



#TechVision

Retail Technology Vision 2022

# Retailers, Meet Me in the Metaverse

The continuum of technology and experience reshaping retail



**Welcome to the “Metaverse Continuum.” It’s a spectrum of digitally enhanced worlds, realities and business models poised to revolutionize life and enterprises in the next decade. In 2022, this way of life seems futuristic for now, but the Metaverse Continuum is on its way here.**

# Shopping will never be the same

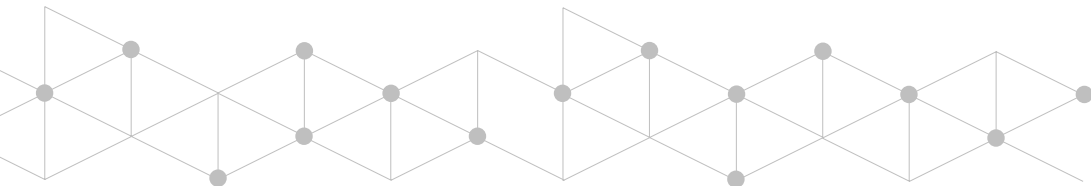
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Seeing signals of profound change, the Accenture Retail Technology Vision found it appropriate to set its sights farther forward than ever before. The 2020s will see ambitious retail enterprises bring shape to new physical and digital experiences, new virtual and physical worlds co-populated by people and artificial intelligence (AI), industries made possible by new computing capabilities, and more.

We are already seeing glimmers of this technology horizon and how it may help change commerce. In 2021, **Gucci** realized

that when people couldn't socialize face-to-face, the "realness" of their virtual lives mattered more. The luxury brand created The Gucci Garden Experience on gaming platform Roblox to sell virtual products. A digital twin of a Gucci purse sold for a higher price than its real-world counterpart.<sup>1</sup>

As developments like these challenge our basic assumptions about technology and business, we are entering a new landscape where there are not yet rules or expectations—creating an opportunity to help and shape the worlds of tomorrow.



## Why the Metaverse Continuum?

You've probably heard the word "metaverse" over the last year, evoking a future of a persistent and shared virtual reality space. The truth is, right now there are a lot of early metaverses being built with many different initial focuses and ideas. Some of these target the employee or the enterprise, others are for consumers. Each has different platforms, partners and technologies at its core.

Eventually, this spectrum of ideas will coalesce into a more unified experience, but the range of business areas that it will impact will only grow. Just as the internet evolved beyond simple websites to underpin the majority of today's businesses, it would be a mistake to think the experience of the metaverse will be constrained to the digital space.

That is why we've introduced the "Metaverse Continuum", an evolving and expanding continuum on multiple dimensions:

- Multiple technologies including extended reality, blockchain, artificial intelligence, digital twins and smart objects—including cars and factories, and edge computing.
- The "virt-real"—the range of experiences, from purely virtual to a blend of virtual and physical.
- The spectrum of emerging consumer experiences, and the business applications and models across the enterprise that will be reimaged and transformed.

# Redefining retail's evolution

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There couldn't be a better time to shape the future of retail.

Unprecedented global challenges of the last two years drove a bigger, better, and bolder evolution of retail. Necessity was the catalyst. And technology allowed creativity to shine. Consumers demanded a seamless experience across all channels, from brick and mortar to digital commerce. Retail enterprises and emerging direct-to-consumer brands responded fast—deploying new strategies for consumer experiences that thrived. Now the investment focus is on how to help grow while being profitable.

The lessons of the pandemic—from shifts in consumer behaviors and values, to the exposure of supply chain vulnerabilities—are springboards to new retail experiences, business models and innovations. And as the interplay between physical and digital worlds bleeds into people's daily lives over the next decade, they won't expect anything less than shopping experiences that exist in the metaverse continuum.

While

14%

of retail executives report the pandemic is continuing to disrupt their organization's business plans and operations, another

86%

report that their organization has adapted to the disruption of the pandemic and has found a new normal.

Source: Accenture Technology Vision 2022



# Where new worlds are taking shape

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Like the beginning of the digital era, retailers that accelerate through this wave of technology disruption may be those who are better positioned for the future. The good news is that this time enterprises have more notice of what's to come and to get ahead. The key can be to start investing and experimenting today.

In this Technology Vision, we explore how today's technology innovations are the building blocks of our future. The trends investigate the entire continuum, from the virtual to the physical, across humans and machines alike. They identify where ambitious retailers can find rich opportunities by uprooting themselves from today and planting themselves firmly in the future.



