



“Connecting The Consumer 2015”: Digital Destiny And The Future Of Technology

With over 2.2 million square feet of exhibit space, 3,600 exhibitors including 375 startups and more than 170,000 attendees; this year’s International CES marked the largest tradeshow in the Consumer Electronics Association’s (CEA) history and the kickoff to the new model year & beyond for various technology.

While products can generally be divided into two broad categories – technology shown to prove it is technologically possible, and technology that is commercially viable – this year CES was more focused on debuting products – 20,000 of them – that are technologically meaningful.

This whitepaper focuses on the major themes and trends of this year’s trade show as well as the innovations in the consumer electronic segments relevant to the cable / communications industry (therefore we’ll bypass coverage on all the cool drones, 3D printers and self-driving car models). We’ll also cover the potential implications of these trends, themes & innovations for the consumer and marketer.

Why Is CES Becoming A Focus For Marketers?

According to a CEA audit, 2014 advertising and marketing professionals’ attendance increased nearly 9% from the prior year to 5,315 with the number of CMOs jumping 11% to 447. Preliminary estimates for 2015 show an even larger increase. For the first time, CES even created a separate venue dubbed “the C Space” that was the official destination for creative communicators, brand marketers, advertising agencies, digital publishers and social networks. Participants included the likes of Google, GroupM, Mindshare, Hulu, NBCUniversal, Twitter and Yahoo!

Why the focus for marketers? Because CES, at its core, is not only a show about electronics, it’s also a show about time. Products unveiled there reflect bets on how people will spend their time and much of that time is spent consuming media through televisions, mobile phones and tablets. A lot of time is also spent in transit, predominately in cars, where people consume a lot of media as well.

Marketers understand the value of time and they buy audiences to reach them wherever they’re spending it. Whatever marketers are buying, the electronics are often the gateway to the consumer and technology’s “big data” further enables brands to reach consumers at the right moment, with a personalized message released at exactly the right time. With that said, there’s no better place to review new product developments and technological achievements than at CES.

“Moving The Internet From 2 Billion Smartphones To 50 Billion Objects” – A Look At Overarching Trends

Shawn DuBravac, CEA’s chief economist, kicked off this year’s CES with a discussion on technology trends to watch. Stating that both the CE industry and the CES itself were at an inflection point, DuBravac cited what he termed as the “five pillars of digital destiny” that are sculpting the future of technology development and its relevance and meaning in fitting into how individuals work and live.

The pillars are: *ubiquitous computing, cheap digital storage, connectivity, proliferation of digital devices and sensorization of technology*. Flowing from these pillars are four major trends that are anticipated to emerge:

- *Digitization of Physical Space* – sensors becoming more widely deployed and almost ubiquitous



- *Permeation of Logic* – computers learning to make decisions on our behalf (adaptive customization) and, eventually, making recommendations based on data culled and processed from the circumstances of the moment (predictive customization) – “where the data defines the experience.”
- *The Internet of ‘Me’* – the further customization of the computer experience which is moving to the 50 billion devices that “take the Internet beyond the phone” to places like the thermostat and the wrist (wearables)
- *Fragmented Innovation* – a shift from five product categories accounting for half of CE revenues as adjacent industries become digitized, like small appliances and automotive, and devices with market saturation of only 20-40% account for a larger chunk of total CE revenue.

Connectivity – The Internet of “Things” & The Internet of “Me”

Industry analysts predict an “IoT” global market of \$7 trillion in 2020 across 50 billion installed connected devices which would rate as the fastest adoption of new technology in history – surpassing the pace of consumer penetration by TVs, DVDs and even the Internet – so the stakes are high for everyone from expected players such as Google, Comcast, Amazon, Apple, Verizon, AT&T, Samsung, BMW, Jawbone to many others that are betting big on a smarter world.

Based on the exhibitors and their products being promoted on the show floor, there are a few overarching technologies which are closest to hitting the market and becoming mainstream:

- *Connected Home* – get ready for the next generation of light bulbs, smart meters, garage doors, thermostats, monitoring systems, home entertainment devices, appliances, sprinkler systems and more.

