



# Metaverse

Bringing Digital Transformation to Life

IntelliClear Inc.  
November 2023

15-minute read



## Synopsis

Digital transformation (DX) has changed the way companies are deploying technology to improve operations and create new levels of efficiency. The replacement of legacy platforms to cloud-based services to enable access to information and materials anytime and anywhere has spawned technology innovations and awakened imaginations to envision new ways of conducting business without borders. One such innovation is the metaverse, delivering immersive online experiences that bring DX to life, breaking down physical barriers and moving collaboration and interactivity into the AI-fueled era with unprecedented levels of productivity. This report outlines how DX on a metaverse platform delivers the full promise of DX to enterprises and institutions in the next generation of the internet.

## Introduction

Throughout history there have been evolutions that have enhanced human experience and awakened the imagination. The visual consumption of media changed forever when still pictures evolved into moving pictures, moving pictures into color movies, and color movies into high-definition cinema with surround sound. The same can be said about advancements in a variety of technologies, transportation, and communication; however, nothing quite matches the impact when the eyes are able to experience graphical brilliance that stimulates the senses, awakens creativity, and generates intellectual energy.

While the consumer world has enjoyed numerous immersive experiences throughout the ages to transform the entertainment experience, can the same be said about the commercial realm? Although graphical representations of numbers and business information has enhanced the data visualization experience, it is still a 2D experience. As the next generation of workers continues to enter the workplace, the expectation is increasingly high resolution 3-dimensional graphics, matching the experience of modern video games.

Enter the **metaverse**—the technology that brings Digital Transformation (DX) to life with a 3D, immersive experience for commercial enterprises, institutions and consumers that is and will change the way data is consumed, operations are managed, and business is transacted.



## Digital Transformation Review

To get started, let us make sure we are on the same page with DX technology. Much has been written and portended about DX, with a variety of opinions and frameworks to draw from. The promise of DX reshaping business processes to deliver improved operations, increased efficiencies, enhanced engagement, reduced costs, faster decision-making, and superior customer experiences is well known and entering mainstream deployment.

Although there are non-technology elements involved in DX including people, culture, process innovation and analytics, let's focus for a moment on the more tangible technological components required to make DX a reality including, but not limited to, the following:

- 1 Cloud Technology (IaaS, PaaS, SaaS, Public, Private, Hybrid)
- 2 Mobile Technology (phones, tablets, etc.)
- 3 Big Data / Real-Time Analytics
- 4 Internet of Things (IoT)
- 5 Artificial Intelligence (AI) and Machine Learning (ML)
- 6 API Integration
- 7 Augmented, Virtual, Extended and Mixed Reality (AR, VR, XR and MR)
- 8 Digital Twins

Should you not recognize one or more of these elements of DX, a quick Google search can get you up to speed. To make things easier, we will define select elements in the proceeding paragraphs to describe how the metaverse brings to life the DX experience for enterprise users.



## Correcting Three Metaverse Misconceptions

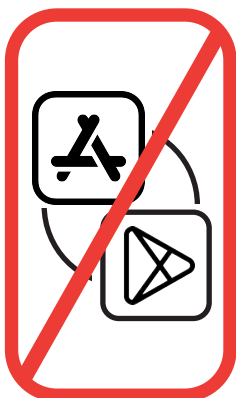
If by now you have rolled your eyes and said to yourself, “I’ve already heard the hype and nonsense about the metaverse,” let’s clear up three primary misconceptions to set the record straight:



**The Metaverse is not a single place:** liken the metaverse to Social Media. Social Media is not a single place, but a collection of interconnected platforms (Facebook, Instagram, X, LinkedIn, YouTube, etc.) that exist on the worldwide web, with consumers and companies having their own individual spaces. Just as there are an infinite number of universes in the awe-inspiring multiverse in space, there will eventually be countless metaverses operated by institutions on a variety of interconnected metaverse platforms as part of a grand metaverse community on the worldwide web. The metaverse is the epitome of decentralization, not centralization.



**The Metaverse is not owned by a company:** there were early efforts by Facebook (Meta) to perform a land grab on the metaverse, building GPU farms and spending tens of billions of dollars in what turned out to be a failed experiment, yet leaving many to believe the metaverse = Meta. This is not so! The metaverse is not Meta, nor is it Microsoft, Apple, or Elon Musk Inc. In 2022, tech mogul and former Google CEO Eric Schmidt said, “There’s not an agreement on what the metaverse is, even though one company has changed its name in anticipation of defining it.”



