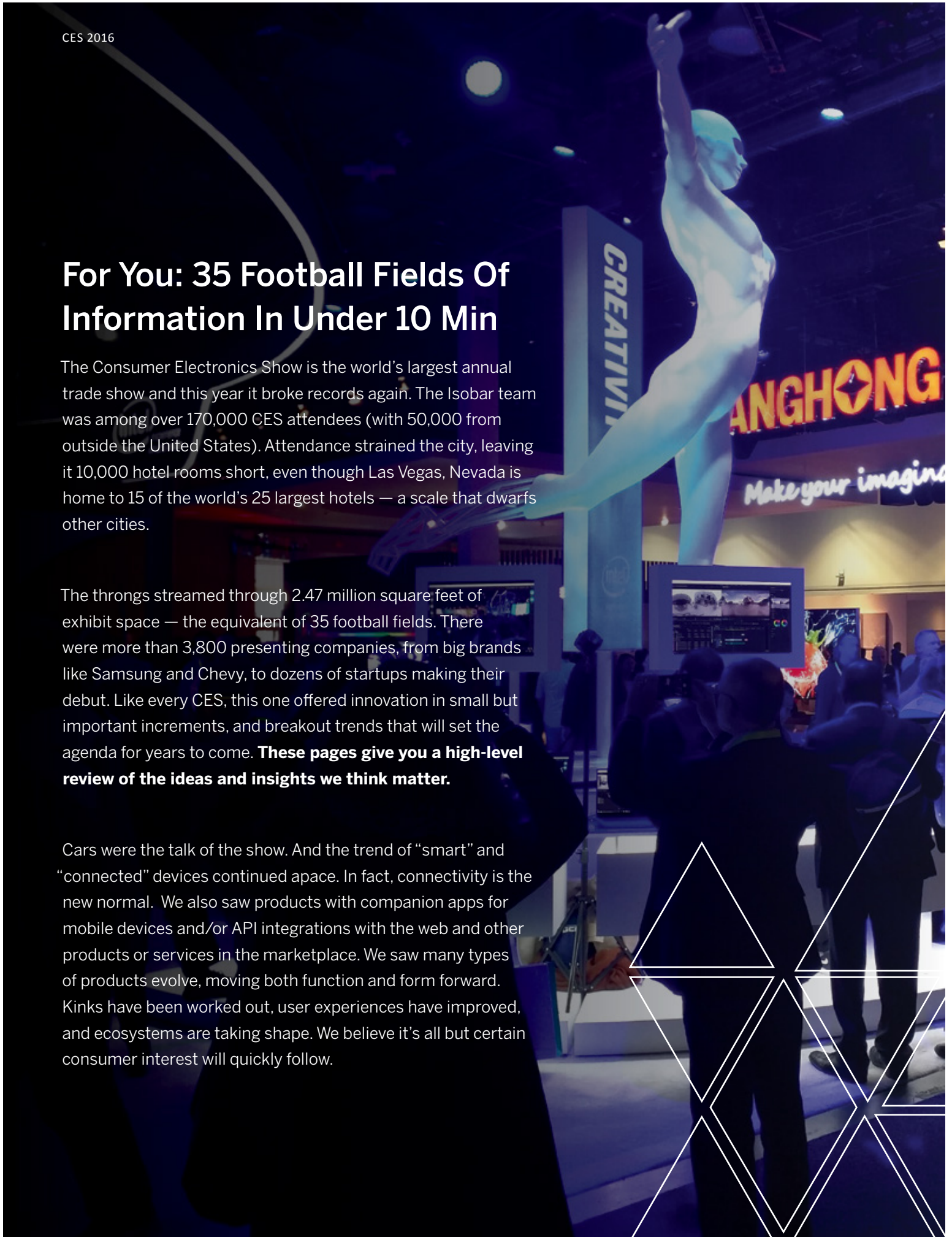


For You: 35 Football Fields Of Information In Under 10 Min

The Consumer Electronics Show is the world's largest annual trade show and this year it broke records again. The Isobar team was among over 170,000 CES attendees (with 50,000 from outside the United States). Attendance strained the city, leaving it 10,000 hotel rooms short, even though Las Vegas, Nevada is home to 15 of the world's 25 largest hotels — a scale that dwarfs other cities.

