Voice dominates

At this year's CES in Las Vegas, voice took centre stage, with 'big technology' companies appearing to view it as the next major evolution in computing. By **Neil Tyler**.

CES 2018 saw more than 20,000 new products unveiled, ranging from drones and emotion sensing robots to smart devices of all kinds.

Artificial intelligence (AI) and 5G featured in many of the announcements and at a pre-show CES keynote presentation, Intel's CEO, Brian Krzanich described data as being the 'unseen driving force behind the next great wave of tech innovation'.

"There was a tremendous amount of innovation, both in new technology and in applications that integrate those technologies," said Robert LeFort, president of Infineon Technologies Americas.

"The use of AI across a wide range of products, combined with advanced sensing technologies, will have a far reaching impact on people's lives."

LG and Samsung were among companies that focused on AI and the development of connected products.

Half of Samsung's press conference was dedicated to AI and although it said that connectivity would be the underlying driver for everything it would be doing over the coming years, the company suggested that it wouldn't be until the 2020s that devices would start talking to one another. Samsung appeared keener to raise awareness than unveil new products.

"The overall trends are clearly toward smart, efficient and life improving innovations," said LeFort.

One such device was Oticon's HearingFitness app, which the company said was the first hearing health fitness tracker that looks to explore the full potential of advanced analytics.

The HearingFitness app has been designed to help people with hearing loss to understand how their behaviour and hearing health habits can influence how effective their treatment is and the impact it has on their overall health and well-being.

Extensive range of products

The range of products on show at CES was, as always, extensive.

Intel used its opening keynote address to demonstrate its 18 rotor, two person Volocopter taxi drone on stage and then used a swarm of 250 of its Shooting Star drones to light up the Bellagio fountains on the Las Vegas strip.

And while there were dozens of companies demonstrating the latest in drone technology, there were plenty of others that were exhibiting anti-drone solutions, with radar tracking and signal jamming solutions on display.

Below: Oticon's hearing aid and app look to use advanced analytics to help people with hearing loss

A host of robots was also in attendance and LG used its conference address to unveil Cloi, its home-helping robot which has been designed to provide an interface between the user and their consumer devices.

A live demo hosted by LG's vice president of marketing David VanderWaal, however, didn't quite live up to expectations and a large audience witnessed a one-way conversation with a largely unresponsive robot.

Certainly embarrassing, but as commentators suggested, this failed demo provided a metaphor for much for the technology that was on display at CES this year. Many of the devices weren't quite ready.

In terms of its footprint, CES is now the fifth largest automotive show held in the US and, in many respects, has stolen a march on the Detroit Auto Show that follows it.

According to LeFort, autonomous and efficient mobility were the centre of attention this year.

"This year, the focus was on integration of sensors and AI for autonomous vehicles.

"What was interesting was that, while electric vehicles and autonomous vehicles are independent technologies, it is now clear from a product roadmap perspective that these technologies will be fully combined."

For the first time, the show had a section devoted to smart cities.

"The smart city and smart home remain an area of emphasis for many companies in the consumer electronics ecosystem," said LeFort. "Infineon, for example, highlighted several technologies in security and user identity, as well as solutions for wireless charging and the smart city infrastructure."

Voice takes centre stage

What really stood out at CES was the importance that 'big technology' companies appear to now attach to voice, with most seeing it as the next major evolution in computing.

Smart speakers appeared to be helping to reignite interest in the smart home market, with voice acting as a central hub or virtual 'butler' and, at CES, the smart home concept saw a broad array of solutions on display, from heated toilets to leak detection services.

The battle to control the smart home via a virtual assistant – which includes Amazon's Alexa, Google's Assistant, Siri and others – was certainly hotly contested and there were a huge range of voice based gadgets on show.

"Voice interfaces were certainly prominent across the show," said LeFort. "A key to the success of voice will be the ability of smart devices to accurately sense the identity of speakers, which will require high-accuracy microphones."

The rivalry between market leaders Amazon and Google was particularly noticeable, with voice assistants appearing in things as diverse as showers, mirrors, light switches and microwave ovens.

Beyond the smart home, Google's Assistant is being added to more car entertainment systems and, for example, Android Auto is now able to offer a hands-free means of operating Google maps.

Google, like Amazon, has also started to open up its assistant voice system to third-parties and CES saw a growing number of manufacturers unveiling new smart speakers. LG, for example, launched smart displays with Google's Assistant.

Qualcomm Technologies said that it was now supporting Android Things, the Google Assistant and other Google services on its Smart Audio Platform.

This platform allows OEMs to create differentiated smart speakers that can support Google's Assistant across different products and categories.

This integrated platform is able to bring together processing capability, connectivity options, voice user interfaces and premium audio technologies to meet consumer demand for more intuitive smart speakers.

"The Smart Audio Platform helps allow traditional speaker OEMs to join and participate in the growing smart speaker segment more efficiently," explained Anthony Murray, general manager, voice and music, Qualcomm Technologies International. "Demand for voice control and assistance in the home is rapidly gaining traction and this platform is designed to offer much

Above: Smart homes remain an area of emphasis for many companies

Below: Voice appears to be the next major evolution in computing, according to many at CES

greater flexibility for manufacturers who are looking to deliver more differentiated user experiences."

Ben Wood, chief of research at CCS Insight said that Google, Amazon, Microsoft and others were fighting 'not only to cement their voice technologies, but also to ensure their assistant platforms are deeply embedded across the full spectrum of consumer electronics to maintain and deepen consumer engagement'.

Market research suggests that voice commands will dominate searches in the next two years and, as consumers embrace the IoT, voice, video and audio will converge as consumers look for a far richer sensory experience.

In response, NXP Semiconductors launched the i.MX 8M family of applications processors.

"Interacting with machines will be as natural as using your human senses," suggested Martyn Humphries, vice president of consumer and industrial i.MX applications processor. "For instance, you can give a voice command to stream a specific TV episode and then ask a contextual question about the actor, which initiates a search and displays results on the screen – all while your show is still streaming."

Whatever the hype that surrounds many of the products at CES, with 4000 exhibitors and more than 180,000 visitors, it remains a showcase for innovation from the smallest to the biggest companies.

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