

# THE METAVERSE

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*Web 3.0 Virtual Cloud  
Economies*





# THE METAVERSE

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- 1
- 2
- 3
- 4
- 5
- 6

Crypto cloud economies are the next emerging market investment frontier and the Metaverse is at the forefront of this Web 3.0 internet evolution. The Metaverse is a set of interconnected, experiential, 3D virtual worlds where people located anywhere can socialize in real-time to form a persistent, user-owned, internet economy spanning the digital and physical worlds.

The Metaverse is still emerging, but many key components have started to take shape and are revolutionizing everything from e-commerce to media & entertainment, and even real estate. Our [Grayscale Decentraland Report](#) and [Decentraland Tour](#) make this concept more tangible by introducing one of the leading blockchain-based virtual worlds—Decentraland.

Projects like Decentraland are creating an open-world metaverse where users can log in to play games, earn MANA (the native token of Decentraland, with which users can purchase NFTs, including LAND or collectibles, and vote on economy governance), or create NFTs, giving them real world interoperability for the value of their time spent in-game.

The potential of this internet evolution has started to attract Web 2.0 companies like [Facebook](#), which is shifting to a Metaverse company and is changing its name to “Meta”. At this inflection point, other leading Web 2.0 tech companies will likely need to start exploring the Metaverse to stay competitive, and the spotlight has prompted a new wave of [investment](#) in this emerging crypto category.





- 1
- 2
- 3
- 4
- 5
- 6

# Table of Contents

|                                    |           |
|------------------------------------|-----------|
| <b>The Metaverse</b>               | <b>02</b> |
| <b>The Meta Thesis</b>             | <b>04</b> |
| <b>The Meta Market Opportunity</b> | <b>06</b> |
| <b>The Meta Web 3.0 Economy</b>    | <b>10</b> |
| <b>The Meta Web 3.0 Metrics</b>    | <b>13</b> |
| <b>The Meta Takeaway</b>           | <b>16</b> |



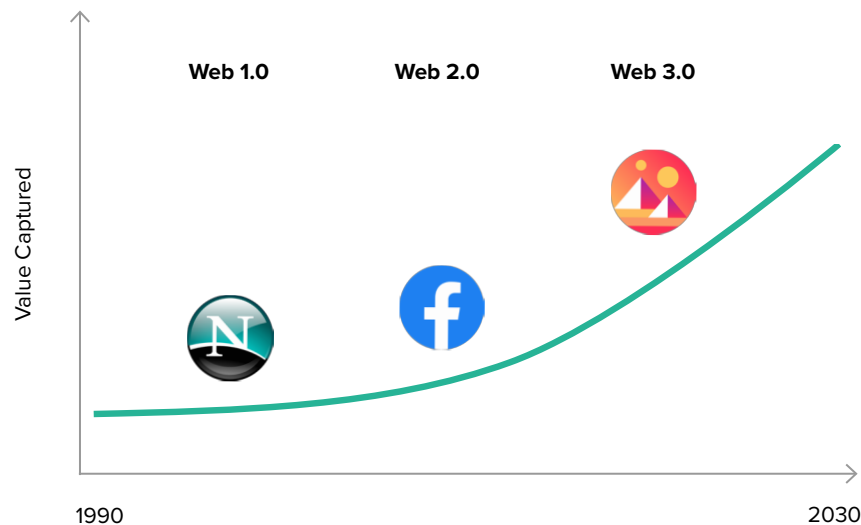


# The Meta Thesis

The internet has always been about connecting people. Over the past three decades, internet technology has evolved, and the way we all interact with the web has evolved with it. Much has changed, but three key eras of online-based communities could be thought of as:

- **Web 1.0 - Netscape** connected us online
- **Web 2.0 - Facebook** connected us into online communities
- **Web 3.0 - Decentraland** connected us into a community-owned virtual world

FIGURE 1: ILLUSTRATIVE EVOLUTION OF WEB COMMUNITIES<sup>1</sup>



As we moved across these eras, our interactions and the mediums we used to create them expanded. We experienced firsthand how organizational architectures connecting us transformed, how computing infrastructure we relied on matured, and how control over the web ebbed and flowed between the community and big tech companies.

