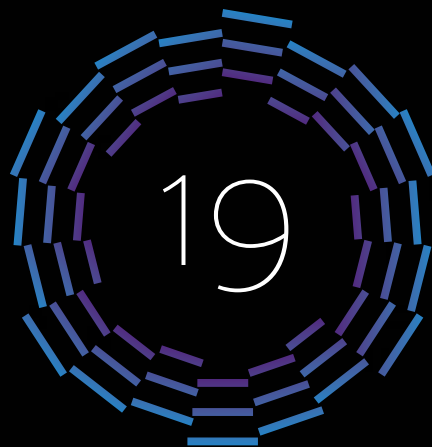
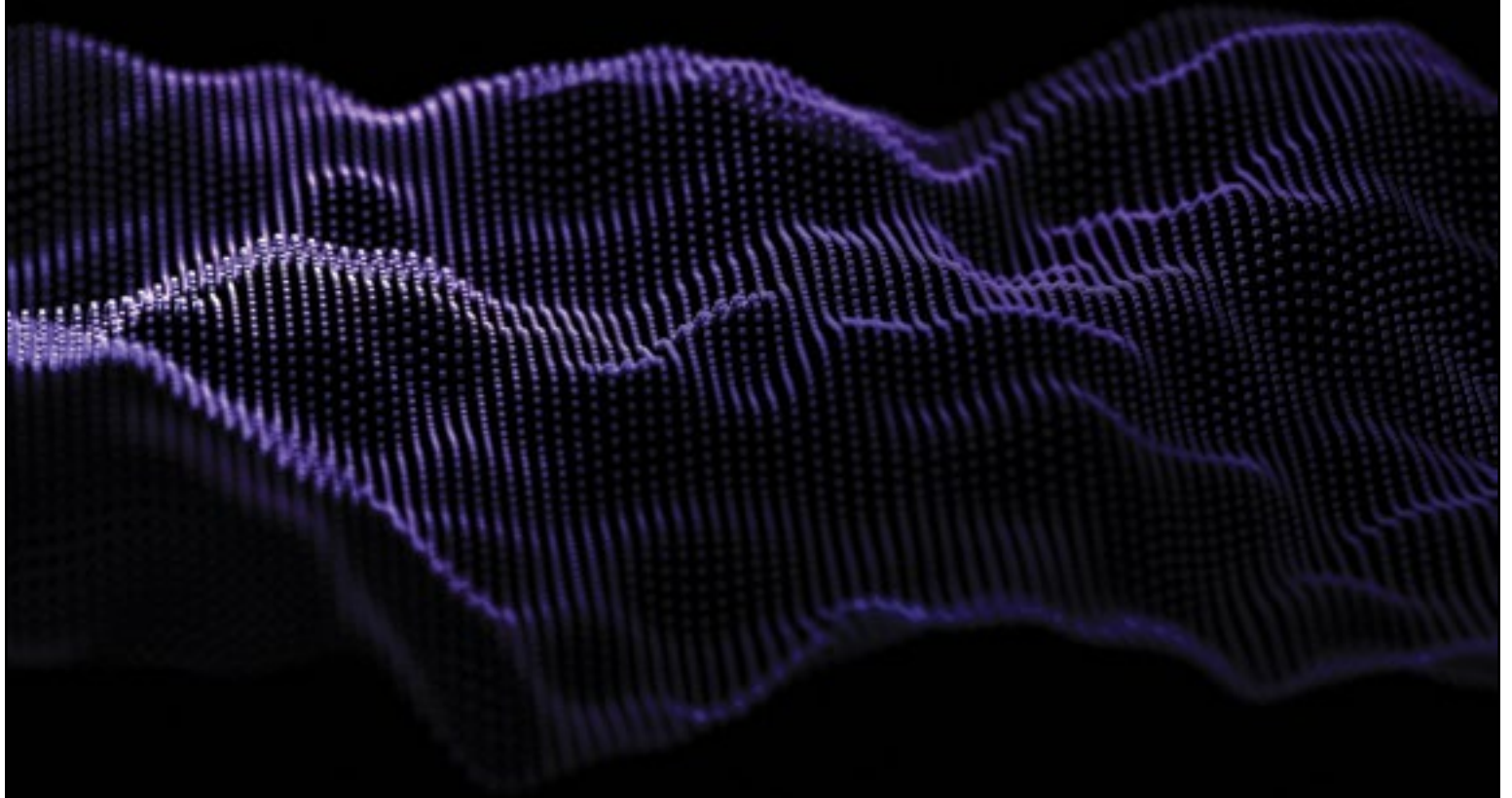
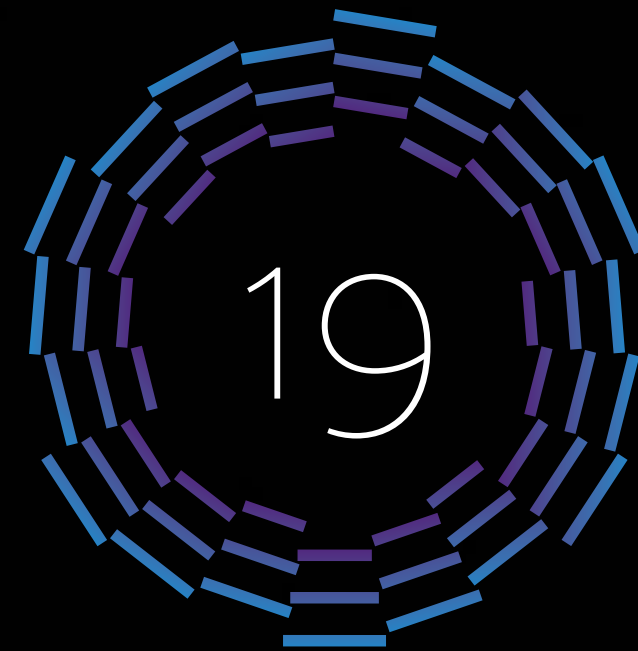


EPSILON[®]

AGENCY



for 2019



for 2019



Trends

As technology seamlessly integrates into our lives, we will continue to move toward a time when our technology adapts to us vs. us inputting into the technology.

2019 will accelerate the convergence of experiences. The shift from desktop and mobile to voice, vision and touch fueled by intelligent systems will be a key focus for the coming year.

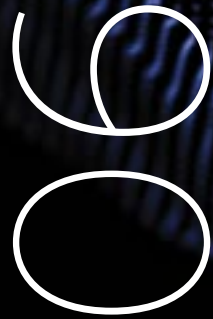
We will see the role of voice-based assistants evolve toward predictive proxies, advancing hardware will unlock spatial computing (AR/VR/Mixed/Hyper-reality) and rapidly evolving iterations of artificial intelligence will transform the camera and how we interact with the world around us.

We hope you enjoy our 2019 trend predictions. We filter the coming convergence through the framework of Empower, Exponential and Enhanced.

Tom Edwards

A handwritten signature in black ink, appearing to read 'Tom Edwards', positioned above the printed name.

