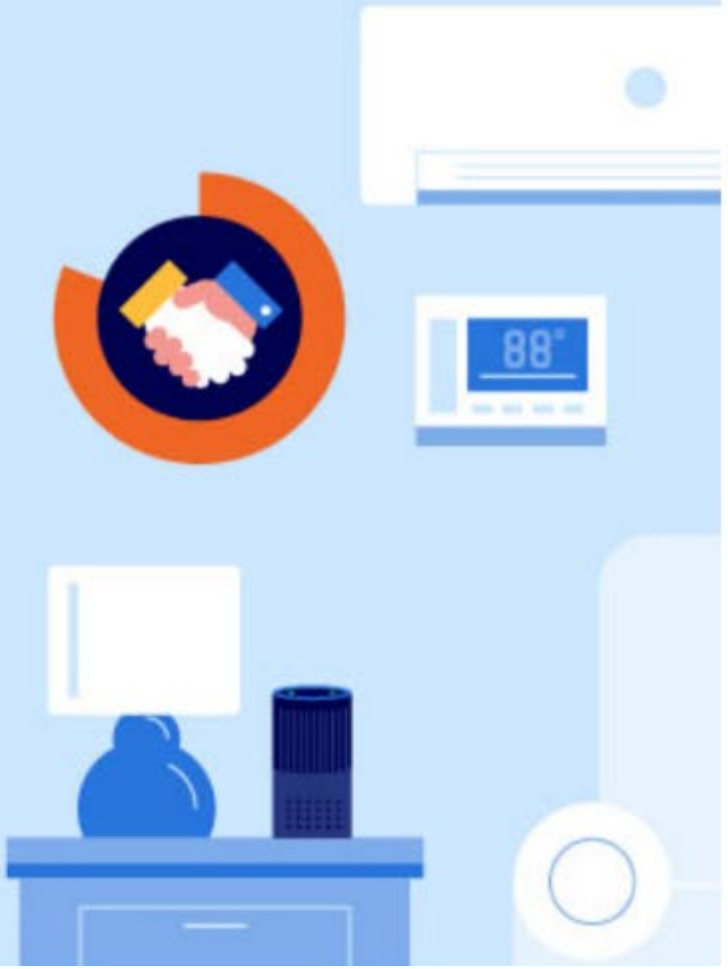
safeatlast

HOUSING

68% of Americans think smart homes will be as common as smartphones within 10 years.

81% buyers say they'd rather buy a home with smart home products already installed.



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VOICE CONTROL

Voice control is the most upward-rising trend in the industry.

72%

of Americans with smart home devices want voice control capabilities.

58%

Millennials

50%

Gen Xers

26%

BabyBoomers

Have smart home devices with voice control.

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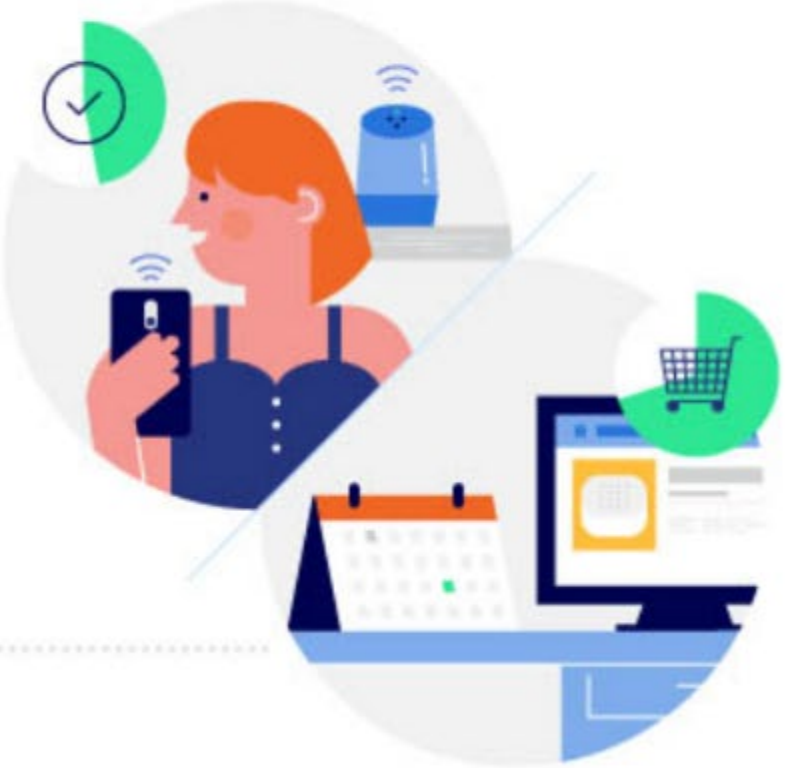
safeatlast

DAILY PRESENCE

47% of Millennials already own some devices.

70% who already own one product are planning to buy another one.



76% of smart home products are being controlled by smartphones.