1. Grayscale





- 1
- 2
- 3
- 4
- 5
- 6

FIGURE 2: ILLUSTRATIVE KEY FEATURES OF WEB 1.0, 2.0 & 3.0<sup>2</sup>

|                | Web 1.0            | Web 2.0             | Web 3.0           |
|----------------|--------------------|---------------------|-------------------|
| Interact       | Read               | Read-Write          | Read-Write-Own    |
| Medium         | Static Text        | Interactive Content | Virtual Economies |
| Organization   | Companies          | Platforms           | Networks          |
| Infrastructure | Personal Computers | Cloud & Mobile      | Blockchain Cloud  |
| Control        | Decentralized      | Centralized         | Decentralized     |

The Web 2.0 mobile internet changed how, where, when, and why we used the internet. In turn, this changed the products, services, and companies we used, which changed our business models, culture, and politics – the Web 3.0 Metaverse has the potential to do the same.

<sup>2</sup> Grayscale





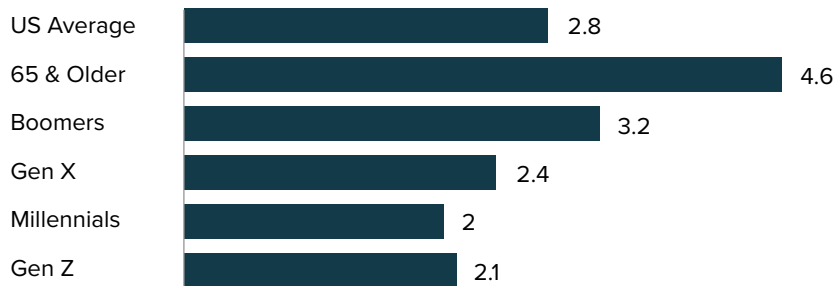
# The Meta Market Opportunity

A greater and greater portion of our attention is going towards digital activities, especially for younger generations. Today, ~1/3rd of our lives (~8 hours/day) is already spent watching TV, playing games, or on social media.

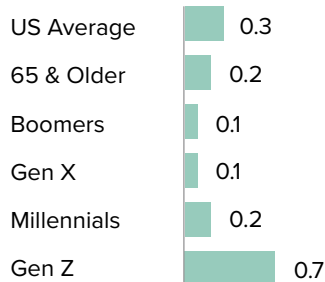
As we spend more of our time in these digital world experiences, we also spend more of our money within these digital realms to build our social status within these online communities.

FIGURE 3: US AVERAGE DAILY HOURS SPENT ON SELECT LEISURE ACTIVITY<sup>3</sup>

## Watching TV



## Playing Video Games



## Social Media



3. [Goldman Sachs](#)



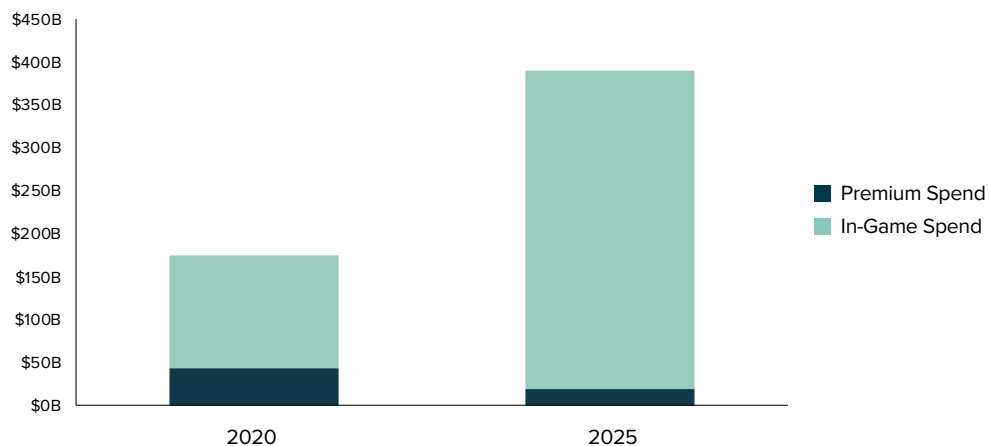


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2  
3  
4  
5  
6

Our social lives and gaming are converging and creating a large, fast-growing virtual goods consumer economy. It is estimated that revenue from virtual gaming worlds could grow from ~\$180 billion in 2020 to ~\$400 billion in 2025.

