

Metaverse

CHALLENGES AND PERSPECTIVES



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Metaverse Market



The potential of the Metaverse is enormous, and forecasts predict its significant growth. Based on a report by Mordor Intelligence, the size of the Metaverse market is estimated to be worth **US\$116.74 billion in 2024 and is expected to grow to US\$669.96 billion by 2029**, growing at a CAGR of 41.83% over the forecast period (2024-2029). This boost is driven by factors such as the convergence of games and social media platforms, technological advances in hardware and growing adoption of online gaming.

Meanwhile, according to Bloomberg Intelligence, the Metaverse market could reach **US\$800 billion by 2024**. The global Metaverse economy could be worth more than **US\$3 trillion within a decade**, contributing around 2.8 per cent of global GDP. This economic growth will be driven by various elements, including NFTs, virtual marketplaces and DAOs (decentralised autonomous organisations). NFTs, in particular, have gained significant prominence in industries such as digital art, gaming and virtual real estate. **The NFT market is expected to almost double, from US\$1.6 billion in 2023 to US\$3.2 billion by 2027.**

Furthermore, the major players in the Metaverse market are investing in advanced technologies such as cloud, AI, and ML. They are also implementing strategic tactics such as acquisitions, collaborations, and partnerships to expand their market presence. **Key companies in this market include Tencent Holdings Ltd, NVIDIA Corporation, Meta, Roblox Corporation, and Microsoft Corporation.**

Estimated value of the Metaverse market in 2024:

Bloomberg Intelligence

\$800 bil

Mordor Intelligence

\$670 bil

What is Metaverse?



Metaverse is a term that refers to a virtual space collectively created by combining the physical world, Augmented Reality (AR), Virtual Reality (VR) and the Internet. It is a space in which physical and digital realities coexist and intersect, providing rich, interactive and immersive experiences.

Key aspects of Metaverse:

Immersiveness

Users can immerse themselves in a virtual world which is realistic and engaging. Technologies such as VR and AR are essential in creating this immersiveness, allowing users to experience the virtual world as real.

Community and Interaction

This enables individuals to interact with each other in a virtual world, regardless of their physical location. Users can meet, communicate, collaborate, and even participate in social and entertainment events.

Integrated Reality

Components from the real world can be transferred to the virtual world and vice versa. For instance, digital objects can be used in the real world through AR, and actions in the real world can affect events in the virtual world.

Digital Economy

Users can buy, sell, and trade digital assets, such as avatar clothing, virtual real estate, and works of art, as Non-fungible Tokens (NFTs). These transactions often involve cryptocurrencies and blockchain technology.

Sustainability and Independence

Metaverse is continuous and independent of any single platform or application. This means that it exists whether someone is online or offline, while its content and experiences are constantly being developed and changed by its users.