An interesting service with this space that has recently launched is IFTTT ([iftthisthenthat.com](http://ifttt.com)). IFTTT is essentially a decision tree – or “recipe,” that connects one-off solutions. For example, “if the weather forecast calls for snow, change my alarm to wake me one hour earlier and change the start time of my coffee.” A key consideration for brands will be how they create a “recipe” using IFTTT that features them as a solution.

- *Connected Car* – It’s the most expensive mobile computer device a consumer will ever own and it’ll create connections to tolls, digital outdoor, transit, weather and road reports, streaming media and, ultimately, retailers and advertisers in real time.

Apple & Android are adapting both native and select third-party apps integrated with the car’s touch screen and steering wheel controls. Apple CarPlay will be available in almost 30 new makes in 2015 and Android Auto will be available in a similar total of makes, however their release timing is a bit behind Apple’s.

- *Connected People* – Wearables aren’t just for techies and fitness nuts anymore. The next generation will connect people and the data they produce to smartphones, smart TVs and tablet hubs; they will include everything from watches, rings, belts and smart clothing to smart baby soothers, bottles, and monitoring devices (for both humans and animals) such as EarlySense.



The declining price of sensors and processors, the use of radio frequency identification (RFID) tags and beacons, and the wide deployment of WiFi will drive this device connectivity very quickly. But, delivery of the promise and adoption by consumers will require ease of use, near universal access and a seamless open system. It will also demand the involvement of more people – besides engineers and developers – including designers, artists, fashion-forward thinkers and urban planners.

Virtual Reality

If the world is already well on its way to being digitized, then 2015 is the year it increasingly becomes more virtual, more customizable and ultimately more personal with areas such as immersive gaming and virtual reality content experiences leading the charge.

Virtual Reality is a consumer electronics segment that had considerably more space at this year's trade show than in years past with Facebook's Oculus Rift represented on the convention floor for the first time as well as Samsung's Oculus-powered Gear VR.

One of the most interesting options in this space is Google Cardboard. While not as immersive as Oculus Rift and Samsung Gear, it's an incredibly simple concept and promises to make VR accessible and attainable at less than \$10 - simply make some folds and insert your phone into the cardboard. The ability to transform what you already have in your pocket into 3D could create significant demand for content from both consumers and marketers.

"The Next New Gadget Is TV"

While advances in almost every facet of consumer electronics – everything from robotics to drones to wearables to the ubiquitous "Internet of Things" – were on hand at CES, it was the improved versions of a long-time consumer favorite, the television, which continued to garner some of the most excitement on the convention floor.

4K Ultra-HD

According to CEA's U.S. Consumer Electronics Sales and Forecasts, unit shipments of 4K UHD displays are projected to reach 4 million in 2015 (a 208% increase) while revenues are expected to exceed \$5 billion (106% increase) as the price begins to drop for large Ultra HD sets. However most agree that it'll still take several years for a significant number of Ultra HD sets to be available in homes at which point we should begin to see a ramp up on the production of 4K content.

4K was also hot among attendees as the phrase "4K TV" scored 15,912 tweets under the #CES2015 hashtag which was almost 4 times the number of tweets for the next most popular topic, "wearables." Whether it's flat, curved, or bendable, major manufacturers including Samsung, LG and Sony seemed to have it all.

Ultra HD is also evolving beyond just higher resolution to address other aspects that create dramatically improved viewing experiences. Color space expansion, higher frame rates and high dynamic range (HDR) are all new technologies that are looked upon as making the Ultra HD experience a meaningful upgrade for consumers.



LG boasted its UltraHD sets featuring ‘quantum dot’ technology, which is expected to offer a wider color palette and improved color saturation. Sony launched nine 4K models with screens up to 85 inches, while Sharp’s 4K lineup features models from 43 to 80 inches.

Smart TVs

Along with their 4K TV introductions, several of the major manufacturers also announced new platforms or upgrades to existing platforms for their smart TVs, many of which will also feature 4K technology. Most of these platform upgrades center around evolving technology and bettering the user experience.