The continued shift of game developer monetization is a key dynamic within this growth trend. Players are increasingly moving away from paying to play premium games towards free games, which developers monetize by selling players in-game items to enhance gameplay or social status within these virtual worlds.

FIGURE 4: GLOBAL VIRTUAL WORLD REVENUE GROWTH<sup>4</sup>



This shift is accelerating further with the transition from Web 2.0 closed corporate metaverses to Web 3.0 open crypto metaverse networks, which are:

- **Web 2.0 Closed Corporate Metaverse:** centrally owned and controlled by big tech, or;
- **Web 3.0 Open Crypto Metaverse:** democratically owned and controlled by global users.

Many gamers today spend their money and hours of their time building digital wealth within Web 2.0 closed corporate metaverse worlds. The problem is, most game developers don't let players monetize their investment and efforts. Developers prohibit players from trading items with other players and keep these worlds closed so players cannot transfer their in-game wealth to the real economy.

Web 3.0 open crypto metaverse networks solve this problem by eliminating the capital controls imposed on these virtual worlds by Web 2.0 platforms. This new paradigm allows users to own their digital assets as Non-Fungible Tokens (NFTs), trade them with others in the game, and carry them to other digital experiences, creating an entirely new free-market internet-native economy that can be monetized in the physical world. This evolution of the "creator economy" is known as "Play to Earn".

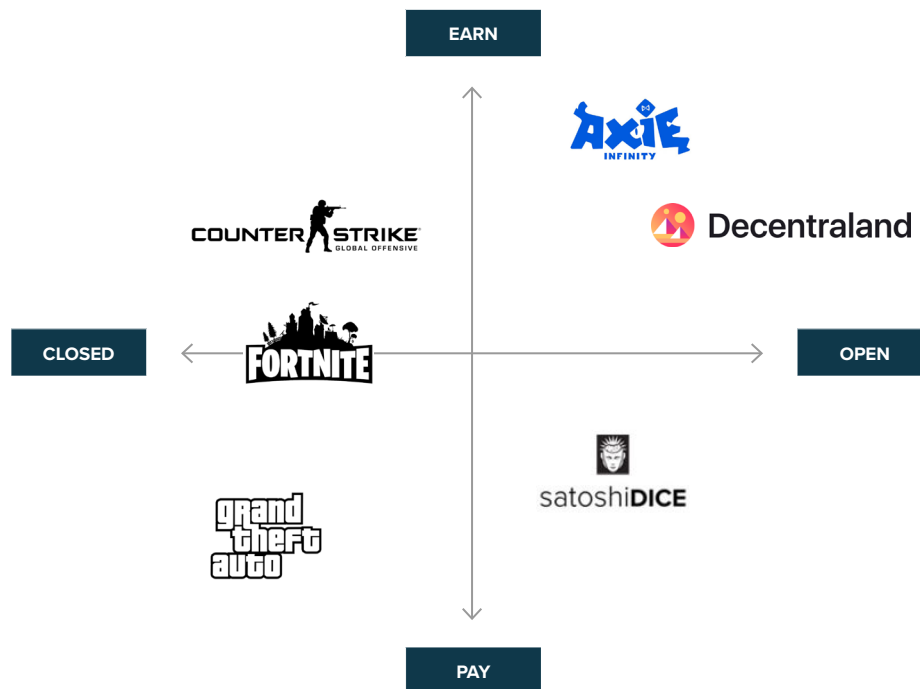
4. [Ark Invest](#)





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- 2
- 3
- 4
- 5
- 6

FIGURE 5: ILLUSTRATIVE OPEN VS CLOSED GAMING & METAVERSE EXAMPLES<sup>5</sup>



In the metaverse, users dictate these types of seamless, real-world adjacent interactions across digital communities. Conversely, the closed nature of Web 2.0 corporate Metaverse platforms may put users at a disadvantage compared to Web 3.0 open crypto Metaverse networks.

Established Web 2.0 corporations will need to disrupt their business models by opening up their ecosystems and removing their competitive moats. We don't yet know the path Facebook will take with their Metaverse ambitions, but they—like other Web 2.0 companies—will need to make this challenging shift in the face of pressure to meet quarterly results for shareholders.