The throngs streamed through 2.47 million square feet of exhibit space — the equivalent of 35 football fields. There were more than 3,800 presenting companies, from big brands like Samsung and Chevy, to dozens of startups making their debut. Like every CES, this one offered innovation in small but important increments, and breakout trends that will set the agenda for years to come. **These pages give you a high-level review of the ideas and insights we think matter.**

Cars were the talk of the show. And the trend of “smart” and “connected” devices continued apace. In fact, connectivity is the new normal. We also saw products with companion apps for mobile devices and/or API integrations with the web and other products or services in the marketplace. We saw many types of products evolve, moving both function and form forward. Kinks have been worked out, user experiences have improved, and ecosystems are taking shape. We believe it's all but certain consumer interest will quickly follow.





The Rise Of Corporate Entrepreneurship

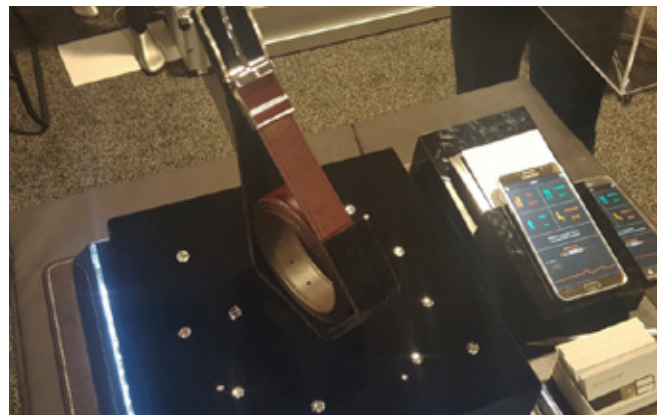
This year, big companies joined the upstarts in Eureka Park, the exhibition platform where entrepreneurs launch new ideas, often with fledgling prototypes. Away from the bright lights of the Las Vegas Convention Center, Eureka Park is chaotic and claustrophobic, but it's where you can find some of the biggest drivers of innovation.

The Samsung Creative Lab (C-Lab) showcased three consumer electronics products at Eureka Park in a small, simple, low-cost booth. **Samsung's C-Lab helps employees nurture their own creative business ideas.**

WELT is a wellness belt that measures your waistline in real time as well as your daily steps and how long you've been sitting. Rink is a hand-motion controller for virtual reality devices promising users a better "fingers-free" experience. And TipTalk is an earphone-free, personal sound experience, with a speaker that transmits sound to the ear canal through your finger and bones.