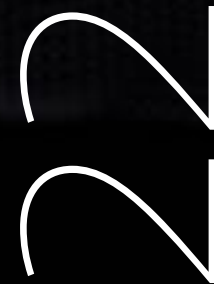
Chief Digital Officer, Agency



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Exponential



Enhanced



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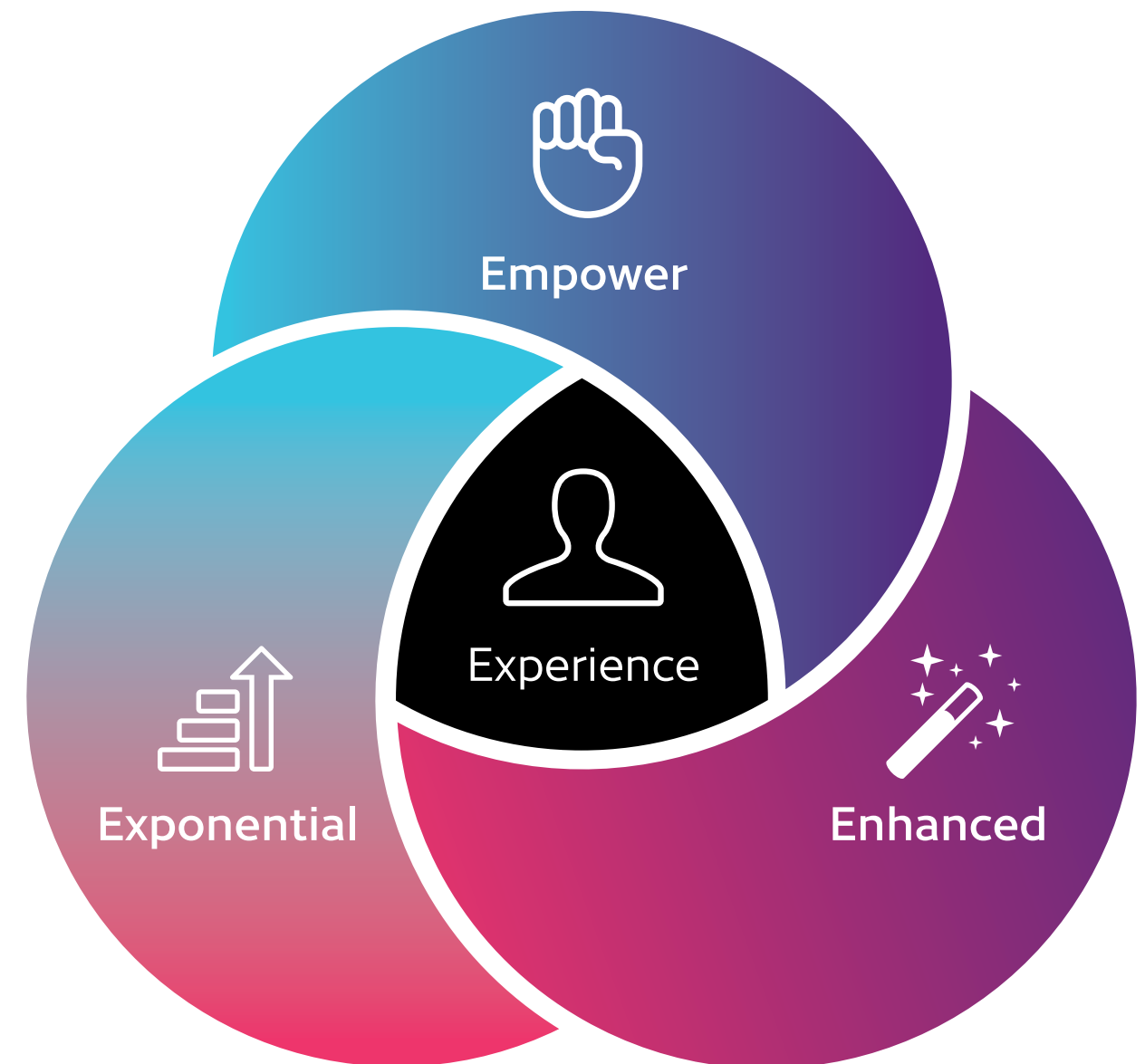
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Updated Trends Framework

Empower – Trends that allow consumers to own, create and democratize experiences and how the mobile device has empowered consumers. This section highlights everything from the expansion of AR, enhanced imagery, advancements in Esports, interactive content and the growth of live streaming.

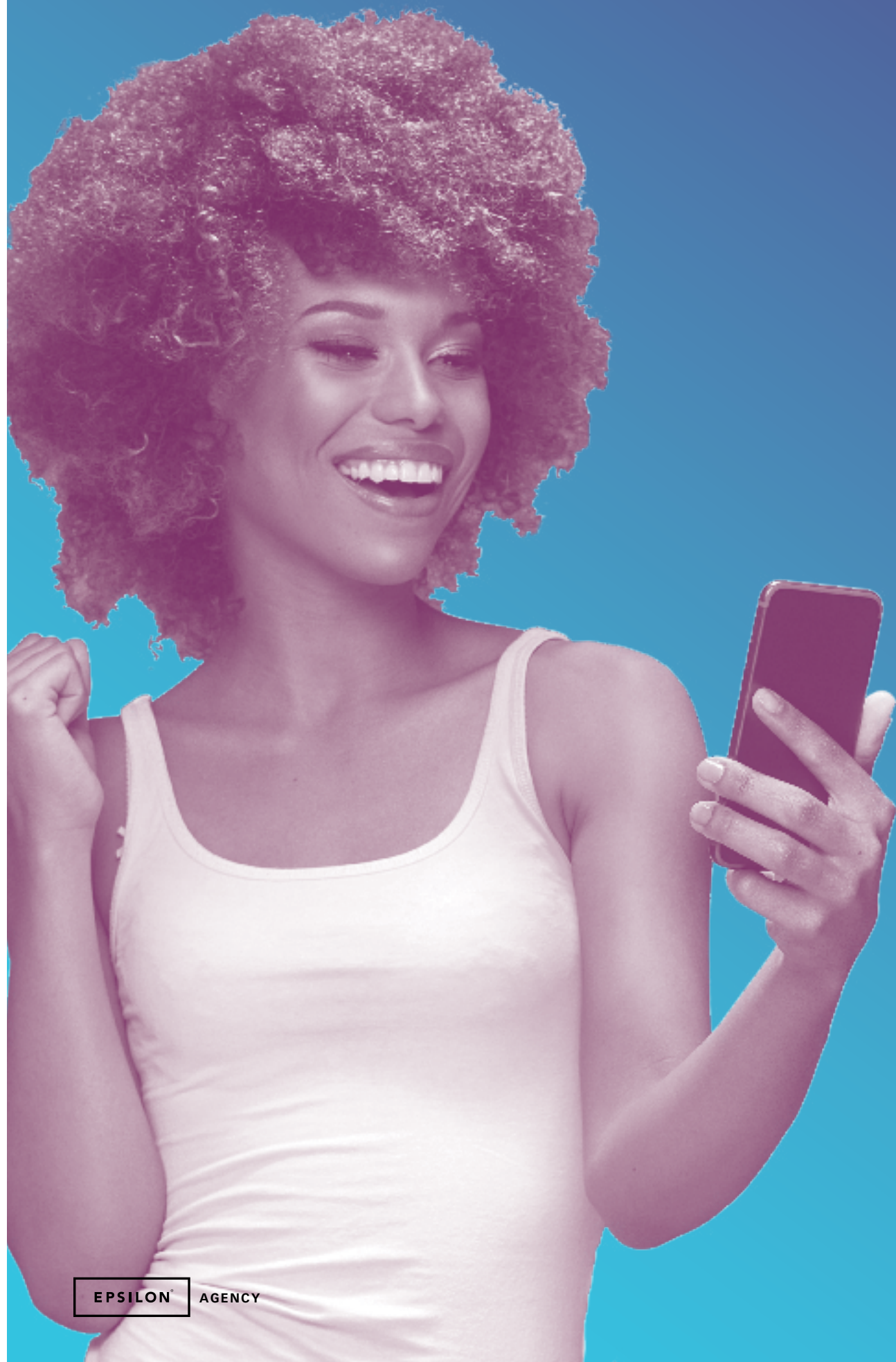
Exponential – This section focuses on how AI & intelligent systems are accelerating the evolution of experience. From all facets of AI (machine learning, deep learning, natural language processing) to conversational experiences powered by virtual assistants and the rise of systems-based marketing.

Enhanced – These trends focus on how our world is shifting toward enhanced reality with the convergence of location, computer vision and mixed reality that will reshape how we interact with the physical world and each other as well as the rise of new virtual economies.





Empower





Say Hello to AR on the Web

Over the past few years, we've talked about the camera being a platform for creation, communication and commerce. Through animations, masks, playful effects and contextual information, users have been able to express themselves across the various channels. Moving into 2019, not only will these experiences push the boundaries of what AR has to offer, but they'll also expand into other communication channels and be easier to access.

The barriers to access augmented reality effects are quickly breaking down and 2019 will bring with it the advancement of Web-based AR. We've already seen the building blocks of that with AR Quick Look, which allows users to access AR images of products directly from the Safari browser.

Thanks to a new file format from Apple and Adobe entitled USDZ, developers can easily link their images to ones viewable in AR.

While Safari was the first major browser to offer these capabilities, look for Chrome, Firefox, etc., to jump on board in 2019. Once fully realized, there's a vast potential for AR on the Web and it doesn't just stop at commerce. Education, entertainment and more are all areas for ripe disruption and that's only going to pick up as our method of access moves from phones to less intrusive hardware like glasses or contacts.

Implications

The mobile device is an incredibly important aspect of the consumer decision journey and just as consumers came to expect high-quality imagery on mobile sites, they'll soon come to expect the ability to "try before they buy" through augmented objects.

In order to keep consumers engaged and satisfy the needs of their consideration set, it's important for marketers to begin asking themselves how AR can play a role on their mobile sites. A simple first step is to outfit your site with USDZ image files, while a more advanced approach involves product demonstrations, use cases, stories or linking to alternative educational/entertainment vehicles.