Gaming is just one of the most immediately addressable segments where value is already starting to naturally shift to Web 3.0, but the Metaverse opportunity extends far beyond gaming. The Metaverse is estimated to be a trillion-dollar revenue opportunity across advertising, social commerce, digital events, hardware, and developer/creator monetization.

<sup>5</sup> Grayscale

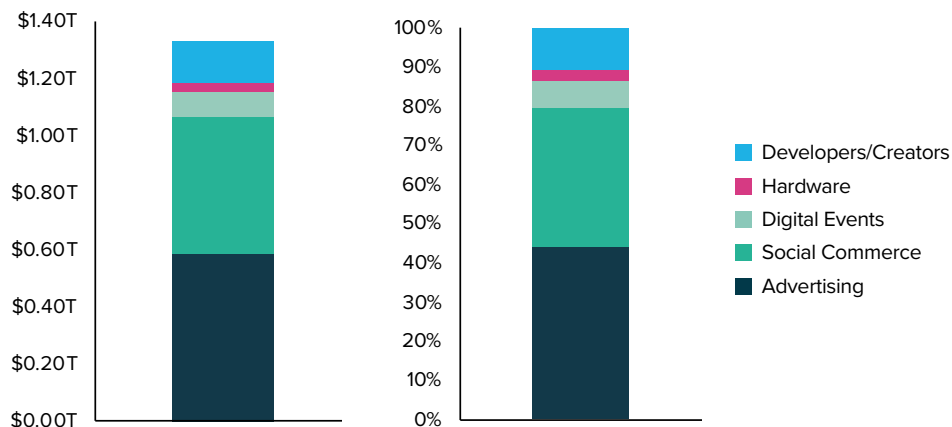






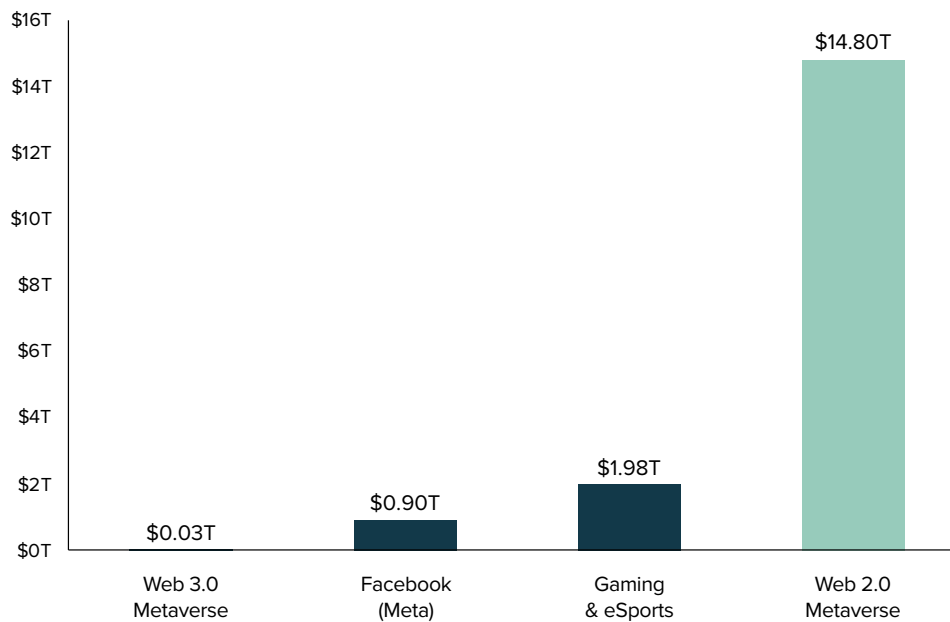
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- 2
- 3
- 4
- 5
- 6

FIGURE 6: GLOBAL METAVERSE POTENTIAL TOTAL ADDRESSABLE MARKET<sup>6</sup>



The total market cap of the leading Web 3.0 Metaverse crypto networks sits at ~\$27.5 billion. This pales in comparison to the ~\$900 billion market cap of Facebook, the ~\$2 trillion market cap of the gaming sector, and the \$14.8 trillion market cap of Web 2.0 companies that could shift to the Metaverse or risk disruption.