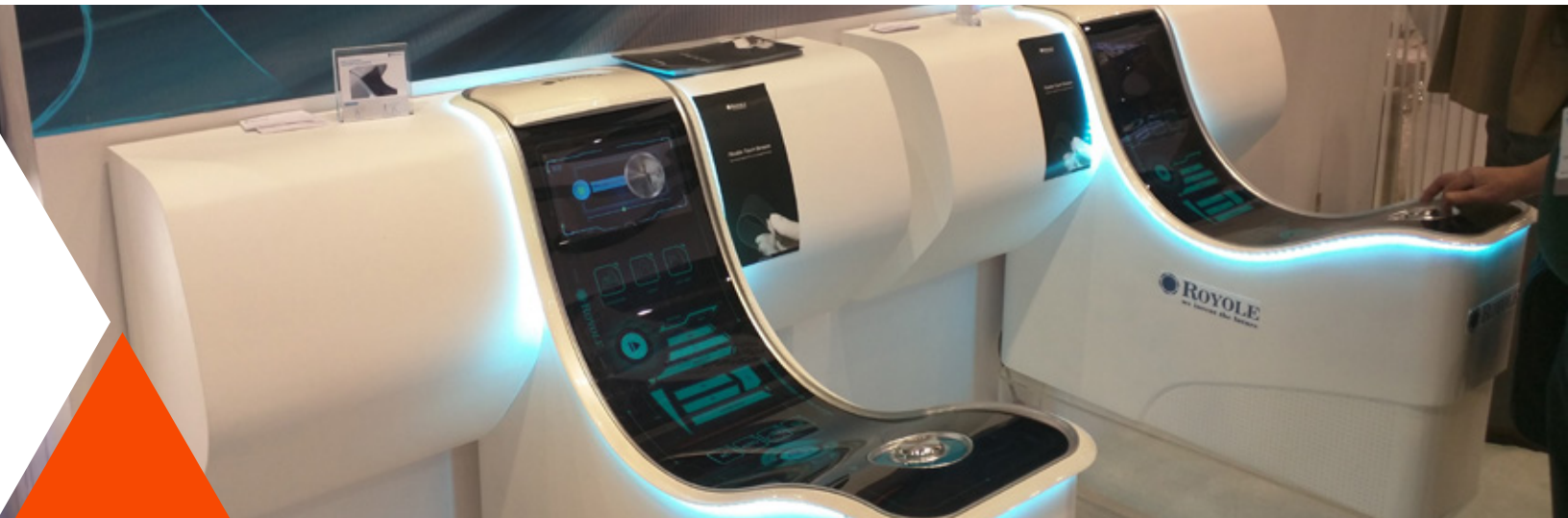
Since its creation in 2012, C-Lab has supported more than 100 projects. Of these, almost 70 have been completed and the rest are being developed into Samsung's business units. In 2015, nine of these projects were identified as strong enough to become external startups. (TipTalk was launched as an independent company in August 2015.)

Many companies are building accelerators and incubators of their own. Disney, Qualcomm, Intel, and Unilever are just a few that know startups are where the action is. Companies can fund them internally (like C-Lab) or externally (like PCH's Highway1). Internal accelerators help retain top engineering talent who might have otherwise left for startups. External accelerators can attract top talent from anywhere in the world. Both, in theory, have access to crowdfunding. But most importantly, these programs gather smart, hungry, innovative people.



IN A NUTSHELL:

Large corporations are learning to nurture innovation. It's how they'll stay relevant and manage disruption.



The Automated Auto Evolves

Cars were the talk of CES 2016. The Chevy 2017 Bolt EV debuted on Facebook Live and broke the practical barriers everyone has been waiting for: 200 miles between charges and a price of around \$30,000 USD. The Verge called it “GM’s most important car in ages.” The Bolt EV also has connectivity and allows people to control activity like music streaming, voice recognition messaging, and navigation through their smartphones.

If the Bolt EV finally delivered electric car realism, Faraday Future went in the other direction. Its FFZERO1 concept vehicle is a single-seat racer that looks a lot like the Batmobile. Its engineers from Tesla designed it to have four engines (one for each wheel) and a suite of sensors and displays. While the Bolt EV and the FFZERO1 stole the show, we also saw products from Volkswagen, Kia, BMW, and Mercedes.

Electric cars got real, and driverless cars got serious. Kia launched a sub-brand focused on driver assistance systems and autonomous driving technology. “Drive Wise” is how Kia intends to release a partially autonomous vehicle in four years, and a fully autonomous one a decade later. And GM announced a \$500 million investment in the car-sharing service Lyft. The companies will co-create an on-demand network of self-driving cars. At a MediaPost event, Dentsu Aegis exec Duncan James exclaimed, “It’s an Uber-versus-GM, Airbnb-versus-Marriott world. These days you are either a startup or a turnaround.”

CES 2016 was also a great aftermarket show. Companies like Pioneer, Kenwood, and Nvidia showed their connected technologies. Nvidia debuted their dedicated platform for powering autonomous driving, providing any company the means to implement autonomous driving. Pioneer and Kenwood showed aftermarket media centers incorporating Android Auto and Apple CarPlay, designed to create the best possible experience while in a vehicular environment.



Photo courtesy of Consumer Electronics Association (CEA)

IN A NUTSHELL:

It's clear that electric cars, autonomous cars, and cars that understand driver intention are the future.