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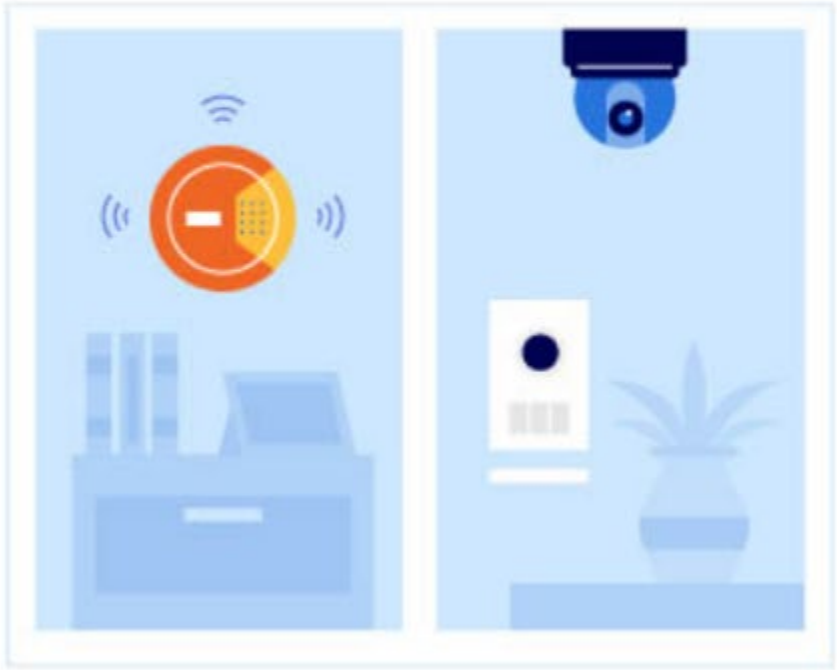
HOME SECURITY

Home security systems will account for an estimated

$47 Billion

of the total security market and will surpass $100 billion by 2020.



62%

of Americans claim home security is the top benefit.