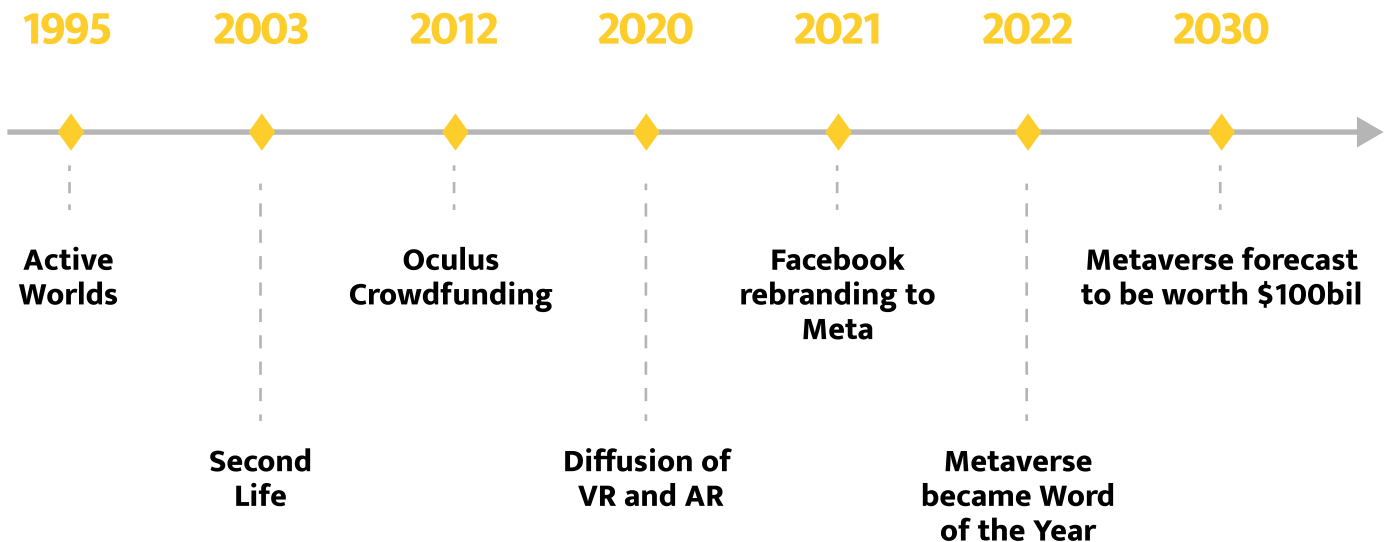
Metaverse Timeline



The concept of the **Metaverse** has been on the minds of science fiction authors since the early 20th century, depicted in literature and films. The first VR machines, such as Morton Heilig's Sensorama, were created in 1952. Ivan Sutherland's The Sword of Damocles, the first portable VR display, was a significant milestone in the development of the Metaverse. Below is a timeline of the key events that contributed to the creation of what we now call the Metaverse.



This timeline shows the progression from early virtual worlds to current investments and expansion plans for the Metaverse, including the development of VR/AR technology.



For more details, see the next page.

Metaverse Timeline



1995

Active Worlds: Active Worlds, the prototype of the Metaverse, was created. This platform enables users to assign themselves a name, log into the Active Worlds universe, and explore virtual worlds and environments created by other users.

2003

The birth of Second Life: A significant milestone in the history of the Metaverse, it enabled users to explore the world with their avatars and interact with objects and other users.

2012

Oculus Crowdfunding: Oculus raised \$2.5 million on Kickstarter, which was a big step for the Metaverse space. The company was subsequently acquired by Facebook.

2020

Diffusion of VR and AR: By 2020, manufacturers shipped over 5 million VR and AR kits annually, which was crucial for accessing the Metaverse.

2021

Facebook rebranding to Meta: In 2021, Facebook rebranded its parent company as Meta, investing \$10bil and hiring 10,000 people in Europe to build the Metaverse.

2022

Oxford's Word of the Year: "Metaverse" has become a popular buzzword in the fintech industry. Investors have spent millions purchasing virtual properties in the Metaverse.

2030

Metaverse forecast to be worth \$100bil: Analysts predict that the global Metaverse industry will be worth almost \$100 billion by 2030.

Smart Money in Metaverse



The Metaverse space is experiencing dynamic growth and increasing interest, which is drawing the attention of institutional investors seeking new investment opportunities in the digital world. Key developments and figures support this trend.

Investing in virtual real estate:

Virtual real estate markets like Decentraland and The Sandbox have received substantial investments. In some instances, individual parcels of digital land have sold for hundreds of thousands of dollars.

The most expensive transaction to date occurred in 2021, when a parcel of virtual land located in the 'Fashion Street' area of Decentraland was sold for a record-breaking \$2.4 million.

The buyer was a Tokens.com subsidiary, who purchased the land for 618,000 MANA, which was equivalent to approximately \$2,428,740 at the time of the sale. A significant transaction occurred when a virtual land parcel was sold for \$913,228, equivalent to 1.3 million MANA at the time. These markets' total value is increasing, attracting institutional investors.

\$2.4 m

Paid Tokens.com for a virtual plot of land on "Fashion Street" in Decentraland.

\$2 bil

Facebook acquired Oculus in 2014.

Facebook's acquisition of Oculus:

In 2014, Facebook (now Meta Platforms Inc.) acquired Oculus VR for around \$2 billion. This takeover was an important move towards the development of VR technology and the Metaverse, demonstrating a serious commitment by one of the world's largest technology companies in this field.



Property in Metaverse



Web 2.0 and Web 3.0 are two distinct approaches to the Metaverse, differing in their organizational structure, data storage, payment infrastructure, ownership of digital assets, and content creators. Web 2.0 relies on central management and traditional payments, with digital assets usually being utilized and locked within a platform. Web 3.0 is characterised by community governance, decentralised storage, use of crypto wallets, true digital ownership through NFTs, and greater community involvement in content creation. These developments point to an **evolution towards greater decentralisation**, user autonomy, and innovation in the digital world.