On The Cusp Of Radical Change At Home

The space dedicated to home automation was surprisingly large at CES this year. There are sensors that serve as personal weather stations, handling heating, cooling, and monitoring the quality of the air in your home. Vents that automatically open and close to tailor temperatures in rooms within a single zone. Lighting solutions for any application you can imagine. We saw camera-enabled doorbells and locks, and cameras that can detect the difference between people, cars, and animals. Want a system that can help you monitor the kids? We saw that too.

The number of sensors will get unmanageable quickly. There are sensor systems that can connect to a central hub, but almost all of them are closed and work only with sensors made by the same company. If you're building a connected home right now, you have to sign up for an account with each sensor company to get the data to travel through the cloud. Want a smart light from WiMo and a thermostat from ecobee? More proprietary protocols. Download two more apps. Don't expect companies to give their control up soon; they're disinclined to work together as they battle for supremacy in the home.

What's next: convergence, scale, then the mass market. We believe one way the connected home will achieve good user experience is mesh networking. This allows people to self-organize and share resources instead of relying on the network infrastructure provided by an ISP. While we're still relying on apps, both Thread and HomeKit are managing mesh networks. And IFTTT already does this with companies who provide API access.

Don't be surprised if Google and Apple start managing accounts for connected home sensor companies. Also, we saw a fair number of companies taking advantage of Nest's API to partially integrate platforms.



IN A NUTSHELL:

Connected, automated homes will be mass market very soon and homeowner expectations will be high.



Sure They're Hyped But They're Also Happening

Let's start with hoverboards, which were all the rage here. Whatever you call them – balance scooters, cooler Segways, fire hazards – everybody wants to hop on and give them a try. This year at CES there were dozens of knockoffs and Chinese manufacturers. There weren't any explosions, but one booth was raided by U.S. Marshals for patent infringement, so that was exciting.

We've loved robots and drones since the Pharaohs ruled Egypt.

As early as the 21st century BC – a little after the Bronze Age – humans were inventing automata, or "self operating machines." In many ways, CES has become a celebration of this ancient pursuit.

Robotics continue to be a major draw as new models are refined for specific use cases at home (where they'll vacuum, fold laundry, make coffee, and clean the BBQ), at work or even the doctor's office. The first public count of drone users in the U.S. found 181,000 people. There will be more than one million drone flights per day in the U.S. within the next 20 years.

Where are these machines now on the Gartner Hype Cycle?

Drones will most likely jump the shark first as the glut of cheap Chinese drones floods the market with broken bits of plastic.

Currently DJI is the most successful drone company. It also makes cameras that compete with GoPro. Meanwhile, GoPro's "Hero" line of cameras is struggling. But it's widely predicted that GoPro will soon release their "DJI Killer" quadcopter. What could prevent robots and drones from falling into the Trough of Disillusionment? Perhaps a fresh cash injection from a big player like Facebook.



IN A NUTSHELL:

They won't be like ubiquitous mobile phones anytime soon, but commercial sales of drones will soar in the next 10 years.



Photo courtesy of Consumer Electronics Association (CEA)

Virtual Reality Tech Flooded CES 2016

Virtual reality (VR) is the antidote to CES television overload. Yes, the high-rez TV screens are all over CES. For the most part, it's nearly impossible to see the pixels on these displays unless you use a magnifying glass. And that's in a sense exactly what virtual reality displays do.

The first two generations of Oculus Rift VR headsets have visible pixels because the image is significantly magnified. What might otherwise be a "retina display" appears to be a fairly poor resolution display with significant spherical aberration.

The benchmark for VR is the top-tier TV screen. Currently, 8K resolution television screens are the top tier. These breathtaking displays bring the consumer deep into whatever they're watching through vivid colors and resolution. Is it any wonder people are sometimes a bit disappointed when they first try VR? Still, there is no lack of optimism in the industry because VR offers something TV cannot: a truly immersive visual experience in an enclosed environment.

Analysts and CES attendees say we're at a VR tipping point. VR has a way to go before it's accessible, physically comfortable, and affordable for the typical consumer. But it's taken a great leap in just the last year. In addition to the Oculus Rift and other VR headsets, many VR-related technologies were showcased at CES 2016.