## Our four technology trends for 2022



### WebMe

Putting the Me  
in Metaverse



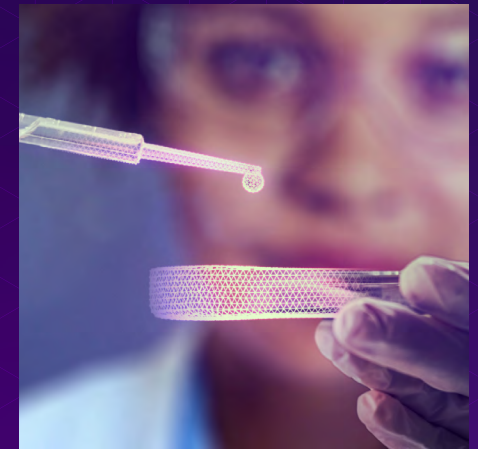
### Programmable World

Our Planet,  
Personalized



### The Unreal

Making Synthetic,  
Authentic



### Computing the Impossible

New Machines,  
New Possibilities

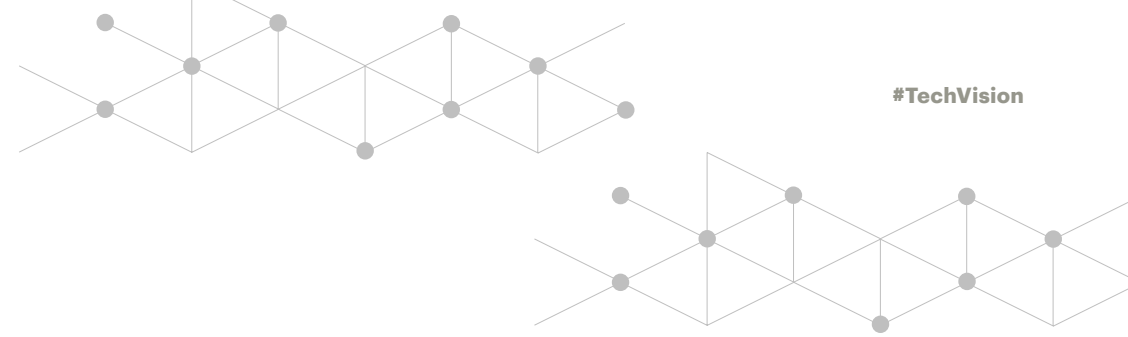
## Trend 01

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# WebMe

## Putting the Me in Metaverse

**WebMe** explores how the internet is being reimagined. The last two years spurred enterprises to explore new modes of digital experience and pushed people to live virtually to an extent they never expected. Now the metaverse is emerging as a natural evolution that reconciles how the internet is designed today, with what we will demand from it going forward. The advent of the metaverse, and underlying efforts to reimagine how data shapes our digital experiences, will challenge businesses to rethink their presence online and become a part of shaping the next platform revolution as they build new ways to connect to customers, partners and their digital workforce.



## WHAT IT MEANS FOR RETAILERS

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### In the pandemic period, digital commerce exploded.

The irony? Solutions that saved retail during the crisis were built for and create value from the internet as it is today. Thanks to metaverse and Web 3<sup>2</sup> innovations, the entire online footprint that retailers have developed over the last decade will need to be extended or even reimagined. Customers will no longer view digital content. They will live it.

It's easy for retailers to dismiss this metaverse momentum as too futuristic, niche or disjointed, as it may be hard to understand the commercial viability. Even so, broader signals are emerging that retailers see the potential of the metaverse. In addition to transforming customer experiences and relationships, stepping into the metaverse can help expand addressable markets and create new revenue streams.

How about the ability to leverage the flagship store, have it accessed by anyone at any time and staffed with your best associate—one that is working from and supported by AI. This is just one of the many opportunities for retailers in the metaverse. These are not just virtual stores being accessed by a headset. It could be the extension of your website, where consumers are meeting your associates in a virtual store and having a similar experience as if they were physically there. That way, what was once selling over the internet can be enhanced with a new immersive and consultative experience, yet benefitting from the payment and order processes that exist today. In addition to this immersive ecommerce, there are other ways to build consumer loyalty through experiences that go way beyond just buying a product. Customers might attend a demo or

special event in the metaverse. In fact, the inaugural Metaverse Fashion Week happened in Decentraland in March 2022. Or people might use NFTs and cryptocurrencies to purchase digital goods and services. Put simply, these spaces bridge the gap between websites and real stores.