Your News Feed Comes to Life

Portrait mode, beloved by selfie-taking teens and animal-obsessed adults alike, is the fruit of wonderfully powerful hardware and software aboard flagship phones. Using a mix of dual cameras and AI algorithms, we're able to capture images that enhance the view of the subject while slightly blurring the background. This capability has boosted the Instagram profiles for many but it doesn't just stop there.

Facebook recently rolled out the ability for users (and businesses) to upload 3-D images onto the platform. By using the portrait mode feature, users can upload images

that can be scrolled, panned and tilted to give off a 3-D effect. Wayfair was one of the first brands to explore this space, showcasing their products in detail and allowing their consumers to view them from up close.

Outside of commerce, entertainment and event-based brands should be looking toward 3-D imagery to promote their services. Museums and theme parks could give viewers a sneak peek into the attractions while creating a "wow" factor for the endless scrolling of social media users.

Implications

3-D imagery is a really powerful tool for brands to enhance their storytelling capabilities through social media. Marketers, especially social community managers, need to consistently be learning and adapting to keep up with the technological advances that these social giants allow their users to create.

Adopting 3-D photos requires a relatively low degree of technical expertise and it will undoubtedly increase engagement for your brand across social. Additionally, CPG brands can easily give their consumers more freedom to view and discover products, in a way that's currently less intrusive than adding augmented effects.





The Esports Celebrity Has Arrived

Driven by Generation Z, the popularity of gaming and Esports has dramatically risen in the past few years. On average, this demographic actively plays or watches Esports for an hour and half a day; be it on mobile devices, tablets, or home console entertainment systems. For teens, gaming is something that they do with their friends. It's an activity that helps build social capital and the camaraderie closely resembles many of the reasons why adults get together to play sports.

As these communities grow and develop on platforms like Twitch and YouTube, it's given rise to a new form of celebrity — the gaming streamer. Personalities like Ninja are gaining

a massive following by mastering popular games such as Fortnite and streaming their live game play. The ability to narrate and interact with fans during the game provides them with a unique relationship that's native to live streaming.

This popularity doesn't just stop at live streaming. Professional Esports teams are gaining massive followings with the eight largest organizations being valued at over \$100 million. Viewership of these events is on par with that of the NFL and NBA, both of which, not-surprisingly, own their own Esports organizations.

Implications

Brands that are looking to capitalize on the success of Esports and reach a younger demographic need to first ask themselves a question: Do you want to market to gamers or do you want to build a relationship with gamers? If you simply want to market to gamers, there are tons of media channels to execute against to get your brand front and center.

Creating a relationship with gamers means going deeper than that. Brands that are able to create relevant content that's catered toward improving the game play experience of their target audience have done well in achieving their goal. For example, the NFL did not simply sponsor Fortnite, they struck a deal with them to allow gamers to dress their avatars as their favorite NFL athletes.

Create for Cocreation: Put Viewers in the Driver's Seat

Digital video — whether on social platforms, branded Websites or streaming services — is increasingly becoming more interactive rather than passive. From choose-your-own adventure storylines to contextual hotspots, brands and platforms alike are quickly realizing the value of increased engagement that interactive content brings to them.

Platforms like Facebook Watch and Netflix are including choose-your-own-adventure storylines to further engage

users in the entertainment journey. The popular Netflix series, Black Mirror, will feature an upcoming episode allowing active viewers to have a say in how their journey plays out.

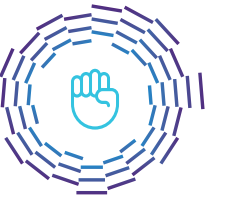
More so, when it comes to commerce, interactive content generates two times ore conversions than passive content while also generating reusable value, resulting in repeat visitors and multiple exposures.

Implications

Brands looking to reach a younger, more digitally savvy audience should look to interactive video as a way to effectively engage that demographic during their path to purchase. On average, Gen Z consumes upwards of two-and-a-half hours a day with on-demand content. There's almost an inherent expectation or need to control their entertainment experience.

On the commerce side, clickable hot spots allow publishers and brands to augment their content with additional information as well as create a seamless path to purchase. Brands only have a matter of seconds to engage their audience before they move on. It's incredibly important to allow your viewers to experience and buy your products as they're currently engaged.





Time to Cut the Cord on Traditional Advertising

Over the past few years, we've added the term "cutting the cord" to our daily vernacular. Simply put, it means consumers are quickly moving away from cable or satellite TV services. Currently almost three-quarters of the US population pays for such services. It's expected that by 2022, that number will drop to less than two-thirds.

Conversely, the number of digital video viewers is expected to rise to 250 million in the same time period. This behavior opens the door for advertisers to get more precise with their messaging through enhanced programmatic offerings and

for marketers to interact with their audiences in ways that traditional TV did not allow.

Live sports is an area of massive growth potential in this space. Amazon began streaming Thursday Night Football games this year through Prime Video as well as co-streamed through Twitch. During these streams, viewers were able to take advantage of Amazon's X-Ray feature to get in-depth stats, game history and even shop for related gear, without moving their eyes away from the screen.

Implications

Traditional TV is slowly dying and has been for some time. Newer digital offerings not only have the benefit of more eyeballs, but allow for contextual interactivity and empowerment. Marketers that are looking to take advantage of this trend should look to partner with related platforms or entertainment publishers.

Additionally, it's important to include programmatic TV advertising as part of your media planning. Reaching consumers at the right place, right time and right device shouldn't stop after the phone, tablet and desktop.

Implications & Application



Expansion of AR Creativity & Commerce on the Web

3-D Images Take Over our News Feed

Esports Creates a "New" Celebrity

Interactivity Drives Content Creation

Live Streaming & OTT Services Gain Popularity

Short Term

Link current product images to USDZ image files in order to enable Safari Quick Look AR.

Test out Facebook's 3-D imagery tool and solicit feedback from users.

Use Twitch and various related media channels to market your brand toward gamers.

Experiment with shoppable video on owned or social channels, utilizing contextual hot spots.

Ensure that programmatic TV advertising is part of your media planning and strategy.

Long Term

Use AR as an engaging storytelling vehicle, demonstrating product-use cases and enabling entertainment.

Develop 3-D and enhanced imagery beyond social channels and onto ownable assets.

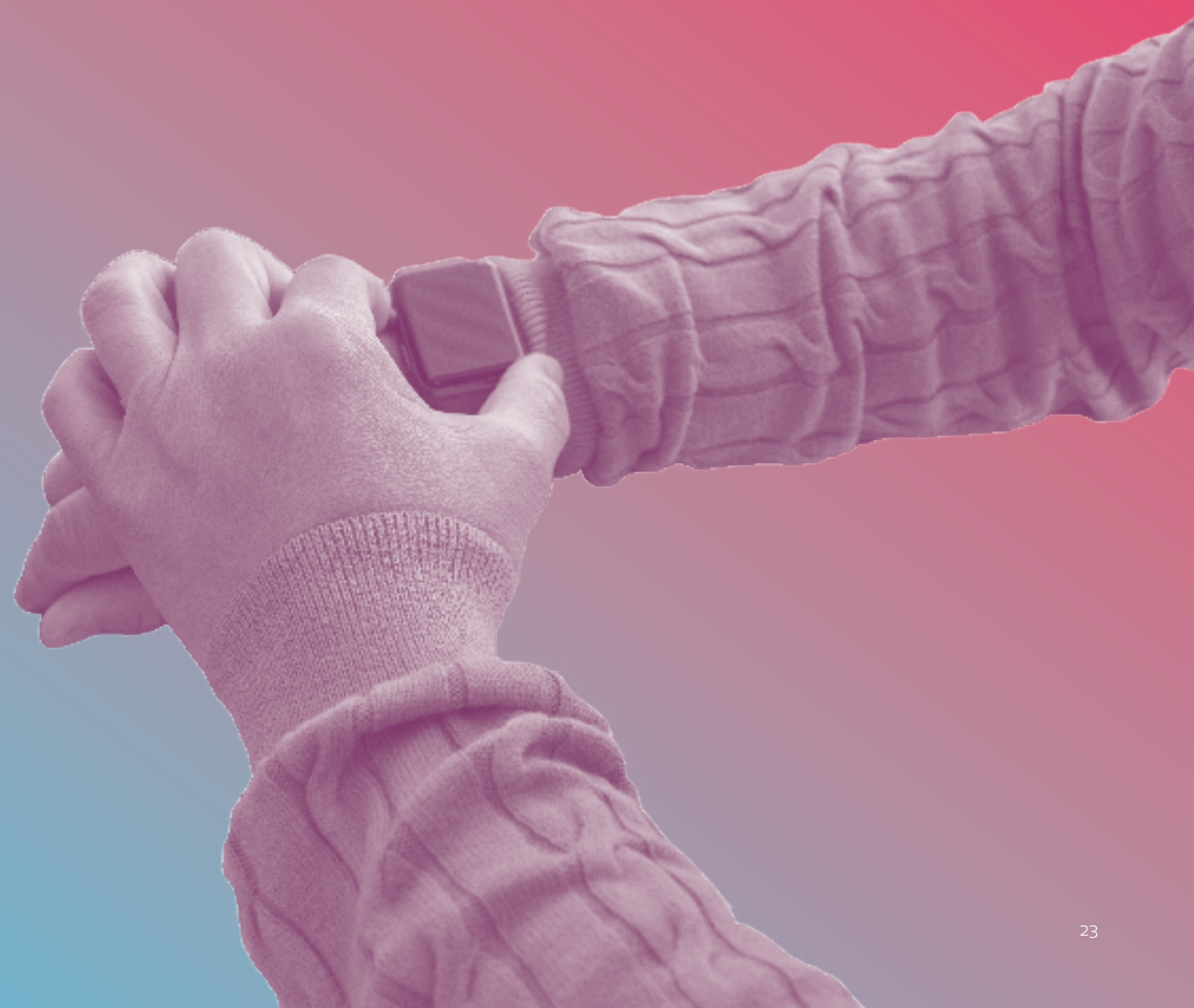
Develop a relationship with gamers by creating relevant content that helps to improve game play.