**The Metaverse is not an application:** applications reside on platforms, enabling functionality, which may or may not be connected to the internet or interconnected to other applications. Accenture describes the Metaverse as not being a single entity, but rather “a continuum, where immersive technologies and new types of ownership will bring about the next era of our digital lives, [transforming] all parts of the business: customers, enterprises and ecosystems alike.”<sup>1</sup> Accenture recognizes the metaverse is more like a platform than an application.





## Redefining the Metaverse

Given these earlier misunderstandings, we should start over. In the simplest terms, the metaverse is the next generation of the internet, enabled by Web 3.0 technology as being the semantic, more immersive, more intelligent, more intuitive, and interconnected internet.

Going deeper, the metaverse is an immersive, 3D interactive space where individuals and entities actively engage in B2B operational planning, training, collaboration, advertising, maintenance, event execution, problem resolution and tech support. From a B2C perspective, consumers will participate in enterprise-sponsored activities such as shopping, entertainment, education, social events, and travel, enjoying a 3D, interactive and immersive experience without physical barriers.

Just in case you are imagining people at their desks wearing VR headsets and waving their heads back and forth, or the requirement of special hardware and software, *such will not be the case to participate in the metaverse*. A simple browser will connect users to the metaverse, using any computing device with a display. There will be however, certain immersive technologies—such as complex medical surgeries—that will be enhanced using VR headsets.





## DX without the Metaverse

When enterprises commit themselves to DX, deploying powerful cloud technology, generating oodles of data, and improving operations, they are usually thinking in two dimensions. There are business information systems (BIS) that provide lovely charts and tables, along with real-time reports that make spreadsheet jockeys salivate. The generated data will likely demonstrate operational improvements, executives will be happy, and the business will thrive. That is the promise of DX, which is being fulfilled every day.

However, that's not the *full potential* of DX.

- What happens when a California-based company's Mexican factory experiences a problem and the personnel to diagnose the problem are not available on the ground, interrupting the supply chain?
- Or when employees in six different states in the US and three countries in Europe need to be onboarded and trained and only two subject matter experts are available?
- Or when product is flowing and demand is good, but retail shelf space is limited, online merchandising is not inspiring the target, and a key competitor deploys a killer gamification method of purchasing online that breaks through physical barriers and speaks to a generation pining for a stimulating shopping experience?
- Or when a global university requires its students in over one hundred countries to collaborate on complex projects that require more than the tools available with Microsoft Teams?
- Or when an entire city is hungry for economic development and struggling to get their message out to companies and consumers looking for new frontiers?

The above are real-world challenges facing enterprises and institutions in the modern era. In a *transformational* enterprise, where DX has been effectively deployed, will the solutions to the above challenges be as transformational as the operations that created them?

For the transformational enterprise with a metaverse implementation, the answer will be a resounding yes! Why? Because the metaverse brings DX to life by fueling solutions that are faster, more intuitive, more effective, more stimulating and more cost effective than the standard run-of-the-mill solutions that most DX enterprises are still offering today. And it will do so using the DX infrastructure that is already in place.



Think of the eight elements of DX mentioned earlier including cloud, mobile, big data/analytics, IoT, AI/ML, API integration, AR/VR/XR/MR, and digital twins. Although not all DX implementations use the totality of these components, many do in one way or another, or can easily add such components in transition. These technologies form the framework for the metaverse and sit on top of a **metaverse platform**. There are several metaverse platforms today including BizzTech, Decentraland, Journee, Meadow, Odyssey, Roblox, Sandbox and Spatial, all offering a wide array of functionality and economics during these early stages of the metaverse.

With the help of API integration and multiple forms of data exchange, the metaverse draws upon the data and activities of the DX enterprise to create an endless number of immersive scenarios from fully interactive online stores to enterprise training; customer support to operational maintenance; and the list goes on. Imagine having the ability to invite suppliers, customers, partners, and employees from all over the globe to the world(s) created by an enterprise or institution to get work done effectively and efficiently. Think of the metaverse as a platform that brings DX to life through the exchange of technology.

