“It’s a truth that any brand today increasingly needs to think of themselves as a tech company,” said Adam Gerhart, CEO of Mindshare US, at a closed-door talk about the future of media.

Indeed. Launches on show at CES Las Vegas 2019 came from sectors as diverse as food, beauty, fashion, luxury and more. Meanwhile, the definition of what constitutes tech innovation became more nebulous, with launches spanning technical fabrics to new food types.

The North Face outdoor clothing brand, in partnership with BMW, unveiled a futuristic concept camping pod, constructed in the new Futurelight fabric made from nanospinning technology. Whether or not this sleek Instagram-worthy pod will go into production is anyone’s guess, but it was an apt way to showcase the new fabric and has promptly been lauded by tech and design press alike. Impossible Foods, one of the growing number of VC-backed hacked food brands to come out of Silicon Valley, unveiled the 2.0 vegan version of its faux-meat patty, this time gluten free.
The show was bigger and more bloated than ever, as Tom Goodwin, executive vice president of innovation at Zenith Media, lamented to the Drum. “CES is less of a light that shines into the future and more a mirror that reflects the corporate agenda of technology companies, it’s what happens when people believe the nonsense spouted by certain consultancies, and make what people in white coats are proud of, rather than doing the boring job of listening to and observing consumers.”

But consumer tech continues to expand as a market. The Consumer Technology Association (CTA) estimates its value at $398 billion for 2019. The biggest growth areas are smart home devices (growth pitched at 17%); streaming services (set to rise 25%); and smartwatches (up 19%, which would explain why players from Apple to Samsung to LG are adding new models and features). In-vehicle tech is also set to rise 9% in value. Voice and voice assistants continue to rise; 60% of consumers in the United States are now using voice to ask the internet questions, according to the CTA.
This year at CES, alongside the perennial favorite topics—drones, the promise of 5G, VR and AR, connected cars and homes, and vast, bendable, 360-degree 8K TV screens—health tech remains a burgeoning segment, one that now encompasses everything from personalized nutrition, scents, beauty, maternity, infant care, pet health, mental health, fitness and more. This year, the deliverables became more advanced and pseudo-professional, from heart monitors to smartphone-enabled baby-monitoring ultrasound devices. Baby and maternity tech, and beauty tech, were out in full force (more on this later). There was also a marked wave of products addressing age-related symptoms and disability.

5G’s framing for 2019 was that it was, at last, actually becoming a reality, with several talks, delivered by companies from Verizon to Samsung, touting new capabilities, and explaining how these will transform smart cities, cars and the home. Qualcomm predicted that this would lead to a new “age of invention” similar to the impact of wifi, with new products and services. Using the car as one example, it said: “In the auto world, our suite of smart technology and automotive solutions, such as Qualcomm C-V2X, are paving the way for cars to connect to each other, the road, and virtually everything else around them.” C-V2X, for the uninitiated, is a system that allows vehicles to connect and respond in real time to consumer movement, using smartphone tracking, and also enables response to the environment and other vehicles, all made possible by 5G. Qualcomm says this would improve road safety exponentially. Predictably, there was also excitement centered around the car as the next portal for entertainment, marketing and more.
Hyper-personalization is among the consumer trends driving this. Verbal and visual technologies are becoming mainstream: transcendent, friction-free and intuitive, they integrate with everything from cars to kitchens. Sound has become a major integral channel; sound entertainment and equipment, from home devices to earphones, is proliferating. Entertainment generally had an expanded presence at the show, reflecting the wave of cross-pollination and tie-ups happening across gaming, esports, streaming, podcast entertainment, and TV.

In terms of consumer tech products, major tech brands also vied to create the ultimate eco-systems, looking at cross-channel worlds for work, home, car, and entertainment devices with built-in assistants. Apple, on cue, announced partnerships with several major tech brands in its entertainment arm. Oh, and bots, lots of bots: assistant robots in various iterations, animal, curvy, and childlike, built to assist the elderly and aid in wellbeing.

