



# The Metaverse Multiverse

## The next disruptor?

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- ◆ The metaverse might be the next big disruptive innovation
- ◆ We explore twelve metaverse examples that use a range of tech to benefit businesses and consumers
- ◆ Commerce, gaming and blockchains are some of the enablers of the metaverse of today

### Reality 2.0

In our report [The Metaverse Age](#), 6 December 2021, we outlined three key areas for the metaverse: delivery (headsets), infrastructure, and content. On 20 April 2022, we hosted an expert panel to help us understand what the major players are doing to construct the metaverse for both consumers and corporates. Clients may contact [askresearch@hsbc.com](mailto:askresearch@hsbc.com) to request a replay of the panel.

### Twelve metaverse examples

In this summer metaverse update, we list twelve examples of the metaverse in various guises today: 1) AltSpace VR, 2) Axie Infinity, 3) Cryptovoxels, 4) Decentraland, 5) Engage VR, 6) Fortnite, 7) Horizon World, 8) Minecraft, 9) Niantic, 10) Roblox, 11) The Sandbox and 12) Somnium Space.

These metaverses have a variety of use cases and applications. These range from business, education and gaming, to social and entertainment. They are accessible on a variety of platforms from PC and smartphones all the way to fully immersive virtual reality headsets. In this report, we outline how the metaverse is used, the business model of these metaverses, how commerce operates within these worlds – with some even using blockchain innovations today.

As companies, entertainers, and celebrities begin entering these virtual worlds, the metaverses are also hosting concerts, fashion shows, virtual interviews and more. We outline some of the commercial partnerships these metaverses have with the content providers. We also look at how much investment is going into these metaverse platforms.

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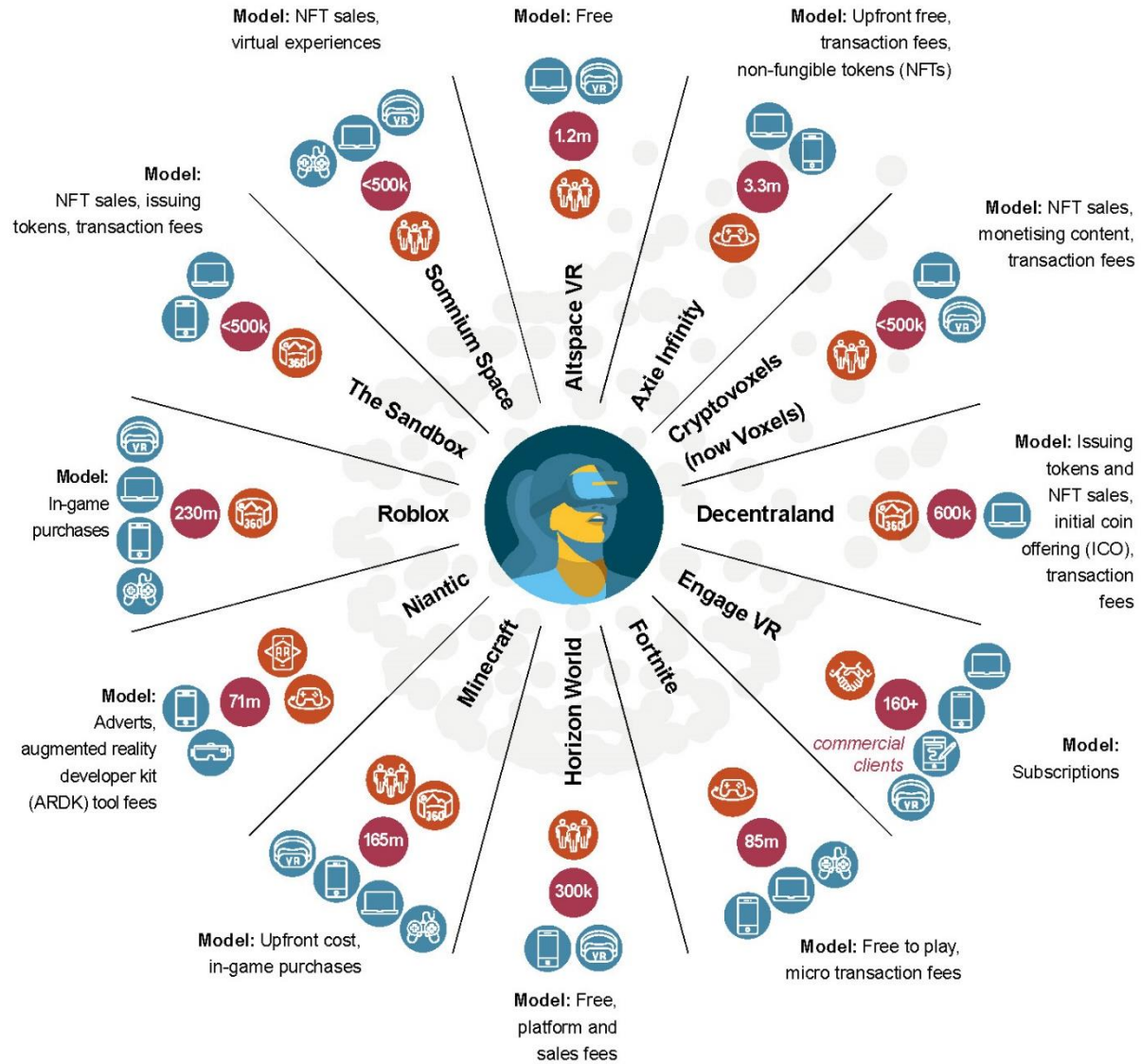
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# The Metaverse Multiverse