FIGURE 7: MARKET CAP: WEB 2.0 & 3.0 METAVERSE, FACEBOOK, GAMING<sup>7</sup>



6. [Global X](#), [App Annie](#), [Zenith](#), [Grand View Research](#), [BCG](#)  
 7. [Coingecko](#), [MVIS](#), [Roundhill Ball](#), [Bloomberg](#) (Date: 10/29/2021)



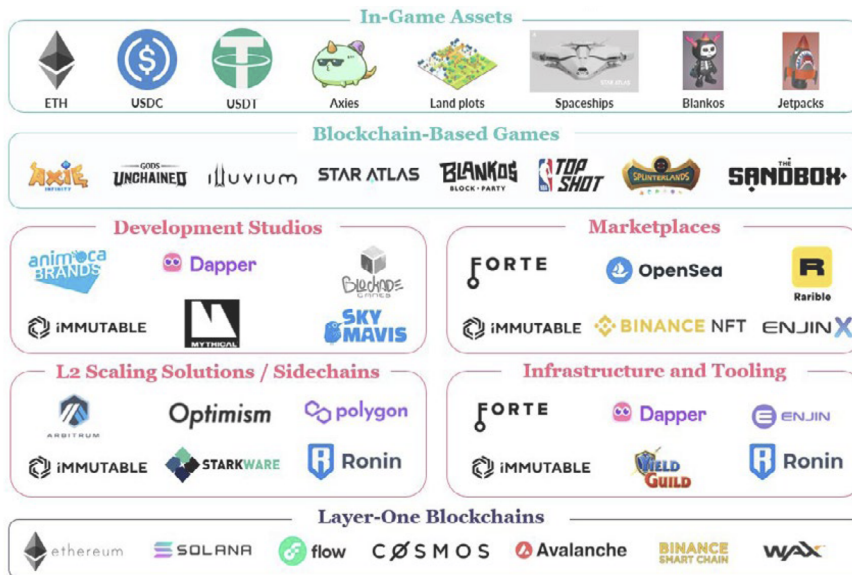


# The Meta Web 3.0 Economy

Web 3.0 crypto Metaverses are emerging market virtual world economies with a continually developing complex mix of digital goods, services, and assets that generates real-world value for users.

Early Web 3.0 metaverse worlds have been typically built on top of blockchain computing platforms (layer one) with a host of parties contributing to the development of the games and in-game items that can be freely traded on the blockchain.

FIGURE 8: **BLOCKCHAIN-BASED GAMING STACK**<sup>8</sup>



8. The Block





- 1
- 2
- 3
- 4
- 5
- 6

Users purchasing these items are starting to build a new e-commerce experience. Examples of some more popular business activities within Decentraland and other virtual world economies today are:

- **Art Galleries**, such as [Sotheby's](#), have launched allowing owners to showcase and sell their digital NFT art at auction.
- **Business Offices**: crypto businesses like Binance and others have established digital headquarters in the Metaverse where employees can meet and collaborate.
- **Games & Casinos** where players can win MANA.
- **Advertising**: digital billboards have been built by property owners to advertise to game players for a fee.
- **Sponsored Content**, such as the recently announced Atari arcade which will feature games that can be played within Decentraland.
- **Music Venues** where DJs and musicians play music and hold concerts.

FIGURE 9: METAVVERSE EXPERIENCES<sup>9</sup>



<sup>9</sup> Grayscale, Decentraland





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2  
3  
4  
5  
6

These Web 3.0 Metaverse worlds are part of a larger interconnected crypto cloud economy. These decentralized protocols interoperate with and provide the technical infrastructure to support Metaverse virtual economies.

- **Payment Networks:** Web 3.0 metaverse economies can use their own digital currency, like MANA, or the currency of the layer one base crypto cloud economy platform they’re built on, such as Ethereum (ETH) or Solana (SOL).
- **Decentralized Finance:** Decentralized exchanges allow users to trade in-game items while lending platforms allow users to take out loans on their virtual land.
- **NFT Sovereign Goods:** Players can purchase NFTs from other creators and bring them into other virtual worlds to be put on display or sold.
- **Decentralized Governance:** Legal frameworks take back control of the digital economies from centralized corporations and allow a global network of Web 3.0 metaverse users to decide the rules of their collectively owned virtual space.
- **Decentralized Cloud:** File storage solutions such as Filecoin give Web 3.0 metaverse worlds a decentralized infrastructure solution to store data while services like Livepeer give virtual worlds decentralized video transcoding infrastructure.
- **Self-Sovereign Identity:** Internet-native social reputation coin (“creator coins”) data from other platforms may be transferred into the Metaverse and used for identity or credit scoring.