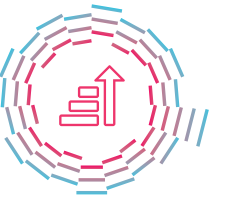
Develop or partner with longer forms of interactive content that align with your brand and provide consumers a sense of control and ownership.

Partner with relevant live streaming channels or shows and provide interactive tools or content to improve the experience for consumers.



Exponential





AI Redefines the Retail Experience

Amazon GO is to retail what Pokémon GO was to augmented reality. While not everyone has the means to experience it like they did Pokémon, the bar has been set and the hype is real. Frictionless retail experiences, aided with the help of persistent AI, are on the cusp of going mainstream and will change the way we view the physical shopping experience.

While frictionless payments are the window dressing, there are additional ways that AI, within a retail setting, will help to improve the experience. Interactive shelving, equipped with visual recognition, can and will hyper-personalize an

individual's experience at shelf, making it possible to show contextual messaging based on what product has been picked up or handled.

We also see this technology being used to enable sales staff to better assist customers. On an opt-in basis, some Melissa Shoes locations allow customers to be recognized at the store by simply texting or sharing a selfie of themselves. Once that individual walks into the store, sales staff receives up-to-date information on them, allowing the conversation to begin by greeting the customer by name.

Implications

Updates in technology are quickly paving the way for the next generation of retail experiences. Consumers will come to expect frictionless checkout, contextual messaging and personalized customer service. Those that don't attempt to keep up with this trend, will find that their in-store experience will soon feel archaic to the modern consumer.

While providing a top-of-the-line consumer experience is incredibly important, brands and marketers will find the data collected from these initiatives to be even more so. Understanding a user's purchase habits and tendencies within retail will allow for prolonged communication and open up additional areas of growth.



You See It. We Sell It.

Visual search refers to a computer's ability to analyze an image or video and return contextual information based on what it sees. This holds true whether the algorithm is analyzing a live shot or one that has been previously captured. Last year, Google introduced the public to Lens, bringing one of the first mass visual search engines to the forefront.

Since then, Lens has improved and spread across more native Android and iOS devices. However, similar to text-based search, individual retailers are also going to need to deploy their own version of the service to keep up with

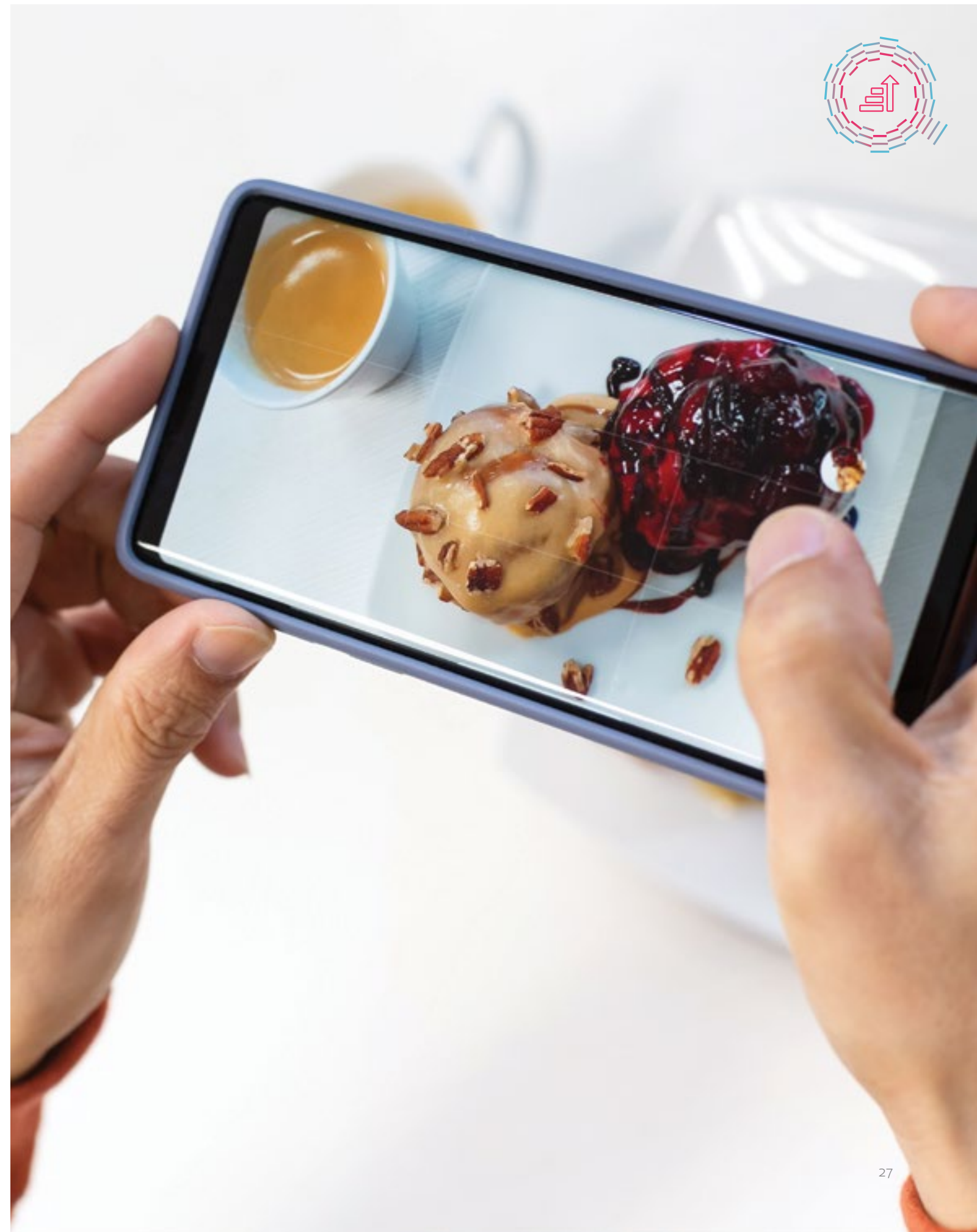
the behavioral paradigm shift. Gartner predicts that by 2021, early adopter brands that redesign their Websites to support visual (and voice) search will increase digital commerce revenue by 30 percent.

The tech is quickly making its way into social platforms as well. In late September, Snap and Amazon agreed to a partnership, allowing Snapchat users to take a photo of a product or barcode to seamlessly load the Amazon product page. The ability to go from discover to purchase that quickly is what makes this tech so appealing to retailers.

Implications

A recent survey from eMarketer found that 62 percent of millennials view visual search as the most popular new technology they would be comfortable using as part of their digital shopping journey. For marketers, this means that it's incredibly important to ensure that your product images are optimized for visual search. The easiest way to do this is to use descriptive and keyword-rich alt text tags with your images, as well as optimizing them for their size and file type.

As the friction between accessing visual search tools continues to decrease, we'll see consumers fully realize the utility this search option provides. Questions that were previously hard to answer, such as "which pants go best with this shirt?" suddenly become table-stakes, and a new area for marketers to compete in.