55%

**of consumers agree more of their lives and livelihoods are moving into digital spaces.**

Source: Accenture Technology Vision 2022



Retailers are already exploring the possibilities and entering the metaverse in different ways. **Nike** debuted its metaverse Nikeland on Roblox in 2021.<sup>3</sup> People can play, attend events and visit the showroom to dress their avatar with Nike gear. LeBron James is visiting Nikeland, teaching basketball fundamentals in mini games for users. The showroom will be the first place to launch virtual styles of the Nike LeBron 19 shoe.<sup>4</sup> **Charlotte Tilbury** added a video chat feature to its virtual store so friends can share virtual shopping experiences.<sup>5</sup> **Fendi** is collaborating with a cryptocurrency and digital asset platform to create accessories for crypto hardware wallets.<sup>6</sup> **Gap** is among several retailers to launch an NFT collection. People can collect a series of NFT artwork of digital hoodies, designed by Brandon Sines who created cartoon character Frank Ape. In a virtual-physical world mash-up, people who buy enough of these NFTs qualify for the “epic level” and receive a real Gap/Frank Ape sweatshirt.<sup>7</sup> And **Balenciaga** has created a whole division devoted to its metaverse strategy.<sup>8</sup>



# 72%

of global executives state that the metaverse will have a positive impact on their organizations, with

# 45%

believing it will be breakthrough or transformational.

Source: Accenture Technology Vision 2022

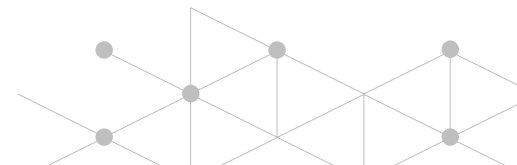
While there has been a lot of activity in fashion in the metaverse, we expect much more of this to come in all retail segments. A big challenge for retailers as they enter the metaverse will be to eliminate friction across platforms, the customer experience and data sharing. The good news is that retailers are used to pivoting for seamlessness.

This doesn't discount all the work to be done building the new platforms, partnerships and technologies. But behind the uncertainty, there is tremendous opportunity. Immersive content in the metaverse is an experience in which customers can actively connect rather than passively absorb. Retailers can evoke new emotions, entertain in virtual worlds in ways that aren't possible in the physical world, and exploit new channels to drive product and brand engagement—and increase sales.

# 94%

of retail executives believe that future digital platforms need to offer unified experiences, enabling interoperability of customers' data across different platforms and spaces.

Source: Accenture Technology Vision 2022



## Trend 02

# Programmable World

## Our Planet, Personalized

The **Programmable World** tracks how technology is being threaded through our physical environments in increasingly sophisticated ways. It projects how the convergence of 5G, ambient computing, augmented reality, smart materials, and more are paving the way for businesses to reshape how they interact with the physical world. As technology becomes part of the fabric of our environment, it allows us to treat our environment more like technology—unlocking an unprecedented fidelity of control, automation, and personalization.

## WHAT IT MEANS FOR RETAILERS

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Ever since Harry Gordon Selfridge moved products out of storerooms and into inviting displays in his London department store over a century ago,<sup>9</sup> retailers have innovated in-store experiences.

Flash forward to today and transforming the physical world of shopping remains high on retailers' agenda. Think smart carts, self-scan checkouts, magic mirrors, and the walk-out checkout experiences at Amazon Go stores. And since the pandemic began, innovations like virtual clienteling, livestream events and contactless pickup have helped customers in the virtual world too.

Aspects of the programmable world are emerging already. To begin building a new generation of products, services, and experiences in the physical world—that meet our new expectations for digital conveniences—retailers will need a deep understanding of the three layers of the programmable world:

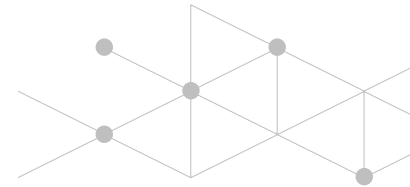
**The Connected.** The Connected layer is IoT devices. They have been central to retail's digital transformation—from RFID for stock tracking to electric shelf labeling systems for automating price changes and communicating smart information at the shelf.

**The Experiential.** The Experiential layer builds on IoT data. Augmented reality (AR)—and the hardware that brings it to life—is key to this layer. Largely thanks to AR, social and live shopping are becoming transactional platforms. It's no longer about clicking to like; it's about clicking to buy.

