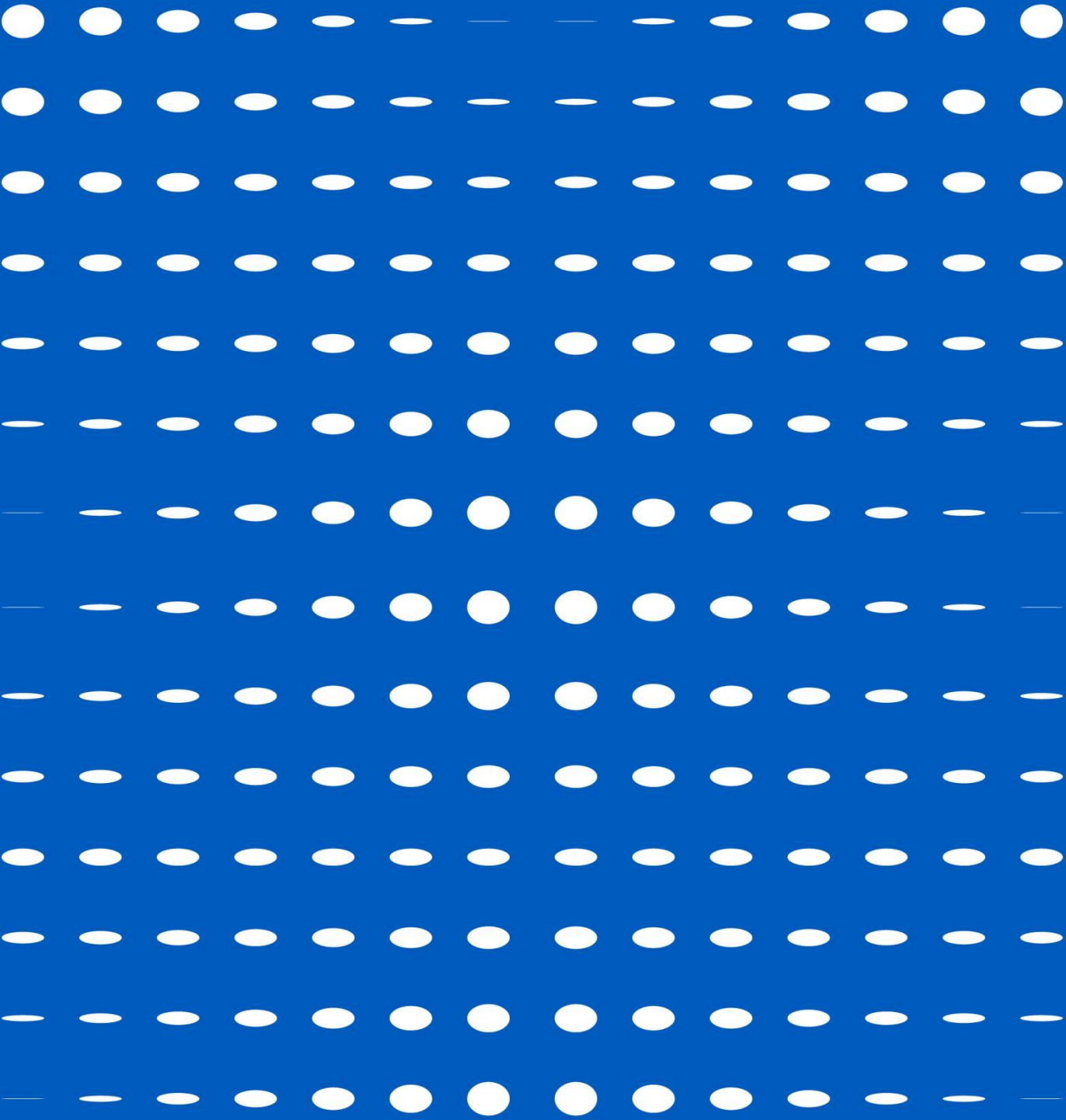




Annual Summary and Outlook

 Huobi Ventures

Quick take:

- *The fundamentals of cryptocurrencies are stronger than ever. We expect that the crypto market will experience short-term fluctuation due to the macro environment, but it will grow steadily in the long run.*
- *Decentralized stablecoins such as UST & DAI will steal more market share from centralized stablecoins. Unsecured Lending protocols like TrueFi, Clearpool, and Goldfinch are expected to free up collateralized assets, thus supercharging DeFi liquidity. On-Chain risk management is probably a long-term focus in the DeFi area.*
- *Web3.0 will be the topic for the next 5 to 10 years. Normally, it represents innovative & user-centric technologies that focus on the democratization of data ownership and composability between protocols.*
- *NFT is the best social token but lacks liquidity. NFT liquidity protocols such as lending, fragmentation, and aggregator are still in the early stage. And NFT, as the composability layer, will play an important role in Web3.0.*
- *Blockchain gaming catalyzes the paradigm shift of in-game value flow and is the natural gateway of Web3.0. Blockchain games will continue to gain momentum in 2022.*
- *DAO is eating the world. We expect to see more DAOs launch around more attractive use cases. And DAO toolings focusing on management and operations will play an important role as DAOs become more complex.*

2021 is a critical year for cryptocurrency. We have witnessed the explosion of NFT summer, Axie Infinity achieving 17million daily revenue in early August, the propensity of Solana and multi-chain ecosystem, Facebook re-branding itself as Meta, Bitcoin hitting an all-time high at 69k in November with the market cap of the crypto market and DeFi TVL peaking at \$3 trillion and \$250 billion respectively.

However, under the wild growth of the blockchain industry, many problems have also been exposed. According to the data provided by Rekt, 105 security incidents have occurred since 2021, with asset losses exceeding \$2 billion.

Since 2022, with the Russian-Ukrainian war and the tightening of the Fed's monetary policy, the entire crypto market has entered a period of shock. But there is no doubt that crypto catches more mainstream interest and is "devouring" the world with lightning speed. Here's a summary of Huobi Ventures' one-year anniversary and our outlook for 2022.

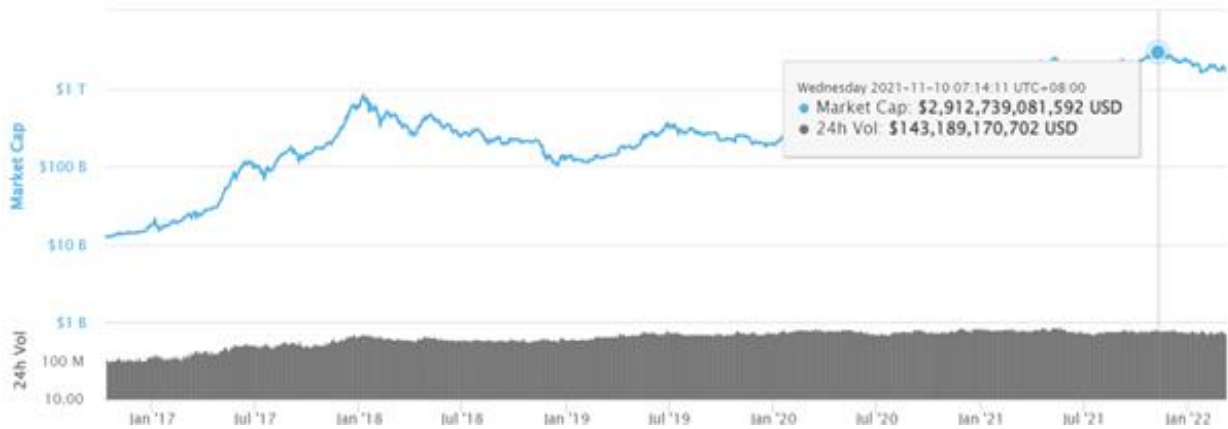
Macro View: The Fundamentals of The Cryptocurrency Industry Have Improved Significantly.

With the advent of the global post-epidemic era, expectations of inflation and interest rate hikes have made bitcoin more common in people's asset allocation lists. Institutions are entering the market faster, making bitcoin a more mainstream asset. Several mega-companies such as Tesla have added bitcoin to their balance sheets. Famous investors such as Dalio, Soros, and others have announced that their funds hold bitcoin.

Coinbase, a cryptocurrency trading company, had a successful IPO and was compiled into the Nasdaq Composite Index IXIC, and Proshares, a U.S. equity management company, successfully passed the regulatory process to release a bitcoin futures ETF financial product, signifying that the growth of blockchain companies is recognized and accepted by the financial industry.

