

## CES 2017: Key trends

by Emma Chiu - Tuesday, January 10, 2017

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“It’s no longer a technology show; it’s a connected life show and an advertising and media show,” said Shawn DuBravac of CTA, the trade organization that organizes CES. And it changes quickly: three years ago, he said, 20% of this year’s exhibitors didn’t exist.

This year, among big tech companies Amazon was the clear winner—though Amazon itself kept a low profile, letting others announce a multitude of new uses for Alexa, its virtual assistant.

Electric and self-driving cars were everywhere. Taking a page from Apple and Microsoft, which pulled out of CES years ago, Tesla sat out the conference as rival auto makers tried to mount convincing challenges to its dominance of the electric car market.

What about exciting new “gadgets”? Farhad Manjoo of the New York Times [declared them “gone”](#) in December, killed by the iPhone and cheap knockoffs. Category-changing devices were in short supply at the show, and Alexa, this year’s most talked-about product, was actually an invisible service.

But there were signs that Internet of Things products that had once been isolated were talking to each other in interesting new ways. And devices aimed at specific needs and populations—from new mothers to vacationers to the disabled—showed that gadgets might not be done for just yet.

### Tech brands as car brands

A few years ago, the buzz was all about how CES was becoming an auto show. Car brands had to become technology brands, or risk falling behind in the innovation race and losing customers.

This year, the self-driving car was one of the few innovations at CES that had an unquestionable futuristic sheen, and tech brands wanted their piece of the hype. Intel, for example, was showing off its partnership with BMW, having recently announced a \$250 million investment in autonomous driving technology. Separately, BMW announced its own self-driving car, estimated to arrive by 2021.

Panasonic highlighted its battery manufacturing role at Tesla’s new “Gigafactory,” and also showed a concept interior for fully autonomous vehicles predicted to arrive around 2025, featuring seats that face one another instead of the road. “It’s trying to bring the life experience into what eventually will be a work space or a living space,” Tom Gebhardt, president at Panasonic Automotive Systems, told JWT Intelligence. “That’s not going to be a driving space in the future, so we’re bringing our consumer products in that direction.”

Panasonic also offered a demonstration of how cars might become more responsive to drivers’ needs, for example suggesting nearby restaurants based on past behavior or helping verify payments using facial scans. “If the vehicle can be intuitive that means drivers don’t have to think as much, and can actually

react to a safety situation better,” Gebhardt said. “If we can use AI to do that, that’s very meaningful to everybody.



Mercedes-Benz Van with drone delivery



Chrysler Portal



Gebhardt went on to say that the electric car was unquestionably the future, regardless of who might be

manufacturing it. One electric aspirant, Faraday Future, presented the FF 91 at a drag race-style demonstration. However, many details were left unspecified, and the car failed to move during an attempted demo of its autonomous driving features. Another electric car startup, Lucid Motors, made a better impression with its less-ambitious Air, predicted to launch in 2019.

Among the big automakers, Mercedes-Benz made a futuristic statement with a concept van featuring roof-mounted drones to deliver packages. And Chrysler introduced the Portal, a concept electric car for families headed by millennials. The Portal's interior would be a "third space," "an open and serene atmosphere that bridges work and home," according to Chrysler.

### **Health meets mobility**

Auto companies at CES also explored how emerging tech could boost drivers' health. Hyundai partnered with design firm IDEO on a multisensory vision for mood enhancement behind the wheel, focusing on improving a driver's mood in different contexts.

"We took a very quick point of view about how health is actually mental health in this case—mindset and emotional wellness," said Andrew Evans, principal product designer at IDEO. "The concept is really about mood shift—shifting a driver's emotional state as the car perceives that there might be a need for that."

If a driver starts to nod off at the wheel, the car sends out an "alert" burst of cool air, emits a refreshing scent, and brightens the lights. Conversely, if a driver is stressed, the dashboard gets warmer and sends out a calming fragrance.



### **Hyundai**

Meanwhile, Mercedes-Benz presented its products this year under the banner of "Fit&Healthy," which the company described as "a vision of how society's increasing health consciousness can be intelligently combined with future mobility." The concept allows cars to adjust temperature, lighting, sound and scent in response to drivers' physical health. Steering wheels would contain sensors that measure heart rate, and seats could respond to changes by adjusting to improve blood flow.

For more, read our [health meets mobility](#) post.

## **2017: The year of voice**

As advances in machine vision seemed set to transform the future of the car, improvements in natural language processing have set the stage for a revolution in how we interact with tech: more and more, we're bypassing screens altogether through the medium of voice.

Shawn DuBravac of CTA said that 2017 would represent an inflection point in voice recognition as computers reach parity with humans, accurately transcribing speech about 94% of the time. "We're ushering in an entirely new era of faceless computing," DuBravac said.

