

2021 Consumer Tech Trends to Watch

Research and Analysis on
Announcements from CES® 2021



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2021 Trends to Watch

The COVID-19 crisis and the uncertain conditions continue to challenge businesses and consumers.

Amidst this uncertainty, the Consumer Electronics Show (CES®) kicked off the year in an all-digital venue, as it has every year since 1967, showcasing the latest and greatest technical innovations in consumer products and providing a glimpse into future innovations.

Parks Associates analysts highlight some of the biggest announcements and technology trends that will shape 2021.

1. **TV manufacturers add value** to the user experience through services.
2. Entertainment and smart home device manufacturers leverage **AI for new insights and features**.
3. Wireless **earbud manufacturers offer improved design and advance functionality** at declining prices.
4. **Streaming services continue to compete on content** as increased time at home continues, and viewers trial new video services.
5. **High-definition TV and streaming technology advancements** try to recreate the cinematic experience at home.
6. Streaming services explore **more cost-effective strategies** that meet audience's constrained budgets due to the pandemic.
7. Technology players push **immersive technology** to mirror the concert experience at home.
8. **Touchless video doorbells address concerns** about the spread of COVID-19.
9. Smart home solutions emerge to **monitor indoor air quality** and provide healthy air.
10. Wi-Fi sensing innovations provide users with **greater privacy and security**.
11. Appliance manufacturers offer new smart products and concepts to **add convenience in the kitchen**.
12. Smart door lock companies enhance products with **biometric security**.
13. Virtual care services bring **all-inclusive remote patient devices** to the market.
14. Technology enables providers to offer **hospital levels of service** into the home.
15. Smart watches double down on health, with **new health monitoring features, apps, and functionalities**.

Consumer Electronics

In a year unlike any other, CES 2021 proceeded with an all-digital event, bringing the show to arguably its broadest audience yet.

One aspect that remained similar to previous years was the high-profile prominence of the latest and greatest announcements from CE industry leaders. In contrast to years past, CES 2021 saw the traditional TV market leaders redoubling their efforts to differentiate their TV sets in the face of extremely aggressive competition from relative newcomers.

More importantly, the increased technological capabilities of the competition has forced all CE market leaders to innovate in new ways.



**Paul Erickson, Senior Analyst
Parks Associates**

- Increased competition within the TV market is redefining the midrange and high end. Major TV manufacturers are looking beyond upgrades in display technology and performance to differentiate from competitors and add value to the consumer experience — primarily by focusing on services instead.
 - LG launched native app support for two cross-platform gaming services, [Google Stadia](#) and [Nvidia GeForce Now](#), on its new 2021 TVs this year. [Parks Associates' survey data](#) indicates that people gaming on smart TVs are usually avid gamers who play on multiple platforms. These multiplatform gamers show a strong interest in cloud gaming — 62% of US broadband households gaming on four or more platforms indicate they are likely to subscribe to a cloud gaming service.
 - Samsung is enhancing the in-home fitness experience with [Samsung Smart Trainer](#). The company has added to its new TVs camera-assisted virtual training that tracks and evaluates user workouts using image analysis. Parks Associates research indicates that the pandemic has heightened interest in digital fitness classes. Thirty-two percent of US broadband households participate in some type of digital fitness class, with most citing that they did so as a direct result of COVID-19.
 - Sony is enhancing the value of its high-end Bravia XR TV sets with the new [Bravia Core streaming video service](#). The service offers Bravia XR TV owners the ability to stream certain Sony Pictures titles in maximum picture quality (depending on the set's capabilities), up to 4K HDR quality. Sony will provide vouchers to TV buyers to use for streaming titles from the Bravia Core service.
- AI is an ongoing technology being weaved throughout today's solutions, but this year's CES showed artificial intelligence is being infused more deeply into TVs, where manufacturers are increasingly using AI to deliver better video and sound.
 - Panasonic's new flagship [JZ2000 OLED TV](#) features the HCX Pro AI Processor, which powers AI-driven automatic picture optimization and calibration. More specifically, the processor enables AI-based content genre recognition to automatically detect and optimize settings for sports, movies, and gaming. Distribution for this set in the US has not been confirmed yet, as the company had previously exited the US TV market.