AR-powered try-on features can remove purchasing uncertainty. Pinterest has expanded its try-on feature to home furnishings. Shoppers at **Wayfair, Crate &**


**Barrel, Target, and Macy's** can preview what furniture looks like in their homes.<sup>10</sup> Before launching updates to its AR shopping experience, Snapchat tested it with several brands, including **Ulta Beauty**. In two weeks, the company saw a \$6 million jump in incremental purchases and more than 30 million try-ons through this channel.<sup>11</sup>

**The Material.** The Material layer makes up how things are made. It includes a new generation of manufacturing and materials, which will bring programmability into the physical world. This is what Belgium-based eyewear company **Materilise** is doing. It uses sustainable materials and 3D technologies including facial scanning and 3D printing to create eyeglasses with a personalized fit, tackling an issue people have experienced for years when selecting glasses.<sup>12</sup>



The possibilities of the Material layer dovetail well with the push for product-level transparency and standardization of brands' responsible business claims.<sup>13</sup> Consumers are increasingly interested in what products are made of and their provenance, in terms of sustainable materials, fair labor practices, and inclusion and diversity. In addition, many want the opportunity to customize products for fit, design and material composition. Brands' future competitiveness is likely to play out where the Material layer and sustainability meet.

The Connected, Experiential, and Material layers of the programmable world can help enable new ways to augment, customize, automate, alter and otherwise "program" our physical environments. And they can introduce an entirely new competitive landscape for retailers. Digital technology is about to make its mark on the physical world, helping change what we can do and how we live within it. The retailers that bring this technology to their employees' and customers' environments can quite literally be the ones to shape the next generation of life in this world.



90%

**of retail executives state that leading organizations will push the boundaries of the virtual world to make it more real, increasing the need for persistence and seamless navigation between the digital and physical worlds.**

Source: Accenture Technology Vision 2022



## Trend 03

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# The Unreal

## Making Synthetic, Authentic

**The Unreal** is a trend where our environments and businesses are increasingly filled with machines that are passably human. “Unreal” qualities are becoming intrinsic to AI, and the data, that enterprises aspire to integrate into mission-critical functions. At the same time, people are coming face-to-face with bad actors using this technology—from deepfakes to bots and more—igniting a growing concern that may turn into the biggest hurdle for enterprises looking to grow their use of AI. Like it or not, enterprises have been thrust into the forefront of a world questioning what’s real, what isn’t, and if the line between those two really matters.

## WHAT IT MEANS FOR RETAILERS

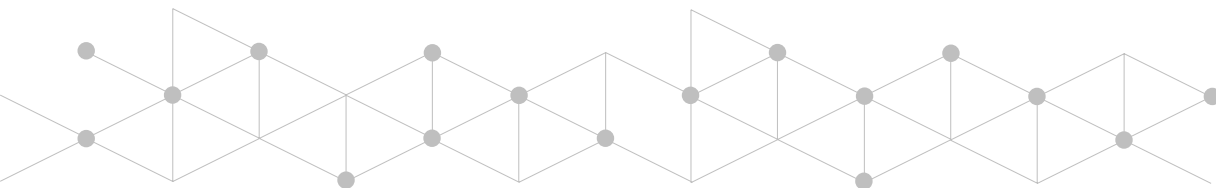
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**Prada's** use of Miquela, an AI fashion blogger and virtual “it girl” to launch its Instagram GIFs and “wear” pieces from the specific months 2018 collection was a turning point in retail.<sup>14</sup>

It signaled that AI had stepped out of the back office and into the front office. Since then, Prada has doubled down on its use of AI virtual influencers.

As retailers push AI to be more collaborative, helpful, and insightful—and as it is used in more creative ways—the lines between what's real and what isn't will blur. This raises complex questions. It's mind-bending: In the case of Miquela, a fake person wore actual clothes presented at fashion week.

But even as AI spawns the unreal world, it is becoming non-negotiable for retailers. Over the past several decades, it has taken hold and improved with more data, increased computing power and improvements to AI models themselves. While AI used to be a competitive differentiator, it is now a business necessity for retailers to make sense of massive amounts of data. They can improve business processes, enhance the customer experience, and ultimately, drive better business outcomes.