We saw the small, 360-degree camera Luna, which lets everyone shoot and share images and video. We saw the 3DRudder, which lets you move in VR while seated using only your feet so your hands are free. The VR accessory market looks poised to explode as well. Kino-Mo displayed its holographic images and described them as "plug-and-play"-ready for consumers. And the Oculus Rift VR headset is now designed for mass consumption rather than purely development.



IN A NUTSHELL:

Creator-focused technologies will push content production for virtual worlds, which will bring on the next evolution of the screen.



Healthcare Tech and Biometrics Are Ever-Expanding

They say fitness trackers end up in the junk drawer pretty quickly, but CES 2016 suggests the market is strong and growing. Fitbit announced the Blaze watch with a color screen. Sony had a GPS-enabled Smartwatch 3. We also liked Kuai's multisport biometric headphones which play music, track your workout, feed you information – and nudge you to increase intensity.

We saw products for the prosumer athlete market: vests, insoles, and socks. High-end, high-cost training technology for professionals has been in use for several years now, and we believe this trend will continue as the ubiquity of data continues to drive performance improvement.

Under Armour came on especially strong this year. It invested in new hardware-device technology, and spent over \$700 million USD to acquire fitness apps MyFitness, Endomondo, and MyFitnessPal. With over 160 million users, the Under Armour brand has more awareness than ever and a treasure trove of consumer fitness, diet, and wellness data. Under Armour is also launching the Men's UA Micro G® connected running shoe and the Xband fitness tracker. It has a plan to deliver sensors integrated into apparel. CEO Kevin Plank estimates 50 billion retail items will have a connected chip in the next five years.

Tired? Stressed? In a foul mood? Fitness trackers have spun off sleep trackers. Sleep Number's "It" smart bed has biometric sensors that track your heart rate, movement, and breathing and report it to your smartphone with recommendations. There were a variety of devices to improve mood and behavior. One standout was Sensaura, a high-tech mood ring of sorts. This wearable band claims to detect your real-time emotions and triggers set actions to help you deal with your feelings. Stressed? It could play the one song that always relaxes you.



IN A NUTSHELL:

Machine learning (AI), data processing algorithms, and hardware sensors have made their way from university labs to products we can buy.



With 3,600 Presenters, Expect A Few Head-Scratchers

What a great time to be alive: almost anything you can dream up, you can create. But should you? Should some of these things really exist? If you're ready to take your paper airplanes to the next level (and hey, who isn't?), now you can add propellers for lift and thrust. The propellers already come in two sizes; the smaller was created from a successful Kickstarter. Of course, propellers need engines to spin them, so twin engines will be out in a few weeks.

Somebody had so much fun with their Heelys™ it must have sparked an even bigger, better idea. Why walk in what seems like a regular shoe? Why pretend to be like other pedestrians before shifting your weight and rolling off? ROCKETSKATES cut to the chase. Be the wheel. Strap these to your feet, lean back, and go! They're like powered Heelys.

Strange tech isn't all fun and games: check these products out.

Have a bad habit like smoking? The Pavlok looks like a friendly fitness tracker -- but it's a shocking disciplinarian. Wear it for five days and every time you do that bad thing, you get an electric zap. Pavlok says it retrains the brain and your desire for the habit fades. Today, you zap yourself by pushing a button, but auto-zap is the future.

Also debuting is a way to discipline your breakfast, lunch, dinner, and waistline with a plate that "sees" your food and weighs it. It has a built-in camera and scale. The plate then reports nutritional content to a connected app. Bon appétit. If you thought that calorie counts and nutritional information wrecked occasional trips to your favorite fast-food chain, beware the SmartPlate.



IN A NUTSHELL:

CES has always been known for slightly weird, off-the-wall ideas that might change the world – or not.

Once Again, Tech Innovation Showed Us A Better World

Synthetic brains that do things for us were everywhere. Nearly every product category was crowded with smart and connected devices. (In fact, it was hard to find products that didn't have some means of connectivity.) We saw drones, connected homes, wearables, robots, smart cars – and each extended our mindset about what humans should do and what tools should do. When cars can be driverless and they know exactly where they're going, the ideas we have about transportation are transformed.