Get Ready to Rely on Your AI Assistant

Artificially intelligent assistants began as somewhat of a novelty a few years back and have since gained utility through numerous use cases. In 2019, we'll see this trend continue as we continue to offload more and more of our daily tasks onto the likes of Alexa, Assistant and Siri. We also expect Google and Amazon to continue pushing the boundary on where their voice services live.

Amazon introduced us to Skill Connections in 2018, and it's an area that we expect large growth in the next year. Essentially, it allows developers to link skills together, providing an easy way to fulfill multiple intents within a

single skill. While most skills today are narrowly focused, skill connections allow developers to easily expand their offerings to account for multiple aspects of the consumer journey.

Apple also debuted Siri Shortcuts in 2018, paving the way for a third-party ecosystem of Siri applications. Simply put, these shortcuts allow users to combine multiple tasks and launch them with a direct voice command. For example, saying "Hey Siri, I'm heading to work," could return the current weather, directions and timing, as well as a synced-up travel playlist.

Implications

We've talked a lot about how marketers need to be thinking about how they can start advertising to systems, along with individuals, and 2019 will bring a few new direct ways to make it happen.

Due to skill connections, brands can begin thinking of their Alexa skills as part of a user's "job-to-be-done," instead of as one-off applications. Due to the fact that consumer discovery is not as important for these types of applications, marketers will be able to think of them as simply part of a service to other skills.

Additionally, brands must be thinking of ways to offer Siri shortcuts within their iOS apps to take advantage of this voice-based assistant's growing usefulness.

Health Data & Biometrics Make for Healthy Marketing

In today's world, data is power and that doesn't stop when it comes to consumer health. In concert with the rise in popularity of health-based applications and smart devices, brands are finding ways to use that data to hyper-personalize experiences.

For example, Clorox recently partnered with Kinsa, a tech start-up that makes smart thermometers. The device allows users to monitor their symptoms from an app, which makes them especially useful for parents with young children. Clorox uses that data to determine where large groups of people are

suffering from flu-like symptoms. The company is then able to direct its digital advertising toward zip codes where the flu is prevalent.

On the flip side, companies like L'Oréal are producing smart devices themselves. The beauty product giant began selling a button-sized sensor in late 2018, allowing users to track their exposure to skin-damaging UV radiation. Integrated with the Apple HealthKit, expect the cosmetic company to offer personalized product recommendations based off that data in the near future.

Implications

Understanding your consumers' health and wellness needs will allow you to provide them with utility in the form of a product or service. It's already been proven that individuals are open to this privacy trade-off, if they receive an added benefit in return.

Marketers looking to enter into this space should first identify the health-related behavioral triggers that correspond with their brand. Then, determine the best way to track those triggers and ultimately provide a solution that adds value to their consumers' daily life. Simple ways of integrating your brand's into users' routines will provide immense value down the road.





The Benefits of Blockchain Are Becoming Easier to See

If late 2017 and early 2018 were blockchains coming out party, the tail end of this year was its slow retreat back home. The general public was introduced to the technology and its future implications, but present-day solutions didn't match up to the hype. Entering 2019, we'll see the first major use cases present themselves as consumers begin a slow transition to a decentralized future.

While the headlines may be dominated with the rise and fall of the price of Bitcoin and various other cryptocurrencies, it's the work being done behind the scenes that will truly have the greatest impact. Developers are hard at work using blockchain-based technology to offer enhanced security and

trust, transparency and dependability through various forms of value transfer.

AB InBev began using this technology in 2018 to measure the effectiveness of their digital advertising. By utilizing a public ledger, they were able to assess the cost discrepancies between their media plan and the actual digital inventory that was purchased. In many cases, this data is hidden from advertisers, providing avenues of loss for many brands. In this case, AB InBev was able to watch in parallel what transactions were written in the ledger and what they were seeing in the DSP.

Implications

Entering into 2019, there are a few ways for consumer-facing brands to use blockchain technology to their benefit. Digital media buying is an easy way to gain back transparency over the ad buying process, as brands will begin to hold their partners accountable for their media's performance. Additionally, marketers should keep tabs on various start-ups looking to disrupt the industry.

For example, the Basic Attention Token (BAT), a part of a decentralized ad-exchange network, rewards users for viewing ads online. While the advertiser and publisher exchange a lion's share of the transaction, the user is rewarded for the attention that they give to advertisers – a reward not seen in previous digital advertising transactions.

Implications & Application



AI Redefines the Retail Experience

Visual Search Grows into a Learned Behavior

AI Assistants Expand their Capabilities and Utility

Health Data & Biometrics Personalize Experiences

The Blockchain Improves Ad Transparency

Short Term

For retailers, it's important to explore partnership options to outfit stores with enhanced checkout options.

Ensure your product images are optimized for visual search by using descriptive, keyword-rich alt text tags.

Develop an Alexa Skill or Google Action that provides utility or entertainment for your consumers.

Identify health-related behavioral triggers that correspond with your brand's product or service and research ways companies are tracking those triggers.

Experiment with blockchain-based digital media buying as a way to improve the transparency involved in that process.

Long Term

Utilize consumer data collected from these systems to improve the consumer journey and open up additional growth areas.

Outfit your mobile and desktop sites with a visual search engine through development or partnership.

Utilize Skill Connections and Siri Shortcut to expand the utility of your current voice and mobile apps.

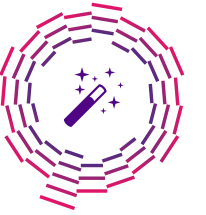
Partner or develop a solution to those health triggers that adds value to your consumer's daily life.

Utilize the blockchain to provide data ownership and security to your consumers. It's early for this technology, so keep a keen eye on the space.



Enhanced





The Expansion of Digital + Physical Gamification

Getting people out of their homes is tough. Getting people out of their homes to interact with your brand is even tougher. Combining location with mixed reality and computer vision, marketers will increasingly have at their fingertips a set of tools to enable incredible experiences for their target market.

Prior to the start of the 2018 NHL season, the St. Louis Blues became one of the first professional sports teams to offer an AR-based scavenger hunt. Fans simply had to sign up on a mobile site (no app download required) and unlock clues to hidden objects across the St. Louis area.

Once someone navigated near an object, they were able to access the Facebook camera to find and collect it through augmented reality.

The campaign energized and engaged fans in a way that no other digital tactic really could. Those that were able to complete the scavenger hunt were rewarded with paraphernalia, game tickets and other team-related prizes. Look for more professional sports teams to follow suit in 2019 as they continue to integrate themselves further into their communities and foster relationships with their fans.

Implications

Combining the physical and digital world allows for the creation of entirely unique experiences. The opportunities to personalize and meticulously craft the journey is unmatched compared to the restrictions placed on altering the physical world. As a marketer, this opportunity can scale from a citywide scavenger hunt all the way to a two player AR game taking place in the living room.

The barrier to entry toward creating these types of experiences is lower than it's ever been. The infrastructure has been built and 3-D models are increasingly becoming easier to create. As you think about how this type of interaction can benefit your brand, keep in mind that it's not so much about creating an experience, but, rather, laying the building blocks for your community to create their own experience.

Decreasing Cost Means Increasing Capabilities for the IoT

The Internet of Things, while not a new trend in any regard, is expected to take massive leaps in 2019. Put simply, IoT refers to the connection of all things to a network or the Internet, and we're increasingly seeing its effects on our daily lives. From automobiles, appliances, health wearables, in-store shelving and more, the world is coming alive and marketers are listening.