Overall the cryptocurrency market maintains long-term rapid growth, with the total market capitalization of Bitcoin surpassing the trillion-dollar mark in 2021, while the overall cryptocurrency market capitalization approaches three trillion dollars. Looking back to 2021, bitcoin takes the lead in global asset yields over other traditional assets.

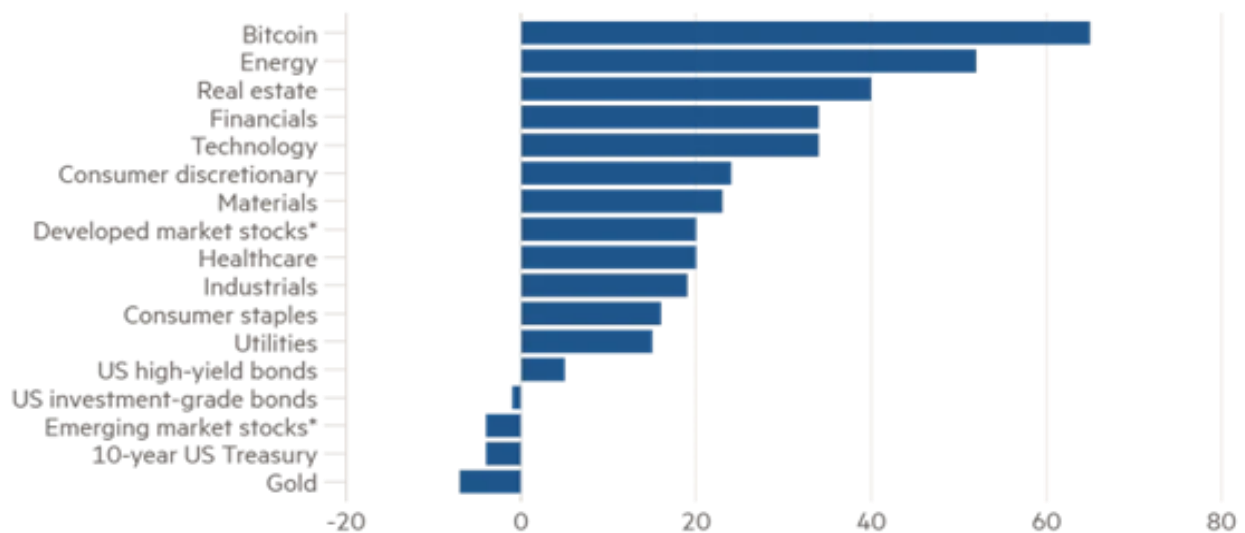




(Source: [Coinmarketcap](https://coinmarketcap.com))

Bitcoin outshines gold in 2021 as investors clamour to crypto

Year-to-date return (%)

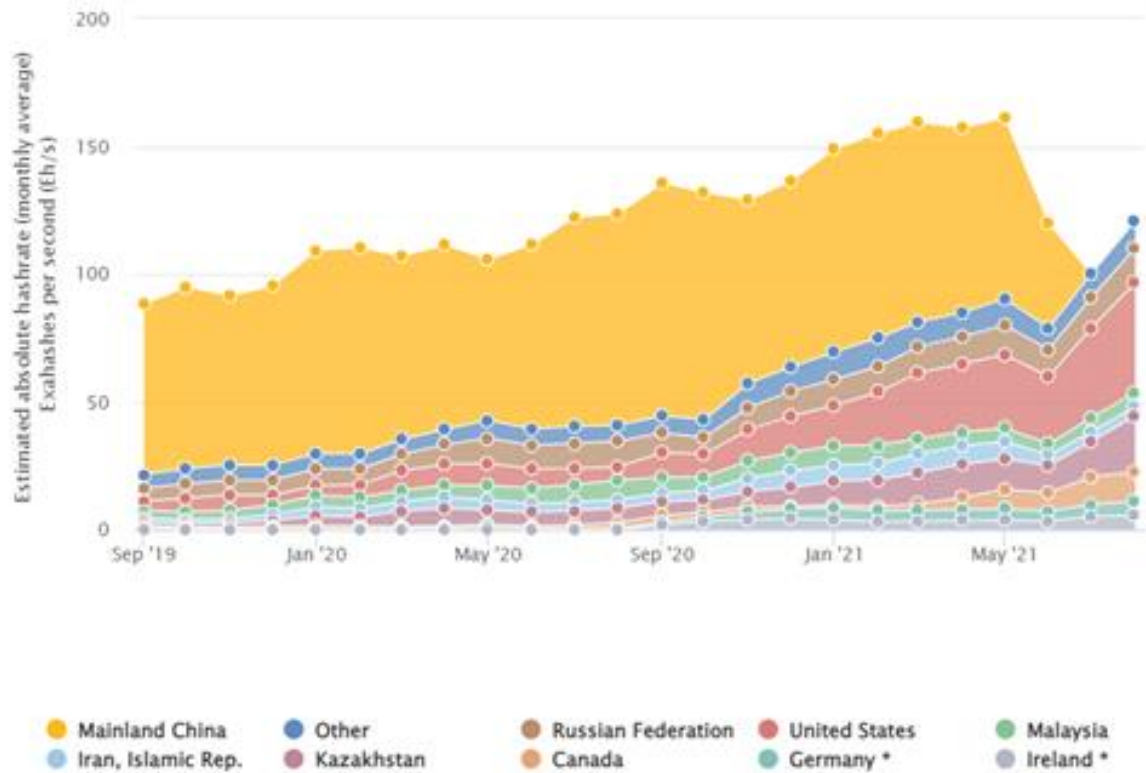


*MSCI indices in dollar terms. Sectors refer to S&P 500. All figures are total returns, except for gold and bitcoin.

Sources: Goldman Sachs, FT calculations

© FT

Evolution of network hashrate



(Source: Cambridge Center for Alternative Finance)

Total Hash Rate (TH/s)

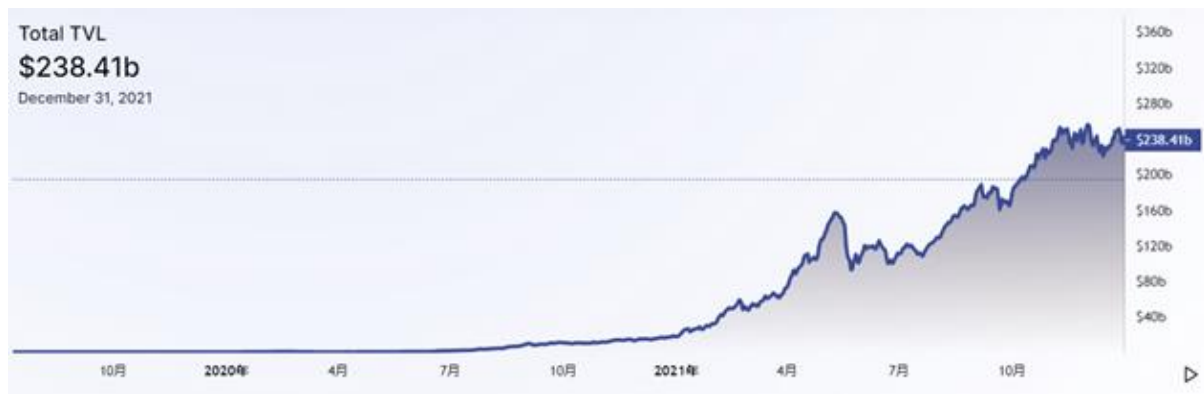
The estimated number of terahashes per second the bitcoin network is performing in the last 24 hours.



(Source: blockchain.com)

Decentralized Finance (DeFi)

2.1 We expect DeFi to continue to grow over the long term as it has since the DeFi Summer boom in 2020, and the rate of growth will likely slow as volume grows. Total locked-in assets as of December 31, 2021, amounted to \$238.41 billion, an impressive 1,245% increase over the previous year.