Twelve high-profile metaverses



Source: Company websites, Metaversed Consulting, Crunchbase, Forbes, IndieWire, Bloomberg, Crypto News, Financial Times, Tech Crunch, Decrypt, CoinDesk, Pitchbook, Women's Wear Daily, Good Tech Master, Annual reports and Financial Statements, BBC, Business of Apps, digitaltrends, Substack, Investopedia, Polygon, CNN, Inquirer, Business Insider, The Verge, CNBC, The Telegraph Xbox, sportskeeda, The Guardian WWF, Coinspeaker, Influencer Marketing Hub, The Art Newspaper, Venture Beats, Variety, NewAmericanMedia, Messan, Restaurant Business, Medium, ProductMint, Yahoo Finance, Gemini, Global Digital Assets, NFT Evening, NFT Plazas, XR Today

# Twelve metaverse examples

- ◆ There is much interest in the potential of the metaverse from investors
- ◆ We look at twelve metaverse examples...
- ◆ ...outlining how they are used for business, entertainment, gaming, and other purpose

## 1. Altspace VR: virtual reality social metaverse

### What can you do in Altspace VR metaverse?

Altspace VR is a platform for live virtual events. The platform enables creators, brands and businesses to create their own virtual reality (VR) events. Users can attend public scheduled events. In addition, users may host private/public events, open to the virtual community of users.

Public events can include church services, educational talks, networking, comedy and even concerts. Users can also socialise in pre-built VR environments, called worlds, which include streets and houses, as well as make-believe worlds. Users can opt to utilise these worlds when hosting events, rather than building their own environments from scratch.

### Metaverse background

Altspace VR was founded in 2013, launching its first product in 2015. Microsoft acquired the platform in 2017. Prior to the acquisition Altspace VR had 35,000 people using the product each month, spending an average 35 minutes a day in the virtual world.<sup>1</sup> In Q2 2022, Altspace VR had 1.2m monthly active users.<sup>2</sup>

The Altspace VR platform is available on Quest (Meta headset), VIVE (HTC headset), Windows Mixed Reality (Microsoft reference headset), and Desktop Mode (on Microsoft and Apple devices). Altspace VR is free to use on all its available devices.<sup>3</sup>

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VR metaverse for live social  
virtual events

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Acquired by Microsoft in  
2012, with 1.2m MAU in 2022

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<sup>1</sup> "A Very Sad Goodbye", Medium, 28 July 2017

<sup>2</sup> "The Metaverse Universe", Metaversed.consulting Q2 2022

<sup>3</sup> "AltspaceVR beginner's guide", Microsoft, 16 February 2022

## 2. Axie Infinity: crypto powered gaming metaverse

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### Crypto app powered metaverse

#### What can you do in Axie Infinity metaverse?

Axie Infinity is a “crypto-meets-Pokémon” game founded in Vietnam in which players raise and trade Axies (NFT pets) in order to take part in battles and adventures. It is one of the largest and most well-known and played (MAU) crypto apps using the Ethereum blockchain. Axies and real estate are traded in an in-game marketplace, with all transactions based on the Ronin sidechain. Sky Mavis designed Ronin to reduce fees compared with the Ethereum blockchain.

Axie Infinity is currently a gaming platform. However, the developers have announced that the vision is to transition the platform into a wider universe of games (eg metaverse).

#### Metaverse background

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### Launched in 2019, with 2.8-3.3m MAU in 2022

Sky Mavis created Axie Infinity, starting development in 2017, and launching an alpha at the end of 2019. The company’s roadmap outlines the company’s endgame, to create a single application for players to use to interact with the entire Axie Infinity universe.<sup>4</sup>

According to Axie Infinity, the game has 2.8m daily users<sup>5</sup>, whilst the Metaversed report for Q2 2022 has the monthly active user count at 3.3m<sup>6</sup>.

#### How does the crypto gaming metaverse work?

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### Play-to-earn metaverse game with crypto based tokens

Axie Infinity is a P2E (play-to-earn) business model, with two in-game tokens, Axie Infinity Shards (AXS) and Small Love Portion (SLP). AXS can be traded on crypto exchanges (as can SLP) and some AXS are required to play the game. They also act as a governance token, allowing users to have a say in the game’s future. SLP are given to users for playing the game, ie in battles or adventure mode.