- [Sony's new Bravia XR TV line](#) showcases its new Cognitive Processor XR, which the company claims will enhance picture quality by using AI to prioritize areas of a frame to concentrate on, mimicking how the human brain processes images. The processor will also use its AI to enhance audio, utilizing image processing to upconvert standard audio to surround sound that matches what is taking place on-screen.
- Increased competition and maturity in the wireless earbud market are reducing advanced options to expected standard features. Functions such as active noise cancellation (ANC) and multiple-microphone-enhanced call quality are now standard and offered at decreasing prices. Competitive pressure on Apple has exploded since last year. The challenge now is for companies to effectively differentiate themselves in order to combat commoditization.
 - Samsung debuted its new ANC-equipped [Galaxy Buds Pro](#), sporting a less-obtrusive visual design, spatial audio, and enhanced call quality in adverse conditions.
 - Value competitor Anker launched its ANC earbud competitor, the [Soundcore Liberty Air 2](#), offering multiple ANC modes and competitive battery life in a mainstream price range.
 - Multinational audio heavyweight Harman launched a variety of [ANC-equipped earbuds in its JBL product line](#) across multiple price points and with varying levels of functionality. Parks Associates research finds that 44% of US broadband households own speakers, 37% own headphones bought separately from a phone or music player, and 33% own a separate set of earbuds.

Entertainment Services

A deluge of entertainment service news hit during CES — though not all officially associated with the show.

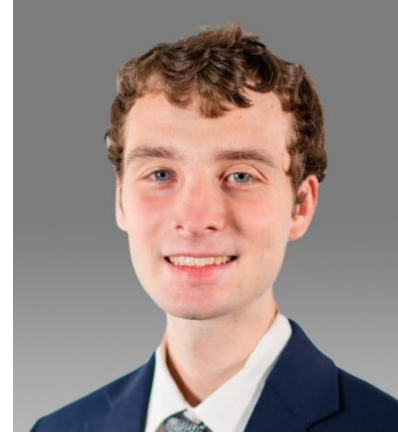
The impact of COVID-19 on video services has been a mixed bag — subscriptions and viewing hours have increased astronomically and Parks Associates has found that subscription rates for OTT services have risen from 71% of all US broadband households to 78% in Q3 2020. However, new content production has been delayed, as closures and consumer avoidance of movie theaters have forced new distribution strategies.

As audiences remain in lockdown and COVID-19 continues to impact original content production schedules, library content continues to dominate in the streaming wars. Entertainment companies are looking for strategies to retain these new subscribers and emulate the live entertainment experience at home.



Steve Nason, Director, Research,
Parks Associates

- Consumers are looking for new content, and they are increasingly trialing new service types. Roughly 40% of US broadband households have trialed at least one OTT video service during the COVID-19 crisis. OTT service providers need to turn those trials into subscribers and retain the viewers they have. The rise in OTT consumption throughout the pandemic has forced services to drive continued interaction in order to keep viewers engaged.
- With many movie theaters still shuttered and upcoming films either sent to streaming services or delayed, developments in high-definition TV and streaming technology are emerging to emulate the cinematic experience at home.
 - [Sony's new streaming service](#) streams over 300 titles from its content library in 80Mbps and lossless 4K UHD resolution, twice the speed of Apple TV+ and three times that of Netflix. The service includes older titles that were not previously available in 4K resolution.
 - [TCL's 2021 TV product lineup](#) prioritizes 8K resolution on all six models and the ability to upscale 4K content with the sharpness of 8K. The product line includes three 85" models in the XL collection, with director of product development Andrew Dew stating that "[2021 will be an even bigger year for big screens.](#)"
 - [Hisense prioritized the](#) premium home experience with its TriChroma Laser TV, aiming to capture the cinema experience at home through a triple-color laser system that increases brightness by 20% and improves the original RGB color for a crisper video quality.
 - [Samsung](#) prioritized 8K and 4K upscaling capabilities with the flagship 8K (QN900A) and 4K (QN90A) models that offer premium immersive audio. Samsung also prioritized larger screens with its 100-inch and 99-inch MICRO LED TVs that support four simultaneous viewing screens.
 - Survey data from Parks Associates indicates that 63% of likely TV purchasers cite 4K/ Ultra HD picture quality as a highly important feature.
- COVID-19 continues to impact business decisions as streaming services explore cost-effective strategies that meet audience needs within the pandemic.
 - Warner Media Studios and Network Group CEO [Ana Sarnoff](#) said the decision to shift Warner Bros.' 2021 film slate to HBO Max came out of a necessity for an "alternative," and the films will screen exclusively theatrically in global markets where HBO Max is not available.
 - Philo CEO [Andrew McCollum](#) said Philo was able to maintain its price point by not adding channels that would accrue raised rates, while other MVPDs saw price increases throughout COVID-19 as a result of sports and news platforms renegotiating their deals.