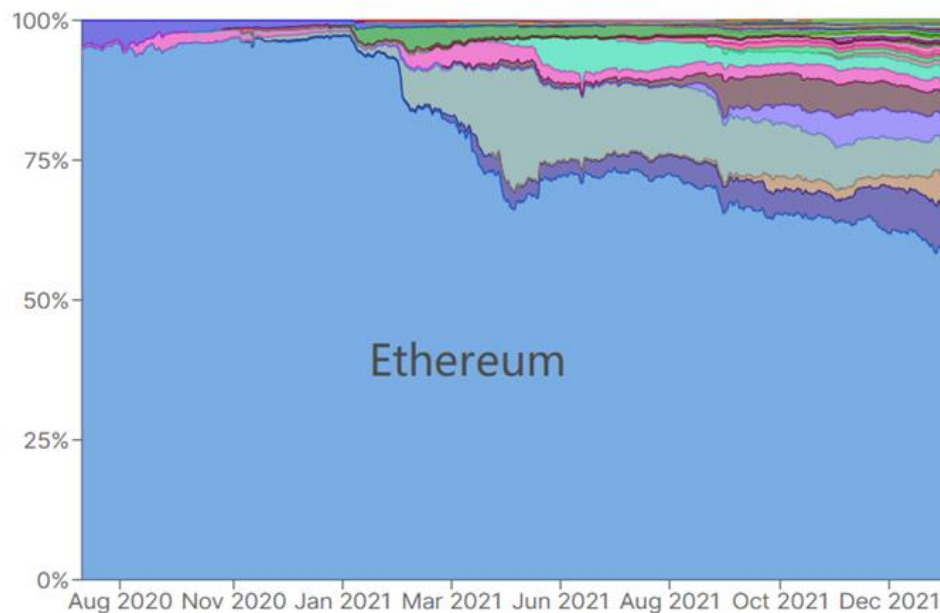
[Source: Defillama](#)

From a TVL perspective, DEX and lending are the most dominant businesses across DeFi. In particular, Curve, MakerDAO, AAVE, and Uniswap are the four largest pillars of the DeFi industry with over \$10 billion in lock volume, while Convex, Instadapp, and Lido are showing very strong growth.

DEX and lending protocols already have greater liquidity as a protection, as opposed to the revenue category especially liquidity providing protocols will likely be the space that gives birth for a new group of Unicorns in DeFi, while the existing four major DEX and lending protocols pain point improvement solutions and the 5 major protocols collateral integration services will remain a focus.

2.2 Multi-Chain Is the Trend, Defi Platforms Sees One Super Player and A Few Contenders.

Ethereum remains the super-platform for on-chain assets, while DeFi platforms such as Terra, BSC, Solana, AVAX, and Polygon showed strong competition with each other whilst advancing side by side in 2021. Since DeFiSummer 2020, the percentage of assets on the ETH chain has dropped from nearly 100% to nearly 60% and will continue to decline. (As of December 31, 2021)



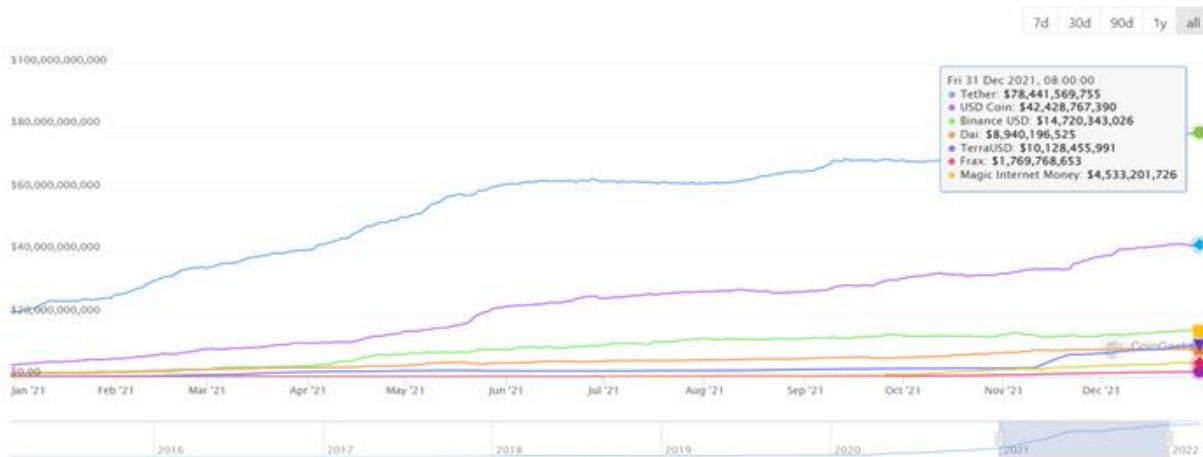
(Source: [Defillama](#))

The multi-chain trend makes us more hopeful for solutions such as cross-chain DeFi protocol and cross-chain DEX. Liquidity solutions for different chains will be a strong pain point in the multi-chain trend.

2.3 Stablecoin

In 2021, the total market cap of stablecoin grows by about 500% to about \$161 billion market cap.

In the stablecoin space USDT is still the leader, with the more compliant USDC growing strongly, favored by institutions, having surpassed half of USDT's market cap, and the top five stablecoins BUSD, UST, and DAI all entering the top 30 market cap rankings. Stablecoins have enabled more assets to be injected into DeFi, accelerating DeFi's growth, while stablecoin interaction is an integral part of DeFi's business, and USDC plays an extraordinary role in this - meeting regulatory and institutional needs while freely interacting with on-chain assets in the DeFi protocol. It is expected that in the future USDC will potentially succeed USDT as the largest stablecoin protocol by market capitalization. The collapse of institutional trust has driven up user demand for decentralized assets, and we believe decentralized stablecoins such as UST and DAI will gain greater market share in the future, while we look forward to more innovation and experimentation in this space.



(Source: Coingecko)

2.4 Defi Native Innovation Well Loved By Crypto Community

In 2021, through our observation of the crypto community, we found that the community remains optimistic and open-minded despite the difficult trial and error process of algorithmic stablecoins, synthetic assets, and other native innovative protocols, demonstrating both the relatively low 'trial and error' cost of DeFi and the versatility of DeFi innovation.

Although native and innovative protocols from the crypto community can be unpredictable, we should continue to be aware of them and concern ourselves accordingly.

2.5 Institutional Unsecured Loan - Supercharging liquidity & Bridging DeFi and TradFi

The current DeFi lending market is dominated by collateralized and over collateralized lending protocols. Assets pledged in top players such as AAVE and Compound exceed \$20 billion compared to \$1 billion locked in unsecured lending protocols. Therefore, **unsecured lending protocols such as TrueFi, and Clearpool are in the early stages** and will have great space to grow in the near future. The advantage of unsecured lending is that it can provide **long-term benefits to the lender** and at the same time **allow the borrower to obtain the best capital efficiency**, leading to a win-win situation. Additionally, unsecured lending protocols can **bring institutional liquidity to the DeFi space, eliminating the interest rate gap between DeFi and TradFi**. The sustainable operation of unsecured loans will **depend on the further improvement of on-chain credit rating systems**, and the **zero-knowledge proof** will be very important in this area.

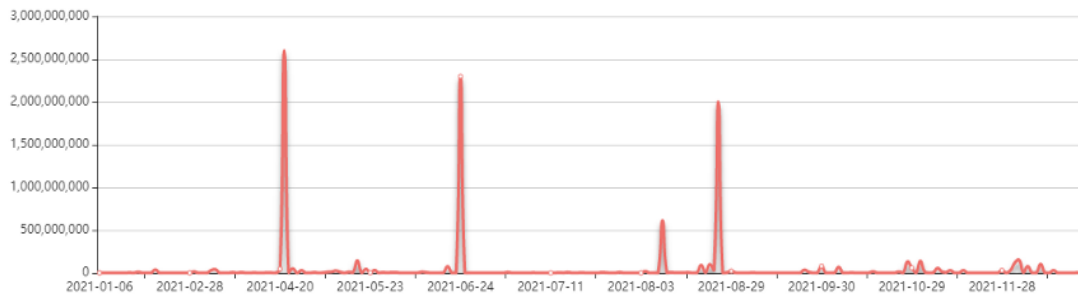
2.6 DeFi Security - Insurance, Automated Audits, Smart Contract Alerts

According to SlowMist, blockchain security incidents last year led to losses of about \$10 billion, and 231 public blockchain security incidents have been counted.