FIGURE 10: **BLOCKCHAIN-BASED VIRTUAL ECONOMY SEGMENTS**<sup>10</sup>

| Self Custody & Access – Wallets/Front End Applications   |  |  |   |  |
|--|--|--|---|--|
| Agents   |  |  |   |  |
| Decentralized Finance (DeFi)   | NFTs–Sovereign Virtual Goods   | Decentralized Governance   | Decentralized Cloud Services  | Self-Sovereign Identity  |
| <ul style="list-style-type: none"> <li>• Aggregators</li> <li>• DeFi Primitives</li> <li>• Oracles</li> <li>• Data</li> <li>• Marketplaces</li> <li>• Units of value – “Internet Money”</li> </ul> | <ul style="list-style-type: none"> <li>• Minting Houses</li> <li>• Marketplaces</li> <li>• Token Standards</li> <li>• Metadata Standards</li> <li>• Hybrid NFT+FT</li> <li>• Physically Redeemable NFTs</li> </ul> | <ul style="list-style-type: none"> <li>• DAO Frameworks</li> <li>• Voting Mechanisms</li> <li>• Staking &amp; Slashing</li> <li>• Multigeniture Wallets</li> <li>• Community Audits</li> </ul> | <ul style="list-style-type: none"> <li>• Storage</li> <li>• Compute</li> <li>• Databases</li> <li>• Query &amp; APIs</li> </ul> | <ul style="list-style-type: none"> <li>• DIDs</li> <li>• Verifiable Claims</li> <li>• Creator Coins</li> </ul> |
| Programmability Layer  |  |  |   |  |
| Transaction Layer  |  |  |   |  |
| Peer-to-Peer Networks  |  |  |   |  |

10. Outlier Ventures

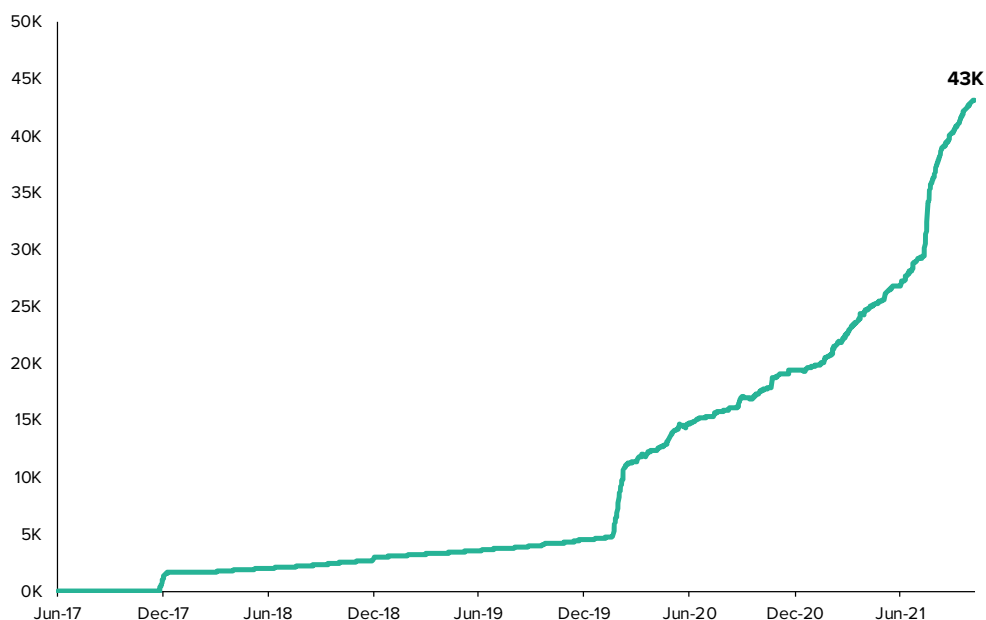




# The Meta Web 3.0 Metrics

The combination of these innovations has created a new online experience that's already attracting users. Web 3.0 Metaverse virtual world users have seen rapid growth over recent years. Today, Web 3.0 Metaverse virtual worlds have nearly 50,000 all-time users (active wallets as proxy), up ~10x since the beginning of 2020.