In beauty tech, which has been steadily growing at CES, there was a ramped-up presence among CPG and beauty giants including Johnson & Johnson, P&G and L’Oréal, each showcasing new devices and personalized diagnostic platforms (see our Q&A with Guive Balooch, global vice president of the L’Oréal Technology Incubator). Novel and highly PR-able, these new devices are part of a wider strategy among CPG brands to grow more direct-to-consumer relationships, sidestepping traditional retail strategies and reaping the benefits of owning original consumer data and insights. This also constitutes a public bid to align their names with all things innovative.
L’Oréal unveiled the La Roche-Posay My Skin Track, a wearable sensor capable of measuring skin pH, using a coordinating app. Users receive skincare recommendations to manage any imbalances. Samsung-backed LuluLab was awarded an innovation accolade for Lumini, an AI-enabled skincare diagnostic device. The handheld device assesses skin condition (pores, wrinkles, melasma) in 10 seconds, providing tailored skincare recommendations. P&G also showcased several beauty tech aids, including a model for the future SK-II skincare store. Also on show: the Olay Skin Advisor platform, which offers personalized skincare analysis using photo recognition, and the company’s Opté Precision Skincare System, a service that uses camera optics, algorithms and printing technology to detect hyperpigmentation and apply corrective serum.

This sat within a wider trend among legacy brands keen to showcase their venture funds and labs to boost their credibility as future-facing companies. Ford, Whirlpool, Samsung and P&G were among a group of brands using their spaces to highlight lab projects and venture-backed initiatives. Alongside P&G’s tech-related products were venture-backed brands that included MetaDerm, a line for eczema and psoriasis, and Pepper & Wits, a skincare line for women experiencing menopause. Ford, as well as promoting its partnership with Amazon Alexa, also showcased partners Spin, Swarm and RideOS.

Privacy

With all this connectivity, tech brands were at pains to stress their privacy credentials, real or not, at CES
2019. Apple garnered a wave of buzz for a large scale—and much Instagrammed—billboard that stated, “What happens on your iPhone, stays on your iPhone,” playfully referencing the famous Las Vegas meme “What happens in Vegas, stays in Vegas.” Tell that to Prince Harry…

From Qualcomm to Byton cars to Samsung, privacy was named as a key pillar of new initiatives. There were also new players making privacy a key USP. Snips, the French connected end-to-end voice AI for connected home devices, runs offline with natural language processing, meaning that users can have the benefits of a voice-activated smart home without compromising privacy. It was given a CES innovation award. Meanwhile, devices like YubiKey, a two-factor authentication lock for tech products, appeared.

The connected home: voice activated, AI-enhanced, social

In the connected home, the usual efficiencies and personalization were updated and further integrated. Voice-activated operating systems are becoming the norm and Kohler even introduced a voice-activated faucet. Meanwhile, there was a trend towards making home hubs more creative and social. Samsung unveiled a refrigerator powered by Bixby, its virtual assistant, which allows users to upload family photos to collage its door with branded emojis, as well as create scribble notes about shopping lists or vacations. Amazon’s Echo Look and Facebook’s portal also merge home hubs into social image and video sharing, and verbal communication in the form of voice and video calls. Elsewhere, photo recognition was further applied in the domestic space. Whirlpool’s KitchenAid showcased new functions with its Yummly app, which uses photo recognition of ingredients in the refrigerator to recommend recipes.
New at-home appliances were also out in force. PicoBrew unveiled a professional-grade brewing machine. LG unveiled a smart wifi-enabled steam clothing wardrobe. FoldiMate, part of CES Unveiled, showcased a robotic folding machine, able to fold clothes neatly in seconds. Aside from AI-anticipated recommendations and personalization, other initiatives included UVC drawers, Vacu-Seal for maximum life-extension of groceries, and integration to AI assistants and commerce—aka Amazon replenishment.