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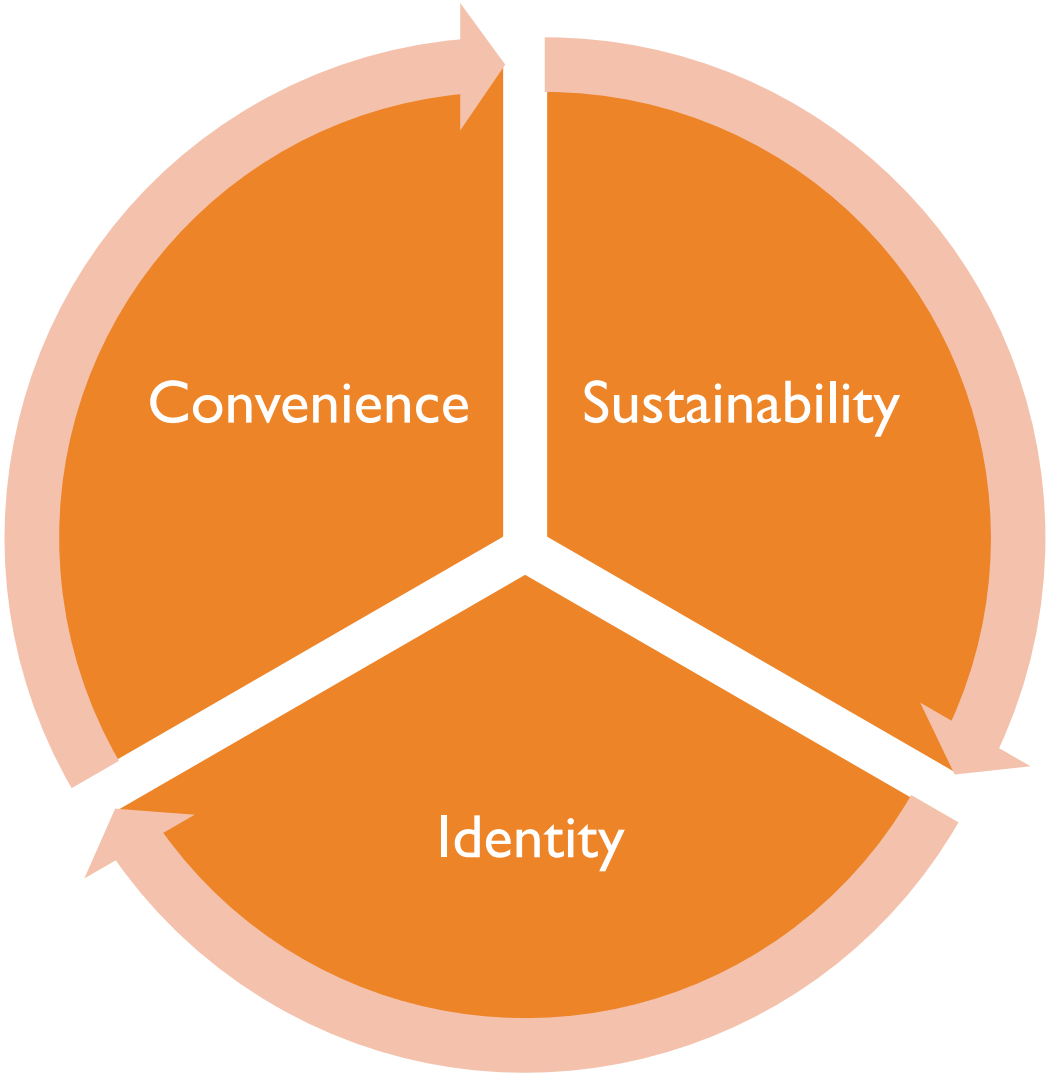
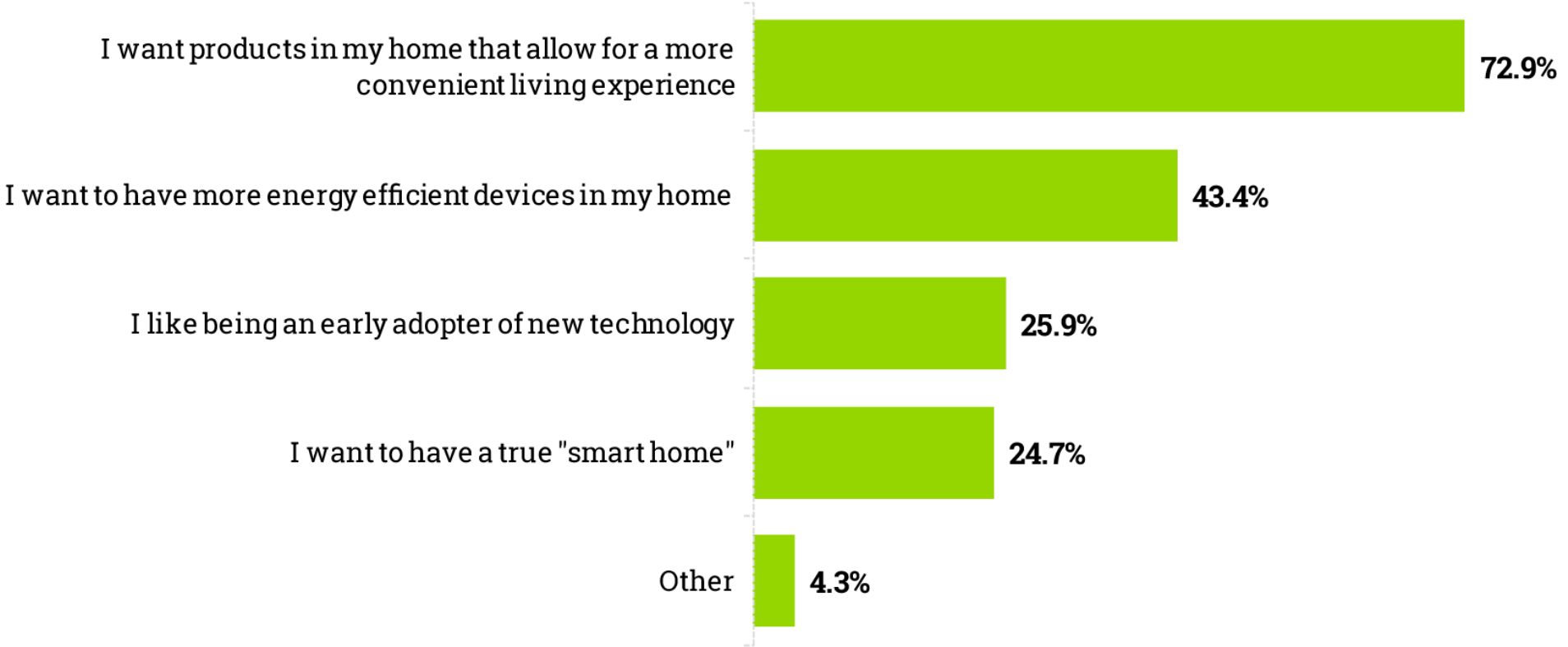
safeatlast