In order to play, users will require a Ronin Wallet and an Ethereum-compatible crypto wallet. Therefore, users need devices compatible with apps like Coinbase or Metamask. Android and iOS smartphones, and PCs can be used to play. Players are required to start with three Axies, which can amount to a c.USD1,000 entry fee.<sup>7</sup> Sky Mavis takes a 4.25% transaction fee for all transactions involving Axies, real estate, and other tradeable items.<sup>8</sup> According to the Axie Infinity Website (as at 12 July 2022), the most expensive Axie ever was sold for USD820,000 and there has been USD3.6bn traded on Axie Infinity’s in-house platform.

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<sup>4</sup> “Roadmap and completed milestones”, Axie Infinity

<sup>5</sup> Axieinfinity.com

<sup>6</sup> “The Metaverse Universe”, Metaversed Q2 2022

<sup>7</sup> “Crypto’s hottest game is facing an economic maelstrom”, Financial Times, 26 November 2021

<sup>8</sup> “What is Axie Infinity?”, Coinbase.com

### 3. (Crypto) Voxels: A Minecraft inspired Ethereum blockchain world

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#### Parcel-based blockchain metaverse

#### What is the Voxels metaverse?

Voxels (formerly Cryptovoxels) is a virtual world based on the Ethereum blockchain where users can buy and sell land parcels and build virtual houses on the land. Users can also develop online experiences such as art galleries, stores, and social spaces.

Cryptovoxels is similar to Minecraft, in that it is block-based. Users are able to explore the virtual world without a crypto wallet. It is one of the smaller metaverse virtual worlds by area<sup>9</sup> though it is perhaps the easiest to begin with as it requires no additional software and has a user friendly interface<sup>10</sup>. Users can build using free editable space provided by Voxels, on parcels owned by other players but designated for public use, or on their own parcels – all of which can be done using a drag-and-drop program rather than requiring programming skills<sup>11</sup>.

The virtual world is centred around Origin City with 31 other neighbourhoods and the world expands periodically with new islands added. Like in the real world, land value is determined by location, building height, accessibility, etc.

In May 2022 Cryptovoxels rebranded as Voxels, as the company aimed to pivot to a broader audience and not simply targeted at crypto- and blockchain-savvy individuals<sup>12</sup>.

#### Background

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#### The Voxels team have no set plan or timeline

Voxels was founded in April 2018 by Nolan Consulting in Wellington, New Zealand with the first land sales occurring a few months later. Ben Nolan (founder) has said that there is no set plan or timeline for the virtual world and that the company will take a more reactive approach of fixing issues by engaging with the community<sup>13</sup>.

#### How does Voxels metaverse work?

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#### Users can earn money from land sales, royalties, and NFT trading

Voxels is available via browsers as well as through VR headsets. Originally the in-game currency had been COLR though it has since changed to using Ethereum. The Voxels marketplace is run by OpenSea, a big NFT marketplace. Users create NFTs using Voxel's software and can earn up to 10% royalties from secondary market sales<sup>14</sup>. Similar to Decentraland, Voxel's charges a 2.5% fee on all transactions<sup>15</sup>.

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<sup>9</sup> "The Metaverse Series Part Four: Cryptovoxels", Global Digital Assets, 17 September 2021

<sup>10</sup> "The Metaverse Series Part Four: Cryptovoxels", Global Digital Assets, 17 September 2021

<sup>11</sup> "The Metaverse Series Part Four: Cryptovoxels", Global Digital Assets, 17 September 2021

<sup>12</sup> "Cryptovoxels is Rebranding to Voxels", Bitcoin News, 7 July 2022

<sup>13</sup> "The Metaverse Series Part Four: Cryptovoxels", Global Digital Assets, 17 September 2021

<sup>14</sup> "Cryptovoxels vs Decentraland", Finder, 12 April 2022

<sup>15</sup> "Cryptovoxels vs Decentraland", Finder, 12 April 2022

## 4. Decentraland: a decentralised and autonomous metaverse

### What can you do in the Decentraland metaverse?

Buy virtual land, build virtual homes and businesses

Decentraland is a decentralised, immersive virtual world where users interact with others in real time, engage in virtual experiences, and have the ability to trade with one another. Decentraland is another metaverse on the Ethereum blockchain, using smart contracts rather than a centralised entity to verify transactions.

Users are able to monetise their virtual creations and experience, just as in the real world. Users can purchase plots of virtual “LAND” and build virtual houses or set up virtual businesses, in addition to playing games within the metaverse. Users who own MANA (the currency of the metaverse) can vote on platform policies and the world is run by its users.