By utilizing data from IoT devices, marketers are able to easily record information and act on the needs and desires of their customers in real time. With regards to a consumer decision journey, companies that are able to act off of data from IoT devices are privy to more and more touch-points,

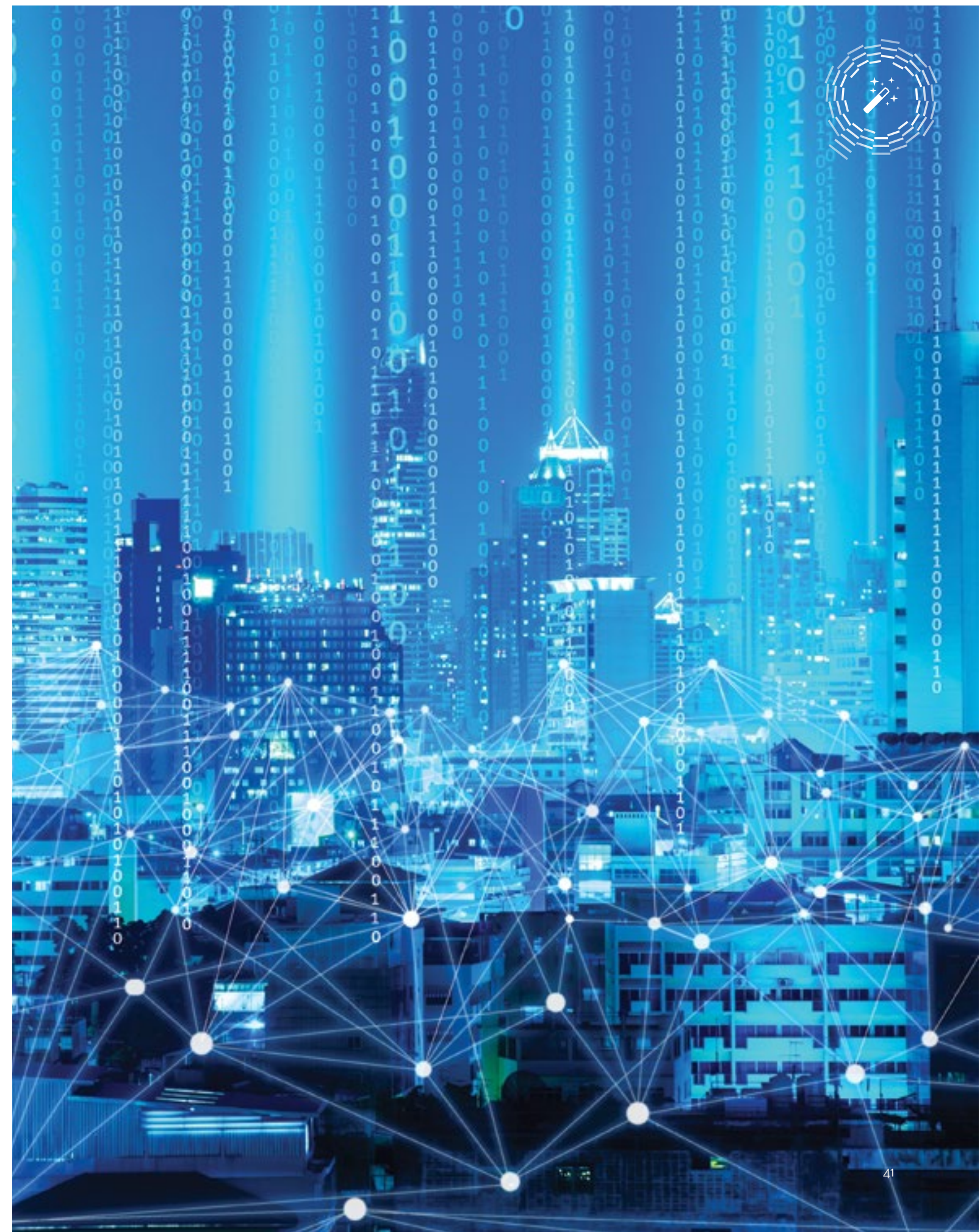
allowing them to have a greater understanding of where an individual is within the buying journey and what are their lifestyle habits.

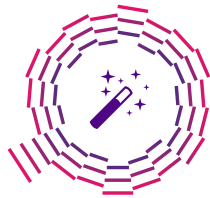
One innovative way that a CPG brand has been able to integrate IoT devices is through the Heineken Ignite bottles. When one bottle clicks with another, both light up and connect with each other. The bottles then track how much consumers move around with it, how quickly it's being consumed, how many bottles are at a party, and much more. All this information gives Heineken an incredibly detailed picture of the social interaction between their consumers.

Implications

While integrating a smart device into a beer bottle may be an extreme use case (and very hard to scale) for IoT, it's not far out of reach for the near future. Creating a smart device is only going to get cheaper as far as production goes and the increased ability to understand your customers while acting off that data makes it an even more intriguing path to go down.

Marketers that are looking to increase the data assets they have to act off of in order to enhance the end experience for their customers and innovate their brand from the bottom up, should look to their current consumer journey to see where an IoT device could provide the most value. Data is still the oil that fuels digital marketing and those who set themselves up to act off the most relevant data sets will be in a position to dominate their markets.





OOH Advertising Embraces Technology

AI is quickly moving from outside of traditional computing devices into more aspects of the real world. From storefronts to security cameras, computer vision algorithms are ingesting and learning from a myriad of different data sets. So it's no surprise that marketers are beginning to experiment with this technology in OOH advertising, and we don't expect that trend to slow down anytime in 2019.

New Balance recently used New York Fashion week to uncover people on the street who looked unique or outside of the norm. By training a machine learning algorithm to

understand common fashion trends in NY, they were able to easily use it to pick out people, in real time, who stood out from the crowd. Those individuals were offered a free pair of New Balance shoes as they continued on with their day.

The company was quick to point out that these cameras didn't involve any type of facial recognition and the data was anonymized and aggregated – although they were still able to use data collected to inform new products. How much did that campaign cost? About the same as one involving a traditional Website.

Implications

OOH advertising is an area that's ripe for disruption and the ability for marketers to capture real time data while providing an unmatched experience is a trend that only looks to be picking up in 2019. Marketers must be cognizant of crossing the line between fun and creepy, and ensure that what they're doing is an extension of other stimuli.

Personalization at scale is what makes this opportunity so intriguing. Reactive and even proactive content based on who's looking at it or what situation they're in will open up the doors to many different creative implementations. The ability to collect actionable data is an added benefit.

Virtual Reality Utilizes the Physical Environment

It's no secret that virtual reality has had a hard time living up to the immense hype surrounding the technology over the past few years. It was meant to bring us closer together, entertain and provide new experiences. For all its shortcomings, the ability to use VR to assist in hyper-reality experiences is accomplishing all three of those metrics and will only expand to new use cases in 2019.

Hyper-reality environments use the real world, overlaid entirely with virtual elements, haptic feedback sensors and environmental elements like feeling heat to create an entirely immersive experience. The Void, a VR entertainment

company, is leading the way when it comes to these types of experiences.

To promote the upcoming release of "Ralph Breaks the Internet," the film embraced The Void to create a giant, co-op virtual adventure, placing users in the center of their universe. The experiences created a relationship with participants in ways other tactics simply could not. A few other popular experiences at The Void include "Star Wars" and "Ghostbusters," both extensions of incredibly strong brands.

Implications

The ability to place users into a non-isolating, realistic and interactive environment allows brands to create incredibly strong connections with them. Providing these types of branded interactions extends entertainment use cases outside of consumption and into physical experience, which creates longer-lasting relationships.

The success of The Void means that 2019 will see strong competitors arise and entirely new experiences come to the forefront. This type of combination between the physical and digital world will ultimately be one of VR's major use cases and a reason for adoption.





Contextual AR Enhances Consumer Experiences

Augmenting the physical world with digital material allows for the presentation of contextual information, purchasing options and additional entertainment. As the friction between accessing augmented effects decreases and developer capabilities increase, we'll begin to see consumers utility of these effects play out in more and more use cases.

Within retail, AR is being used to provide more information and easier checkout options for consumers. Walmart recently added an AR scanning tool in its iOS app to allow customers to view comparison products, check prices and

availability, as well as read reviews. Information which would otherwise be up to the user to search out.

While watching live sports, our second "screen" experience will continue to be enhanced. The PGA Tour created an AR app that allows viewers to follow along with the action in real time, by loading a virtual creation of select holes as they're being played on TV. Through the same shot-tracking technology displayed on the screen, users can follow along with who's playing the hole, where their shot went and what type of lie they're currently facing — much of which is tough to fully grasp with a 2-D representation.

Implications

Thanks to the advanced image tracking within Apple's second rendition of ARKit, developers have more freedom than ever to add augmented features to items in the real world. Marketers should be thinking about what types of content would be useful to consumers as they browse a retail store or come across their product at any time. The ability to use that item as a trigger to launch augmented information will soon become an expected form of search behavior.

Brands that use this space to think of ways they can improve the consumer experience, instead of simply trying to sell more products, will be the ones that ultimately see results. Consumers will appreciate the thoughtfulness and utility that those types of experiences provide.



Implications & Application



Expansion of Digital + Physical Gamification

Short Term

Study your consumers to determine how gamification can improve or add entertainment value to their journey.

Long Term

Utilize augmented gamification to add another dimension to your brand and enable experiences for your consumers.

IoT Possibilities Increase as Costs Decrease

Analyze the market as well as your current consumer journey to determine where an IoT device could fit in.