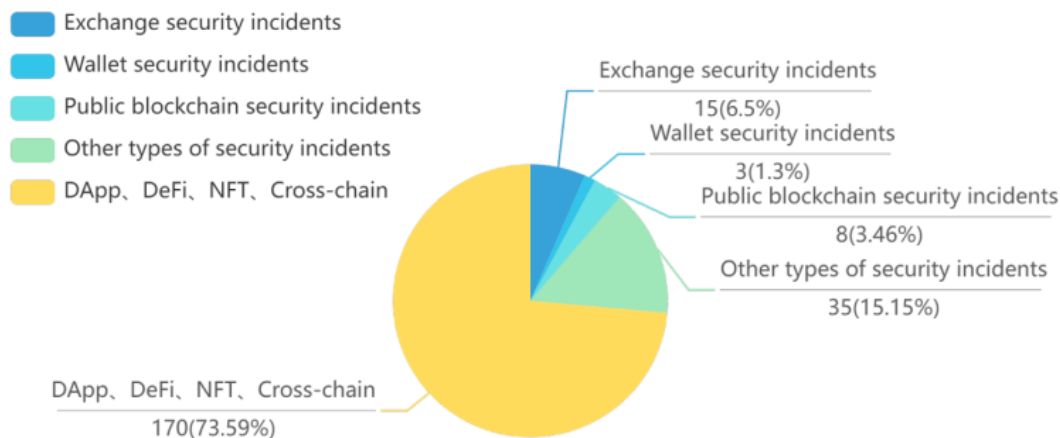
[SlowMist Hacked Statistical]:

Total 2021 hack event(s) **231** ;

The total amount of money lost by blockchain hackers is about **\$ 9,880,926,726.30** ;



2021 Blockchain Security Incident



(Source: [Slowmist](#))

Most of the security incidents that occurred were focused on decentralized applications, and most of the security incidents that occurred were related to the theft of funds. And recently POS has almost become the mainstream of smart contract platforms, the main result of security problems encountered is not to cause the loss of funds, but network congestion, block generation being stalled, although the impact on the loss of funds is small, the impact on the overall smart contract platform ecosystem is huge. Formalized code security audits have become a mandatory step before decentralized applications and platforms go live. The basic code of cryptography tells us that it is impossible to solve all the security problems just by formalized verification.

From the user's perspective, the demand for smart contract alerting related to security audit records of decentralized applications has grown tremendously.

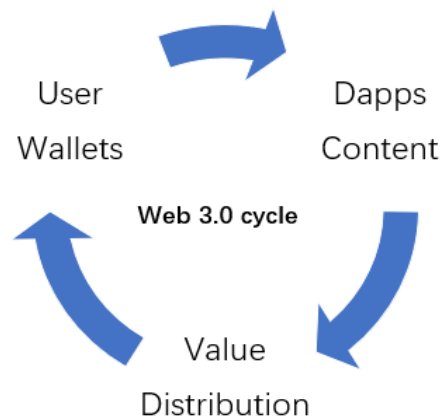
We have already seen insurance protocols such as IsurAce, NXM, and other projects start to try for the insurance business of covering on-chain capital loss. These are still early attempts, and there are areas that need to be improved such as high-cost on-chain auditing mechanisms; fewer buyers and more sellers, etc. these need to be further explored.

Overall, huge hidden security risks are waiting to be resolved behind the exponential growth of the industry last year. Security must be the primary focus when it comes to the automated implementation process of Dapps. The industry will also face other unknown security challenges in the future, we should always be vigilant, as the classic quote in cryptography goes "Security is an element that every developer should take into account at the beginning of the design process."

What's comforting is that looking back on last year's various security issues, we find that in the process of dealing with major security issues after they have occurred, the industry has begun to show a self-regulated collaborative effort, from white hat hackers to security companies, industry leaders and even centralized exchanges all worked together to maximize recovery of stolen funds to minimize losses, while tagging the attacker's on-chain address in an eye-catching manner.

Building Decentralized Infrastructure and 3.0

The concept of Web 3.0 has been mentioned more and more often in the last year, and as projects such as DeFi, NFT, DAO, DID, etc. become more and more popular in the cryptocurrency community, we are surprised to find that the ecosystem of the cryptocurrency space has emerged as a closed-loop independent of WEB 2.0, meaning, users use browser plug-ins to manage their ETH accounts instead of Internet company accounts; seeing on-chain asset interaction and content distribution in a decentralized protocol instead of a unified centralized platform; getting value rewards and transferring assets to on-chain addresses.

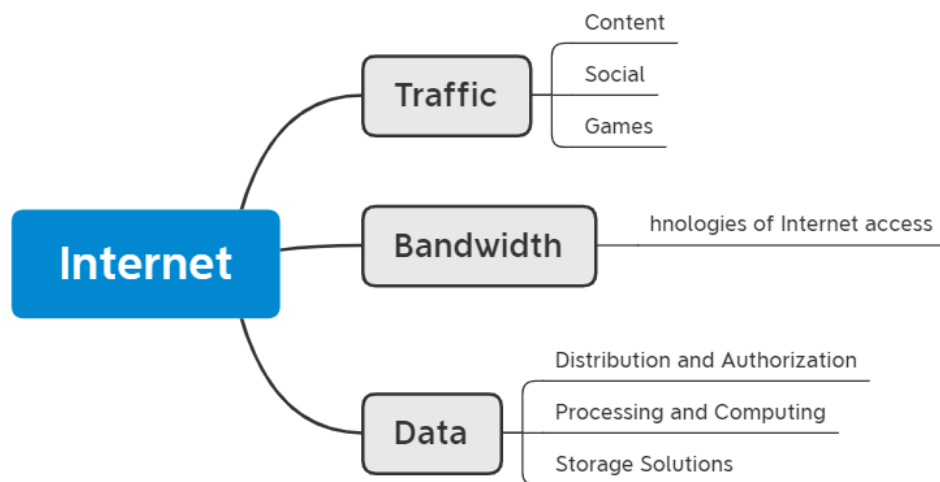


(Source: Huobi Ventures)

Why do we need Web 3.0?

In the process of building and figuring out the decentralized infrastructure using blockchain as the underlying technology, Web 3.0 tries to solve various problems that have emerged in Web 2.0, such as the monopoly of value distribution of Internet resources, conflicts of data ownership, privacy, and data security problems of centralized single nodes, etc.

We believe that the current Internet resources are mainly traffic, bandwidth, and data. In the business related to these three resources, Web 3.0 decentralized infrastructure construction has already set the stage to welcome the full bloom of Spring.



[Source: Huobi Ventures](#)

3.1 Data

Storage Solutions - Decentralized storage infrastructure.

Processing and Computing - Data middle layer, data protocols; smart contract platform.

Distribution and Authorization - Privacy protection and identity authorization.

In terms of decentralized storage infrastructure, we noticed the booming ecosystem of Arweave, Dfinity, and Filecoin platforms, and we welcome new competitors with new storage solutions to participate in this core competition field of web3.0. It seems that for the existing blockchain infrastructure, modularized low-cost interaction features for public chains and protocols, lower storage costs, and more efficient maintenance solutions may be important elements for decentralized storage projects to stand out in the future.

Data Middle Layer

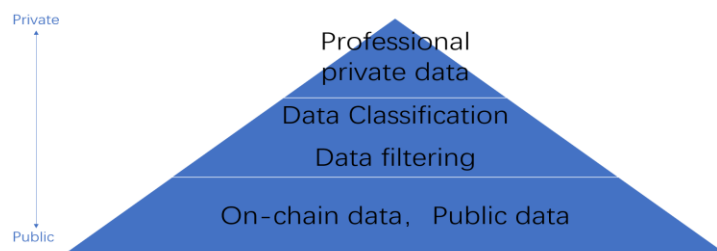
Last year we saw a huge demand for API queries for DeFi protocols due to the booming DeFi business. On the one hand, The Graph is growing rapidly and generating scaling effects; on the other hand, we have found that the demand for this is characterized by high availability, fast response, and low cost, all of which have a lot of room for improvement. In the future, the high TPS chain in the multi-chain environment, the reduction of fees in L2, and the huge transaction volume will lead to the massive growth of node data, and the resulting dedicated high-speed query solution will likely become a new opportunity in the data middle layer space. As the technology iterates and the business of application changes (such as meta-universe), different types (such as NFT's Metadata) of API query business needs will also be created.

Above all, we believe that the data middle layer is a valuable long-term investment, it will not die when the momentary popularity dies down, instead, it is a long-term thing that will drive growth with future business changes.

Privacy Protection

Privacy within the Web 3.0 framework is more oriented towards data privacy protection and access authorization. Data is stored in a decentralized storage infrastructure, and smart contract application interaction scenarios, such as copyright of original data content, personal privacy data, and proof of ownership are not suitable for publishing the entire content to all nodes across the Internet, in some scenarios. Thus, similar technical solutions such as zero-knowledge proof, homomorphic proof, and multi-party computation are required to protect user privacy and achieve on-chain identity information isolation and confirm the validity of the specified information and interaction.

Based on the three-layer pyramid structure of WEB3.0 data in the figure below, the underlying data is currently mainly public chain node data. We believe that there will be a complete Web 3.0 incentive mechanism in the future so that users can put valuable data into the decentralized storage infrastructure by themselves, or choose data that meets their own needs at their own cost into the decentralized storage facility. In the long run, as WEB 3.0 matures and the barriers are lowered, there will be a huge demand for privacy and authorization services for the massive amount of data that will be transferred from Web 2.0 to Web 3.0.



