What is **the** metaverse?

The word itself means "beyond the universe," but what exactly is the metaverse? One way to describe it is the increasing permeability of the borders between different digital environments and the physical world. The metaverse is a space where you can interact with virtual objects in real life and with real-time information.

Adopting this literal approach to the metaverse means it is a combination of three elements. First, it is a technology that enables digital content to be laid over the real world. This is similar to augmented reality (AR). A simple example is the popular smartphone game, Pokémon Go, although, in the next iteration of a metaverse, this technology would be enhanced. Digital content is combined with the real world. Second, the metaverse applies a hardware device that enables the real world to be interactive. Digital content is applied so that users can control the content displayed virtually and interact with it within a real-life space. Third, it is information about anything and everything in the physical world (for instance, an area, a shop, or a product) and knowledge about the user (such as the user's schedule, location, habits, and interests). This information will be obtained from the internet and from machines learning about a user's everyday actions. A simple example of a device learning based on a user's everyday activities is Siri (on iOS) and Alexa (on Amazon). Real-time information is obtained instantly and virtually through the device into the physical space to optimize a user's experience, while in the background, data is collated and applied.

A less literal but no less relevant approach to understanding the metaverse is the application of real-world characteristics to a purely online environment. In the same way that digital content can be applied to the real world, a metaverse environment can apply real-world features to a virtual environment. For example, players interacting in a virtual gaming environment can walk around a virtual London or New York, seeing digital depictions of real-life streets and buildings. They can visit a virtual Apple store to browse and buy digital depictions of Apple products that can be delivered, in real life, to their actual physical homes. In many respects, this would be only an extension of what we know today as traditional e-commerce. However, as visual technology and design capability evolve, brands can create metaverse environments that not only replicate a real-life experience but improve it. There may be no line outside the virtual Manhattan Apple store when a new product is launched.

The idea of replicating real-life environments in the virtual world is not at all new. After all, Second Life still exists. However, modern-day gaming environments have moved the metaverse far beyond the clunky, socially awkward, and often avatar-limited 3D block worlds prevalent at the turn of the century into entirely new, ever-evolving creative online habitats. Virtual platforms like The Sandbox, Illuvium, or Decentraland, which offer innovative opportunities to build, create, trade, and explore while engaging with users from all around the world, have been at the forefront of the metaverse movement.

How does the metaverse work?

It is usually necessary to use a device to connect a user to the metaverse. This device might be a pair of goggles, a head-mounted apparatus with a camera feature, or a new invention we have yet to see. Such devices are not critical to engaging with the metaverse, but they can definitely amplify the experience. "Wearing" a device connects the user to the metaverse by integrating all of the elements and displaying the interactable virtual objects in real life. The interaction means that the user is able to react to the virtual objects; everything is displayed in real time, in front of them, in the physical world.

While such an advanced reality may be disconcerting, its fundamental elements are already widely adopted through mobile technology. Your smartphone knows you; it knows where you are and when. While the visual interfaces may change over time, the underlying capability needed to combine the physical and virtual worlds has existed for over a decade.

In the purely online world, the metaverse works by offering an escape from reality. However, there has been a significant shift in recent years toward the introduction of real-life elements into this escapist paradigm. Want to watch a movie within Roblox? Want to buy some sneakers while playing Grand Theft Auto? Want to see the latest live performance by a K-pop band on TikTok? It is this migration of commerce and interaction online and into virtual environments, and the increasing confluence between virtual and physical worlds, that drives the metaverse.

What are the commercial applications of the metaverse, and who will benefit from it?

The metaverse will alter the way we act, socialize, work, and live our lives. Just some of the potential commercial applications are discussed here, but there are business opportunities for participants in every sector, from consumer-driven industries, such as retail and events, to manufacturing, construction, and beyond.

The impressive opportunities and capabilities of the new technologies attract both consumers and tech giants, such as Roblox, Microsoft, and Nvidia. Meta (formerly Facebook) has also embraced virtual reality (VR) and augmented reality (AR) to create its own digital space, the so-called "metaverse," where people can get together, learn, work, play games, shop, and even do business in a virtual environment. Following the pioneering introduction of its AR glasses nearly a decade ago, Google has also been investing heavily in metaverse projects. The investment made by such businesses is no surprise when it has been estimated by PwC that VR and AR could deliver a $1.5 trillion boost to the global economy by 2030.

