CES 2018: A Retrospective on the Tech Tradeshow of the Year

(Or, “Afterthoughts From CES 2018”, “CES 2018: A Retrospective on the Future”, “Is Tech Out of Touch?”)

Meta Description: Now that this year’s Consumer Electronics Show (CES) is behind us many questions have been put to rest. But many have been raised.

Every year, the Consumer Electronics Show (CES) gives us a chance to gaze into a crystal ball—or OLED panel—and catch a glimpse into the future.

For four days in January the Las Vegas Convention Center plays host to industry leaders and innovators alike. Their task? To generate buzz over the upcoming slate of new gadgets and hardware, and to discuss the most relevant issues in the consumer electronics industry.

CES is the self-proclaimed “proving ground for innovators”. Known for blockbuster product launches and big-ticket announcements, CES is *the* venue for showcasing new product lineups, or whatever else might be in the hopper.

Last year, much of the show was dominated by the surge of voice assistants, with Amazon’s Alexa leading the charge. This year, artificially intelligent devices are once again at the top of the bill, but across a wide range of form factors.

If we didn’t know it before, we know now. Artificial intelligence can, and will, creep into every facet of tomorrow’s technology. Smart homes, smart TVs, smart wine bottle openers. Pick any household appliance and you can bet it’ll be AI-equipped in the next year or two.

Internet-enabled household devices are here to stay, and the ecosystem is only showing signs of growth as major industry players like LG and Samsung have announced that all their home appliances will be ‘smart’ in 2018.

But underlying this growth is a singular question that’s beginning to stick with the casual onlooker: Is the industry focused on providing solutions to concrete, everyday problems, or contriving solutions to minor inconveniences? In other words: *is technology out of touch*?

What’s the benefit in having a thermostat that can call us an Uber, or a tea kettle that can fire us off a tweet while we boil a pot of water? How many of these devices are simplifying our lives, and how many are just being forced further into them? At what point are ‘smart’ appliances, well, *not*?

CES, if it is to remain faithful to its original aims, exists to provide a hub for true innovation. It’s where a better future was once imagined. Where leaders were brought together to bring these ideas to life. To honour this, we need to go back to focusing on solutions rather than conceptual

hardware or needless luxury items. Last week, the National Post ran an article taking shots at the event for deteriorating into an exhibition for overindulgent novelty items. Similarly, The Verge criticized CES for pushing products that are gratuitous, and ignorant of society's limitations to their adoption.

If the media coverage of CES 2018 is any indication, a common sentiment is that we, the technologists, need to ground ourselves. We need to take back CES's original intent. To plant the seeds of innovation, and not capitalize on trends through iterative product improvements. Instead, let's focus on the use cases. On how they can improve society as a whole, and not only the lives of those technophiles that share our niche.

To this end, augmented and virtual reality (AR/VR) is a small beacon of hope. While taking a relatively quiet place at CES—wedged between hyped-up smart devices, personal assistants, and electric vehicle technology—dozens of new augmented and virtual reality headsets, wearables, and applications were unveiled. These devices provide real solutions for real problems. And they're a heck of a lot more fun than a Skype-ready napkin dispenser with a USB-C port. True to the spirit of CES, VR and AR technologies give us a reason to be excited again.

It took a while for virtual reality to prove itself as a future-proof investment for home consumers. Now that HTC, Facebook, Sony and Samsung have all successfully broken the mold with their flagship headsets, more and more developers are turning their attention to VR as a legitimate market to tap.

On the back-end is Nvidia, the graphics giant who've proven themselves to be the powerhouse behind VR. Their GeForce graphics cards do all the heavy lifting behind the scenes, rendering super-high-res visuals twice—one for each eye. And Nvidia's position at the top is unlikely to change any time soon, as they expect to power a whopping 50 million consumer headsets by 2021. In fact, 4.9 million VR headset and AR eyewear units are expected to sell in 2018, with gross revenues totaling $1.2 billion in the US alone.

On the hardware side, HTC has emerged as the leader in headset development, with its flagship HTC Vive outselling all other standalone devices in 2017. And to cement their status, they came forward with the biggest announcement of the week: the Vive Pro. Boasting a major resolution upgrade (1440 x 1600 pixels per eye), the new Vive seeks to eliminate the infamous "screen-door effect" known to some VR users. It's also completely wireless, so users can freely roam around the VR environment untethered to cords or cables.

Many new contestants are entering the VR headset race. Pimax Technology's VR headset prototype is the first to provide enormous, crisp 8K visuals; the Kopin "Elf" will soon be the slimmest and most stylish headset on the market, bringing to market a device for casual consumers' everyday wear. But winning the show's 2018 Best of Innovation Award was the LooxidVR headset by Looxid Labs. The device uses EEG brain-wave sensors and laser eye trackers to assess the users' emotional response in real time. Virtual reality that literally reads your mind, all in the interest of personalizing the user experience.