Liam Gaughan, Researcher
Parks Associates

- Survey data from Parks Associates indicates SVOD services are the preferred source to watch new movies among consumers, with viewers preferring to stream at home rather than go to the theater.
- The music industry took a massive hit due to the impacts of COVID-19 on live performances, and tech players are promoting immersive technology to emulate the concert experience at home.
 - [Cold War Kids](#) performed at a digital concert venue hosted by Panasonic, which utilized its developing new LUMIX BGH1 camera, Technics True Wireless in-ear headphones (EAH-AZ70W), and the Panasonic PT-RQ35K capabilities.
 - [Madison Beer](#) performed at a digital concert venue hosted by Sony in a preview of the virtual reality tech utilized in the Immersive Reality Concert Experience on PlayStation VR and Oculus VR.
 - [Billie Eilish](#) performed a digital concert venue hosted by iHeartMedia, which utilized interactive technology from the startup SpatialWeb that allowed concertgoers to interact within the digital space.

Smart Home

This year, with people spending so much time at home, the smart home and security category came into particular focus.

Parks Associates' new research reveals that one-third of smart device owners in US broadband households have increased usage of their devices during the COVID-19 pandemic, including 46% of smart door lock owners. CES 2021 highlighted new innovations from tech players.

- **Touchless video doorbells are emerging.** Arlo and Alarm.com launched new touchless video doorbells. These doorbells reduce the potential for germs and bacteria to spread from visitor to visitor, which is especially relevant during a global pandemic.
 - [Alarm.com](#)'s new touchless doorbell uses internal video analytics to detect an approaching person, and it immediately triggers the existing chime in the home, sends a mobile alert to the owner, and starts recording.
 - [Arlo](#) uses a different technology than Alarm.com to detect a person approaching the door. When someone gets within a specific distance of the doorbell (the homeowner chooses this distance), it will chime indoors and emit a light to let the visitor know it has been activated.



Patrice Samuels, Senior Analyst
Parks Associates

- **Stronger focus on solutions that promote clean air and can identify people who may be sick.**

Air quality and health monitoring are essential in the COVID-19 era. Several companies have announced connected air quality measuring and purifying devices that may help reduce transmission of the COVID-19. CES 2021 also saw announcements of smart home devices to measure body temperature and other comprehensive readings.

- [Bosch](#) announced a new sensor that can detect the amount of exhaled air and aerosols present in a room and alert consumers when greater ventilation is needed. The company has also added AI capabilities in smart cameras that can precisely measure a person's body temperature.
- [Airthings](#) built a sensor called Wave Plus, a version of the Wave Mini, which tracks carbon dioxide levels, humidity, and temperature.
- [Filtrete](#) launched a connected air purifier that combines its filters with an air-quality sensor. Filtrete air purifiers track filter life, offer voice control with Alexa and Google Assistant, and cover 150-310 square feet.
- [Ettie's Smart Video Doorbell](#) logs visitor's temperature at the time of their arrival and alerts homeowners if they have a fever.



Amanda Kung, Market Researcher
for Connected Home
Parks Associates

- **Wi-Fi sensing is gaining importance in home security.**

The smart home space at CES this year also saw innovation in Wi-Fi sensing, which uses disruptions in Wi-Fi signals from compatible smart devices to detect motion. Using signal disruptions in Wi-Fi instead of video to detect motion in the home offers greater privacy to the occupant.

- [Hex](#) announced an innovative security system that uses disruptions in the home RF environment to determine if occupants are moving when and where they aren't supposed to be.
- [Linksys](#) updated its Aware in-home wireless sensing product and broadened the number of devices that can use Wi-Fi sensing technology, adding Belkin's switches, Wemo outlets, and other Wi-Fi-capable devices to the Aware network.

- **Appliance manufacturers introduce smart products that improve convenience in the kitchen.**

Samsung and LG introduced new products as well as updates to existing products that will facilitate greater convenience in the kitchen.

- [LG's](#) InstaView refrigerator can be opened via voice command. The company also announced a new smart range that has Air Sous Vide, Air Fry mode, and an InstaView panel.
- [Samsung](#) announced the addition of the Family Hub feature, which allows users to search, plan, purchase, and prep weekly meals via the SmartThings app.

- [Samsung](#) also showcased the Bot Handy robot. Although still a concept, the company showcased its use cases such as loading a dishwasher and pouring a glass of wine.
- **Biometric smart locks continue to emerge.**
Lockly and BenjiLock announced new biometric smart locks, continuing the trend from 2020. At the forefront of smart lock technology is biometric security, which allows locking systems to use a person's unique physical characteristics, typically a fingerprint.
 - [Lockly](#) announced two new smart door locks, the Lockly Duo and the Lockly Guard. The Lockly Duo is a two-in-one latch and deadbolt smart lock, while the Lockly Guard focuses on sliding and swing-style doors. Both use a 3D biometric fingerprint sensor that allows users to unlock the door by using their fingerprint.
 - [BenjiLock](#) announced three new biometric smart locks: a bike lock, a door lock, and a smaller version of its original padlock. All three products can be programmed to recognize up to 10 different fingerprints. The Fingerprint Door Lock integrates BenjiLock's deadbolt design with a biometric, fingerprint scanning sensor.
 - [Den Smart Home](#) was awarded a 2021 CTA innovation Award for its software product to enable any standard door lock to be connected, by adding in a strike plate to the doorframe that can be controlled through an app.