**Selfie optimizers**
Devices enabling better video, selfie-taking and documenting for social sharing continue to grow at CES. Linkflow introduced Fitt360, a wearable neckband allowing 360-degree recording and live streaming. AirSelfie showcased several drone products for taking air-based photos and videos. The Vloggle app also appeared, aimed at aiding vloggers to optimize, filter and organize their efforts. Expect more.

PR splashes and branded experiences: Google Ride and more
Once again, Google was one of the most visible brands at CES this year, with a major stand opposite the Las Vegas Convention Center alongside a heavy media buy and other micro-experiences, such as the return of its large voice-activated Google gumball machine. By far the most lavish was its Google Ride, or GRide, a Google-themed real-life rollercoaster ride through a fantastical landscape, showing users the many ways to employ its Hey Google virtual assistant. Other attractions included a Google macaroon shop and live studio recordings at its stand hosted by representatives from meditation app Headspace.

Amazon also made its presence felt with near ubiquitous brand partnerships. It also hosted a large-scale immersive exhibit, bringing to life the power of Alexa in cars, homes, cities and entertainment. Intel created a virtual jungle for users to step into and photograph themselves, showcasing its anti-poaching partnership with *National Geographic.*
LG's immersive OLED Falls display
Google and Amazon weren’t the only ones using theatre and experiences to generate buzz around their launches. LG’s highly immersive stand featured a gargantuan wave-shaped screen with compelling video imagery of crashing waves, forests and space-like landscapes (technology surely soon to be employed, no doubt, by the growing number of digitally immersive museums, see the Museum Futures trend in our “Future 100: 2019” report.) It also had an interactive art exhibit, bringing to life key aspects of its various devices with the work of artist Gabe Barcia-Colombo and multi-media artist Vincent Houzé, among others.

**Post-car era of connected vehicles**

In the world of the connected car, the biggest development was the advent of the five-screen car, with monitors for each passenger in addition to vast consoles at the dashboard. The coordination of visual, verbal and gestural recognition is becoming standard—see Byton’s latest model. Visual recognition and passenger tracking monitors were big themes, used to track a passenger’s attention span via facial movements and alert them if their concentration falters.

This year the frame expanded beyond connected, autonomous cars—although there were plenty of those, too—to brands considering the future of mobility more generally and new solutions. Here, Bell unveiled a vast, theatrical, passenger-carrying drone.
Brands were also quick to zero in on the potential for vehicles in a driverless future to become entertainment hubs, hotels and more. Kia unveiled a new autonomous car concept, which it claims can read your emotional state and wellbeing to customize the space’s atmosphere, as well as showing entertainment. Audi unveiled its 25th Hour project, exploring what entertainment experiences will look like in the autonomous car with driving time unlocked for leisure. Hyundai showcased people doing rowing exercise on machines built into the driver’s seat.

There was also a distinct move to give autonomous cars a PR makeover, dispelling myths and anxiety about the technologies and their safety. Pave, a new non-profit coalition between car makers and academic bodies, was unveiled during the show, with the core focus of educating consumers and policy makers about current road safety problems, and the state of safety advances in the connected car.

Robots

LG and Samsung were key players among a multitude of startups to unveil robots and assistants. These ran from interactive elderly care to wellbeing and mental-health aids, from moving butlers to pet carers (see our piece on Samsung's editions). One common thread among these devices, aside from addressing emerging trends in consumer behavior and concerns, was their design: each was intentionally childlike, referenced animals, and featured optimistic, playful voices and curved bodies. We charted this design trend in the recent study “Big Tech’s Handmade Aesthetic” and explored how tech companies in general
are using design to appear friendly and non-threatening, from Google’s tactile ergonomic home pod to Honda’s toy-like robots (unveiled at CES 2018), as consumer awareness of privacy concerns and tech abuses ramps up.