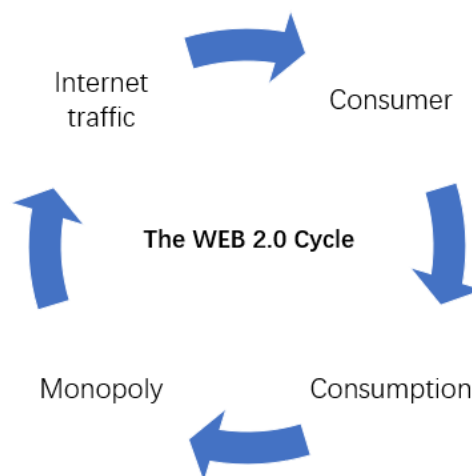
(Source: Huobi Ventures)

3.2 Web 3.0 Bandwidth - New Ways to Access Internet and New Technologies

WiFi hotspot sharing has become very common in our daily life. However, WiFi hotspots are usually only set up for individual use, because there are costs associated with providing hotspots and Internet access, it is clear that providing the service without knowing you're going to gain a certain revenue will not be sufficient to cover the costs and risks you take. If the service provider knew what they can gain clearly, it can promote innovation and experimentation in decentralized multi-point Internet access. For example, the Helium project has successfully entered the top 50 ranking of cryptocurrency market capitalization last year, with its peak market capitalization at 5 billion USD.

3.3 Traffic: Content, Social, Games

It is clear that in the Web 2.0 system, content, social and games are all part of the application layer. They are both centralized traffic platforms and consumer-facing pay-to-play profit generators.



(Source: Huobi Ventures)

In Web 3.0, the application layer still generates value and payment, but the profiteer is not the Internet oligarchy, the application protocol distributes profits to data providers and independent content providers, and pays other lower infrastructure services such as decentralized storage infrastructure, bandwidth providers, data middle layer service providers, and privacy modules, thus constituting the upper application layer to the underlying infrastructure of the Web3.0 decentralized value delivery chain from the top application to the underlying infrastructure.

There is no distinction between Web2 and Web3 in the product experience of content, social, and game applications. The difference lies in the decentralized distribution of revenue and the underlying data from the decentralized infrastructure. At present, the

most common user can only perceive Web 3 as the application layer, which is based on the decentralized infrastructure that is still being built and perfected. It is expected that the burst of Web 3.0 applications will come after the infrastructure technology becomes more mature, and that will take some time. Early Web3.0 applications will not be significantly different from Web2.0, and we should even use Web2.0 features as the centerpiece, with Web3.0 features on the side to supplement the gradual transition to better transform the current Web2.0 traffic to the Web3.0 world.

3.4 DID Decentralized Identity

First, let's remember that in real life, identity is proven by centralized credentials - IDs - recognized by regulatory bodies and legal frameworks. The scenario that identity is used in Web 3.0 is as follows: Bob sees that address X holds a unique NFT asset named "Alice", so he can assume that the private key controller of address X is Alice, without any third-party intervention anyone can check whether the NFT asset named "Alice" hold by X address exist. So, our view is that NFT assets are DID credentials, and NFT analysis based on the type of identity on the chain is the extraction of value for the decentralized world of user identity information, in summary, we believe that the NFT identity analysis on the chain is the specific business form of the DID space.

With the development of the decentralized identity system, data evaluation and calculation of DID's reputation and credit will be carried out in the future, which will in turn realize credit lending in decentralized finance, third-party DID guarantee, and qualification audit of investors with different net worth and different risk appetite will be the next business use scenario of DID.

It is worth noting that in the early stages of DID construction, a fully decentralized identity lacks sufficient credit and behavioral record base, and requires Web2 identities for identity mapping so that people can establish decentralized trusted identities faster, as, with WEB 3 applications, this is the early start-up phase of DID, not the ultimate goal.

3.5.DAO Decentralized Organization

While the main component of social business organizations today is the Company in the legal sense of a single authority, the DAO - Decentralized Organization - is not a form of organizational collaboration defined by a single centralized authority. In the Web 3.0 value distribution system, the value distributor (resource monopolist) is removed and the value is automatically distributed by the protocol according to the contribution. Therefore, DAO is essentially a form of organization that automatically distributes value according to contributions. Without value incentives to unify participants' goals, DAO relies on participants' voluntary contributions and formal autonomous governance, which is as impractical and unsustainable as an oasis in the desert. For DAO, we focus on specific business applications such as Treasure management, Streaming payment, and Quadratic funding.

Conclusion

Web 3.0 businesses can use the 'incentivize users to become participants to receive value rewards by giving out tokens' model to solve the problem of high entry barriers, making conversion rates between Web 2.0 and Web 3 easier.

The order of Web 3.0 business maturity cycle should be from the bottom to the application layer: decentralized storage facility --> data middle layer --> decentralized application layer.

Web 3.0 is not a single technology or a single domain, it is a combination of different infrastructures and middle layers of different technology modules such as storage, payment, application protocols, smart contract platforms, public chains, etc.; the business is reshuffled from data, bandwidth to traffic.

Web 2.0 has been very successful and convenient, so why do we need Web 3.0? Because although there is a complete and mature business closed-loop, some of the problems in the loop are still not solved, such as the centralized privacy problem and the monopoly of platforms. If we continue to ignore these issues, we will pay a huge price in a future not far away. The development of techniques and technology is never completed by jumping steps, Web 2.0 faces a variety of problems waiting for a new generation of Internet technology to solve step by step. This is precisely the mission of the post-Web 2.0 era.

4. NFT - More than the Art of Encryption

4.1 The NFT project

Dominated by Meebits, took off from February to March 2021 and attracted the attention of the market with a successful auction. The overall explosion of the gaming track and the increase in gaming NFT transactions from April to June drove the overall NFT transaction volume. In August, the emergence of Loots provided the final touch of color to the frenzy, i.e., the simple black-on-white image inspired many designers, and Loots' spin-off projects and games using the Loots design concept were popping up. The emergence and growth of the Web 3.0 concept have led to a growing number of "bottom-up" NFT projects with diverse themes and creative communities, providing a bright spot in an overall market that has been repeatedly shaken by the end of 2021.

4.2 Multiple Values of NFT

The inner logic of traditional artwork can be referred to in the value judgment logic and trading method of NFT in early 2021. [NFT was first noticed by collectors for its collection value](#). Scarcity naturally means value in the traditional art category. Due to

the scarcity and indestructibility of NFT collections, they receive significant premiums in the primary and secondary markets, which in turn attracts more creators and collectors or investors to join them. [As the community grows, the value of the identity that NFT brings comes to the fore. There is a stronger need for a rich NFT presentation based on community communication and identity.](#) The NFT avatar is an excellent way for display, based on which more diverse and convenient ways emerge, such as linking with traditional social media or displaying various NFT collections in wallets and web 3.0 social applications.

[In addition to the collection value of "small images", identity and self-presentation, NFT can also bring two very important values to the web 3.0 creator economy: membership and proof of ownership, which reconstructs the relationship of IDs-IDs and Ids-data.](#) Users who have used certain Dapps or participated in certain communities or activities will receive NFT as proof of membership, and multiple memberships can be combined to form a DID's web 3.0 resume (profile). Different functions such as push, social, and communication can be developed by Web 3.0 applications based on membership and biography, which is a reconstruction of the relationship between ID and ID. The first problem that needs to be solved for the Creator Economy is data ownership. The unique ownership represented by NFT not only plays a huge role in the act of collecting but also makes it possible to return the data to each contributor. Users (data users and creators) can use data and create data more directly by holding NFT; for creators (IP providers), the revenue generated by IP can bypass the algorithm and be more rationally distributed to themselves, which is a reconfiguration of the relationship between ID and data.

4.3 NFT Trading Market

In general, NFT trading markets can be divided into vertical NFT application trading markets and universal NFT trading markets. However, both vertical and universal trading markets suffer from the following problems: [the inherent low liquidity of NFT makes it difficult to create imaginative ideas for new games; the NFT trading market feeds little into the public chain ecosystem; the NFT trading pool is not deep enough.](#)

Opensea is undoubtedly the leader in the general NFT trading market. In the past year, the NFT trading market has emerged one after another, but most of the transactions are still conducted on Opensea. It wasn't until the emergence of Looksrare in late 2021 that the pattern of trading volumes among NFT trading markets changed, with a situation where Looksrare's trading volumes overtook Opensea's, but the momentum didn't hold for long. [The decentralized NFT trading market is changing the status quo of Opensea's "dominance" in any case.](#)

Challenges to Opensea's vampire attack are launched by Looksrare and X2Y2 from two very different directions. The former is used to incentivize trading, while the latter is used to incentivize IP entry. The crisis in Ukraine in February 2022 sent a very important message to the crypto market: a dominant centralized infrastructure is undoubtedly a ticking time bomb. The author believes that any decentralization attempts and challenges have their significance regardless of the outcome.