### Background

Overseen by the Decentraland DAO and has 600k monthly users in 2022

Decentraland was officially launched in February 2020<sup>16</sup>. It is overseen by the non-profit Decentraland Foundation (independent of the founders) and the future of the metaverse is decided by the Decentraland DAO (Decentralised Autonomous Organisation). According to the report by Metaversed, Decentraland had 600k monthly active users in Q1 2022.<sup>17</sup>

Users can access Decentraland through a web browser without specific software requirements. Decentraland is not currently on mobile devices, but can be run on multiple computers as long as the user’s digital wallet is installed on each device.

### How does the DAO metaverse work?

Community driven metaverse

Users can charge other players to access their content. Decentraland does not get involved in the monetisation process – thus the success of the platforms is driven by users’ efforts. Decentraland makes money by issuing MANA tokens and LAND sales.

The DAO owns the most important smart contracts and assets that make up Decentraland - LAND contracts, estate contracts, wearables, content servers, and the marketplace. The DAO also has a significant holding of MANA (with Decentraland charging a 2.5% fee on all MANA transactions), which allows the subsidisation of various initiatives. The Decentraland community votes on policy updates, LAND auctions, NFT contracts, and other community proposals.

MANA is Decentraland’s in-game token which is used for LAND transactions as well as other assets and experiences within the metaverse. MANA is fully decentralised in the sense that the private key that controls its smart contract has been “thrown away”<sup>18</sup>. Users can use MANA to buy wearables via the marketplace and LAND - a non-fungible digital asset held in an Ethereum smart contract. Users can also develop an estate, which is the association of two or more directly adjacent LAND parcels<sup>19</sup>.

<sup>16</sup> “Decentraland Public Launch”, Decentraland, 15 January 2020

<sup>17</sup> “The Metaverse Universe”, Metaversed.consulting Q1 2022

<sup>18</sup> “Building the foundations for a decentralised virtual world”, Decentraland, 19 February 2020

<sup>19</sup> “FAQ”, Decentraland



## 5. Engage VR: virtual reality metaverse for corps and education

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Metaverse for company professional events, on-boarding, training, product demo and more

### What can you do in Engage VR?

Engage VR works with commercial clients, to develop bespoke virtual worlds. Use cases include employee on-boarding, training, product demos, wellbeing, customer outreach and professional events through metaverses. Engage VR can be accessed through a range of devices including VR headsets, PCs, smartphones (iOS and Android) and tablets.

Engage also offers MetaWorlds (ie a world within the Metaverse). These worlds can be used as templates, as well as having the option to design something from scratch. These virtual worlds can be shared privately with an organisation, class, or small group and can be used for virtual games and immersive activities (eg for team building exercises). The Engage network has over 300 MetaWorlds currently on its platform.

The company is also building something it calls the Engage Oasis – a Metaverse designed for professionals which links MetaWorlds via portals and bridges in publicly accessible plazas - aiming to launch later in 2022. Each plaza has its own theme, and clients with a public Metaworld can choose to list it via a portal inside the plaza structure. The initial plazas at launch will be enterprise, education, and creative. The company CEO David Whelan has described Engage Oasis as the LinkedIn of the virtual world<sup>20</sup>.

Engage has a virtual business campus designed to foster company culture in the hybrid work environment. The campus has six areas, with a “physical office” (within the virtual world) for users to host meetings, on-boarding, training, and company events. The aim is for users to feel a part of a company despite working remotely and prevent the feeling of isolation. There is a wellness room in the campus where users can find wellness programmes 24/7 and the campuses can be tailored to suit each individual client’s needs (eg water cooler chats or a social space).

### Background

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Has 160+ commercial and educational clients

Engage VR actually began life as an XR (extended reality) education company. Engage is an Irish company which launched in 2014 as an education platform, which since 2020 has focused on the development of the Engage platform for educators, businesses, and creators. In its early years as an education platform, the company was known as Immersive VR Education and started to build its virtual communications platform for education, “Engage”. On 12 March 2018 VR Education (the parent company of Immersive VR Education) was listed on AIM and ESM<sup>21</sup>. In Q3 2021 the company was renamed Engage XR Holdings<sup>22</sup>.

Engage VR has 160+ commercial clients from blue-chip companies, enterprise clients, and educational clients<sup>23</sup>. Engage is available in mainland China under the brand name “Vive Sessions”.

Engage VR has three options for users. Firstly, the free guest accounts allow users to attend free events and meetings, explore public MetaWorlds, host rooms with up to four people, and demos for creation tools. Secondly, it has a USD9.99 a month option called Plus for content creators. Users can host events and meetings (up to 20 people), get personalised media management, full access to creation tools and full access to spatial recording. And finally, the all access Enterprise option for large companies and organisations. Under this service, companies can host up to 70 users, get cloud file sharing, admin and statistical portal access, and receive premium support.