Property in Metaverse

Aspect	Web 2.0	Web 3.0
Example of Virtual Worlds	Second Life, Roblox, Fortnite, World of Warcraft	Decentraland, The Sandbox, Somnium Space, Cryptovoxels
Data Storage	Centralized	Decentralized (assets in the game)
Format of the platform	PC/console, VR/AR hardware, Mobile/app	PC, VR/AR equipment, Mobile/app (coming soon)
Payment infrastructure	Traditional payments (credit/debit cards)	Crypto wallets
Digital asset ownership	Owned by the platform on which they were purchased	Owned by the NFT
Digital asset portability	Blocked within the platform	Transferable
Content/Code Creators	Game studios and/or developers	Community, Game studios and/or developers
Identity	Avatar on the platform	Self-identity, established through the use of pseudonymous identity based on private keys
Payments	Virtual currency within the platform (e.g. Robux for Roblox)	Cryptocurrencies and tokens
Revenue from content	The platform or app store takes a 30% cut on each game purchase, leaving 70% for the developer (as in the example model).	Creators earn directly from sales, games, or platform management participation, as well as royalties from sales.

Source: www.jpmorgan.com/content/dam/jpm/treasury-services/documents/opportunities-in-the-metaverse.pdf

Value Exchange



In the Metaverse, users can transact using various payment methods based on blockchain technology. These methods offer transparency, security, and the ability to conduct decentralised and direct transactions without financial intermediaries.

Here are some examples:

Game Tokens and Rewards

Games and experiences in the Metaverse can offer their own tokens and digital currencies. Players can earn them by participating in a game or achieving a goal, and then spend them in-game or exchange them for other digital assets.

Platform Native Tokens

Wiele platform Metaverse ma własne tokeny natywne, które są używane jako waluta wewnątrz ich ekosystemu. Przykłady to MANA w Decentraland, SAND w The Sandbox czy AXS w Axie Infinity.

Cryptocurrencies

Cryptocurrencies like Bitcoin, Ethereum, and other altcoins are frequently used as payment in the Metaverse, particularly in operations that require a decentralized approach to ownership and value transfer.

NFTs

Numerous Metaverse platforms have their own native tokens that function as currency within their respective ecosystems. For instance, Decentraland uses MANA, The Sandbox uses SAND, and Ax Infinity uses AXS.

Stablecoins

Stablecoins such as USDC, Tether (USDT), or DAI are popular payment options in the Metaverse due to their price stability compared to more volatile tokens and cryptocurrencies.



Regulations in Metaverse



The regulators are currently analysing and discussing a range of issues related to the Metaverse. Given the dynamically changing environment and challenges, both regulators and companies need to make decisions about Metaverse regulation. Technology and media companies are investing billions in Metaverse technology development, aiming to capture consumer demographics and business. This makes regulation even more complex and relevant to the future development of this space. Here are the key areas of focus for regulators:



Privacy and Data Protection Regulations:

Privacy laws, both existing and proposed, may significantly impact the use of AR and VR technologies, as well as the Metaverse. Current privacy regulations and biometric laws may create loopholes that undermine the legitimacy of these laws in the Metaverse.



VR and Metaverse Specific Regulations:

Experts predict that although general privacy or antitrust laws may impact the use of AR and VR, and potentially the Metaverse, they do not anticipate any specific legislation on AR, VR or the Metaverse in the near future.



Antitrust Principles and Interoperability:

Antitrust reform work is in progress to enhance interoperability between platforms like Meta and third parties. The goal is to open up closed platforms and promote competition.

Benefits of Metaverse



The Metaverse is an increasingly popular marketing channel for businesses. A presence in the virtual world allows for innovative ways to reach existing and new customers, offering a virtual experience and successfully differentiating themselves in the market.

Having a presence in the Metaverse showcases the brand's innovation and delivers measurable benefits.



Competitive Advantage



Immersive Brand Presence



Customer Engagement



Customer Behaviour Data

1

A company's presence in the Metaverse can be a **crucial strategy for gaining a competitive advantage**. In today's world, where innovation and adaptation to changing consumer preferences are essential, the Metaverse provides a unique platform to stand out in the market.

2

Metaverse allows brands to create **immersive environments and experiences**, pushing the boundaries of traditional marketing. Through the use of VR and AR, users can explore virtual worlds, interactively discover products, explore brand stories, and participate in memorable events.

3

The **Metaverse concept extends beyond repeat purchases** and aims to enhance customer loyalty. By leveraging digital tools, virtual rewards, and products, such as collectible NFTs, businesses can increase customer engagement and loyalty while also creating new channels for interacting with consumers.

4

The Metaverse offers **extensive data on user behaviour and preferences**. By utilizing data analytics and artificial intelligence, brands can extract valuable insights from this information, gain a better understanding of their customers, and adjust their strategies for maximum effectiveness.