A close example from an architectural standpoint is ServiceNow (SN). SN is a platform on which a variety of services can reside. The Now Platform provides a variety of tools for executives and end users to utilize, including the development of apps and delivering a single platform for operational workflows. Metaverse platforms can work in an analogous way, allowing full data interchange with the DX elements to provide immersive experiences. Figure 1 shows the DX infrastructure and how it operates on a metaverse platform.

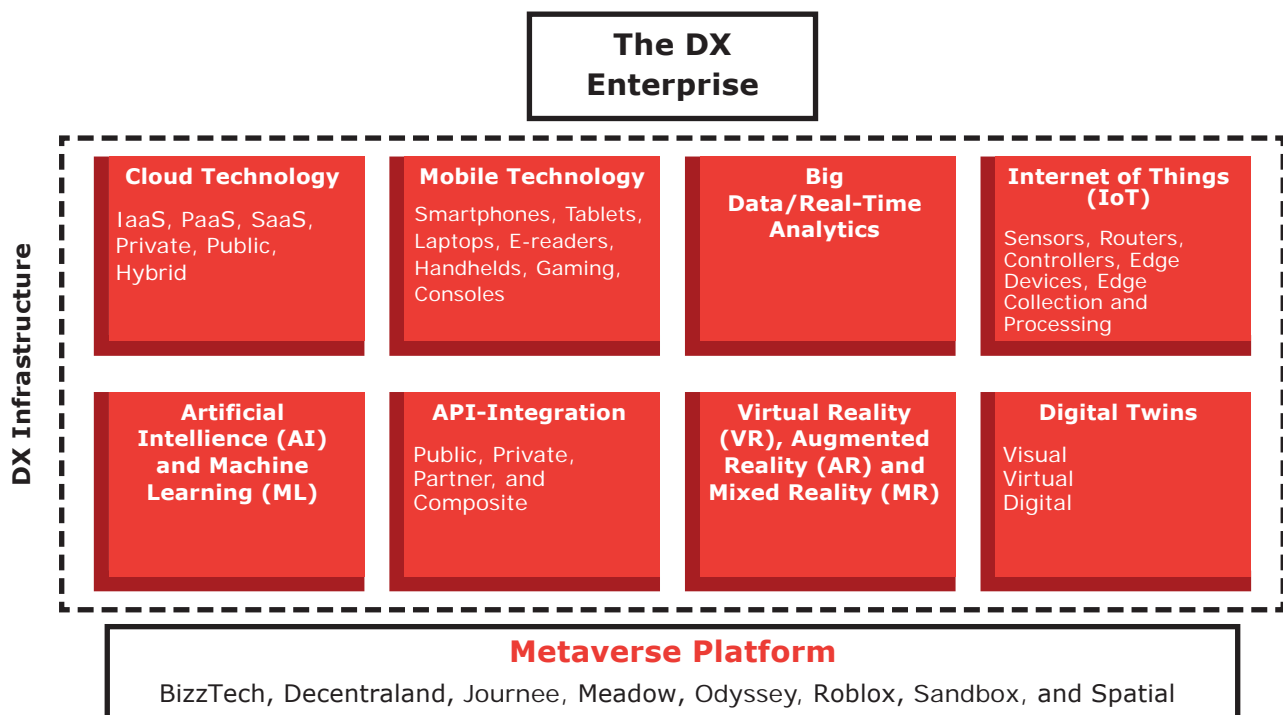


Figure 1: DX on the Metaverse Platform



## Bringing DX Solutions to Life with the Metaverse

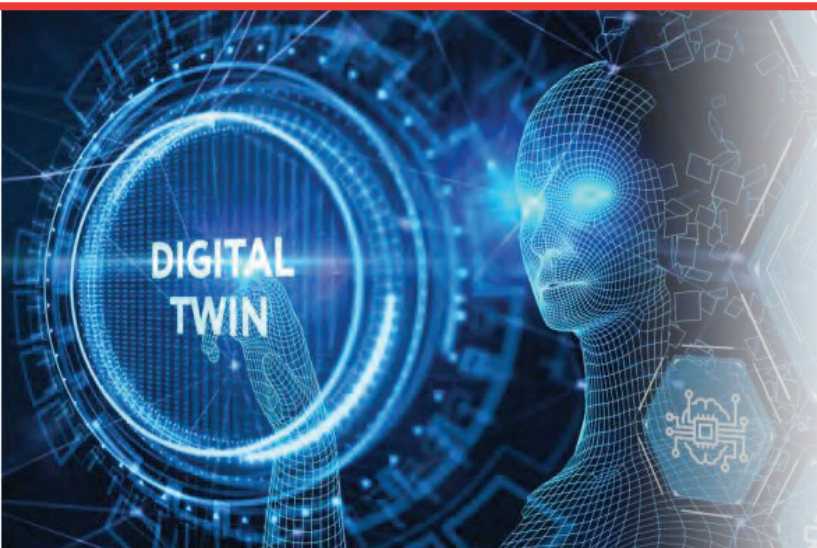
Consider the difference in how a metaverse-unequipped DX enterprise and metaverse-equipped DX enterprise solve the six example challenges outlined in the previous section:

### The Struggling Mexican Factory

In 1970 NASA was faced with a broken spaceship falling to the moon with the fate of the astronauts in the balance. The ground team previously created a virtual replica of the spaceship using advanced programming, allowing NASA the ability to diagnose the problem, implement a solution and bring the astronauts safely home. In 2010 NASA coined the term, *digital twin*, a “personalized, individualized, dynamically evolving digital or virtual model of a physical system.”<sup>2</sup>

The metaverse-unequipped DX Factory had a digital twin, but without real-time data collection and real-life visual representation. The team was relegated to sending emails, spending hours on Zoom, navigating the factory using clumsy handheld AR simulators to visualize the environment and taking guesses as to what the core issue was. The result? The factory was down for hours and could have been days if a tech had not flown out to fix the problem.

The metaverse-equipped DX Factory on the other hand, built a digital twin of the Mexican factory, with IoT devices thought out to collect and process real-time data, API integration allowing data interchange between multiple factory systems, generative and predictive AI subroutines to understand the patterns of the manufacturing operations, and a hybrid cloud for the continuous storing of factory collected data, all wrapped in an AR/VR interface on a metaverse platform. The result? The team in California was able to view the Mexican factory in real time, quickly diagnosing the problem and sending instructions to the local maintenance team, bringing the factory back up in less than 30-minutes.



The tire company Bridgestone is experiencing this very digital twins scenario. As a leader in global tire and rubber manufacturing, Bridgestone has invested in digital twins, along with simulation technology, to not only manage factories more efficiently, but to improve tire design without physically touching a single piece of machinery. The result has been an increase in longevity, performance, and sustainability, coupled with a reduction in development time, testing, and prototyping allowing tires to be brought to market quicker.<sup>3</sup>