We have also seen a range of music businesses seeking to make their mark in the metaverse. Leading the way in innovation among major labels is Universal Music Group with its web3 label "10:22PM," which formed the metaverse boyband Kingship, comprised of "Bored Ape Yacht Club" NFT characters. In a similar vein, Warner Music Group has partnered with The Sandbox to create a music-themed world, called WMG LAND, within the gaming platform. And let's not forget the inimitable FN Meka, created by Anthony Martini and Factory New. FN Meka is a virtual rapper and influencer with more than 10 million TikTok followers.

On the consumer side, there is a growing appetite to shop online while socializing, which may prompt major retailers to enter the metaverse. In March 2022, we even saw the first Metaverse Fashion Week, which was hosted in Decentraland. Avatars will also be an important element of the metaverse experience, as they will express users' identities and represent who they are in the virtual world.

The increased connectivity provided by the metaverse means that goods will be more accessible, and businesses will be able to sell their goods worldwide regardless of the geographic location of their stores. User engagement will also be higher, which is likely to have a positive commercial impact if used properly.

Businesses can already sell VR accessories and services in the metaverse, much as they can in everyday life. NFTs and cryptocurrencies have been at the center of metaverse technology, enabling users to trade and invest. Users are now able to purchase anything from a digital artwork NFT to a parcel of land or real estate in the metaverse.

The metaverse has also had a huge impact on revolutionizing gaming and the way we socialize through games. For example, fans from across the globe are now able to participate in e-sports and gaming tournaments, like the EA Sports FIFA 22 Champions Cup.

Ultimately, consumers will gain most from the metaverse as information, products, entertainment, and social experiences are enhanced and more accessible.

Hardware technology companies and software development companies will dominate the technology market. The demand to provide hardware and software for the metaverse will drastically increase. Businesses will have the opportunity to create their own place in the metaverse. Brands and celebrities will have more exposure to wider audiences. The capability to offer richer, more targeted commercial promotions and experiences to consumers will increase.

And finally, how could we forget that there will also be a need for legal advice due to the uncertainty of the law and regulations around the metaverse? As we write, there is huge demand for advice in areas such as data protection, privacy, and advertising regulations – to ensure that commercial enterprise intellectual property assets are protected as the virtual and real worlds converge. Businesses will be keen to understand both the opportunities and the risks posed by the metaverse and to avoid the costly mistakes made by others, such

as Spice DAO, a decentralized autonomous organization (DAO) that won an auction at $3 million to buy a manuscript of Alejandro Jodorowsky's failed adaptation of Frank Herbert's novel "Dune." The DAO had plans to digitize and sell the book as NFTs, as well as other derivative projects, before being confronted with the reality that it would need permission to do so from the rights holders. This explosion of interest in ensuring that real-world laws are effectively translated into the virtual world will continue to challenge lawyers and lawmakers for years to come.

Who is building the metaverse?

Perhaps one of the biggest business use cases of the metaverse today is found in the gaming industry.

Take Roblox as just one example. The gaming company, which went public in March 2021, set out, in part, in its prospectus its vision for the company and the adoption of the metaverse. The goal for Roblox – as computing power, high-bandwidth internet connections, and human interface technologies improve – is to create a pervasive human co-experience platform that allows users to connect, learn, play, and work together (and even to build an economy based on its own currency, Robux). This is arguably the next iteration of Linden Lab (the creators of Second Life), which also created its own currency and which at one time had a gross domestic product bigger than that of some small countries. It is no surprise, then, that many other big names in the gaming industry are also investing heavily in their metaverse presence.

User experience in this context is just one component. As alluded to above, the word "metaverse" is derived from the prefix "meta" (meaning beyond) and the stem "verse" (meaning the universe). For the proposition of the metaverse to reach its true potential, critics agree that a number of key attributes must exist, including being persistent; able to provide live, synchronous experiences; interoperable; and value-creating. Although it is a point of debate, this means that the metaverse is unlikely to have a single entity building or operating it. Instead, many stakeholders (individuals, commercial enterprises, governments, etc.) will contribute to its existence – much like the real world.

This makes sense. The metaverse, as with the present-day internet, demands and creates opportunities for new technologies, products, service providers, content creators, standards and protocols, rules and regulations, and more, which in turn requires a community of stakeholders to build.

There is no general consensus on how the metaverse will definitely work in the future, nor who will build it or who will "own" it (if anyone). But what can generally be agreed upon is that it will exist and is no longer just a science-fiction concept. Watch this space, but don't hold your breath for a big bang. As we know from tracking developments over the last year, the metaverse will develop iteratively over time as capabilities evolve and synergies are established. Five years ago, the metaverse was for geeks only. In five years' time, it will be for everyone.

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