Convenience
Sustainability
Identity

Reasons for Buying A Smart Home Device

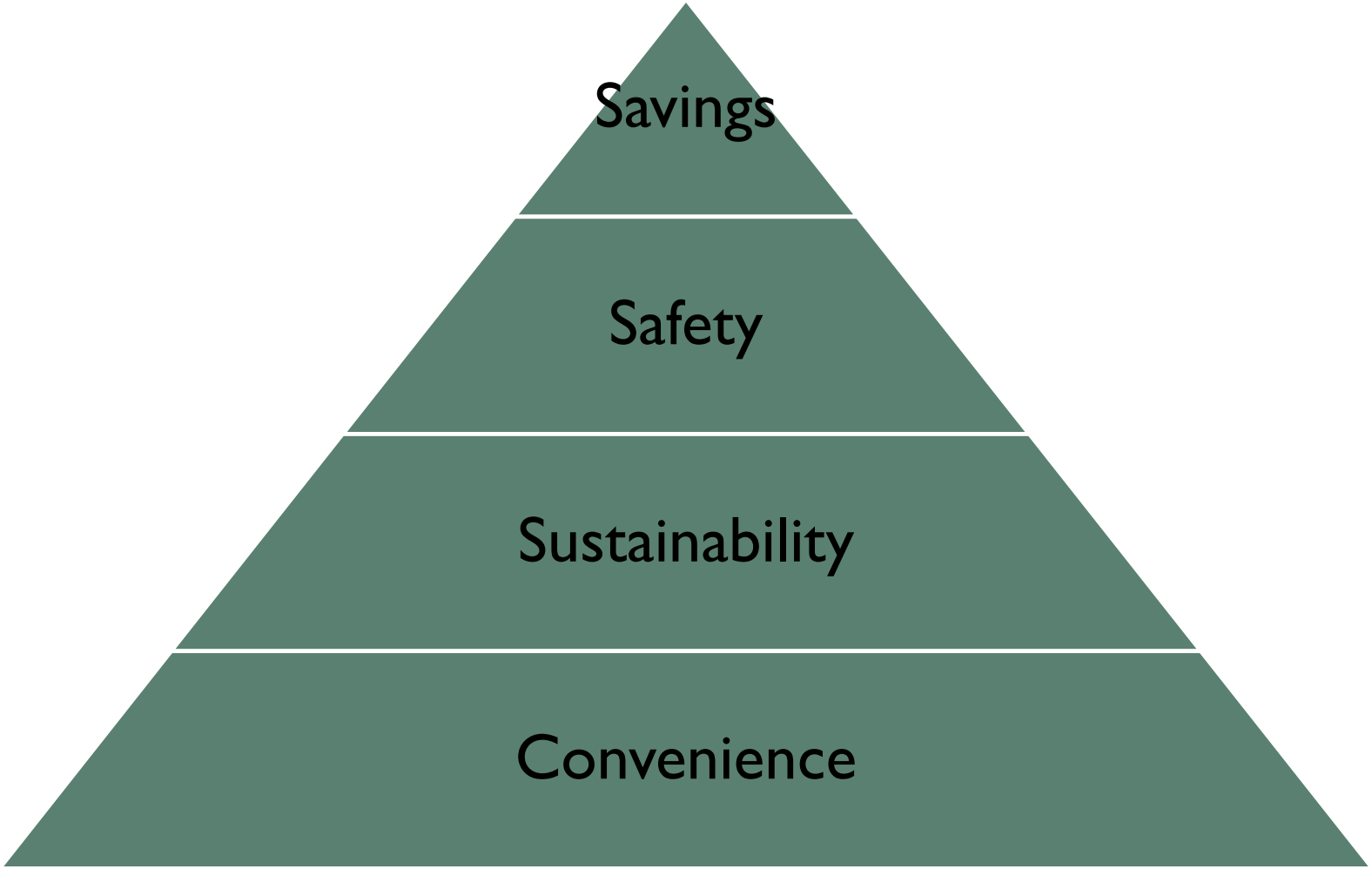
"Which of the following reasons led you to purchase your home connected device(s)?"



Published on MarketingCharts.com in September 2020 | Data Source: SYKES

Based on a survey of 1,500 owners of smart home devices such as speakers, lighting fixtures, thermostats, etc.