Consumers are ready and innovations are finally ready for them. Consumers always balk at overcomplicated products, as they should. This year, it was clear brands have had time to work out a lot of kinks. They've improved user experience and many have ironed out services that will be the basis of connected ecosystems. The mass market is next for many CES innovations, and others are close. You won't catch us saying something dismissive like "not quite ready for prime time." There are always things to figure out, and then we do. It's easy to be a tech cynic. But we prefer facts, reason, confidence, optimism and – most of all – solutions. They can almost always be found.

CES is one of the most influential events on earth. It brings together companies big and small to show us our future. And even those innovations that are more than a decade away are still worth being excited about today. At CES 2016, we glimpsed an experience of being human that will be fundamentally changed for the better, and soon. We'll spend less time with life's minutia, and have more time for big things, things that make life really, really interesting. What's not to like about that?



Leigh Christie is a NYC-based artist and engineer focused on merging advanced technologies with immersive experiences. Leigh is best known for co-creating the Mondo Spider, a pure-electric, 1,500-pound walking vehicle. This project led Leigh to co-found the eatART Laboratory, a thriving 5,000-square-foot art-research facility in Vancouver, BC. Leigh's holds a Masters in Art, Culture and Technology from MIT. His thesis project, an array of 90 robotic human-tracking infrared beams called "Local Warming," was exhibited at the 2014 Venice Biennale. Leigh holds four patents in robotics and energy storage and holds a degree in Engineering Physics from the University of British Columbia. Leigh is also a co-founder of MistyWest Energy and Transport, a Vancouver-based engineering and product design company. In 2014, Leigh joined Isobar where he continues his research as a Manager for Isobar NowLab Americas.



Dave Meeker is a Vice President at Isobar. He splits his time working with clients and Isobar teams to design and launch new products and services in the marketplace, and works globally to help catalyze Innovation across Isobar's 44 markets. Dave often serves as an advisor on emerging trends, technologies, and processes across the Dentsu Aegis Network, and his hybrid background spans business, design, and technology. His experience across industries and agency operations gives him the ability to offer unique perspectives on the complex challenges that clients face as we help them transform their businesses in today's marketplace. Dave has worked with a variety of Isobar clients, including Google, Fiat, HBO, General Motors, Enterprise, Coach, NBCUniversal, Bloomberg, Motorola Mobility/Lenovo, Samsung, and Tesla Motors



Chris Steele has over 20 years of experience in software development. The last seven years have been focused primarily on mobile development with a concentration on iOS, Android, and related technologies. He's served as lead architect/tech director on many large mobile projects such as the McDonalds, Comedy Central, and Scottrade mobile apps. Previous to his mobile work, Chris was a database administrator for an international manufacturing and casting company, as well as ten years in game development on many platforms utilizing a large variety of technologies. (Some of the titles and franchises included NFL Blitz, TouchMaster, Dora the Explorer, Go Diego Go, I Can Play Piano, and many more).



Chad Vavra is an Experience Strategy and Design Director at Isobar's New York City office. He has 15 years of experience in digital media spanning design, development, strategy, and operations. Prior to Isobar, Chad was a Director of User Experience at Rosetta and Interaction Design Director at The Barbarian Group. In addition to speaking and writing about digital media and user experience, Chad also serves as an advisor to a mobile development company. His clients have included GE, Samsung, Novartis, AstraZeneca, AT&T, NBCUniversal, Google, and Mondelez.

Isobar is a global full-service digital marketing agency driven to deliver borderless ideas enabled by technology to transform businesses and brands. We have over 4,500 digital pioneers in over 70 locations worldwide. Isobar has won over 350 awards, including 18 Agency of the Year titles over the last three years and three Asia-Pacific Agency Network of the Year Awards over the past four years. Key clients include adidas, Coca-Cola, Royal Caribbean Cruises Ltd., Google, Enterprise Rent-A-Car, Kellogg's, and P&G. Isobar is part of the Dentsu Aegis Network, a wholly owned subsidiary of Dentsu Inc.

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