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<sup>20</sup> “Immersive VR Education Launch VR Training Platform ENGAGE Oasis”, Virtual Reality Reporter

<sup>21</sup> “VR Education Holdings PLC: Annual Report and Financial Statements for Period Ended 31 December 2017”

<sup>22</sup> “Company History”, Engage VR

<sup>23</sup> “About us”, Engage VR

## 6. Fortnite: video game metaverse with big corporate brands

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### Battle Royale metaverse game

#### What can you do in Fortnite metaverse?

Fortnite is a videogame where players drop onto an island and battle to be the last player standing. Players can create an island of their own, with their own rules or can play other game modes such as 'Save the World'.

Fortnite's metaverse provides an interactive social network in 3D, where players pick an avatar and explore various islands. Fortnite has collaborated with big corporations and brands for avatar 'skins' eg John Wick, NFL players, Batman and Catwoman, and Kylo Ren from Star Wars<sup>24</sup>. Epic Games' (the company which owns Fortnite) CEO has described Fortnite's user experience as a metaverse because it's not just a simple game, but rather it's a shared experience that allows players to explore the virtual world.

Despite the popularity of the Fortnite metaverse, it does not have a user-based economy which allows users to start businesses and trade virtually or even work in-game to earn money.

#### Background

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### 85m monthly active users... and available on most 2D devices

Fortnite was released by Epic Games in 2017 with two game modes: Save the World and Battle Royale, with a third Creative released in December 2018. Epic Games is a North Carolina based gaming developer. Chinese company Tencent owns 40% of the shares of Epic Games, in exchange for games-as-a-service, though Tencent have little creative control.<sup>25</sup>

The Metaversed report for Q2 2022 had Fortnite's monthly active users at 85m, though Epic Games has the registered user count at 350m in 2021<sup>26</sup>. Fortnite can be played on Windows and Apple laptops, consoles including Xbox, PlayStation and Nintendo Switch, as well as mobile devices. The Fortnite metaverse is not an all-immersive metaverse experience via a VR headset at present.

#### How does Fortnite metaverse work?

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### Free to play with ability to buy in-game digital goods

Fortnite is free to download and play. Epic Games makes its money via micro-transactions in V-Bucks, the in-game currency. 100 V-Bucks = one USD, with users getting discounts for buying in bulk. The V-Bucks can be used to buy virtual outfits, weapons, gliders, and Battle Passes (among other things).<sup>27</sup> The Battle Pass has a quarterly fee of USD9.50, which provides access to system updates (ie map changes and character features free players do not get<sup>28</sup>). Despite being free, the in-game purchases saw Fortnite make more than USD10bn from 2018-2020<sup>29</sup>. One survey found that 68.8% of Fortnite players spent money within the game, with the average spend totalling USD84.67<sup>30</sup>.

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<sup>24</sup> "Fortnite' Is Building The Metaverse Whether You Realize It Or Not", Forbes, 27 December 2019

<sup>25</sup> "Tencent's USD330m Epic Games investment absorbed 40 percent of developer", Polygon, 21 March 2013

<sup>26</sup> "Fortnite Usage and Revenue Statistics (2022)", Business of Apps, 4 May 2022

<sup>27</sup> "What is Fortnite?", digitaltrends, 15 March 2021

<sup>28</sup> "How Does Fortnite Make Money?", Investopedia, 10 September 2020

<sup>29</sup> "Why Fortnite's business model is genius", Substack, 13 June 2021

<sup>30</sup> "Study Says 69% Of 'Fortnite' Players Spend Money On The Game, USD85 Spent on Average", Forbes, 26 June 2018



## 7. Horizon Worlds: Meta's virtual reality metaverse

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Play games, socialise with friends and attend virtual events

### What can you do in the Horizon Worlds metaverse?

Horizon Worlds is Meta's social virtual reality app and it has a number of ready-made VR worlds. It also has the option for users to create their own worlds too. Users can play games, socialise with friends, or even attend virtual events.

Just like on Facebook, users can add friends and send messages via the Oculus app. There is a party system that enables users to travel between worlds and communicate with people in their group. The platform also lets users take photos within the app, meaning users can take virtual selfies, essential for 21<sup>st</sup> century socialising.

The app allows users to create mini-games and activities on top of the base game. Users over 18 can create a floating (legless) avatar and explore worlds within the app (eg shooting games, river cruises, magic flying broomstick world, and platforming games).

### Background

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Horizon World growing at 10x since official launch at end of 2021

Meta (formerly Facebook) launched Horizon Worlds in December 2021, having launched in beta in 2020 to select Oculus VR users<sup>31</sup>. Facebook acquired Oculus for USD2bn in 2014 to build technologies, products and services for the metaverse<sup>32</sup>. In 2021 alone, Meta spent USD10bn on designing its Metaverse, with 10,000 employees working on the company's metaverse vision, with plans to hire an additional 10,000<sup>33</sup>.

Between December 2021 and February 2022 Horizon Worlds grew 10x to 300,000 users, this number did not include Horizon Workrooms – the VR conferencing experience<sup>34</sup>.