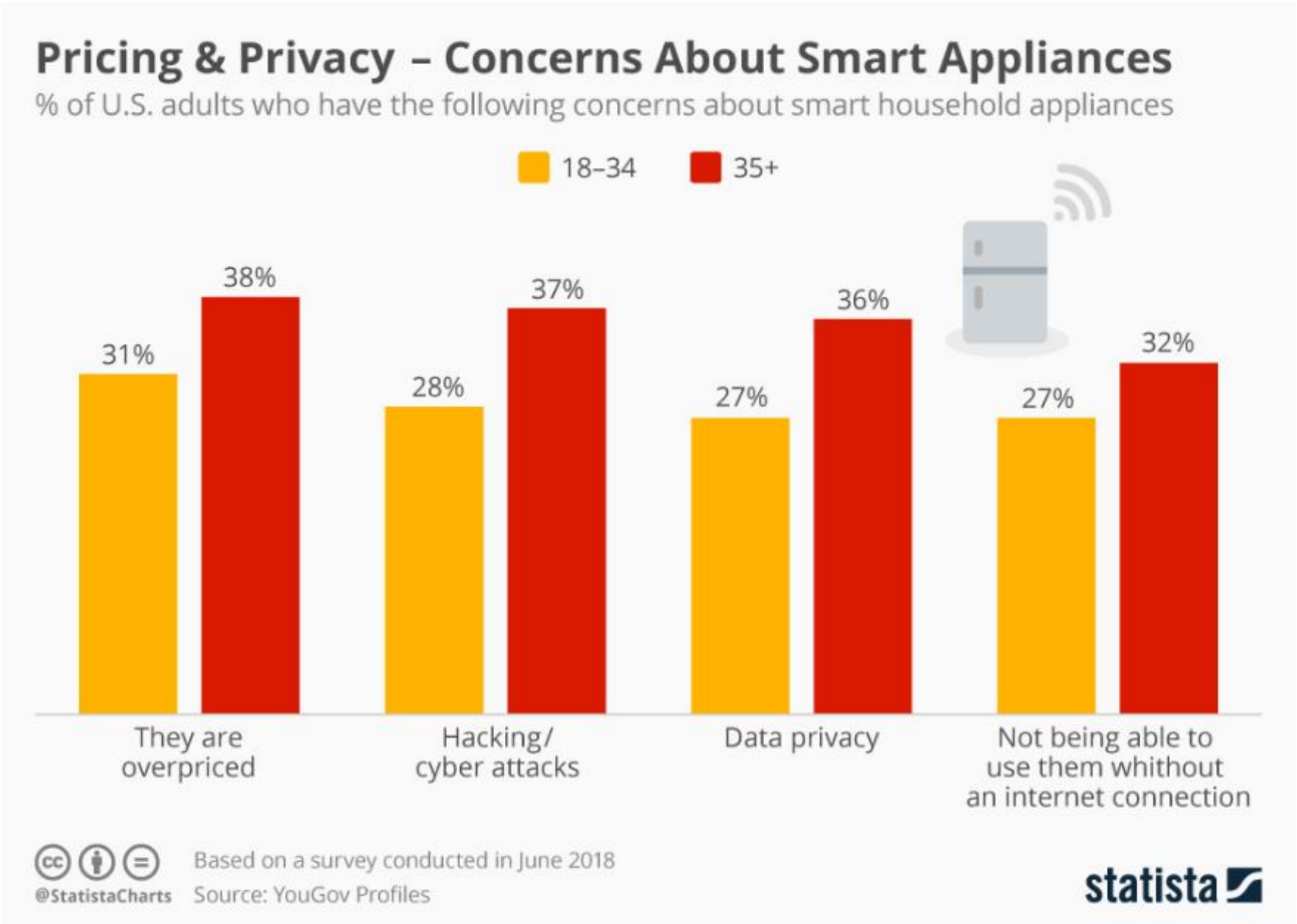
SMART HOME BENEFITS

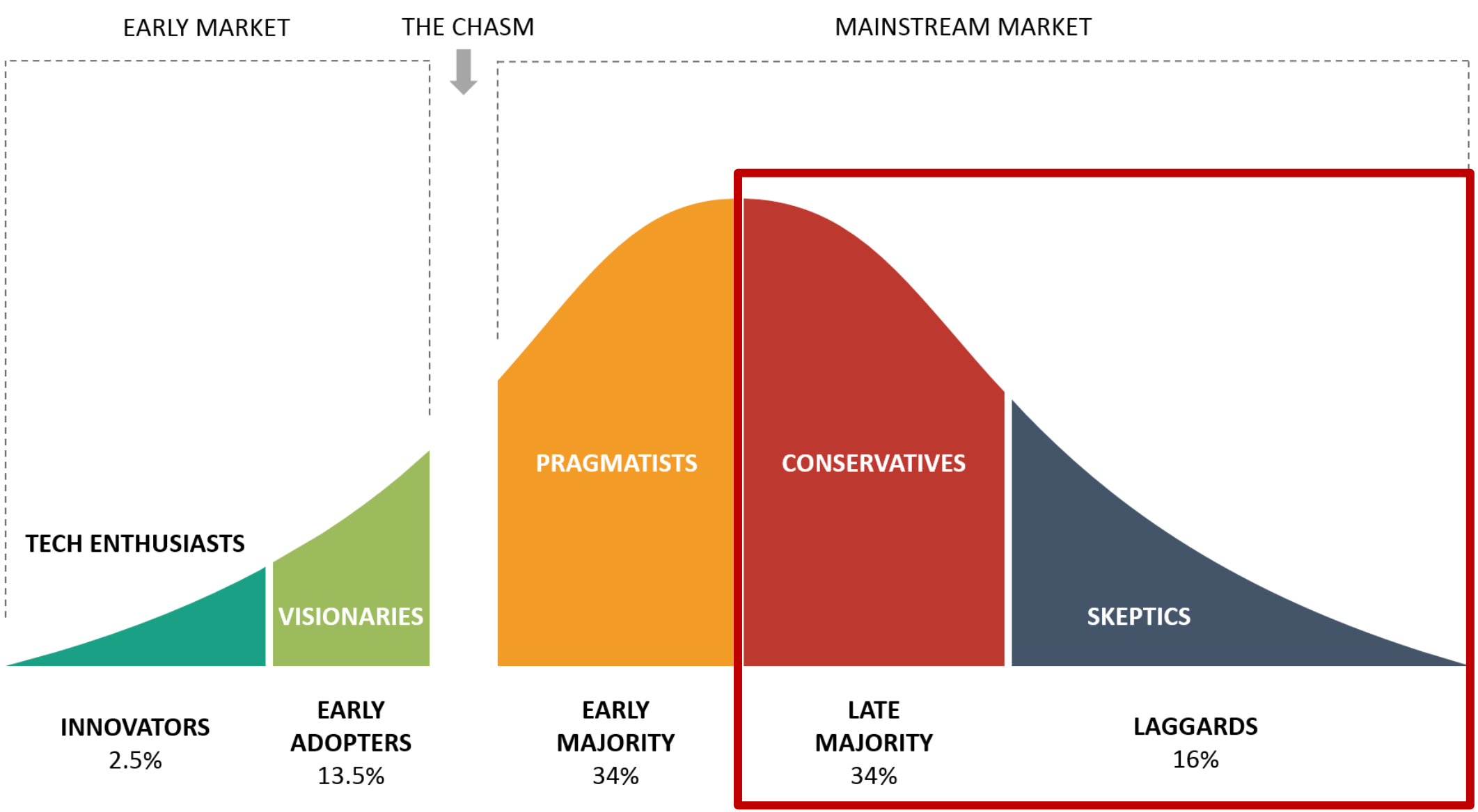


QUESTION

- Have you ever had a homebuyer get excited about smart homes?

NAVIGATING SMART HOME ANXIETY


Pricing & Privacy – Concerns About Smart Appliances
% of U.S. adults who have the following concerns about smart household appliances
18–34
35+
31%
38%
28%
37%
27%
36%
27%
32%
They are overpriced
Hacking/ cyber attacks
Data privacy
Not being able to use them whithout an internet connection
@StatistaCharts
Based on a survey conducted in June 2018
Source: YouGov Profiles
statista


EARLY MARKET
THE CHASM
MAINSTREAM MARKET
TECH ENTHUSIASTS
VISIONARIES
PRAGMATISTS
CONSERVATIVES
SKEPTICS
INNOVATORS
2.5%
EARLY ADOPTERS
13.5%
EARLY MAJORITY
34%
LATE MAJORITY
34%
LAGGARDS
16%

OBJECTION #1: COST

- Point out the ways home automation will save money long term:
  - Reduced utility bills
  - Possible home insurance discounts
  - Asset protection

OBJECTION #2: CYBER SECURITY

- The same tools that help you stay safe online will help keep your home safe:
  - Use reputable brands
  - Secure your WiFi network
  - Use strong unique passwords
  - Use two-factor authentication
  - Keep software up to date

OBJECTION #3: DATA PRIVACY

- The major smart home players now have tools that allow you to opt out of surveillance:
  - Update your privacy preferences
  - Request data deletion