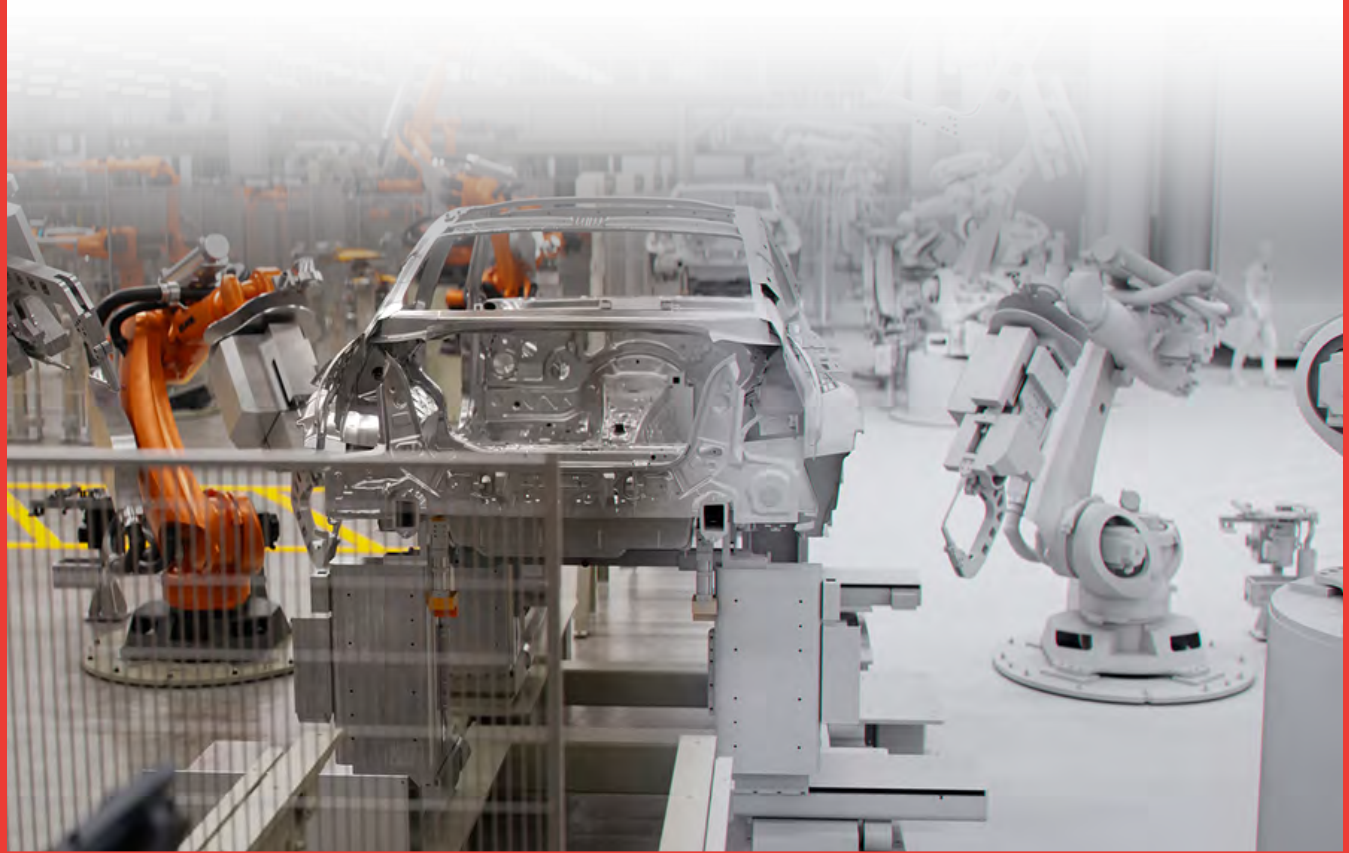


## The Multi-Locational Training Challenge

The metaverse-unequipped DX enterprise used computer-based collaboration tools with cameras and local translators, relying on the two subject matter experts to conduct multiple training sessions over a two-week period. The participants were sometimes lost as to what to do, spent a lot of time reading and watching computer displays and the result was two very tired trainers and overwhelmed participants.

The metaverse-equipped DX Enterprise on the other hand, developed training courses using AR and VR plugins, allowing participants to perform operations, interact with the teachers and other students, and receive real-time feedback on their performance. Language barriers were eliminated using simultaneous AI-driven translators integrated into the training module, allowing the trainers to conduct parallel training sessions that completed the training in two days.

BMW is experiencing the benefits of training in the metaverse using NVIDIA's Omniverse—a 3D collaborative metaverse platform. The collective partnership has allowed BMW to create an environment that digitally simulates from beginning to end the future factory, allowing the car company to onboard, train and remotely connect its workers in a spatial environment.<sup>4</sup>





## The Shelf Space, Merchandising and Competitive Challenge Dilemma

The metaverse-unequipped DX Retailer focused on partner websites to merchandise products, feeling something was better than nothing, while updating their website with new images and videos. Additional funds were spent to incentivize sales personnel to conduct targeted phone calls, while quickly training resellers in hopes of inspiring sales. The results were paltry, but the team tried hard.

The metaverse-equipped DX Retailer located virtual shelf space on multiple metaverse sites where the target was known to frequent. No-code programming allowed the team to develop the necessary applications that accepted credit cards as a blockchain-digital asset, including the ability for the target to see and manage the product in VR, with a virtual concierge that spoke a variety of languages in natural language processing fueled by AI. Predictive AI analytics allowed the company to recommend complementary products that were also purchased. The results were record sales, with targets inviting family and friends to the metaverse spaces to try and buy the product alongside them, with reviews that praised the company's innovative approach.

The legendary retailer Macy's has brought metaverse merchandising to life with its launch of mstylelab. Mstylelab is a merging of the physical and digital realms, creating an immersive shopping experience built on the Journee metaverse platform. Shoppers use a mstylelab login to design and personalize a digital fabric for their community identity allowing them to explore the customized metaverse to discover and engage with curated digital versions of apparel. Erika Lang, Head of Americas at Journee commented, "Consumers are seeking multiple touch points on multiple platforms to seamlessly integrate immersive virtual experiences into their customer journey. This innovative technology will propel the fashion industry - as well as many others - into its next phase."<sup>5</sup>







**“Education is a perfect metaverse use case where teaching can happen with simulated experiences. This also gives students field exposure to any location or industry in the world.”**

## **A University and Collaboration**

The metaverse-unequipped DX University conducted extensive training on Teams, sending students PDF handbooks and encouraging the use of video and collaborative whiteboards. The results were groups of students who went the extra mile to produce acceptable results, while others struggled with the inability to turn their ideas into operational reality.

