

WHAT IS **WEB3**?

The 3rd generation of the Internet, based on decentralized networks and enabled through the use of emerging technologies including blockchain, tokenization, AI, metaverse, and more*

WEB3 TECH STACK



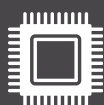
dApps
Browsers



Decentralized
Applications
(dApps)



- Storage
- Messaging
- Consensus
- Data feed
- Internet-of-Things (IoT)
- Wallets
- Off-chain computing
- Digital assets



Hardware
Clients



Internet Protocol

INTERNET EVOLUTION

1990s



WEB1



- **Read-only** resource
- Primarily used to **find information**, functioning like a digital encyclopedia
- **Few monetization** methods, users typically consumed while service providers created

2000s



WEB2



- Offers **social connectivity, messaging, creator tools**, and **more**
- **Centralized**
- **Personal information** including identity, social engagement, financial information, etc. **collected and controlled** by online service providers

Now

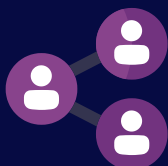


WEB3



- Enables **authentication** of credentials for a user's asset or data
- **Automation** of transactions
- Enhanced **security** and **privacy** through the use of emerging tech

BENEFITS



Interoperability across
platforms and networks



Authentication of
credentials and data
ownership



Activities secured
through encryption and
decentralization



New financial
opportunities not always
available in Web2

¹ "How will Web3 and the metaverse create opportunities?" (EY)

* This definition embraces the technologies that currently contribute to Web3, but this may continue to evolve.

EMERGING TECHNOLOGIES OF *WEB3*



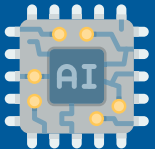
BLOCKCHAIN

- Real-time authentication and traceability
- Decentralized platform that removes intermediaries



METaverse

- Future way to experience the Internet, through the use of augmented and virtual reality
- New form of commerce and business



ARTIFICIAL INTELLIGENCE (AI)

- Enhanced transaction monitoring across platforms
- Optical character recognition (OCR)
- Sophisticated data analytics



DECENTRALIZED FINANCE (DeFi)

- Financial services that build on top of the decentralized foundations
- Peer-to-peer transactions enabling individuals' control over assets



MACHINE LEARNING

- Business intelligence
- Fraud detection
- Automatic helplines
- Medical imaging and diagnostics



INTERNET-OF-THINGS (IoT)

- Automation and connectivity
- Smart recognitions, tracing, monitoring, and administration
- Smart homes and cities



NON-FUNGIBLE TOKENS (NFTs)

- Unique and encrypted tokenized asset
- Used to record original work and ownership



GAMEFI

- Game launchpads
- Play-to-earn (P2E) models
- In-game marketplaces with NFTs and cryptoassets



DECENTRALIZED AUTONOMOUS ORGANIZATIONS (DAOs)

- Next-gen governance
- Community-driven
- Use of smart contracts and DAO tokens

1 "How will Web3 and the metaverse create opportunities?" (FY)

2 GSMI 2.0 (GBBC)

3 "Machine learning, explained" (MIT Sloan School of Management)

4 "What is GameFi - and how could crypto regulations shape it?" (World Economic Forum)

* Inspiration from Block Stack (2022)

REAL WORLD USE CASES OF *WEB3*

BANKING AND FINANCE



HesabPay enables digital payments and relief funding in Afghanistan



Bakong, launched with central bank, processes over \$8.5 billion in transactions across 41 financial institutions

Digital Asset

Deutsche Börse's D7 enables same-day issuance and straight-through processing



Rethink Ledgers

TYDEI Health manages physician preference items (medical devices) on behalf of hospitals and ambulatory surgical centers



Tel Aviv Stock Exchange "Eden" is powered by VMware Blockchain for Ethereum and Fireblocks



Blockchain network and products streamline exchange of payment-related information between institutions



SDX Web3 Custody offers institutional-grade custody services with built-in security and resilience



Hedera

AVC Global delivers safe and secure pharmaceutical drug supply chain tracking and traceability

PROOF OF AUTHENTICITY



Polestar tracks cobalt, mica, lithium, and nickel on battery supply chain



A virtual city marketplace for local merchants to issue digital vouchers and build loyalty



\$NNOIR is the first 'phygital' wine (combining luxury wine with a digital token)



Brij Lok Kala Foundation (BLKF) brings an ancient art from India into the digital age



Digitizes the entire **carbon credits' life cycle** history as NFTs

BUSINESS SERVICES



Content management system that embeds security and provides an immutable audit trail



Interplanetary File System (IPFS) provides decentralized storage



Nth Floor metaverse enables businesses to utilize virtual benefits for business services



Tokens.com

Metaverse Group offers virtual real estate development services



Dedicated crypto insurance that leverages tools, tech, and risk insights to safeguard Web3 assets

SUSTAINABILITY



EY OpsChain ESG provides a trusted platform for emissions and carbon credit traceability



Links data from on-farm fertilizer use, tributary sensors, water buoys in Lakes Michigan and Ontario, and more to **tokenized sustainability-linked loans**



Tracks greenhouse gas concentrations, fluxes, and observations from global to regional sources



Powerledger

Enables tracking, tracing, and trading of **renewable energy** across five continents