Presence in Metaverse



Establishing a brand presence in the Metaverse can be a complex challenge that requires an integrated approach involving technology, content, community, and marketing strategy. This generates different types of costs, both one-off (e.g. investment in design and initial development) and ongoing expenses such as platform fees, content management, marketing, and technical support. It is crucial to develop a detailed financial plan that considers all these elements and potential operational costs. Key aspects to consider include:

- 1 Platform and Infrastructure:**
Selecting the appropriate Metaverse platform that aligns with brand objectives and values while ensuring technical stability and scalability of the infrastructure to support virtual spaces.
- 2 Content Development and Design:**
Creating high-quality 3D content, including designing spaces, characters, and digital objects, and regularly updating and refreshing content to maintain user interest.
- 3 Community Interaction and Engagement:**
Developing communities around the brand through events, interactive activities, and relationship building. Monitoring and moderating interactions in the virtual environment.
- 4 Marketing and Promotion:**
Marketing strategies and promotional campaigns within the Metaverse. Collaboration with influencers and content creators in the Metaverse.
- 5 Customer Service and Support:**
Designing the customer experience, including customer service and support points in a virtual environment. Training the support team to work in the new digital environment.
- 6 Integration with External Systems:**
Linking the virtual world with customer relationship management (CRM) systems, e-commerce, and other business tools.
- 7 Security and Privacy:**
Ensuring the security of Metaverse data and transactions while complying with data protection and user privacy laws.

New Professions



The Metaverse presents numerous opportunities, not only in entertainment and online communities but also in business, education, the arts, and other fields. This digital revolution **has brought about new professions** that were once only seen in science fiction films. These roles require specialized skills and creative approaches to meet the unique needs and challenges of the virtual world.



Metaverse Architects

Specialists responsible for designing interactive spaces, objects and experiences at Metaverse.

World Builders

Accountable for creating and developing virtual worlds in the Metaverse.

Data Bounty Hunters

Search and data security specialists at Metaverse, combining legal skills with data-mining expertise.

Metaverse Ethicians

Professionals dealing with ethical issues related to living and operating in the Metaverse.

Advertising Experts

Specialists who will develop their professional skills in the context of the Metaverse.

Event Directors

Organisation and management of virtual events such as concerts or museum exhibitions.

Avatar Designers/Stylists

Designing digital clothing for user avatars in the Metaverse.

Digital Ecosystem Developers

Expand and revitalize Metaverse's capabilities, by providing the infrastructure to facilitate collaboration between technology and users.

Safety Managers

Individuals ensuring security and privacy in Metaverse.

Success Story: Bank in Metaverse



In recent years, **there has been a digital revolution** that is radically affecting almost every aspect of our lives, including the way we participate in the financial world. One innovative step in this area is the banking sector's involvement in developing and operating the Metaverse space. Through technologies such as augmented reality (AR), virtual reality (VR), and cryptocurrencies, the **Metaverse is becoming a place where the banking sector can redefine the way** it engages with customers by offering personalised and innovative experiences.

JP Morgan at the Forefront of Innovation

JP Morgan, the largest bank in the US, is a leading example of involvement in the Metaverse. The bank has opened a branch in Decentraland, a blockchain-based digital asset marketplace, named Onyx Lounge. The virtual branch is located in Metajuku, the virtual equivalent of Tokyo's Harajuku district, where the bank conducts activities such as currency exchange and financial asset creation.



We believe the existing virtual gaming landscape (each virtual world with its own population, GDP, in-game currency and digital assets) has elements that parallel the existing global economy.

JP Morgan's Report - Opportunities in the metaverse

Potential of the Metaverse in Banking

JP Morgan's foray into the Metaverse demonstrates that banks are starting to acknowledge the immense potential of this virtual world. Metaverse presents an opportunity not only to establish virtual branches but also to attract new customers and create innovative financial products and marketplaces. Banks can offer services such as balance inquiries, bill payments, fund transfers, and transactions in a novel and interactive manner through AR and VR channels.

Future of Banking in the Metaverse

The Metaverse market is expected to reach \$5 trillion by 2030, demonstrating its enormous potential. Banks already investing in this technology can become leaders in offering digital and innovative services to their customers. By bringing banking services into the Metaverse, banks not only strengthen their position as modern and technologically advanced institutions but also open the door to creating deep and valuable relationships with their customers in the virtual world.

Autors



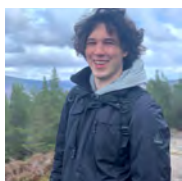
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