The metaverse-equipped DX University provided students from around the world with virtual labs, allowing students to come together in the university’s metaverse to meet and demonstrate their ideas in full 3D graphics (an environment familiar to the young students). Understanding was accelerated among group participants, inspired by the ability to interact orally and virtually as if they were in the same room together. The results were an astounding rate of success using an immersive metaverse experience with students looking forward to the next project.

Griffith University in Australia lived this very scenario using a metaverse platform to bring together online students with industry innovators at SXSW Sydney to interact and complete a variety of tasks. Following an early round of testing, Jennifer Loy, Professor of Digital Business Innovation at Griffith University said, “All of our attendees were impressed by the immersive experience, realistic operations, and ability to collaborate online using the BizzTech platform. In our research at the Centre for Work, Organisations and Wellbeing at Griffith, we see a positive future for online learning and collaboration embedded in the metaverse.”



Jeff Sanders, Chief Architect at Microsoft says, “Education is a perfect metaverse use case where teaching can happen with simulated experiences. This also gives students field exposure to any location or industry in the world.”



## **City Government Economic Development**

The metaverse-unequipped DX City decided increased web presence, high production videos and the ability to virtually enter select buildings would attract more attention. The results were increased traffic, but also scores of questions given limited access to the city's assets from a visual perspective, complicated by travel restrictions among the companies interested.

The metaverse-equipped DX City created a full-scale digital twin of the community, complete with the ability to ask real-time questions of AI-equipped virtual assistants who had access to on-call city employees to answer questions and guide interested parties. The prospective clients were able to tour the city virtually and have questions answered as if they were there in person. The metaverse deployment created the foundation for the community to become a "smart city," which further impressed prospects.

The smart city vision is being realized by the City of Montgomery Alabama, who in late 2023 entered a partnership to deploy the BizzTech metaverse platform and technology across multiple city entities, with plans to leverage the technology to assist in the upcoming 60th anniversary of the Selma to Montgomery Civil Rights March. The metaverse will be used to bolster attendance of the event, educate users on the city's history and landmarks, and offer local businesses opportunities to engage in virtual commerce—all of which is expected to supercharge local businesses. Desmond Wilson, Director of Community Development for the City of Alabama, said, "This metaverse technology will change the way we approach economic development as a city forever. The possibilities are endless, and we are excited to show the world what is possible."



## **Use Cases Across Numerous Industries**

These selected industry use cases are not the only ones using or planning to deploy a metaverse platform. Other industries include healthcare, travel and tourism, conference centers, banking and finance, real estate, utilities, social media, and entertainment. Nearly any industry can benefit from immersive, 3D experiences to complete tasks or operations for its employees, extending those experiences to partners and customers. Two years ago in 2021, Satya Nadella, CEO of Microsoft said, "The metaverse is here, and it's not only transforming how we see the world but how we participate in it – from the factory floor to the meeting room."





## It is Early, but the Metaverse Projections are Impressive:

Consider what industry experts and thought-leading firms are projecting for the metaverse:

In a 2023 report, Accenture revealed executives expect more than 4% of their revenues to come from the metaverse in the next three years—an estimated \$1 trillion, with 89% of executives believing the metaverse will have a significant role in their organizations future growth.<sup>6</sup>

In a 2022 report, McKinsey & Company estimates the potential economic value of the metaverse (bottom-up view of consumer and enterprise use cases) to generate a \$5 trillion impact by 2030—equivalent to the size of the world’s third-largest economy today, Japan.<sup>7</sup>

In a 2022 report, PWC revealed 66% of business executives are actively engaged in metaverse-related activities, with 82% expecting metaverse plans to be part of their business activities within three years.<sup>8</sup>

In a 2022 report, J.P. Morgan enthusiastically reported a healthy outlook for the metaverse, estimating “the metaverse will likely infiltrate every sector in some way in the coming years, with the market opportunity estimated at over \$1 trillion in yearly revenues.”<sup>9</sup>

In a 2023 report, Deloitte revealed about one in three US respondents consider online experiences to be meaningful replacements for in-person experiences, with that number sharply increasing to one in two among Gen Zs and millennials.<sup>10</sup>

Those companies that have already invested time, money and resources into metaverse-related deployments include Adidas, Balenciaga, Bank of America, BMW, Coca Cola, Gucci, Johns Hopkins, Louis Vuitton, Macy’s, McDonald’s, Nike, Nvidia, The North Face, Walmart and Zara, with music superstars such as Ariana Grande and Travis Scott holding concerts in the metaverse.