4.4 NFT Derivative Agreement

As the NFT market boomed, NFT derivative protocols were created to solve the problem of low NFT liquidity. Products such as NFTfi, NFT fragmentation protocol, and NFT aggregation transaction emerged that breakthroughs in the direction of financial attributes, liquidity, and cross-chain asset aggregation of NFT, respectively. NFTfi is still in its early days, with the main direction of development being the lending of NFT products; NFT fragmentation agreements (such as Factional) lower the purchase threshold of NFT artworks and multiply the value of NFT collections. It is also worth noting that some of the head NFT projects (e.g. Azuki) have launched their fragmentation solutions, greatly increasing community dynamics and NFT propagation speed, and taking an experimental step in the ecological governance of NFT communities. NFT cross-chain asset aggregation (e.g. DeSpace, DEGO, etc.) is still in the early stage, with the business model and product features still to be improved.

4.5 Outlook and Summary

The 2022 outlook for the NFT track can be summarized in three points:

- Investment institutions set aside their biases and allocate NFT assets: NFT is not new to some traders. Many institutions are now moving from a wait-and-see attitude to recognition of NFT, but it is still a long way from allocating NFT assets in the primary and secondary markets. NFT should be valued as an integral part of the portfolio.
- Focus on the value of NFT beyond the "small picture": NFT is not only a digital artwork, as mentioned above, but plays an important role in the web 3.0 world. NFT still provides great imagination beyond the currently achievable transactions and confirming rights. A playable, composable and computable NFT is an even more exciting direction for development.
- Focus on the development of NFT games. In-game value truly given to NFT will be the new mark of Gamefi track breakthrough.

NFT will be one of the most widely adopted solutions for Web 3.0 and should be considered a fundamental element rather than being categorized only by the application layer. We're very optimistic from a long-term perspective and are looking forward to the innovations in the different dimensions of the builder.

5. GameFi - the Natural Gateway of Web3.0

As mentioned above, **GameFi is currently the most compelling use case of NFT, and the natural gateway of Web3.0.** Games are easier to understand and generally

have a wider audience than DeFi, and people don't need sophisticated financial expertise to talk about games and participate in GameFi activities. In addition, gamers are usually more sensitive to technologies, which means they are more receptive to cutting-edge innovations like blockchain and Web3.0. As a result, we believe the blockchain gaming sector will continue to gain traction in the second half of 2022 and become the core driver of new Web3.0 user growth.

table: GameFi Landscape

M E S S A R I	
Gaming Guilds	
Games	<div> <div>Sandbox / Virtual World</div> <div>Decentraland</div> <div>nifty island</div> <div>CRYPTOVoxel</div> <div>Wilder World</div> <div>SOMNIUM SPACE</div> <div>UPLAND</div> </div> <div> <div>Massive Multiplayer Online Game</div> <div>BLANKO4</div> <div>STAR ATLAS</div> <div>EMBER SWORD</div> <div>DEFI KINGDOMS</div> <div>FAIR FANTASY</div> <div>VULCAN FIGHT</div> </div> <div> <div>Trading Card Game</div> <div>AXIE</div> <div>STAR ATLAS</div> <div>EMERALD</div> <div>SKYWEAVER</div> <div>ALLEN WORLDS</div> </div> <div> <div>Role Playing Game</div> <div>ILLUVIUM</div> <div>NEONDISTRICT</div> <div>GUARDIANS</div> <div>CHAIN GUARDIANS</div> <div>AUDORY</div> <div>GENO</div> <div>LOST RELICS</div> </div> <div> <div>Multiplayer Online Battle Arena</div> <div>VALORANT</div> <div>Overwatch</div> <div>League of Legends</div> <div>DOTA 2</div> <div>Proxi</div> </div> <div> <div>Racing</div> <div>ZED RUN</div> <div>DeltaTime</div> <div>PEGAXY</div> <div>DeRace</div> <div>sorare</div> <div>TOP SHOT</div> <div>CS:GO</div> </div> <div> <div>Miscellaneous</div> <div>COMETH</div> <div>Proxi</div> </div> <div> <div>Sports</div> <div>sorare</div> <div>TOP SHOT</div> </div>
Gaming Marketplaces	
Launchpads	
Gaming Development Infrastructure & Tools	
Layer-2 Infrastructure	
Layer-1 Infrastructure	
Game Studios	

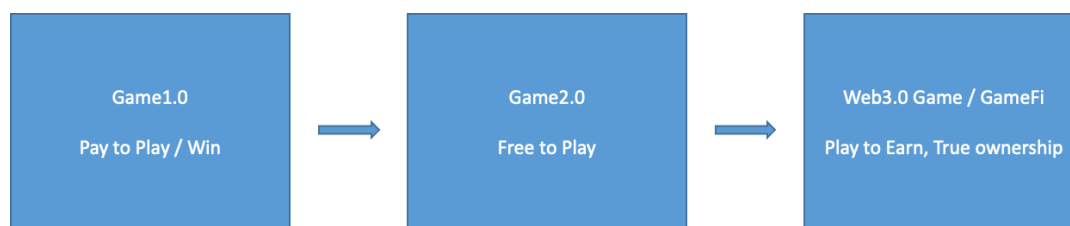
(Source: Messari)

5.1 True Ownership & Paradigm Shift of In-game Value Flow

Blockchain Gaming catalyzes the true ownership and paradigm shift of in-game value flow. In traditional games, in-game assets do not truly belong to players. Generally speaking, the **purchase of in-game items is non-transferable and can be**

considered a form of "lease" because the assets are locked up in the game and the real ownership is entirely with the publisher. Blockchain technology has changed the in-game value flow, offering players real ownership of in-game assets. Blockchain games are not lately born. The first generation of blockchain games, represented by Crypto Kitties, appeared as early as 2017. Limited by blockchain technology and poor gaming experiences, the first generation of blockchain games did not generate sustained influence.

In the context of the NGchains' expansion war, the second generation of blockchain games led by Axie Infinity achieved great success in 2021. The "Play to Earn" element created a new use case for NFTs and greatly boosted enthusiasm for participation among players. In-game assets can be quickly converted into other currencies thanks to blockchain, allowing players to gain real economic value. The success of Axie has also attracted a number of imitators and challengers. However, it is worrying that while the "P2E" element has increased the engagement performance of blockchain gaming, the 2nd gen blockchain games still lag far behind traditional games in terms of gameplay, art design, and user experience, thus lacking long-term traction. We think there will be some promising Gamefi projects coming out in 2022 that really focus on ownership and the gaming experience.



(Source: Huobi Ventures)

5.2 Traditional Gaming vs Blockchain Gaming

- **Servers:** Traditional games rely on centralized servers where all data is stored in the main server. Blockchain games use decentralized technology to store part of the core data on-chain (currently it cannot be fully realized due to the restriction of blockchain technology).
- **Ownership:** Items in traditional games are more like another form of "lease" than real ownership. Blockchain games' in-game assets are in form of NFT, representing the real ownership.
- **Immutability:** In traditional games, in-game assets are destroyed when the publisher/developer shuts down the server, whereas decentralized servers and on-chain ownership perpetuate in-game assets in the form of NFT.
- **Interoperability:** Assets in traditional games tend to be limited to a single game and are difficult to transfer across different ecosystems. Blockchain technology enables interoperability among Dapps, and NFT assets can be circulated among different games, enhancing the underlying value of in-game assets.

- **Geographic limitations:** Traditional games have servers built by region, and users in different regions cannot interact. Blockchain breaks boundaries and creates a game meta-universe for players across different boundaries.

Due to the limitation of technology and the requirements for mass adoption, the current notable blockchain gaming projects leverage a hybrid method -- The game itself is established on the main server to ensure smooth user experiences, but all in-game assets are stored on the blockchain. This mechanism will maintain continuous traction in the short and medium-term until blockchain technology and the market's perception of the crypto space move into the next phase.