### How does Horizon Worlds metaverse work?

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Free to play metaverse with ability to create virtual assets

Horizon World is a free to play metaverse, however users will require a Quest headset sold by Meta. Meta takes a 47.5% cut of sales from Horizon worlds, including a 30% platform fee for purchases made through Meta's Quest Store. The web version will have a sales fee of just 25% as it will avoid the Quest Store's 30% cut.<sup>35</sup> Meta is aiming to launch Horizon Worlds for smartphones later in 2022 to expand beyond VR devices. Select Horizon Worlds creators can sell virtual assets within the worlds they build, which could eventually include NFTs.<sup>36</sup>

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<sup>31</sup> "Facebook takes a step toward building the metaverse, opens virtual world app to everyone in U.S.", CNBC, 9 December 2021

<sup>32</sup> "Facebook takes a step toward building the metaverse, opens virtual world app to everyone in U.S.", CNBC, 9 December 2021

<sup>33</sup> "Mark Zuckerberg says Meta's metaverse project will lose 'significant' sums of money for up to 5 years", Business Insider, 26 May 2022

<sup>34</sup> "Meta's social VR platform Horizon hits 300,000 users", The Verge, 17 February 2022

<sup>35</sup> "Meta is developing a web version of Horizon Worlds", Tech Crunch, 15 April 2022

<sup>36</sup> "Meta plans to take a nearly 50% cut on virtual asset sales in its Metaverse", CNBC, 13 April 2022

## 8. Minecraft: a builder's metaverse, block by block

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A virtual LEGO like experience for building worlds

### What can you do in the Minecraft metaverse?

Minecraft started as a simple computer game - built on mining and crafting virtual worlds with Lego-like blocks. Initially there were two main modes: survival and creative. In survival mode, players found supplies and foods to craft tools and avoid creatures. Whilst in creative mode, players get given supplies to build whatever they want, they can fly, and do not need to virtually eat<sup>37</sup>. Users can explore pre-existing worlds created by other players and play games within the world such as Cops and Robbers.

There are now a number of Minecraft editions including Minecraft Dungeons, Minecraft Realms, Minecraft Education, and Minecraft Ice Age. Minecraft education supports thousands of educators across 100 countries, whilst the Ice Age edition allows players to travel back to 20,000 BC alongside their favourite Ice Age character avatars<sup>38</sup>.

### Background

Minecraft was first launched in May 2009, with the full release coming in November 2011 from the developer Mojang Studios. In 2014 Mojang was purchased by Microsoft for USD2.5bn<sup>39</sup>. The Metaversed report has Q2 2022 monthly active users at 165m.<sup>40</sup>

### How does Minecraft metaverse works?

Minecraft is available in two editions – Minecraft Java Edition and Minecraft Bedrock Edition. The Java Edition is available for the PC and the Bedrock Edition is available on Android, iOS, and games consoles<sup>41</sup>. Minecraft is also available on VR headsets like Quest and Windows Mixed Reality.

There is an upfront cost to buy Minecraft, with updates and additional features provided for free after the initial purchase. By April 2021 Minecraft had sold more than 238m copies worldwide<sup>42</sup>. In 2017 Minecraft added a Marketplace where users can buy virtual currency (Minecoins) and spend it on user-created content. Licensed content is also available featuring popular franchises such as Sonic the Hedgehog, Jurassic World, and Major League Baseball<sup>43</sup>.

Content creators are compensated by Microsoft and Mojang when players download their work on the marketplace. Many users also stream their playing on Minecraft on platforms such as Twitch or YouTube.

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Bought by Microsoft in 2014 and has 165m monthly in 2022

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Available on PC, consoles and VR

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<sup>37</sup> "What is Minecraft?", The Telegraph, 24 September 2013

<sup>38</sup> "Welcome to Minecraft", Minecraft Website

<sup>39</sup> "Minecraft sold: Microsoft buys Mojang for USD2.5bn", The Guardian, 15 September 2014

<sup>40</sup> "The Metaverse Universe", Metaversed.consulting Q2 2022

<sup>41</sup> "What is Minecraft?", digitaltrends, 15 March 2021

<sup>42</sup> "Minecraft Franchise Fact Sheet April 2021", Xbox, April 2021

<sup>43</sup> "What is Minecraft Marketplace? Everything you need to know", sportskeeda, 13 September 2021

## 9. Niantic: an augmented reality metaverse

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The makers of Pokémon Go – augmented reality on smartphones

### What can you do in the Niantic metaverse?

Niantic created Pokémon Go (a smartphone app) via its Lightship platform. Based on augmented reality (AR) technology, it allows users to interact with digital objects in the physical world (ie. a shared-state). The Lightship platform is an ARDK (Augmented Reality Development Kit) designed to help developers build experiences using the same building blocks Niantic used for Pokémon Go.