Samsung announced their decision to roll out TVs running its homegrown, open-source operating system – Tizen – in the U.S. within 1Q 2015 with an aim to enable internet connectivity in all of its TVs by 2017. Additionally, Samsung announced they’ll be integrating PlayStation Now within their Smart Hub platform in 2015, with no console required.

Panasonic unveiled its new flagship television line, the CX850U 4K TV which is available in 55- and 65-inch sizes and features the latest LED/LCD TV technology the company has to offer. Its user interface is driven by Mozilla’s Firefox OS. Firefox OS is also being built alongside a smart voice assistant, Xumo Guide, for content discovery and 4K TV streaming options for added functionality. This comes in response to LG’s WebOS design which was introduced last year.

Beyond the hardware, streaming video technology provider Roku, which has more than 2,000 different content channels, is partnering with manufacturers such as Best Buy’s Insignia brand, Haier, TCL and Hisense who are embedding its software into their smart TVs. Over the last few years, Roku has transitioned from being a hardware company selling streaming video boxes to a provider of software that can be embedded onto smart TVs from other manufacturers. For partners, Roku’s software solution gives them an easy way to add streaming video services on their connected TVs without having to invest heavily in developing their own connected TV platforms.

Elsewhere in the OTT universe as it relates to smart TVs, Netflix announced that they will begin giving its stamp of approval – “Netflix Recommended TV” – on certain new smart TVs. Those include sets made by LG, Vizio, Sharp and new smart sets made with Roku units built in. Netflix has a checklist of seven items it wants from manufacturers before it get its “seal of approval” including an instant-on function so that OTT viewers don’t have to start at ground zero in the app section every time they turn their sets on.

New OTT Service Introduction

One of the biggest announcements at CES was Dish Network’s introduction of its new low-cost cloud-based service, Sling TV, which marks the latest step in the OTT movement. It will deliver just under two dozen channels – including the likes of ESPN, TNT, CNN, TBS, Disney Channel, Adult Swim, Food, HGTV, Travel, A&E and Cartoon Network - online for \$20/month and will run on Internet-connected devices, including Xbox One, Roku, PCs, Amazon Fire TV, iOS and Android smartphones and tablets.

“Consumers can now watch their favorite shows on their favorite devices that they already use to watch video. Live TV, including ESPN, for \$20 per month with no commitment or contract, is a game changer,” said Roger Lynch, CEO of Sling TV on the floor of CES.



Dish executives also stated that they're not worried that Sling TV will cannibalize the business of traditional pay TV customers since it's targeting a different and narrower consumer segment. As such, Sling TV will operate separately from Dish network and from Dish's Slingbox, which allows viewers to watch the same programming they have at home wherever they have an internet connection.

CEA Video Research Report Findings

During a research session, CEA presented their findings from a couple of reports they recently commissioned - *OTT Video Consumption Report & 4K Ultra HD Update*.

While the television remains viewers' primary means of accessing video content, the number of consumers watching video content via streaming (63%) is gaining on those who watch through a wired cable provider, excluding satellite (68%). The studies also show that 33% of consumers may purchase a 4K Ultra-High Definition TV (UHD) within the next three years while 44% indicate they're likely to purchase a 'smart' or internet-enabled TV, a function commonly available with 4K UHD TVs.

"While viewing habits are changing, the television remains the primary preferred device for viewing content," said Steve Koenig, director of industry analysis, CEA. "Consumers have access to streaming video across numerous devices but when asked where they most prefer to watch content around the home, 58% prefer to watch on a TV. Overall our studies indicate a bright future for 4K UHD."

A few other findings from CEA's reports:

- When considering the top features that will drive their next TV purchase, 54% ranked price as the most important feature followed by 4K UHD capability (27%) and picture quality (24%).
- Consumers are driven more by screen size than portability when watching streaming content at home – 52% watch streaming video content on a TV, 37% watch on a laptop, 35% smartphone, 29% tablet.
- Millennials are leading the shift in accessing video content in the home. 80% of A21-34 are more likely to stream video content than A35+ (52%) and are less likely to have pay-TV programming (61% vs. 74%).