Table: Traditional Games vs Blockchain Games

Features	Traditional Games	Blockchain Games
Server	Centralized & all data is stored on main server	Decentralized & all data is stored on blockchain
Ownership	More like a form of "lease"	Belongs to Holders
Immutability	Items will be destroyed if developers close down the server	Item will exist regardless of the state of the game that it originated from, and prevents it from being tampered with or copied
Interoperability	Can only do transaction within the ecosystem of single game	Interoperability between different DApps and game ecosystems so that utility is no longer tied to a single game / single use-case
Geographical Limitation	Yes	No

(Source: Huobi Ventures)

5.3 GameFi Needs Richer User Profiles

We consider "Play to Earn" not a category of games, but a category of user-profiles playing games. The sustainable growth of blockchain gaming projects needs to be achieved by attracting more **Play for Fun** and **"Pay for Fun" game players with better gameplay and user experiences**. In 2021, there were some third-generation games with AAA titles, such as Star Atlas, Illuvium, and Ember Sword. The tokens for these games have been circulating for a while, but the games themselves have not landed. We believe that the current gaming sector is still in an early stage, and in the future, more and more traditional game studios will actively jump into building web3.0 games. **There is no doubt that a batch of better quality and more playable blockchain games in 2022 will drive blockchain gaming to the next level.**

5.4 Innovation Expected in GameFi 2022

Games are the perfect vehicle for the metaverse, and a good game project itself is a comprehensive ecosystem. We expect more experimental GameFi projects to explore in the following areas in 2022:

- **In-game DAO/ SubDAO** - Players are free to build their own DAO in the game according to their in-game occupation/deputy, city, and preference, and **design an appropriate management system and taxation system to operate**.
- **Randomness** - Add some random factors, such as **extreme weather, diseases, etc.**, to increase the consumption scenario of NFT and help prevent Whales from controlling the game.
- **Provision of in-game financial products** - The provision of financial services, such as insurance against random events, to protect players' digital assets. Large MMORPGs with land sales operations may have in-game credits.
- **In-game Token Issuance** - DAOs, countries, and cities in the game can all issue tokens, allowing players and traders to find additional trading/arbitrage opportunities. Countries and cities will have their ups and downs, and their development can be reflected in their token prices, depending on how they design token economics.
- **Editor** - The game development team provides a main story/narrative, and players can freely develop side quests through the editor (For example, you can refer to various maps in Warcraft, and you can shoot in Mount&Blade)

5.5 - The Competition among Traditional Gaming Studios

We have seen traditional gaming giants trying to enter the blockchain gaming space. Ubisoft launched its Entrepreneurs labs to double down on NFT games in early 2021. And Com2Us, the largest mobile game company in Korea, recently launched a Terra-based blockchain gaming platform called C2X.

Fortunately, traditional gaming development is expensive and the **big players won't get in until compliance and other risks are clear**. Traditional game studios that are the first to embrace web3.0 have the potential to flip. We expect more new players to emerge in the new order of the Web3.0 gaming ecosystem, and the fourth generation of blockchain games will finally be here once traditional giants are ready to go. At that time, the blockchain gaming industry may enter a mature stage.



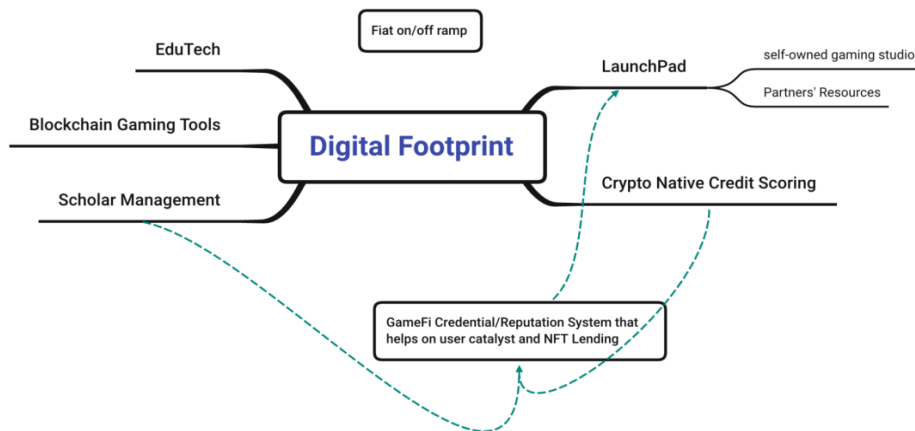
(Source: Huobi Ventures)

5.6 Gaming Guilds

The concept of guilds has been around since the days of traditional games, and the Play to Earn mechanism has pushed the financialization of entertainment to the top in the context of COVID-19.

Back in 2021, the guild sector had a very bright performance, with YGG and Merit Circle becoming household names in the NFT gaming space. As of March 13, leading guilds such as YGG and Merit Circle still maintained a fully diluted market value of more than \$2 billion respectively. However, guilds as a whole are growing much slower than their roadmap, possibly because they are raising too much money from the market — Merit Circle raised more than \$100 million through LBP. *Most guilds are more like venture capital firms that focus on the NFT gaming sector under the guise of guilds.* In addition, Scholars in the guilds, similar to liquidity providers in DeFi, are profit-seeking mercenaries and *the existing guild model is difficult to maintain user engagement.*

We see the next generation of guilds as a one-stop platform with DAO management tools, Learn to Earn, LaunchPad, Web3.0 Credential, NFT Leasing, and Gamefi data analytics to help with user conversion from web2.0 to web3.0, thereby expanding the entire Gamefi user base. Achieving such a one-stop platform may rely on composability between protocols. In addition, *we believe that The African and Latin American markets will be an important driver of the next explosion.*



Source: Huobi Ventures

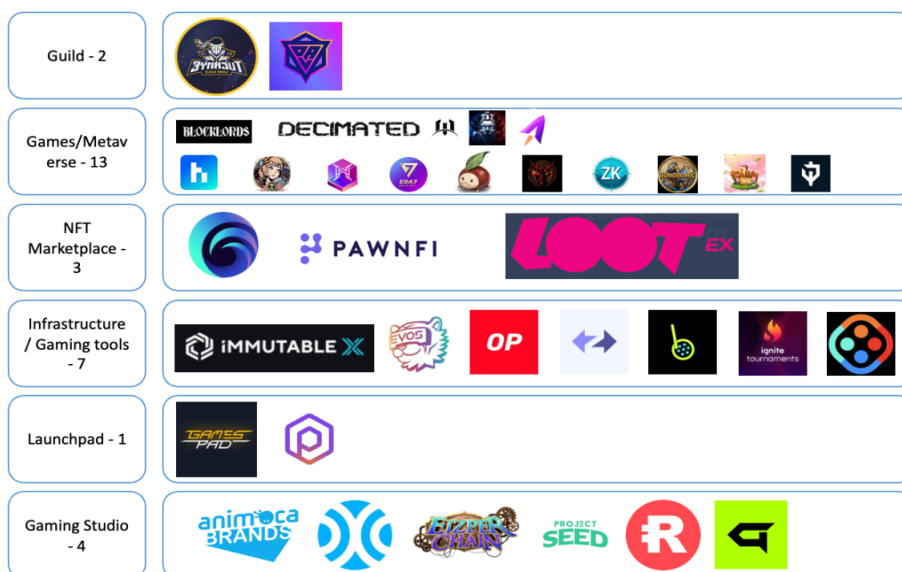
5.7 Notable Opportunities in the GameFi sector

The outbreak of blockchain gaming also drives the development of relevant spaces. Hence we believe the following plates also have huge points of potential:

- Esports platforms focused on Web3.0 games: platforms such as **Ignite Tournaments** are excellent launch channels for Web3.0 games. These platforms leverage blockchain technology to motivate users and speed up user acquisition.
- Developer tools: Game developer tools represented by Enjin are also worth it here. These tools will help onboard developers, thus **driving the supply-side structural reform of NFT games**.
- Game NFT Leasing/Lending Protocols: While most of the in-game NFT assets are in the hands of guilds and NFT focused venture capitals, **NFT leasing will allow individual owners to rent out their own gaming NFTs and share the revenue**. Meanwhile, the NFT leasing protocols can also provide an SDK to easily integrate with the GameFi projects and provide a P2P leasing market directly in the game.
- Metaverse Insurance:** This is a very interesting topic that has not been widely spread in the market. **Insurance services should be extended to GameFi/Metaverse to protect players' in-game assets in the future.** **InsurAce** and **Amulet** are doing something cool in this space. However, we still need to wait since existing blockchain games have low complexity and playability.

To sum up, blockchain games have taken the financialization of entertainment to a new level, but further market education is needed. With a large number of high-quality gaming projects set to launch in public beta in the Q2/Q3 of this year, the GameFi is likely to see a second wave.