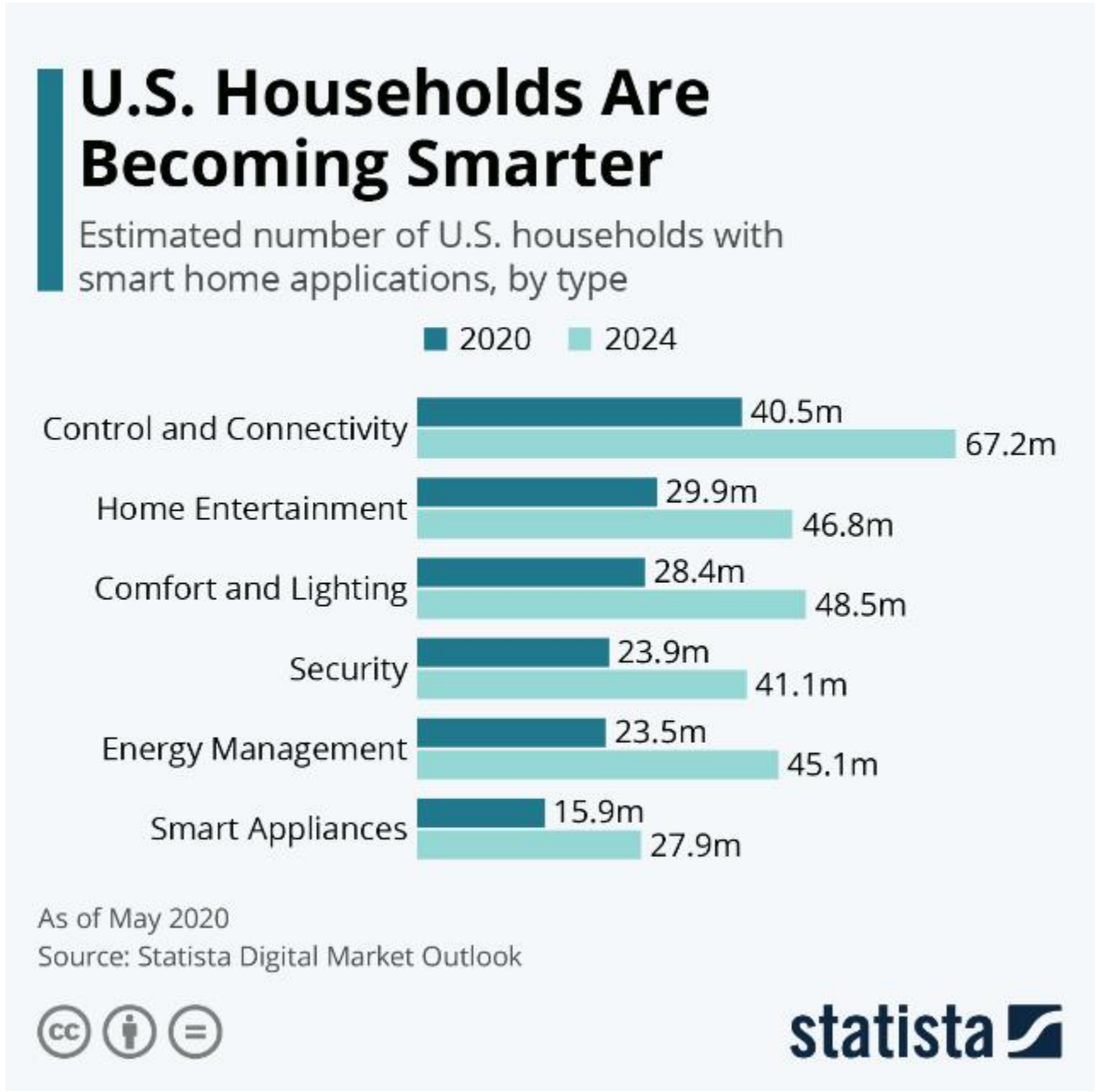
OBJECTION #4: USABILITY

- Demonstrate the system and have them try it themselves
- Pick technologies that will function like their manual counterparts (ex. smart switches instead of smart bulbs)
- Make sure they know help is available from smart home tech support resources such as Best Buy Geek Squad

QUESTION

- Have you ever had a homebuyer express reluctance to buy a smart home?

SMART HOMES OF THE FUTURE


U.S. Households Are Becoming Smarter
Estimated number of U.S. households with smart home applications, by type
2020
2024
Control and Connectivity
40.5m
67.2m
Home Entertainment
29.9m
46.8m
Comfort and Lighting
28.4m
48.5m
Security
23.9m
41.1m
Energy Management
23.5m
45.1m
Smart Appliances
15.9m
27.9m
As of May 2020
Source: Statista Digital Market Outlook
statista

TRENDS

INCREASING CONNECTIVITY

ARTIFICIAL INTELLIGENCE

ENHANCED ROBOTICS

INTEREST IN SUSTAINABILITY

INCREASING STANDARDIZATION

MY GUESS

- The number of connected devices will continue to proliferate
- Smart appliances will become more cost effective and mainstream
- The market will undergo substantial consolidation and coalesce around shared standards
- Connected technologies, such as wearable tech, will increasingly communicate with smart homes
- Artificial Intelligence will drive coordinated suggestions and actions without need for user setup
- A focus on sustainability will lead to widespread coordination of energy usage

WHAT ARE THE IMPLICATIONS?

THE BAD

- More Hacking and Malware
- More Targeted Advertising
- Widening Technology Gap
- Decreasing Self Reliance
- Increasing Reliance on Technology

THE GOOD

- Smart Homes at Scale that Enhance Sustainability
  - Energy
  - Water
- Home Healthcare
  - Automated Issue Detection
  - Aging in Place