FIGURE 11: GLOBAL ALL TIME ACTIVE METAVERSE WALLETS<sup>11</sup>



Compared to other Web 3.0 and Web 2.0 segments, Metaverse virtual world users are still in their early innings, but if current growth rates remain on their current trajectory, this emerging segment has the potential to become mainstream in the coming years.

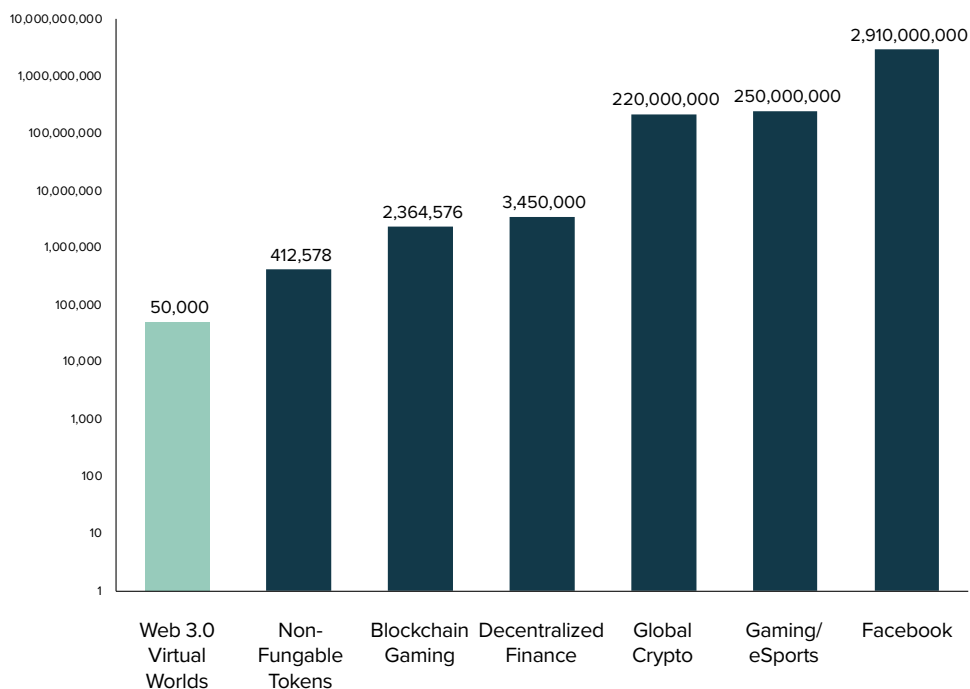
11. [Non Fungible](#).





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2  
3  
4  
5  
6

FIGURE 12: GLOBAL USERS PER SELECT CATEGORY (LOG)<sup>12</sup>



Web 3.0 Metaverse virtual worlds are creating real-world value for the developers, third-party creators, and users building these emerging market internet-native crypto cloud economies. All-time value spent on Web 3.0 Metaverse item sales such as virtual land, goods, and services has topped \$200 million.

By removing the Web 2.0 centralized companies that have historically controlled these online spaces, Web 3.0 Metaverse virtual worlds have benefited from rapid innovation and productivity gains.

Crypto virtual worlds have created a multi-million dollar primary and secondary market for creators and asset owners by eliminating capital controls and opening their digital borders to free market capitalism.

