



ARE YOU CES READY?







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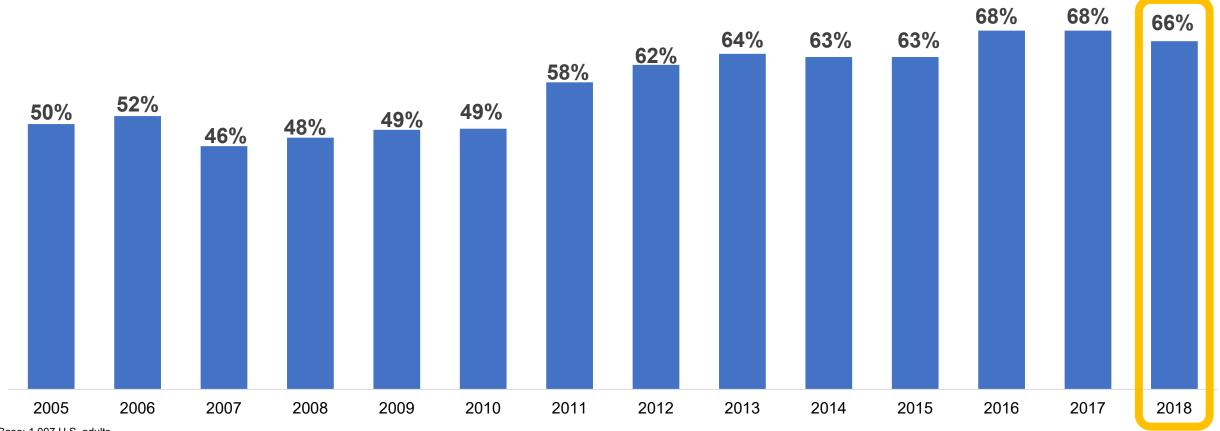
164 Million U.S. Adults Plan to Purchase Tech Gifts, Spending an Average of \$464



Consumer

Technology

Association¹



Base: 1,007 U.S. adults

Q: Do you expect to purchase any type of **electronics** product as a gift this holiday season for...

CES.tech

Source: CTA, Annual Holiday Research, Nov. 2018

*Base: US adults

Q: You indicated you plan to spend at least some money on gifts this holiday season. Please tell me the **total** amount you will spend on consumer electronics products. (Base = plan to spend money for holiday gifts this year)

Similar to 2017...



Focus on Voice Devices



Large Category Success



Omni Shipping



New in 2018...



Curated Social Buying



Emerging Categories Ready for Primetime



Concierge Services







Base: 1,007 U.S. adults

Q: Suppose you could receive any one electronics product as a gift this holiday season. What electronics product would you, yourself, most like to receive?

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Source: CTA, Annual Holiday Research, Nov. 2018

*Base: US adults

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Thanksgiving Week: Trends Revealed



85% of U.S. Shoppers Plan to Buy Tech This Thanksgiving Week

(n=1045 U.S. Adults Planning to Shop for Holiday Gifts during Thanksgiving week)



Most Popular Shopping Times

- Black Friday (37%)
- Cyber Monday (33%)
- December (45%)

BASE (n=Total U.S. Adults)



When do shoppers make big ticket tech purchases?

- 46% when they see a deal any time of the year
- · 31% wait until Thanksgiving weekend

BASE (n=1563 U.S. Adults Planning to Shop for Holiday Gifts This Season)



"Tis' the Week to Self-Gift Tech"

- 33% of holiday shoppers more likely to buy tech devices for themselves than anyone else.
- 41% of holiday shoppers plan to buy tech accessories for a family member

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(n=1045 U.S. Adults Planning to Shop for Holiday Gifts during Thanksgiving week)



Source: CTA, Pre-Black Friday Research, Nov. 2018

*Base: US adults

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Holiday Tech Spending Forecast



October–December Spending in Millions

2016



(actual spend)

\$95,870 3.8% 2017



(actual spend)

\$93,000 -3.0% 2018



(estimated spend)

\$96,100 3.4%

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CES 2019 Tech Trends



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Strategic Perspective on Tech Trends



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Digital Age





Connected Age



Data Age



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Artificial Intelligence at CES 2019 The New IoT: The Intelligence of Things



Processors and Chips



Embedded A.I.





Machine-Learning



Digital Assistants





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Digital Assistants Become More Specialized



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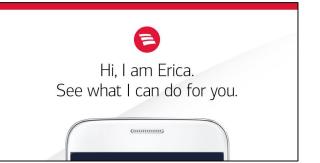
















A Whole Home View on Al







Digital Assistants: **Shifting Consumer Behavior**



Most Common Activities

	% Used
Ask questions (general Internet search)	63
Check the weather	58
Listen to music/radio/podcasts	50
Set a timer or alarm	45
Call someone	32

Less Common Activities

	% Used
Researched products and/or prices of products	20
Control other connected devices	16
Play games	13
Order food	11
Order a taxi/rideshare (i.e., Uber, Lyft)	7



Source: CTA, Voice Shopping Study, August 2018 *Base: Online US Adults, Digital Assistant Users

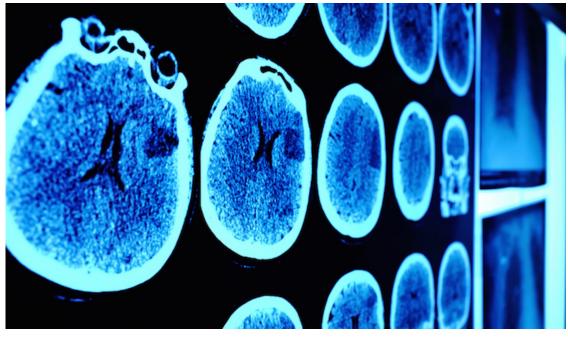
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Al: From Face ID to Cancer Detection