Cable Industry Panelists' 2015 Predictions

Beyond the hardware and software solutions, several panels and discussions were held throughout the four day trade show focusing on the state of television, and cable specifically, which featured the industry's top executives, developers and creative thinkers. Several themes rose to the top with many of these panelists:

- While there will be continuous acceleration of things like HBO GO and more competitors to Netflix, the traditional TV bundle side will continue to remain intact for a long while to come
- There will be even more TVE apps available running across platforms
- Brands will work closely with content providers to cultivate the brand into content as viewers are more likely to follow shows and not necessarily networks



- Mobile devices will become more relevant in online video consumption so developers need to be ready to offer options that cater to screens of all sizes

Marketer Takeaways From CES

As CES wrapped up and industry publications finished their interviews with the marketers and advertisers that had a chance to walk the floor and engage with the multitude of developers and innovators promoting their new products, several key takeaways began to form:

Screens Are Everywhere

The future is a world of abundant screens – from smart mirrors in our home, digital retail signage to smartwatches on our wrists and larger-screened connected cars. The new world consists of a pervasive, highly connective internet and an abundance of places and platforms to distribute messages which are all digital and slowly tending toward video.

Software Is Taking Over

It took phone makers 10 years to digest that consumer's understanding of hardware is not only the device but also the software, services and platforms they serve. iPhone creates differentiation through their OS, app store and partnerships with banks and retailers to make a consumer's phone like a personal remote control. We're coming upon an era where two of the most important things a consumer owns – car & TV – will go through similar changes. In the near future, both will be vital places to access their own app stores. Cars may offer apps to find cheap gas while TVs may push notifications, travel alerts or stock information. Marketers must be ready to pounce on these new opportunities, from content marketing channels to addressable TV ads.

Sensors Everywhere

Consumers are entering an age where everything is monitored, recorded, shared and analyzed. We're on the edge of a massive rise in the sensors that monitor our actions and surroundings and share that information in real-time – from portable 3D scanners and eye-tracking systems to molecular spectrometers that measure the food we eat to wearables that track our mood and brain activity. These sensors can aid advertisers in reaching people in specific mood states, or how they can buy ads only when they're looked at, just to name two examples.

Cars As A New Media Vehicle

Although much of the news in the automotive category is centered on self-parking cars, the real interest for advertisers should be how the creation of a new media vehicle is actually a vehicle. "uConnect" from Chrysler can read out social media updates while "Regular Routes" from VW makes suggestions for routes based on traffic conditions – and this is just the beginning. In the coming era of larger car screens, gestural controls and self-driving cars, consumer's time on the road will become a richer – and perhaps the most mobile – media environment ever. In-car advertising, and content consumption, could transform from simply radio to one of the most advanced, targeted and intimate media experiences.

Evolution Of The Television Experience

With the new smart TV interfaces, navigation modes and recommendation engines, viewers will soon be able to search and content by theme, duration, social recommendations, relevance, recency and reviews. Ads will



have the ability to be placed in-stream along with in-show and can be personalized to include new calls to action.

Mobile As A Key Screen For Connectivity

The management hub for a consumer to control the basic function of their residence and devices is increasingly becoming the mobile phone. People spend more time on their phones than ever before and that's not a trend likely to change as their phones become the remote control to their lives and the primary gateway to everything around them. However, depending on how televisions continue to evolve consumers could see a situation where the mobile phone is the key connected device for out-of-home use and the TV becomes the key connected device once they arrive home.

Sources for this whitepaper include: MediaPost, B&C, Advanced Television, CableFax, Cynopsis, Dealerscope, TechCrunch, Ad Age, Digital Trends, CNET

For more information, or if you have any questions, please contact:

Jason Wiese

VP, Strategic Insights

jasonw@cabletvadbureau.com

212-508-1219