Test and develop a connected product, utilizing data to enhance communication with consumers.

OOH Advertising Embraces Technology

Add digital billboards and responsive OOH advertising to your media planning strategy.

Enhance your brand perception by innovating in this space, utilizing AI to collect actionable real-time data that will enhance the consumer experience.

VR Utilizes the Physical Environment

Partner with vendors like The Void to promote upcoming product or entertainment releases.

Develop entirely new experiences that utilize VR and the physical environment to enhance a brand's connection and storytelling.

Contextual AR Enhances Consumer Experiences

Utilize current products as augmented triggers, adding additional information and content to assist consumers within a retail environment.

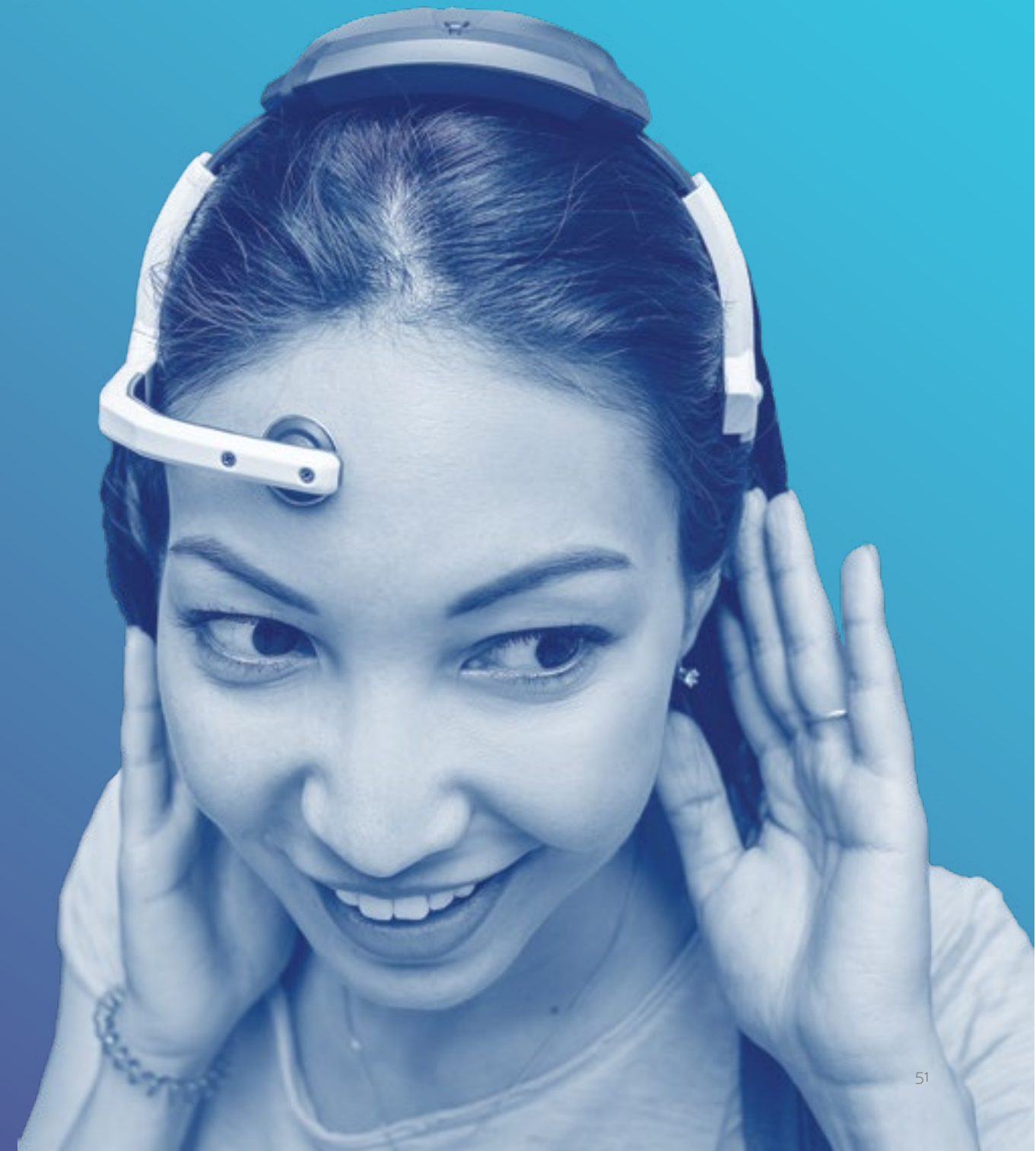
Provide consumers with a layer of contextual augmented information or entertainment, utilizing real-time data to improve their experience.

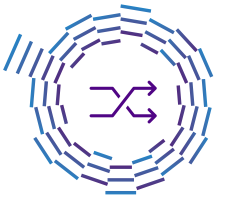
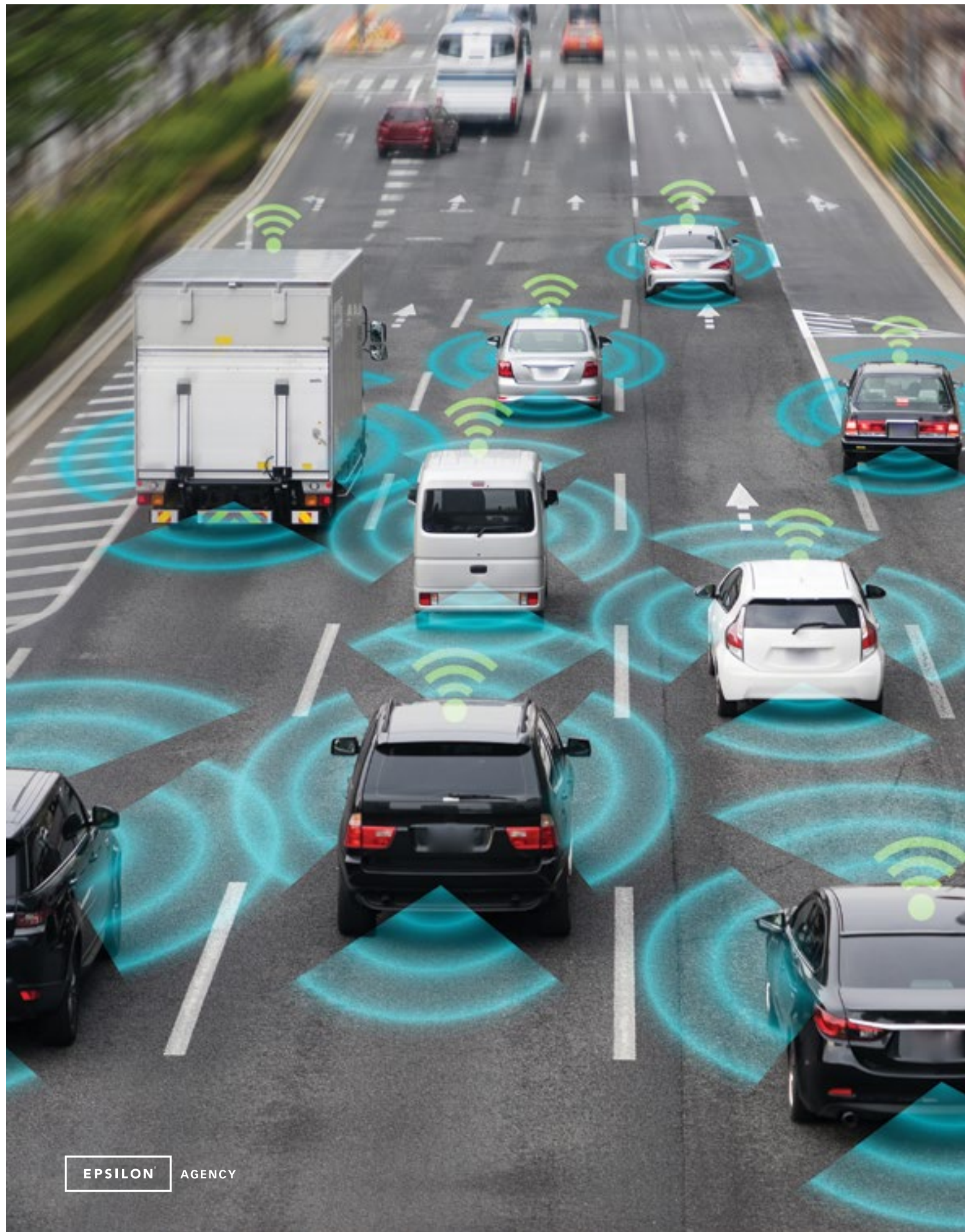


Beyond

Through the lens of Empower, Exponential and Enhanced, we've provided you with an exhaustive framework of technological trends that will dominate 2019. But what about beyond? Five years? Ten years? 50 years? What will the world look like then. While there are not many direct implications of the remaining four trends, it's important for any good digital marketer to understand where our world is heading, in order to be ready when we get there.