Health

Demand for virtual care solutions, telehealth, and remote patient monitoring boomed in the wake of COVID-19.

Many locations ceased offering elective visits, so private practices and health systems needed to rapidly roll out and/or scale their internal telehealth and remote patient monitoring deployments in order to continue providing care to their patient populations. The telehealth industry as a whole experienced several years' worth of growth in the space of months.

This rapid growth in adoption has opened up new questions around telehealth, including what is needed to improve internal deployments of telehealth by health systems and care providers, how best to expand the capabilities of telehealth services – such as by adding data from connected medical devices – and what kind of sustained demand we can expect to see going forward into 2021 and 2022.

This year, CES brought the announcement of new solutions in remote patient monitoring.

Seeing the success of TytoCare, companies move to launch new all-in-one remote patient monitoring devices into the market.

- HD Medical and ICON.AI have announced new all-in-one remote patient monitoring devices.



Kristen Hanich, Senior Analyst
Parks Associates

- The [HealthyU](#), from HD Medical, features a seven-lead ECG, a temperature sensor, a pulse oximeter, microphones for recording heart and lung sounds, a heart rate monitor, and a cuffless blood pressure sensor. HD Medical is currently seeking emergency use authorization from the FDA in order to begin addressing health challenges related to the ongoing pandemic.
- ICON.AI, a healthcare company headquartered in Seoul, South Korea, announced a new [Zcare Health product](#) that combines an Alexa-powered smart display with a detachable sensor able to take six different readings. The [detachable sensor](#) measures heart rate, heart rate variability, PPG, SPO2, and blood pressure and takes an ECG within sixty seconds. The LCD touchscreen has built-in speakers and AI personal assistant features through Amazon Alexa, offering full voice assistant functionality. The device is not yet FDA approved.

Technology-based patient monitoring overall has been well positioned, with leaders in this space offering new evolutions and functionalities. While RPM has been the main focus, in-patient monitoring promises to amp up ICU capabilities.

- Omron officially launched its [VitalSight remote patient monitoring program](#), after introducing the platform to its healthcare partners in 2020. VitalSight is primarily focused on blood pressure monitoring and treating hypertension, using an Omron connected blood pressure monitor and a connected weight scale as well as a device hub. Omron reports high levels of demand for its solution among healthcare providers, and its roadmap for VitalSight includes expanding the program to tackle more disease states.
- Philips announced a [new patient monitoring kit](#) designed for ICUs. The Philips Patient Monitoring kit is a ready-to-deploy kit that allows critical care teams to quickly expand their unit's care capacity during emergency situations. Philips also announced a new Philips BX100 Wearable Biosensor, which is a monitoring patch that is placed on a patient's chest in order to measure respiratory rate, heart rate, posture, active level, and ambulation.

Smart watches may be gaining more monitoring capabilities within the next several years.

- Valencell revealed a new [scaled-down version](#) of its cuffless, calibration-free blood pressure measurement technology that measures blood pressure via the reflection of light through a consumer's skin. Unlike Valencell's previously announced product that was capable of measuring blood pressure in patients' ears, this new product measures blood pressure at the wrist and fingers. Valencell is a leading provider of biometric sensors to wearables makers, indicating that this technology may appear in new smart watch and fitness tracker models in the next few years. Valencell expects to apply for FDA clearance for its new technology shortly.
- Quantum Operation, a Japanese startup, debuted a new noninvasive, continuous [glucose monitoring solution](#) capable of measuring blood glucose through the skin while being worn at the wrist. Similar to the technology being used to measure blood pressure, this solution makes use of a spectrometer to measure light passing through blood near the skin's surface. Quantum claims that in addition to blood glucose, this technology can also measure heart rate and ECG. Due to the high variability in this product's readings, it is unlikely to gain the FDA clearance needed for a US launch, but this remains a promising sign of development in the market.

- The Apple Watch picks up a new fall detection app – FallCall Solutions is rolling out its new [FallCall Detect app for Apple Watches](#). This solution combines the Apple Watch’s embedded fall detection capabilities with a personal emergency response system managed by FallCall. The app measures the impact of the fall, contacting emergency services if a high-impact fall is detected or a user’s pre-designated support if a low-impact fall is detected. Users have the ability to deactivate the request if needed.

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.

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