Face ID



Lymph Node Assistant (LYNA)

Google's deep learning tool can detect breast cancer with 99% certainty

5G

Next Gen Mobile: More Than Phones

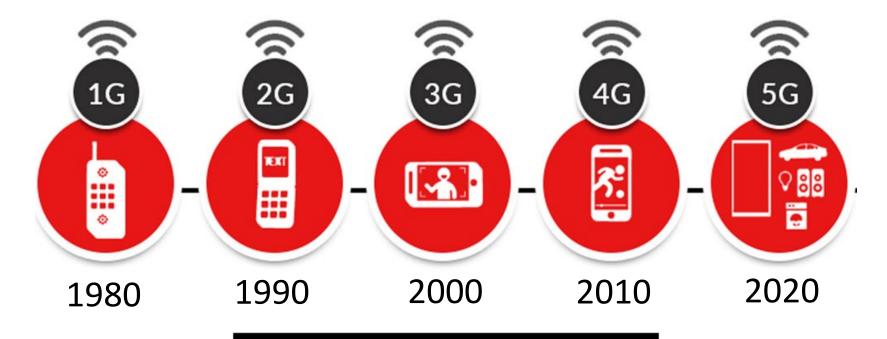




We spent the last 30 years connecting people. We will spend the next 30 years connecting things.

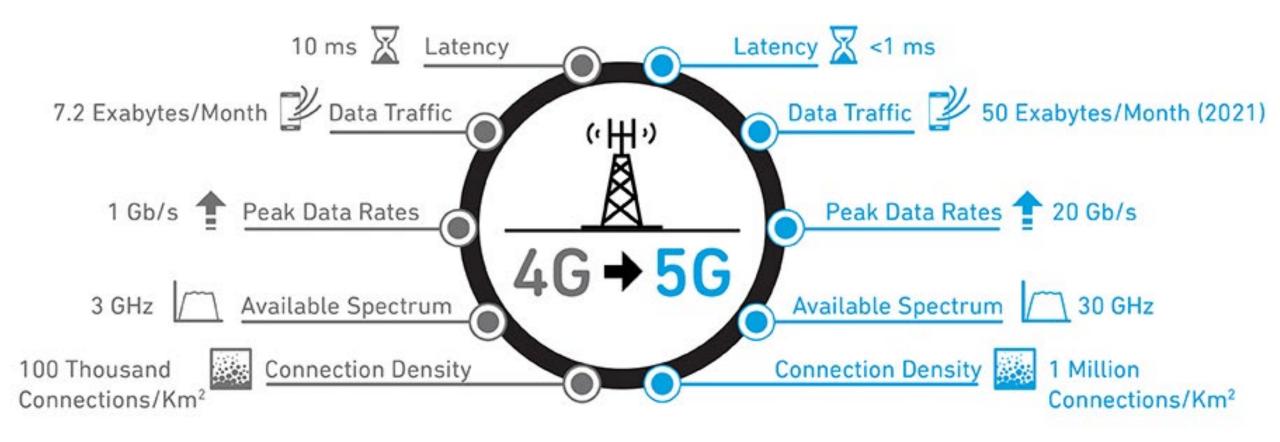
Brian Modoff, EVP, Qualcomm

Source: The San Diego Tribune



5G Advantages Over 4G





Verizon to Roll Out 5G Home Service





Vehicle Tech Trends To Watch



Future of Mobility



V2X Communications



Electric Vehicles



The Road to Self-Driving Vehicles





Billions of Dollars ... Millions of Miles

Major Investments in Self-Driving Technologies



- Ford \$1 billion investment in Argo AI
- Toyota \$1 billion investment in Toyota Research Institute
- GM \$581 million to acquire self-driving car start-up, Cruise Automation
- GM \$500 million investment in Lyft
- Volvo \$300 million JV with Uber
- Uber \$680 million to purchase Otto
- Intel \$15.3 billion to buy Mobileye
- Hyundai \$1.7 billion in R&D



John Deere & The Farming of the Future (



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According to recent CTA research, 56% of U.S. adults have a favorable view of self-driving tractors for agricultural activities Consumer

Source: CTA, Self-Driving Vehicles, October 2018

*Base: Online US adults

Smart Cities: A Symphony of Technologies

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Ingredient Technologies

Voice Computing

Robotics 5G

Biometrics Blockchain

Artificial Intelligence

In the Market

Digital Assistants

Smart Home

Vehicle Tech

Sensor Technology

Resilient Technologies

Digital Privacy/Security

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Resilient Technologies at CES 2019



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Disaster Recovery





Cyber Resilience

Rotterdam: Stronger Through Struggle



Emergency Preparedness



Anti-Terrorism



Consumer Devices



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Digital Therapeutics

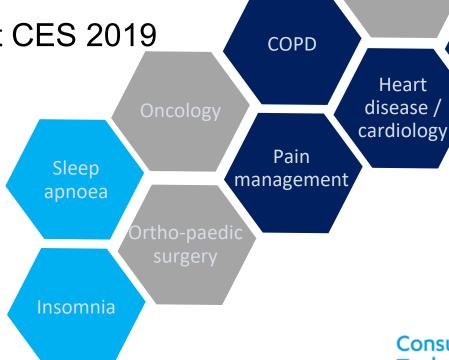
Harnessing Technology to Impact Health

- Enhancing traditional medical practices
- Encouraging behavioral change
- Serve as stand-alone direct therapy

NEW Accredited CME Program Launching at CES 2019









Diabetes Hypertension Heart

disease /

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CES 2019 Tech Trends

Ben Arnold, Senior Director – Innovation & Trends Lesley Rohrbaugh, Director – Market Research



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