**Disaster tech**

Hyundai’s Elevate concept

It’s a sign of the times. Climate change, extreme weather and volatile politics are creating a new product category for devices that can survive in extreme or tumultuous conditions, or help sustain humans. Hyundai’s walking vehicle, unveiled during the show, is designed to traverse uneven terrain, scale mountains, and reach remote rescue cases during disasters. It can even scale a five-foot wall. And with rising gun violence in countries like the United States, products such as Safe Zone will likely become more prevalent. The detection system is designed to sit in the corner of rooms and hallways, tracking the infrared and acoustic signatures of gunfire to issue early alerts.

Mitigating climate change was another theme. Yolk’s Solar Cow, unveiled with emerging markets in mind, uses solar energy to also tackle child labor, creating bars of energy which can be given to reward parents when they send their children to school, rather than to work. There were solar cookers, such as GoSun, which enable users to cook without electricity. BeeLife’s CoCoona—a thermos-active, IoT super hive—aims to save the world’s declining bee population. It works by using thermal technology to kill the parasites that attack bee colonies.

**Anxiety tech**
Uncertain times are also creating a recurrent trend among consumers. Amid distrust of water systems, air pollution, and anxiety about technology use, a wave of new products were unveiled to mitigate against unease about the world around us. PhoneSoap introduced a case that not only charges phones but also sanitizes them using UV-C light. “A cellphone has 18 times more bacteria than a public restroom,” the brand claims.

Lishtot, a keyring-shaped $50 device that allows users to check the quality and safety of their water in an instant, was exhibited as part of the Israeli innovation stand at Eureka Park. The device does not touch the water. Mitte, a smart water filter, likewise promised to filter out modern aggressors such as microplastics, hormones and chemicals. “Our unique purification and mineralization process removes impurities while adding back all the minerals and trace elements that water purifiers remove,” says the brand. In the same field, Larq picked up an innovation award for its self-purifying water bottle, which uses UV-C LED technology.

Air purifiers were also a major presence at the show, as were a variety of smart security devices for the home. Netatmo, the French tech company, unveiled a new connected video and home security device. Personal safety was another key theme, with additions such as Helite’s wearable airbag vest for cyclists. E-Vone unveiled a fall-detection shoe for workers and elderly consumers. R-Pur, a French startup, showcased an anti-pollution mask for runners and bicycle users. Using nano-filtration technology, it is able to filter pollens, viruses and bacteria. Lotus is a personal safety wearable that includes continuous
GPS and audio streaming.

Real-time tech

Waverly Labs' Pilot smart earbuds

We charted the rise of real-time tech—devices that respond, translate or diagnose in real time—in our “Future 100: 2019” report. This trend was out in force at CES. Google Assistant’s interpreter mode was a big feature, enabling real-time translation of conversations. Waverly Labs introduced the Pilot smart earbuds, which are able to translate 15 languages and 42 dialects, stream music and make voice calls, while iFlytek debuted upgraded versions of its portable live translation and voice-to-text devices, which are capable of translating 63 languages.

Health+

Withings' BPM Core blood pressure monitor

Health tech continues to grow at CES, reflecting a growing appetite among consumers to proactively monitor their health and use devices to optimize their lifestyles. In the past few years, health has proliferated and extended into every aspect of wellbeing, from optimized smart mattresses that help you sleep to thermal masks for managing anxiety. Devices have also gotten more sophisticated, offering professional-grade healthcare services that use AI, sensors and diagnostics, and target specific illnesses or conditions, progressing from fitness management and heart-rate monitoring.
Withings unveiled BPM Core, which it describes as “the world’s most advanced blood pressure monitor.” The device incorporates an ECG and a digital stethoscope, to monitor cardiovascular diseases at home. The coordinating app features live animations of the beating heart with augmenting sound effects. The company also introduced Withings Move ECG, a watch capable of medical-grade electrocardiogram measurements. French company Chronolife revealed a sensor-embedded T-shirt that can monitor patients remotely and detect early signs of heart failure.

No stone was left unturned when it came to health concerns. EyeQue debuted VisionCheck, the first automated at-home vision test, which uses a Bluetooth-enabled refractometer to measure eyesight and recommend corrective eyewear. Tivic Health unveiled ClearUp, a bioelectronic treatment for sinus pain. DFree, billed as the first wearable device for incontinence, was described as “the first wearable device to predict when you need to go to the bathroom.”