Huobi Ventures Gamefi Landscapes

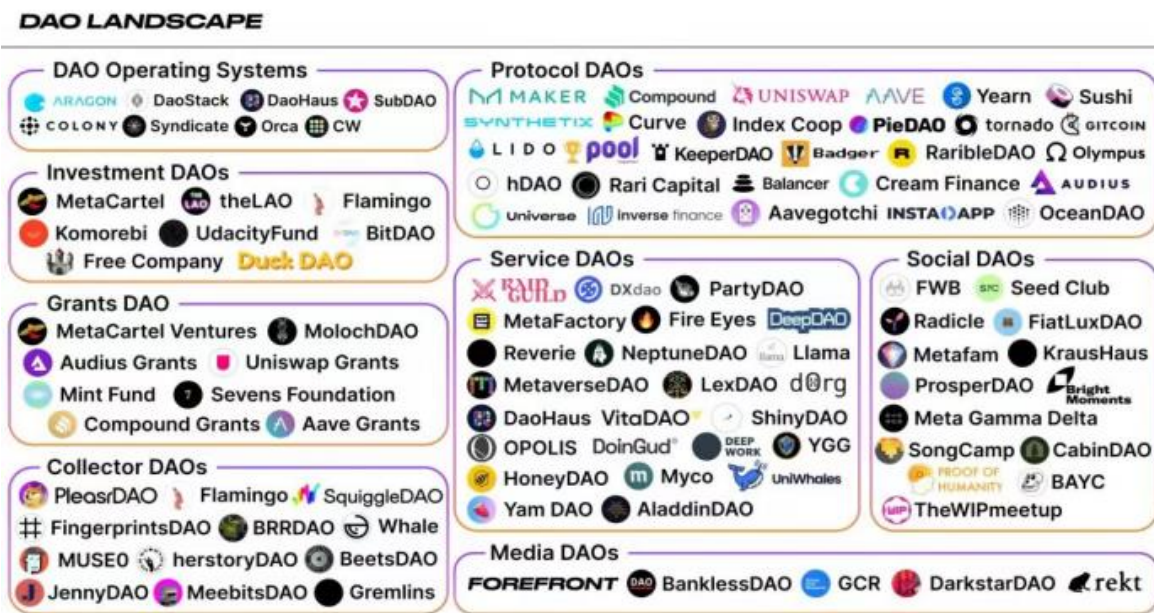


(Source: Huobi Ventures)

6.1 DAO: The most basic organizational form in the crypto world

DAOs (Decentralized Autonomous Organizations) are based on algorithmic governance, which in turn can govern algorithms. It is the gateway to Web3.0 and the broad & fundamental form of organization for the future crypto world. The DAO embodies the advantages of being cross-regional, more applicable to open source communities, more vertical in management, transparent, and more capable of mobilizing member participation than a corporate system. Meanwhile, DAO has become somewhat of an experimental "utopia" for centuries of social theoretical ideas, exploring in practice the ways of voting and reconfiguring distribution. However, DAO has been the ultimate ideal and the reality of difficult exploration side by side since its birth. The rise of the Web 3.0 concept in 2021 has opened the eyes of investors and builders alike to the greater possibilities of the DAO future: DAOs will be a form of organization widely adopted by the Web 3.0 world, rather than just a social "experiment".

6.2 Classification of DAO



(Source: [Bankless](#))

In terms of application direction, it can be divided into protocol DAO, investment DAO, grant DAO, service DAO, media DAO, social DAO, collection DAO, etc.

In terms of participation, they can be further divided by scholars into participatory and algorithmic. Participatory DAOs are managed by smart contracts through distributed consensus to indicate the preferences of members. Algorithmic DAOs are completely controlled by the algorithm and the underlying smart contract determines the full functionality of the DAO.

6.3 DAO Voting System:

The current design of the voting decision mechanism of DAO can be divided as voting proportional threshold design adopted by the compound governance; Holographic Consensus; Conviction Voting attempted by Aragon and the more commonly used Multisig.

In addition, the one-person-one-vote system has been gradually questioned, and the quadratic voting mechanism has been developed and applied. Quadratic voting tries to balance, mainly in practice, the weak preferences of the majority with the strong preferences of the minority. Quadratic voting may be a better solution in reducing the risk of "tyranny of the majority" and more balanced power of different individuals in the same group.

6.4 Obstacles with DAO

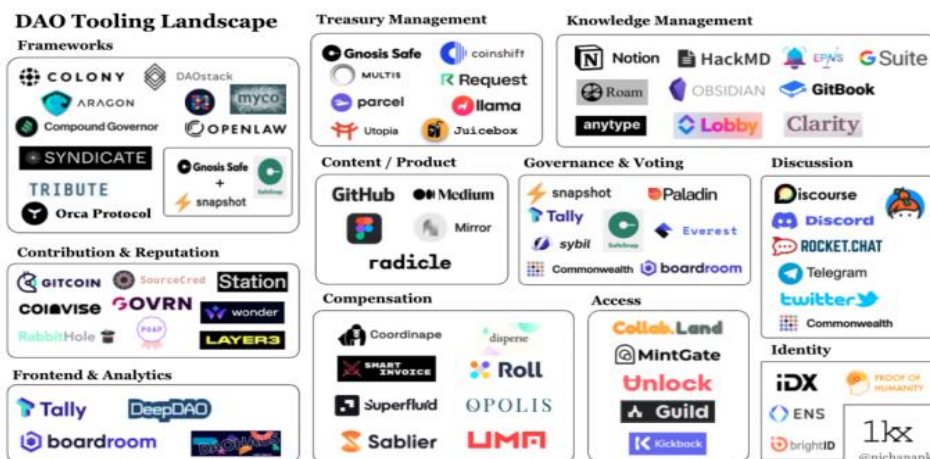
Decentralized organizations have yet to achieve decentralization in many respects

The final result of DAO voting may not represent the actual opinion due to the low percentage of actual participation; moreover, members with different voting weights in DAO can largely influence the outcome of the voting. Practically, it still lacks some methods to prevent cheating to prevent individual evil-doers from manipulating votes and governance.

Legal Issues

DAOs face a long-standing legal problem, i. e., DAOs are not currently legally recognized by sovereign states as a transformative traditional corporate form of organization. The changes brought about by DAOs in terms of financial, employment and tax relations challenge the established order, and it is still a matter of whether certain activities of DAO organizations should be considered as fundraising and financing in practice and how to define the nature of Token. Legal issues will receive increasing attention as DAOs become more widely used.

6.5 DAO Tools



(Source: [1KX](#))

DAO tools have tried many aspects of DAO practice in different aspects in the nearly ten years of DAO's existence. Clearly, DAO tools are evolving faster than DAOs themselves, and are still exploring aspects of governance and payments, as both technology and products reach maturity. [Therefore, DAO tools are more lightweight and mature targets from an investment perspective.](#) The current DAO tools include on-chain governance tools, vault management tools, voting tools, and streaming payment tools, among which we pay extra attention to payment tools, on-chain governance tools, and voting tools.

Payment Tools

The programmable cash flow of EIP-1620, which was proposed at the end of 2018, was not widely used at that time due to the lack of sufficient landing scenarios. But the proposal has regained attention as the fundamentals of DAO and Web 3.0 have changed. Due to the volatility of DAO tokens and the difficulty of balancing coin prices, stable coins have become the preferred choice for DAO settlement. The stable currency settlement enabled by on-chain streaming payments replaces some traditional financial payment scenarios and solves the underlying problem at a time when the creator ecosystem is increasingly thriving. Practically, superfluid can be adopted for DAO payments in addition to stream payments, and Parcel and other payment tracking tools can also be used to assist with batch payments.

Voting/Governance Tools

There has always been some kind of fragmentation between on-chain and off-chain governance for DAOs, and a problem with how the results of off-chain decisions are properly and fairly enforced on the chain. Initially, a combination of off-chain discussions and voting followed by on-chain voting was used in some DAOs such as Uniswap, and later products such as Gnosis Safesnap emerged to verify that on-chain executions were based on community voting results. But it is not enough, so limitations on the power of the executive and decision rollback mechanisms are born. Tally provides a possibility for voting participants to say no, by monitoring and limiting the execution process of decision-makers.

6.6 Prospect: the road ahead will be long and our climb will be steep.

Several hot events between 2021 and early 2022 have made DAOs famous: the Constitution DAO validated consensus in a constant backpedaling; the Ukraine DAO performed a role in special events. All of these have catalyzed the DAO development process to varying degrees. For the next stage, it is more desirable to see the innovation of DAO in voting mechanisms and its wide validation, creation of more efficient management tools based on new voting mechanisms, and new application forms. Going forward, [we believe that DAOs will be not just the most widely used form of organization in the Web 3.0 world, but will also become the foundation for many Crypto-related fields.](#)