VR is about a lot more than being able to look around a virtual space. The surge of upcoming peripherals such as haptic sensor gloves, controllers, and bodysuits will make the VR experience even more immersive. Contact CI's Maestro VR Haptic Glove lets users hold virtual

objects with multiple pressure points and sensors. Not only does it appear to your eyes as if you're holding the object, but the glove tricks your mind to think that actual weight rests in your hand. Tactical Haptics' Reactive Grip motion controller looks to compete with Contact CI, as their controller allows VR users to experience friction and force as if they were interacting with real-life moving objects. Lastly, the Teslasuit is a full-body haptic suit with 14 motion sensors built into the fabric. This allows for every in-game movement, touch, and sensation on the body to be felt by the player.

Of course, VR hardware is about more than just headsets and hand-held controllers. The technical equipment required for VR content production occupies a major part of the ecosystem. Unveiled at CES, NextVR's stereoscopic 360-degree camera is built to capture HD video footage from all angles. They've even announced a partnership with WWE, which means you'll soon be able to catch every suplex and smackdown live in native VR.

Currently, VR content development has been bogged down by high production costs, making it an unthinkable venture for all but the biggest tech conglomerates. As CES panelist and President of Reverge VR, Kam Diba, remarked, "the cost to create compelling [AR/VR] content is really high...as content creation becomes easier through the acquisition of material like cameras or through visual effects enhancement, that'll drive costs down." For developers, the introduction of innovative production equipment is a welcome effort toward cutting costs and incentivizing the creation of new content, and it's finally on its way.

With the new range of capabilities introduced by advancements in the VR market, the possibilities for application are growing faster than we can meet them. Immersing an employee, job candidate, medical patient, or student in a VR environment can help dramatically with workplace training, the administration of therapies, and in sparking educational interest among hands-on learners. While gaming and entertainment are currently the top drivers behind the technology's adoption, in time these growth factors will become secondary to demand from medical professionals, real estate developers, architects and educators. To provide solutions we actually asked for to problems we actually face.

Distinguishing itself from VR, augmented reality (AR) provides a merely altered, and not virtual, view of the physical world. Think *Pokémon Go.* While at first held back by the commercial bomb that was Google Glass, augmented reality has officially entered a renaissance brought about, largely, by enterprise applications. In response, CES dedicated over 45,000 net square feet of exhibit space to highlight the new range of AR products hitting the market this year.

Once AR's Achilles' heel, a gauntlet of new, killer apps have aroused greater confidence in the nascent technology. Spurred by recent ventures into AR by Microsoft, Google, and Facebook, significant content development is now well underway in response to the burgeoning demand. Additionally, many new strides have been made toward leveraging the AR experience for untapped markets beyond gaming and social networks.

Last week, FlexTrade System's demoed their FlexAR app, a fintech solution that uses AR eyewear to help financial traders visualize charts, blotters, and tickers using real-time market data. Providing the physical hardware is ThirdEye Gen, whose X1 Smart Glasses debuted at CES. The X1, which expects to ship in Q1 2018, provides an advanced AR platform specially tailored for enterprise solutions.

In healthcare, several AR startups are developing the technology to better train or assist medical professionals. AccuVein is set to release an AR solution to help nurses find the patients' vein during injection attempts. Orca Health's EyeDecide uses AR glasses to simulate vision conditions to better demonstrate the effects of cataracts of other impairments. Atheer's AiR Enterprise Suite enables emergency room workers to view critical patient information, make video calls, and conduct search queries all while keeping their hands free.

According to research conducted by the Consumer Technology Association, 61% of survey respondents believed that AR technology provides unique possibilities for medical and emergency support training. Similarly, 55% agree that AR would benefit retailers by enhancing customers' shopping experience.

The data backs it up: the possibilities for AR solutions extend far beyond the home. Samsung's C-Lab, Google, Facebook, Snapchat, and China's Xiaomi have all stepped into the AR arena by recently announcing their own AR projects, with Apple rumoured to be following suit shortly. No doubt, we can all expect much more from the AR space in 2018.

CES has always been an exhibit driven, in large part, by madness. This year was no different. Watching the future unfold can be exciting, other times it can be downright chilling. A world where everyone and everything is listening, is one in which few of us would choose to live.

But let's be clear, I'm no luddite. I realize that many of the hype-fueled, rushed-to-show gadgets that debut at tradeshows don't survive the fiscal year. Like Polaroid's infamous camera-sunglasses, or Nintendo's long-forgotten Virtual Boy, countless products are pulled off the shelves, and out of Amazon shopping carts, every day in response to a cool market.

I believe, like most in our industry, that emerging technologies will create a better future. Where instead of trying to remember the case-sensitive password for our smart freezer, interconnection actually simplifies our lives so that our time can be better spent doing the things we love. Where real people are brought together, flesh and all, to build communities around common passions and values. One in which we are enabled, via technology, to better help each other.

We will get there. But we'll need to take the blinders off. In 2018, let's join Amazon, Google, and Facebook by embracing AR and VR technologies. Let's reimagine the possibilities they create, and the solutions they can offer us.

Liam Hunt is a freelance writer based in Toronto, ON, and Director of Marketing at TheAppLabb's Toronto office.