Fitness and wellbeing

JaxJox is a smart kettlebell which is able to switch between 12 and 42 pounds in weight, using an internal rotating core that selects discs of different weights. It also tracks user movements and progress.

The Israel-based Lumen startup uses a breathing diagnostic device to help people optimize or “hack” their metabolism. Pitched as a “nutritionist in your pocket” it uses breath to assess whether the user is...
burning fat or carbs and makes diet recommendations accordingly.

Doppel wristband
Umay Rest, a thermal meditation mask for managing anxiety and stress, gained an innovation award. It uses a combination of heat and pulsation to guide users in meditation and relax from excessive screen time.

Doppel, a UK-based watch company, uses a pulsating wrist system to calm users in real time. “Doppel works by creating a silent vibration on the inside of the wrist which feels like a heartbeat,” explained brand representatives.

**Baby tech explodes**
Baby and maternity-related tech have been steadily growing at CES. This year we saw the Willow breast pump, previously recognized with a *Time* magazine award, return with a new 2.0 version. This year it was joined by Elvie (known for its connected kegel exerciser), which has introduced a similar model. The BlueSmart intelligent monitor keeps track of feeds.

For expectant mothers, there was Efelya, a personalized app for monitoring pregnancies as they develop and assessing potential risks. There was also Marvoto, a hand-held home ultrasound with coordinating app, enabling users to track, record videos and take photos of their unborn child. Owlet unveiled a wearable wraparound pregnancy tracker that uses sensors to monitor heart rates, kicks, track contractions, and provide other insights such as tracking maternal sleep position. It also introduced a wearable sock and camera to monitor new babies. The monitor livestreams audio and video to a smartphone. The smart sock monitors heart rate and oxygen levels.
Nanit introduced Nanit Plus, a baby monitor camera that works with Breathing Wear, a smart blanket brand with a product that can measure baby breathing. Miku is another similar smartcam launched to market during the show. There was also Smartbeat, a monitor which records a baby’s vital signs.

Disabled tech

Pillo health pill dispenser
One of the key comments from Pave’s new form of the connected car was its potential to unlock driving for everyone. This sat within a plethora of new exoskeletons, mobility devices, and products aimed at supporting the lifestyles of those who are less able.

One example included the OrCam MyEye 2, a small camera for people with vision impairments. It snaps on to regular glasses and can read text or recognize faces, and tell the wearer who they’re talking to. BrainCo introduced an affordable smart prosthetic hand. The Pillo health company introduced a connected pill dispenser.

Whill unveiled a personal electric chair vehicle, positioned as a “last-mile solution: and an alternative way for people with disabilities to traverse theme parks and airports. It is autonomous, able to move over multiple terrains and can be directed by a smartphone.

Neofect is company whose products are aimed at people with spinal cord injuries and musculoskeletal disorders.

“CES this year saw a plethora of wearables for the elderly and vulnerable, it saw a huge array of devices for personal safety, for helping those who may fall,” Goodwin told the Drum. “Technology has always focused first on those who are young, healthy, wealthy and curious. It’s what’s easiest to sell but most
Frivolous. As changing demographics mean the planet gets older, wealth spreads to emerging economies as tech companies slowly see the value to be added in helping those who need more help, we’re finally seeing solutions to problems that add massive value to those who are more fragile.”

Fragrance tech

Fragrance was perhaps the biggest extension of beauty at CES. Compoz, a personalized home fragrance concierge, debuted at the show with a juke box-style system for creating ambient scents to suit mood or occasion. Moodo, an IoT scent diffuser and mixer, operated by a wif-enabled remote controller, enables the user to create personalized scent ambience. At CES 2019 it also extended this to car scent design with MoodoGo, a compact model. P&G’s Airia, also a home fragrance ‘jukebox’, appeared at the company’s stand.

More next year. Until 2020!

**CES 2019: Key trends**

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