

What is Metaverse?

A massively scaled and interoperable network of real-time rendered 3D virtual worlds that can be experienced synchronously and persistently by an effectively unlimited number of users with an individual sense of presence, and with continuity of data, such as identity, history, entitlements, objects, communications and payments

Why it Matters?

Fear of Missing Out (FOMO)

Large multinationals have moved too slow to embrace evolving technology, and history isn't kind to latecomers...

Walmart didn't take e-commerce seriously in the late '90s. Its website was initially set up under a stand-alone company. This opened a window of opportunity for Amazon who exploited it to become a giant

Compared to traditional e-commerce, there is a need for brands to get closer to their customers, and the Metaverse is the next channel to do that

Metaverse is an enabler for transforming to next generation internet - Web3.0, a limitless, user & creator driven economy

Value creation in the Metaverse

In 2021, venture capital and privateequity funding into the metaverse reached \$13 Bn

By 2031, the value of the metaverse could reach \$5 Tn

In 2022 already, investment into the metaverse space is more than double what it was in all of 2021, >\$120 Bn

Consumer and brands are already engaging

59% of consumers are excited about transforming their everyday activities to the metaverse

57% of metaverse-aware companies say they are adopters

Increased activity on the Metaverse & Web3

Citi has predicted that Metaverse could have an audience of 5 billion users by 2030

Established technology players have moved to capitalize on the market opportunity, e.g., Facebook repositioning itself as Meta

The Metaverse is driving huge investments by both big players such as Nvidia, and newer players like Roblox, EPIC Games, and ByteDance

Metaverse for Social Good



More realistic and immersive ecommerce experiences



Transform education & training and make recruiting essentially location-agnostic



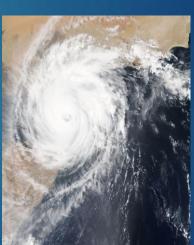
Limitless possibilities to deliver healthcare efficiently, cheaply, and more widely



New travel experiences for those who cant through fully immersive and interactive experiences



Solve the urban-rural divide by enabling access to public services everywhere



Tackling climate change by digitally replicating buildings, societies and planets

Metaverse Foundation Block

User experience and use cases

Experience: Al powered experiences for Content, Events, Gaming, Work, along with a thriving Creator economy and 3D ad networks.

Asset Marketplace: Exchanges to buy and sell digital goods

Tools & Standards



Payments: Fiat and digital currencies, payment networks

Financial Services: Bulk of these focused on Decentralized Finance applications

Interface and Access



Hardware: Mobile devices, VR/AR/Mixed Reality, Smartglasses, Displays

Virtualization Engines



Virtual Platforms: Future of platforms having large ecosystem of developers and content creators

Avatars: Virtualization of users

Asset creation: Tools to produce virtual asset like NFTs

Computing: Computing requirements for the Metaverse (Cloud, Edge, Blockchain computing)

Programming Engines: Developer Focused 3D engines, geospatial mapping, voice and gesture to generate experience

Infrastructure

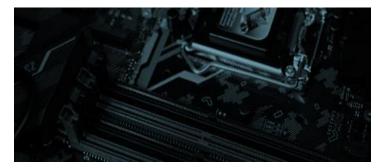


Network & Hardware (Chips): High bandwidth, low latency network capabilities; high performance and miniature hardware

Metaverse Adoption Challenges

Metaverse is an evolutionary technology. Enterprises are in the experimentation stage and figuring out the potential value to their businesses. While Metaverse is evolving, it is disrupting the experience, channels and business models.

Technology



Standardization

Complex technology architecture, technical limitations, non-functionals, expensive infrastructure, and poor user experience

Interoperability

With the proliferations of DLT systems, interoperability is of paramount importance to provide desired business outcomes

Security



Reputation & Identity

Require new verification methods as we are talking about decentralized identity management to prove legitimate entities

Personal Data & Security

Need for a well-defined strategy for protecting personal data and assets in transforming from a centralized data management to decentralized identities

Paradigm Approach to Asset Ownership

As we are talking about creator economy where users can participate as "value exchangers" or a "value creators", having a unified system/view of user communities will be a challenge that we need to address

Legal



Law & Jurisdiction

While in the current stage, there are several regulatory standards that we would need to adhere such as GDPR, but in the open identity management approach for the user community to ensure they are not violating privacy acts while they interacting in the metaverse world is very critical