Niantic's long-term goal is to build a 3D map of the world. It is working with Qualcomm to design AR glasses that orient themselves using Niantic's maps, in order to merge the virtual and physical worlds.<sup>44</sup>

### Background

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Spin-off from Google

Niantic began as an internal start-up at Google in 2010, before spinning off as an independent entity in 2015.<sup>45</sup> Niantic went on to launch Pokémon Go in 2016, which generated more than USD6bn in revenue. Pokémon Go had 232m annual active players in 2016. By 2021 this had dropped to 71m. Through to 2021, the app had got 572m cumulative downloads.<sup>46</sup> Pokémon Go is available on iOS and Android devices. Niantic is looking to develop AR headsets/glasses.

### How does the Niantic metaverse might work?

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Merging the real world with AR metaverse

The Niantic metaverse encourages users to go outside, experiencing the AR metaverse in the real world. The company could then make money by advertising or steering people towards certain shops or events whilst wearing the AR glasses, as has been done with Pokémon GO steering people to sponsored locations<sup>47</sup>. The company currently offers access to its Lightship ARDK tool for free. However, as of 1 January 2023 the company will charge some fees based on MAU of shared AR services, though the company will still offer a number of the ARDK tools for free<sup>48</sup>. Despite a drop in Pokémon Go, in 2021 it produced USD1.21bn in revenues.<sup>49</sup> We believe that Niantic's AR technology could one day be used for city tours, with educational purposes and destinations being marked on the AR map.

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<sup>44</sup> "The Metaverse is a Dystopian Nightmare. Let's Build a Better Reality", Niantic, 10 August 2021

<sup>45</sup> "Niantic Labs, Maker of Ingress, Spun Out of Google As Its Own Company", Tech Crunch, 13 August 2015

<sup>46</sup> "Pokémon Go Revenue and Usage Statistics (2022)", Business of Apps, 30 May 2022

<sup>47</sup> "The Unique Way Pokemon Go Makes Money", Dice, 2 June 2017

<sup>48</sup> "Pricing", Niantic Lightship

<sup>49</sup> "Pokémon Go Revenue and Usage Statistics (2022)", Business of Apps, 30 May 2022

## 10. Roblox: the creator metaverse for the younger generation

A metaverse community to create games

### What can you do in the Roblox metaverse?

Roblox is a free gaming platform, where users download something to play from a wide range of Roblox games. Some of the most popular games on Roblox include<sup>50</sup> Adopt Me!, where users care for virtual pets, which can be traded with other players. Jailbreak is an example of another game where users play in a virtual 'cops and robbers' style game. And Brookhaven RP is a game where users get jobs, purchase houses and cars, and hang out – a virtual everyday life experience.

Roblox provides the environment and tools to its community to create their own games. There are millions<sup>51</sup> of different games in Roblox and whilst they all exist within the same graphical environment they are all very different. Users can download every game in the environment without any additional software (unless you wish to create a game).

### Background

Launched in 2006 and has 230m MAU in 2022

David Baszucki and Erik Cassel launched Roblox in 2006, having released a beta in 2004. The Metaversed report in Q2 2022 said that Roblox has 230m monthly active users<sup>52</sup>. Roblox is available on PC, smartphones, VR headsets, and game consoles.

### How does Roblox metaverse work?

The creator economy experienced by over half of US kids and teens under 16

In addition to the free gameplay, users can subscribe to Roblox premium. It's a membership that bestows users a monthly allowance and special perks. There are three tiers, with each tier being more expensive but providing a greater monthly allowance.<sup>53</sup>

Users can create games in the platform and charge real money for people to play it and can charge for bonus features such as digital skins.<sup>54</sup> Creators can also make money through advertising and micro-transactions by having a virtual currency which can be bought with fiat currency.<sup>55</sup> Users have even earned up to USD1m in a single year monetising their games.<sup>56</sup>

According to the company, in 2020 over half of US children and teens under 16 played Roblox.<sup>57</sup> Although Roblox and all of its games are available for free, users can purchase the platform's virtual currency Robux which can be converted back into real money.<sup>58</sup>

<sup>50</sup> "Roblox most popular games 2022, by all time visits", Statista, February 2022

<sup>51</sup> "What is Roblox?, An In-Depth Guide To Roblox", Influencer Marketing Hub, 16 August 2021

<sup>52</sup> "The Metaverse Universe", Metaversed.consulting Q2 2022

<sup>53</sup> "What is Roblox?", digitaltrends, 3 May 2020

<sup>54</sup> "What is Roblox and Is It Safe for Kids?", MUO, 18 November 2020

<sup>55</sup> "What is Roblox?", Influencer MarketingHub, 16 August 2021

<sup>56</sup> "A 24-year old Roblox developer making over USD1m a year shares how he launched his own game development studio", Business Insider, 10 March 2021

<sup>57</sup> "Over half of US kids are playing Roblox, and it's about to host Fortnite-esque virtual parties too", The Verge, 21 July 2020

<sup>58</sup> "Why is everyone talking about Roblox?", Polygon, 11 March 2021

## 11. The Sandbox: Ethereum-based metaverse gaming

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Ethereum-based blockchain gaming and more to generate income

### What is the Sandbox metaverse?

The Sandbox is an Ethereum-based metaverse which allows users to purchase virtual land (NFTs) as well as play games and enjoy virtual experiences. The Sandbox aims to help developers monetise content on the Ethereum blockchain, eg virtual art, and other assets to help users generate a virtual income, which is transferable into real-world cash.