copper
Empower consumers with wireless energy monitoring
GET IN TOUCH

nest
72

rachio
Backyard North

Ultrasonic
Water Meter
63000201
000000085
2030
flowIQ® 2100
Type: 02186C038UC
S/N #: 63000201/2014
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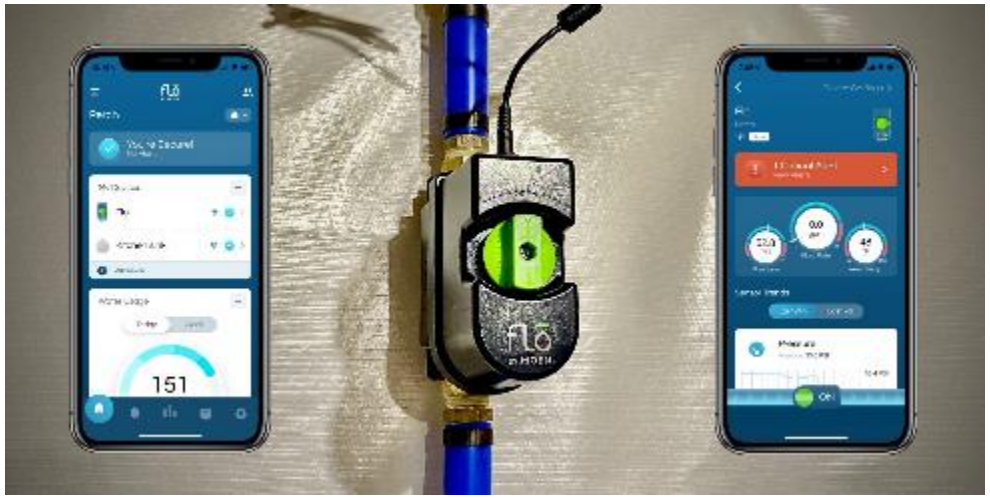
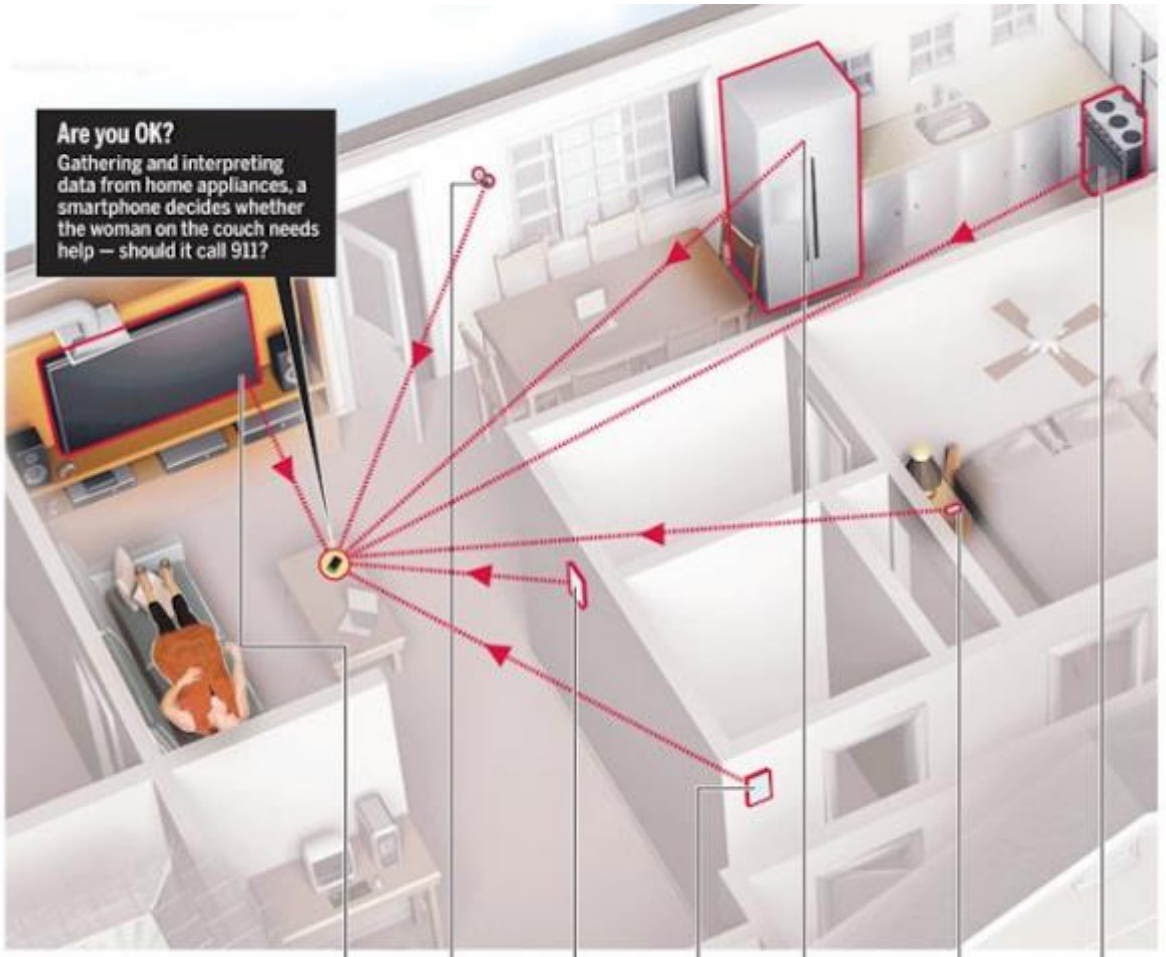

151



How appliances could save a life

Experts say smart gadgets will one day sense whether people need help and automatically assist them. How a system would work using a smartphone and smart appliances.

1 **TV** She isn't getting up to watch her favorite television show.

2 **Security camera** She might be sleeping, but she hasn't moved in 24 hours.

3 **Audio sensor** She sounded weak and disoriented yesterday.

4 **Motion sensor** She's been walking slower the past few days.

5 **Refrigerator** She hasn't eaten well for weeks.

6 **Pill box** She stopped taking her medications two days ago.

7 **Stove** She left one of the burners on.

What an appliance or gadget could detect

Source: Mercury News reporting

ANDREA MASCHIETTO AND DOUG GRISWOLD/MERCURY NEWS

WHAT WE SHOULD DO

- Leverage smart homes at scale
- Build resilience into our technology and utility grids
- Design technology that brings people together

FINAL TAKEAWAYS

- Smart home technology is moving from novelty to standard
  - Be prepared to sell the benefits of a smart home
  - Know what concerns may come up and be prepared to address them
  - Learn how to navigate smart home transitions
  - Stay up to date as technology continues to evolve