Here are four of our more futuristic thinking trends that will set the stage for 2019 and beyond.





From Driver to Deliverable: The Rise of Autonomous Travel

From the major tech giants to hotly funded start-ups, the road to autonomous travel is moving at a breakneck speed. Experts say that we'll begin to see self-driving vehicles start to take over our roads within the next five years and, when they do, they will shift the paradigm of human behavior. Traffic will decrease as these vehicles learn to communicate with one another and entirely new service operations will arise. Among a form of utility, the automobile will be a point of connection and entertainment.

Take grocery delivery for example. Retailer Kroger is taking steps to further consumer convenience through a partnership with autonomous vehicle start-up, Nuro. The "car", which is actually a much more compact, unmanned

vehicle, will offer on-demand grocery delivery to provide a top-of-the-line commerce experience. Starting in a few select cities as early as the beginning of 2019, this partnership will be key to watch as retailers continue their attempts at keeping up with the likes of Amazon.

This technology has the profound ability to change the way we think of transportation, how our cities are built and how we interact with the world around us. A world with autonomous vehicles is safer, more efficient and more comfortable. When we think about the future, autonomous vehicles are approaching much faster than many people believe.

When Realities Converge

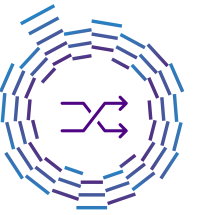
The convergence of augmented reality, virtual reality and our increasingly sophisticated digital identities will soon give rise to what we like to refer to as a synthetic reality. Our current vernacular, talking about the differences between the digital and physical worlds, will soon dissipate as the two meld together to form an entirely enhanced reality.

While this may sound like a negative trend to those who enjoyed how it "used to be", merging with our realities will ultimately provide enhanced entertainment, gamification, navigation and even help to improve social connections. Our identity will grant us access and information to various

services and entirely new asset classes will arise. A synthetic reality will help to provide value to our attention, gain control of personal data and track our digital footprints.

Marketers that don't accept a synthetic reality as a realm of possibility are missing the current technological signs. Computer vision, augmented reality, IoT and edge computing are all forebearers to a future world where our digital and physical realities merge. As we move toward that day, marketing to consumers will shift as well, moving outside of the consumer and onto the machine.





Infinite Scenarios, One Result: Change

Quantum computing and the technology that underlies it has always felt like an idea that has been incredibly futuristic, even sci-fi like. However, the reality is that there are improvements being made in the field at a rapid pace – to the point where new scientific discoveries are being made on current quantum machines. At a microscopic level, our world intrinsically operates at a quantum state, meaning particles can be in two different states at once.

When it comes to computers, this means instead of single input and output, quantum computers could process all types of inputs in order to exponentially speed up the amount of outputs provided. While scientists are still unsure

what the major use cases of quantum computing will be, it's safe to say that this technology will have a profound impact in how we treat and identify diseases, organize and encrypt mass amounts of information and make sense of increasingly complicated artificial intelligent systems.

From communication to development, quantum computers have the ability to change how we think about the world around us. As we continue to harness the power of this technology, marketers should keep watch, as breakthroughs in this space could mean rapid improvements on many different processes..

The Brain Computer Interface

Yes, you did read that correctly. Brain Computer Interfaces are devices that are able to interpret a user's thoughts and intentions, without the user actually speaking or doing them. A prototype from MIT called Alter Ego is placed on the side of a user's head, and reads signals in the brain that are sent to the mouth and jaw at a 92 percent accuracy rate. In return, the device can communicate back to the user through bone-conduction headphones.

The use cases here are profound and have the ability to change how we communicate at a fundamental level. Not only do these devices create a way for people to interact with their smart devices without having to pull them out, but they also can create a direct connection to other individuals. If we think of the spoken word as simply just a compression algorithm for our thoughts, then the quickest way to circumnavigate this compression is to

communicate directly from them. Having the ability to do so will exponentially speed up communication efforts as well as provide an equal playing ground for those with vocal disabilities. Not to mention the benefits that come with breaking down language barriers.

While a brain computer interface sounds like something straight out of a science fiction book, it's an entirely real concept, and one that should be on your radar. Many scientists and engineers believe that in order to coexist with advancements in artificial intelligence, we'll need to merge with the technology. When you think of it that way, a non-invasive connection to the Internet, like the prototype from MIT, doesn't seem too far out of the picture.



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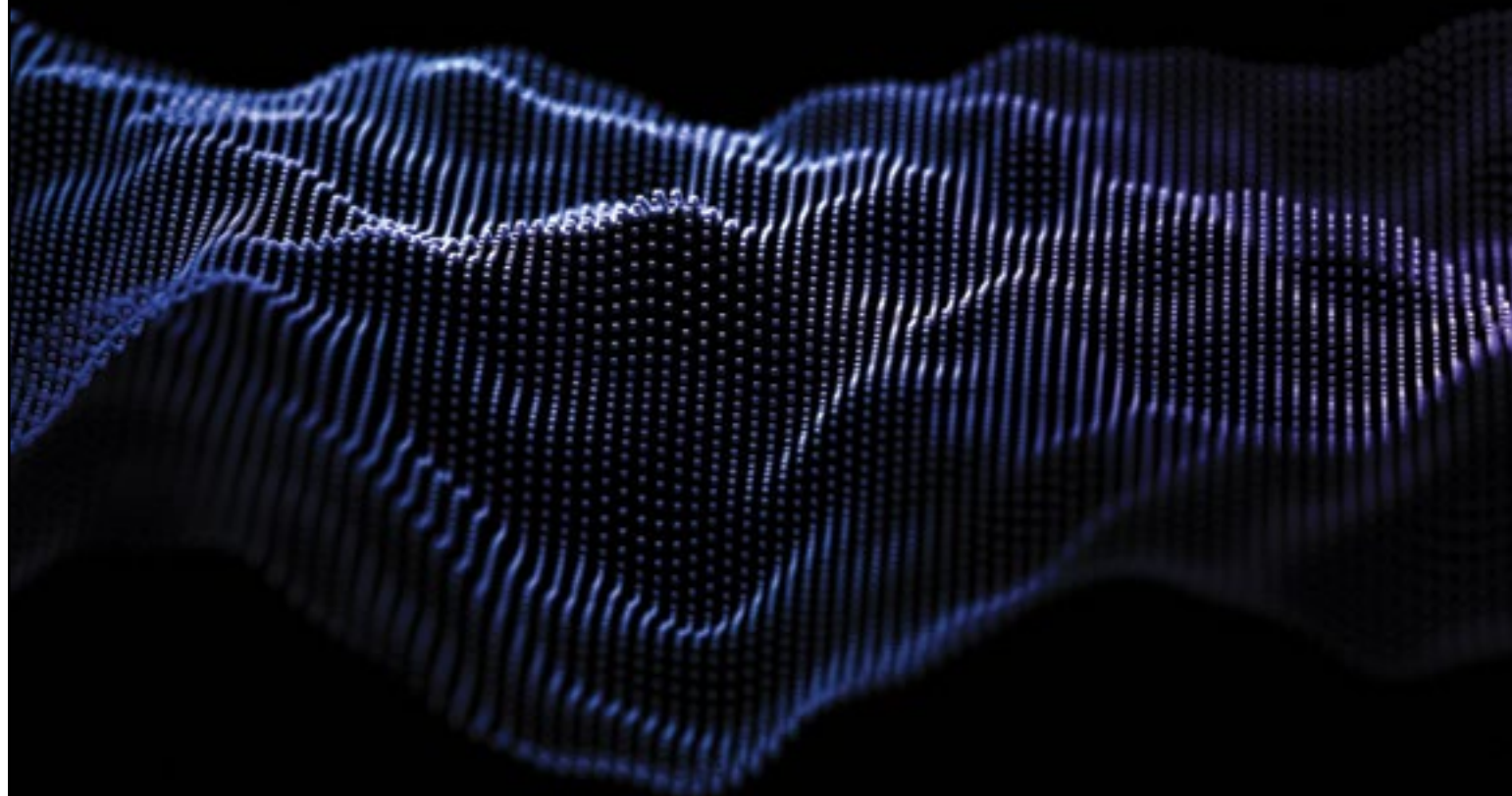
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