The more that retailers invest in AI, the more possibilities there are for them to use AI-generated or synthetic data to train customer service agents and AI models on everyday and once-in-a-blue-moon scenarios, while protecting the confidentiality and privacy of real customer data. They can also use synthetic data to help ensure diversity and counter-balance bias in automated recruiting processes. To pursue these possibilities, retailers must focus on authenticity. In this spirit, UK cosmetics brand **Lush** quit social media, citing its desire to connect with customers “as directly as possible.”<sup>15</sup> While moves like this are not typical, embracing authenticity has been important to retailers in recent years. Purpose-minded consumers have pushed them to become more and more transparent.

But the unreal world takes authenticity to an uncharted place. A new social contract should be set between retailers and customers that gives retailers “permission” to use synthetic data. Everyone will need to determine what’s okay—and what’s not—when it comes to synthetic realness. These ethical questions will likely have different answers in different segments. Will consumers accept the Unreal more when they buy clothes than when they visit the pharmacy? The time for retailers to start asking questions and building trust is now. It will take a consistent approach to doing so and governance for protecting the authenticity and provenance of digital content.

91%

**of retail executives agree that AI is becoming pervasive across their organizations’ business processes.**

95%

**of retail executives agree that their organizations are committed to authenticating the origin of their data and genuine use of AI.**

Source: Accenture Technology Vision 2022



## Trend 04

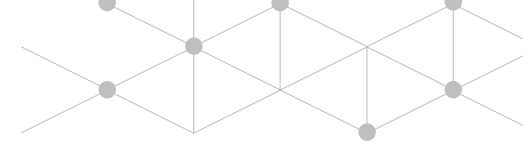
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# Computing the Impossible

## New Machines, New Possibilities

We are on the precipice of resetting the boundaries of traditional industries as we begin **Computing the Impossible**. The outer limit of what is computationally possible is being disrupted as a new class of machines emerges. Quantum, biologically inspired, and high-performance computers are each allowing companies to tackle grand challenges that once defined and shaped the very core of their industries. As problems once considered impossible become ever more solvable, business leaders will be pushed to reimagine how to harness the next generation of computing power.





## WHAT IT MEANS FOR RETAILERS

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In 1994, applied mathematician Peter Shor devised an algorithm that leveraged the theoretical properties of a quantum computer to efficiently find prime factors of a given integer, known as prime factorization.

On the one hand, this was a huge breakthrough: It expanded the horizon of what was considered computationally possible, and it outlined the first practical application of quantum computers. On the other hand, quantum computers were so far from existence that nothing changed. Shor's algorithm is one of many solutions that used to exist on paper only, but now with the latest advances in quantum computing, we're starting to build the computers that could actually run it.

This achievement matters to retailers because it signals how humans are beginning to make the impossible, possible. As solving the unsolvable

becomes less science fiction and more reality, retailers are at a monumental turning point. They can begin to think about how quantum, exascale and high-performance computing can help solve their most pressing problems.

Take the expansive use of customer data. IDC found that of all the data created in 2020, only 10.6% was useful for analysis by AI/ML models, and only about 44% of that was actually used.<sup>16</sup> Even if retailers captured every item bought in every store and recorded every click on every webpage and every item looked at, picked up, put back or returned, they are still missing customer insights.

67%

**of consumers report they expect companies to use technologies to solve society's large, complex problems, because it will benefit them and their communities.**

Source: Accenture Technology Vision 2022

Consider too, the tinderbox of last mile delivery. For a single delivery van stopping at 16 houses with customer grocery orders, there are almost 20 trillion possible routes. It could take the fastest of today's computers decades to compute the best route.<sup>18</sup> From the advent of curbside pickup to the construction of micro-fulfillment centers and

collaboration with green 3PLs, the challenge of the last mile is so great that retailers now are only solving around its edges. In the world of quantum computing, however, retailers could improve customer experience by helping bring to life near-immediate delivery times while minimizing the environmental impact and improving profitability.

The world of computational theory and hardware is not something many non-technical retail executives think about often—but they can't afford to be caught unaware. This transformation is not happening tomorrow, but development is well underway. Each new benchmark means being one step closer to breakthroughs in retail operations and innovation. That's why retail leaders need front row seats to the quantum era.

61%

**of retail executives say quantum computing will have a breakthrough or transformative impact on their organizations in the future.**

Source: Accenture Technology Vision 2022



# The metaverse continuum is waiting for you

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Retailers are at a unique precipice in time. Not because there are new technologies to master, but rather that competing in this next decade will require something more than just increasing technology and innovation skills. It will require a truly competitive vision. A vision for what these future retail worlds can look like, what consumers may want from them—and what the business may need to succeed in them.

**Technology points us in the right direction, but the rest is up to you.**

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