In August of 2022, Jensen Huang, CEO of Nvidia said, “The metaverse is coming. Metaverse is not only a place to game. Future worlds will be photorealistic, obey the laws of physics, and be inhabited by human avatars and AI beings. We will create a future in these metaverses before actually downloading the blueprints to be fab’ed in the physical world.”



## Metaverse Inhibitors as Opportunities

There are challenging inhibitors to the metaverse that present significant opportunities for a variety of disciplines across the technology space. Some of the metaverse inhibitors are not new to ecommerce such as security associated with online transactions within the blockchain landscape, but others are more complex such as AI integration and the social complexities that come with immersive digital experiences.

Deloitte Insights, in an article titled *Considerations for regulating the metaverse: New models for content, commerce, and data*, points out regulators are still dealing with data collection, content, privacy and the digital economies involved with Web 2.0 in the physical world. The metaverse and its virtual world presents a new level of challenges with not only content, privacy, and trade, but conduct, where individuals as digital avatars traverse global networks expressing themselves, socializing, and transacting leaving a digital imprint of glances, gestures and speech that are recorded and stored. There are also challenges associated with taxes across multiple districts and cryptocurrencies, along with a host of regulatory considerations.<sup>11</sup>

The social implications of the metaverse presents a unique challenge to developers. Price Waterhouse Coopers (PWC) believes trust will be critical to the success of the metaverse, citing "six main areas of new trust and risk considerations, covering new developments in economics, data, governance (including cybersecurity), digital identity, the user experience and persistence (the fact that the metaverse carries on and keeps evolving even after you leave it)."<sup>12</sup> PWC recommends a "trust-by-design" approach encompassing security, identity, data, privacy and content moderation, creating metaverses of confidence for both enterprises and end users.

Then there are the challenges that typically arise in the early stage of innovative technology, mainly economics and fragmentation. Metaverse technology is young with a limited number of players in the field, creating inhibitors to reaching compelling economies of scale. Early deployments are likely to be expensive until a healthy community of competition is established and operates at critical mass. Fragmentation exists among a field of yet to be fully evaluated and vetted platform providers. Although Journee, Nvidia, and Roblox have realized early gains among metaverse deployments, upstarts with compelling technologies and economics are entering the space, creating choice, while further fragmenting the platform landscape until the market sorts out the winners and losers.

The technology space has always had its challenges that manifest themselves into innovation, strategies, and business models. The late Victor Kiam, an entrepreneur, TV spokesperson for Remington Products, and the former owner of the New England Patriots, once said, "entrepreneurs are simply those who understand that there is little difference between obstacle and opportunity and are able to turn both to their advantage." IntelliClear believes as challenging as it will be, the metaverse will accelerate the development of new technologies and advanced legislation that will help govern the wave of innovation that will accompany its worldwide growth.



## What's Next for the Metaverse

Like any technology in its early stage of development, the road for the metaverse is wide open, with a host of experimentation and beta-deployments already deployed, in progress, and planned. The question of mass deployment of the metaverse is not if, but when, with the leading indicators suggesting sooner rather than later. The key to mass deployment is ensuring the metaverse seamlessly integrates into existing infrastructures. Dirk Schmidt, Chief Executive Officer at BizzTech (a metaverse platform provider), says, "ensuring easy access to the metaverse using existing devices and operating environments is paramount for businesses, as it allows for broader and more inclusive audience engagement, irrespective of technological constraints or geographic locations."

The foundational technology for the metaverse is largely already in place, thanks mostly to the continued deployments of DX across enterprises and institutions around the globe. The current attention around AI and Machine Learning (ML) has only increased visibility of one of the metaverse's core technologies, along with the continued advancements in virtual reality and 3D technologies from the likes of Nvidia and others. At this point there are no technological barriers to the metaverse at the foundational level.