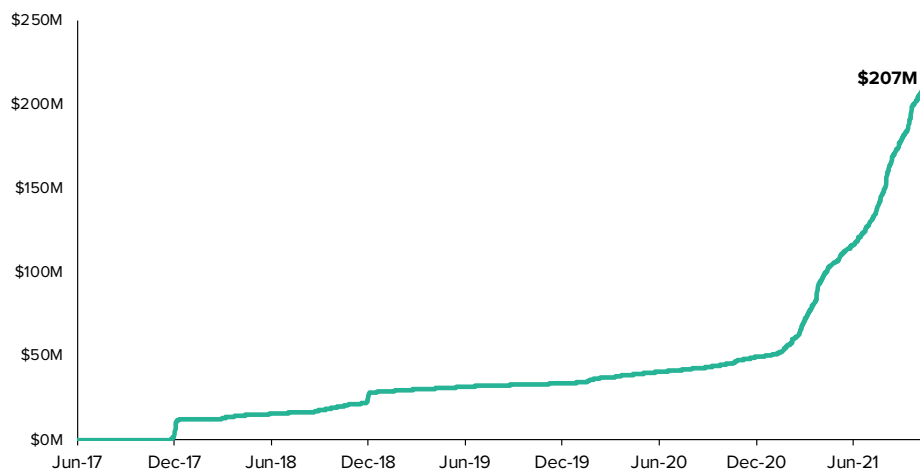
12. [Non Fungible](#), [CryptoSiam](#), [Dune Analytics](#), [Crypto.com](#), [Goldman Sachs](#), [Facebook](#)





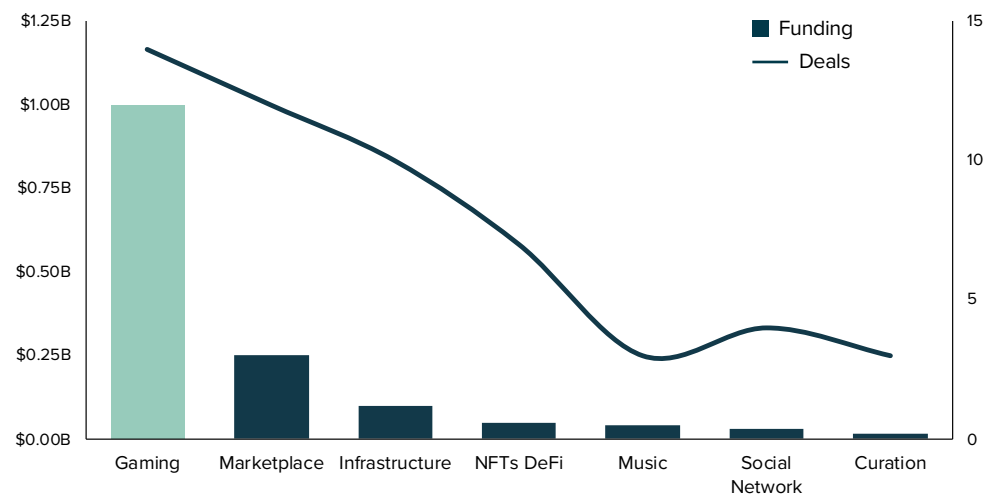
- 1
- 2
- 3
- 4
- 5
- 6

FIGURE 13: GLOBAL ALL TIME TOTAL VALUE SPENT ON COMPLETED METAVERSE SALES<sup>13</sup>



During Q3 of 2021, total crypto fundraising totaled \$8.2 billion with the Web 3.0 & NFT segment comprising \$1.8 billion. Within the Web 3.0 & NFT sector, blockchain-based gaming attracted ~\$1 billion in funding across 14 deals, ranking it the top sub-sector within the category.

FIGURE 14: GLOBAL Q3 2021 NFT VERTICALS INVESTMENT ACTIVITY<sup>14</sup>



Capital investment into the sector has recently started to accelerate but compared to the \$10 billion that companies like Facebook plan to invest, and the amounts that could follow from other companies and venture capitalists, the Metaverse is in its early innings.

13. [Non Fungible](#)  
 14. [Dove Metrics](#)





# The Meta Takeaway

The Metaverse is a digital universe that moves beyond the internet we know today. This vision for the future state of the web has the potential to transform our social interactions, business dealings, and the internet economy at large. The Metaverse is still taking shape, but Web 3.0 open virtual world crypto networks are offering a glimpse of what the future of the internet may hold. The market opportunity for bringing the Metaverse to life may be worth over \$1 trillion in annual revenue and may compete with Web 2.0 companies worth ~\$15 trillion in market value today. This potential has attracted companies like Facebook to pivot towards the Metaverse, which may serve as a catalyst for other Web 2.0 tech giants and investors to follow.

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- 2
- 3
- 4
- 5
- 6







- 1
- 2
- 3
- 4
- 5
- 6

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- 3
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- 5
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