The Sandbox DAO is not yet deployed (launching later in 2022). Eventually it will enable users to vote on Foundation grants and other game parameters. Similar to Decentraland, the DAO will be governed by SAND token holders and asset owners.

### Background

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More than 2m registered users

Pixowl developed and launched The Sandbox in May 2012. Initially it was a 2D game in the Minecraft mould. It was downloaded over 2m times. In 2016, Pixowl released the second version, The Sandbox Evolution, which by April 2018 had been downloaded 40m times.<sup>59</sup> In August 2018 Animoca Brands acquired Pixowl for USD4.875m.<sup>60</sup>

The Sandbox metaverse has more than two million registered users as of March 2022. This number is based on 13 months of The Sandbox signing up registered users<sup>61</sup>. It is available on PC, Mac, and mobile devices (iOS and Android).

### How does The Sandbox metaverse work?

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Token driven metaverse

The Sandbox platform consist of three key parts: Voxel Editor, Marketplace, and Game Maker. The VoxEdit allows users to model and create NFT's for PC/Mac to become in-game ASSETS. ASSETS are then sold on the Marketplace. The Game Maker enables users to build games for free without the need for coding skills, therefore, users can contribute to the metaverse with new creations and experiences.

The Sandbox makes money by issuing and selling tokens and digital assets. Therefore, profits are reliant on the demand for tokens. The Sandbox partners with various franchises and celebrities to boost demand for SAND and LAND. Users pay a 5% transaction fee on all in-game transactions, of which 50% goes to a Staking Pool to serve as rewards for token holders and the other 50% goes to The Sandbox foundation which distributes the tokens.<sup>62</sup>

SAND is the in-game currency and LAND refers to the digital real estate; each LAND is an NFT on the Ethereum blockchain – there are 166,464 LANDS. Users generate revenue by creating ASSETS, owning LAND and renting or selling it, or building games and experiencing using LANDS<sup>63</sup>.

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<sup>59</sup> "The Sandbox Business Model – How Does The Sandbox Make Money?", Productmint

<sup>60</sup> "Animoca Brands acquires Sandbox game developer Pixowl for USD4.875m", Venture Beats, 26 August 2018

<sup>61</sup> "The Sandbox metaverse hits 2M users and launches Alpha Season 2", Venture Beats, 3 March 2022

<sup>62</sup> "The Sandbox Business Model – How Does The Sandbox Make Money?", Productmint

<sup>63</sup> "What Is The Sandbox?", Medium, 30 June 2020

## 12. Somnium Space: VR world on the Ethereum blockchain

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A fully interconnected virtual world using blockchains

### What is the Somnium Space metaverse?

Somnium Space is an open-source platform which allows users to buy land, homes, and other in-game assets – all of which are NFT's tradable on the Ethereum and Solana blockchains. Somnium Space is entirely interconnected, meaning that all users exist within the same world, rather than multiple sub-worlds.

Somnium Space has four key characteristics: it has an SDK (software development kit) for avatars and property, is a VR experience, has a builder module to create environments, and an NFT marketplace to trade LAND and other assets<sup>64</sup>.

Users can build and monetise experiences with in-game digital assets, and even advertising space. Users can also generate income by streaming their gameplay, creating a store in the metaverse, develop online courses and other experiences (eg concerts), and charge fees for all of these ventures<sup>65</sup>.

### Background

Somnium Space's founder Artur Sychov launched the platform in 2017 with the full public launch in September 2018<sup>66</sup>

### How does Somnium Space metaverse work?

Somnium Space is available on Windows, Steam, as well the Oculus and Vive VR Headsets<sup>67</sup>. Somnium Space has its own token, CUBES, which run on the Ethereum blockchain. CUBES allow for the purchases, exchanges, and transactions within the Metaverse; transactions occur via smart contracts to ensure near-free and instant transactions. Somnium Space gives users the ability to earn CUBES based on their 'Karma levels' (ie. positive engagement through providing value and services to the space).

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Users can earn CUBES (currency) via Karma levels

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<sup>64</sup> "Somnium Space (CUBE): A VR World for the Decentralised Age", Gemini, 23 December 2021

<sup>65</sup> "The Metaverse Series Part Two: Somnium", Global Digital Assets, 3 September 2021

<sup>66</sup> "Somnium Space Is An Immersive Out-Of-This-World Metaverse Experience", Forbes, 12 February 2022

<sup>67</sup> Somnium Space website



# Disclosure appendix

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