The development of metaverse platforms is where the current race is heating up. Highly transportable and compatible platforms, using simple forms of data interchange, with low code/no code tools delivering exceptional graphics at affordable prices is the objective. This is likely to include the emergence of metaverse as a service (MaaS) offerings providing scalability and improved economics. Thomas Beyer, President & Chief Operating Officer at 11:59, a California-based DX systems integrator and early deployer of metaverse solutions says, "as the unstoppable Web3 revolution continues to promote paradigm shifts related to data ownership and decentralization, we recognize the critical role the metaverse will play in not only changing how we interact socially and in business, but culturally as a whole. If businesses aren't factoring in the metaverse as a key component of their DX strategy, then they're already falling behind."

As DX deployments continue around the world, the opportunities for the metaverse to bring DX to life will follow, helping DX to achieve its full potential for transformational businesses, institutions, and consumers.



## Sources

- 1 Accenture, January 2023. 'More than hype—here's how to embrace the metaverse today.' Available at: <https://www.accenture.com/us-en/insights/technology/metaverse-internet>. Accessed, October 2023.
- 2 Mike Elgan, Computerworld, February 2023. 'Digital twin' tech is twice as great as the metaverse.' Available at: <https://www.computerworld.com/article/3688917/digital-twin-tech-is-twice-as-great-as-the-metaverse.html>. Accessed, October 2023.
- 3 Trey Norman, Spiceworks, June 2023. 'Digital Twins: Driving Value for the Metaverse.' Available at: <https://www.spiceworks.com/tech/iot/guest-article/digital-twins-for-metaverse/>. Accessed October 2023.
- 4 Brian Caufield, April 2021. 'NVIDIA, BMW Blend Reality, Virtual Worlds to Demonstrate Factory of the Future.' Available at: <https://blogs.nvidia.com/blog/nvidia-bmw-factory-future/>. Accessed November 2023.
- 5 Journee, October 2023. 'Macy's launches new digital fashion platform stylelab.' Available at: <https://journee.live/en/insights/press/macys-launches-new-digital-fashion-platform-mstylelab/>. Accessed November 2023.
- 6 Accenture, January 2023. 'More than hype—here's how to embrace the metaverse today.' Available at: <https://www.accenture.com/us-en/insights/technology/metaverse-internet>. Accessed, October 2023.
- 7 McKinsey & Company, June 2022. 'Value creation in the metaverse.' Available at: <https://www.mckinsey.com/capabilities/growth-marketing-and-sales/our-insights/value-creation-in-the-metaverse>. Accessed October 2023.
- 8 PWC, May 2022. 'PwC 2022 US Metaverse Survey.' Available at: <https://www.pwc.com/us/en/tech-effect/emerging-tech/metaverse-survey.html>. Accessed October 2023.
- 9 Christine Moy and Adit Gadgil, J.P. Morgan, 2022. 'Opportunities in the metaverse.' Available at: <https://www.jpmorgan.com/content/dam/jpm/treasury-services/documents/opportunities-in-the-metaverse.pdf>. Accessed October 2023.
- 10 Deloitte Insights, 2023. 'Considerations for regulating the metaverse: New models for content, commerce, and data.' Available at: <https://www2.deloitte.com/us/en/insights/industry/technology/emerging-regulations-in-the-metaverse.html>. Accessed October 2023
- 11 Deloitte Insights, 2023. 'Considerations for regulating the metaverse: New models for content, commerce, and data.'
- 12 PWC, May 2022. 'PwC 2022 US Metaverse Survey.'

The information set forth herein has been obtained or derived from sources believed to be reliable. Neither the author nor IntelliClear makes any representations or warranties as to the information's accuracy or completeness. The information contained herein has been provided solely for informational purposes.

### Author

Eric Shuster  
Founder and CEO  
IntelliClear Inc.

### Contributor

Alex Kalamarides  
Managing Director  
IntelliClear Inc.

### Graphics Design

McKell Shuster  
Graphics Designer and Editor

### About IntelliClear Inc.

IntelliClear is a market research and business consulting firm committed to the delivery of action-able market intelligence to the global IT community. IntelliClear's mission is to bring clarity to IT market intelligence by delivering results-oriented research, responsive industry experience, and effective data synthesis - leading to confident go-to-market plans.

Copyright IntelliClear  
November 2023