Amazon's Alexa ecosystem was the best example, adding more and more "skills," Amazon's term for integrations with merchants and services. The number of these skills grew from 1,000 in June 2016 to over 7,000 by the opening day of CES. Users can ask Alexa to add groceries to a shopping list, get a short news briefing, dim the living room lights, or look up a bank balance, to name just a few current options. A [CNET review](#) of CES product launches also found that more smart devices at the show were designed to work with Alexa than with rival services like Apple HomeKit and Google Home.



Alexa family by Amazon

Near the convention center, Amazon had joined forces with Intel and the home security and automation provider MiOS to demonstrate voice technology in a "smart tiny home." During our visit, Alexa turned on the lights, activated a pot of boiling water for morning coffee, and converted the house into a theater by drawing the blinds closed and turning on a projector.

Like any breakthrough technology, voice recognition brings its own new set of problems. Alexa "can control anything in the home," said Paul Lipman, CEO of BullGuard, a company focused on security for the smart home. With many people unnerved about potential hacking, Lipman said that the connected home represented "the next mammoth growth area within consumer security."

Read our full post on [the year of voice](#) for more.

## **New visions for marketing**

C Space, located away from the main show floor, was the CES space dedicated to the future of marketing and media. The spotlight was on virtual reality, as mainstream media companies touted their investment in the field.

BBC Earth announced a VR partnership with Oculus and debuted forthcoming content. “We wanted to look at the language that gaming uses, and see how you could align that with natural history and factual storytelling techniques,” said Charlotte Jones, executive producer at BBC Earth. Nearby, Discovery had a dedicated space for visitors to try its VR app.

Also at C Space, Luca Boschin, CEO of LogoGrab, promoted the marketing potential of machine vision, as computers become much better at recognizing logos across social media postings. “As a brand, advertiser, or any business, you need to be able to understand what happens with that content in order to either measure or monetize it,” he said, adding that his company could help brands serve consumers more-relevant content.

Boschin also expressed personal reservations about over-targeting and the drawbacks of people being not being exposed to unfamiliar content. Still, he said, the answer to this was more technology. “Maybe that’s the next level of artificial intelligence, understanding not only what exactly you want to see, but also what other things may spark interest in your that initially you thought were not interesting,” Boschin said.

For more on visual analytics, see our previous interview with [David Rose, CEO of Ditto Labs](#).

## **“Merged reality” and beyond**

While media brands showed new VR storytelling techniques, Intel demonstrated advances in underlying VR technology. The company staged a press event with 250 individual Oculus devices, showcasing advances in volumetric capture, VR live streaming, and “merged reality.”

In one VR clip, viewers gazed at a pastoral scene recorded in the Vietnamese countryside, with a water buffalo happily grazing near a waterfall. Unlike standard 360-degree video, which keeps viewers in a static location, this volumetric video allowed viewers to peer around, underneath and above objects, creating an uncanny level of realism.



Intel at CES

Live 360-degree video was another area of focus. Guests were able to watch a live basketball game being broadcast from Indianapolis, Indiana, choosing from multiple points of view as the action moved up and down the court.

Finally, Intel and computer vision company HypeVR offered more details about Project Alloy, a “merged reality” technology. In an example demonstrated on stage, game players wore cordless VR headsets as they moved around a living room. After taking a 3D scan of the room, Intel can substitute virtual objects where physical objects stand. The technique could transform everyday environments into convincing virtual terrain, allowing players to move around virtual worlds without being tethered to their chairs.

For more, see our post on [Intel’s VR visions](#).

### **Experiential wearable tech**

This year at CES, the conversation on wearable tech was moving away from all-purpose fitness tracking bands and toward devices for specific uses.

During his keynote, Carnival CEO Arnold W. Donald introduced the Ocean Medallion, a disc the size of a quarter designed to help take guest personalization to a new level. The device “uses a guest-centric, Internet of Things approach to enable guests to maximize their experiences in real time based on their choices and preferences,” according to the company.

The Ocean Medallion, paired with an app called Ocean Compass, functions as a kind of digital concierge, seamlessly conveying information about the guest across the ship. For example, servers at all dining locations could know in advance about a guest’s dietary restrictions, favorite cocktails or wine preferences.





### Ocean Medallion

The app might also alert a guest of an upcoming activity based on their interests. An adventurous guest, for example, might be reminded to book a kayaking shore excursion, while a wine lover could be informed of an upcoming tasting.

While Carnival hasn't yet said much about advertising, the same kind of data used to tailor the guest experience could also be used to deliver targeted messages.

For more details, read our post on [customized cruises](#).

### Maternal tech

This year marked the second edition of the BabyTech Summit, a dedicated program of talks and awards within CES exploring how technology can improve the lives of the youngest digital natives. Baby tech abounded in 2017, from connected thermometers to smart nursery humidifiers to poop-scanning apps.

One breakout area within baby tech this year was smart breast pumps. Willow billed itself as “the only wearable breast pump that fits in your bra, moves with you, and goes wherever the day takes you.” It tracks the amount of milk collected, the collection date, and the length of each session.





Willow

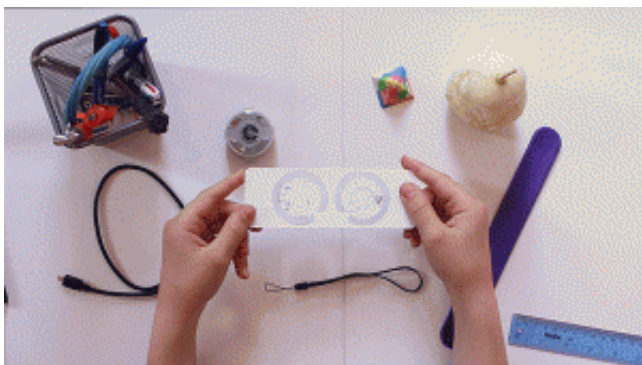
“In this space, normally, everyone focuses on the baby. We’re really focused on the mom,” said Willow CEO Naomi Kelman, speaking during CES to an audience at women’s networking space The Girls Lounge. “It’s subtle but it’s different. In particular, we say, how can we make moms’ lives easier and better?”

For more, see our full post on [maternal tech](#).

### Tech for tinkering

At last year’s CES, we noted the emergence of [coding toys](#), products meant to help teach kids technology skills at an early age. This year the category expanded to wearables, drones, and DIY circuits.

Technology Will Save Us released its newest DIY kit, a light-up LED slap bracelet enabled with a range of sensors. Kids can program the bracelet to respond in different ways to different actions. One boy, for example, programmed it to light up in rainbow colors after he brushed his teeth for two minutes, and another created a bike light that could be either red or white depending on how it was rotated.



Mover Kit by Technology Will Save Us

“We want them to be easy to use, but not so dumb that you don’t want to do it again; we want the ages to

be wide; and we want the prices to be accessible,” said Bethany Koby, CEO & co-founder of Technology Will Save Us. “I think there’s something really important about it being an accessible experience, and also giving kids choice and range.”

Other examples included Circuit Scribe, which makes electrically conductive ink that kids can use to experiment with circuits without hot soldering irons; a drone called Airblock with modular parts that can be reconfigured for different uses; and Wonder Workshop’s code-able robots.



Circuit Scribes electronic drawing kits



## **Disability tech**

This year’s CES seemed to offer more solutions aimed at helping people with disabilities fit tech into their lives. The Opn, a connected hearing aid from the company Oticon, could be programmed in sync with different smart devices across the home to deliver messages to the user. For example, it might broadcast a message from the doorbell so that users will know to answer the door no matter where they are in the house.

“One in five people who have high-speed internet access also have a smart device in their home,” said Sheena Oliver, Oticon’s vice president of marketing. “For us it was really about providing access to those

to people with hearing loss.”



Gaspard



The French company Gaspard was showing a fitness-tracking device for people in wheelchairs. Unlike the usual smart wristbands, Gaspard offers functionality specific to wheelchair users, alerting them when they need to shift position. It also includes weight and activity tracking.

As tech begins to better address the needs of the differently abled, disability is also slowly gaining more attention in advertising. See our [2017 Future 100](#) report for more.

### **Purity tech**

Following on from [anti-pollution beauty](#) products and [toxicity monitors](#) seen in recent years, new products at CES combined protection against toxins with wearable tech and the smart home.

Airthings CEO Oyvind Birkenes was in Las Vegas to show his company’s smart radon detector. Radon, a gas that raises the risk of cancer, is usually only tested commercially as part of real estate transactions. Instead, Airthings offers a continuous radon monitor for consumers.



### Airthings Radon detector

Awareness of the problem is low, but like smoking, radon can be deadly over time. “If you compare it to house fires and carbon monoxide, it’s more than six times as many lives lost,” said Birkenes. “But people don’t worry as much about things that they’re exposed to and can’t see or smell.”

Another small startup, Wair, was exhibiting a scarf that protects the wearer from pollution. “I was biking in Paris every day, and having problems breathing,” said CEO and cofounder Caroline Van Renterghem. “I tried what’s on the market and I found that the products were not very comfortable, stylish or efficient, especially when it comes to very tiny bits of dust.” Wair protects with a filter that traps 99% of particles down to a size of PM 0.1, Van Renterghem said.

While both solutions are niche products even in the context of CES, they point toward a future where the smart home and even our clothing are more aware of and responsive to environmental threats.

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