



DappRadar 2020 Dapp Industry Report

2020 Dapp Industry Report

Overall, 2020 proved to be an incredible year.

At the beginning of 2020, DeFi became the driving force of the blockchain industry. Ethereum was ready for the growth, while other blockchains lacked developer support and composability. However, this growth wasn't without some warning signs.

In the middle of March, COVID-19 took full hold and traditional markets plus cryptocurrency values dropped significantly negatively affecting the \$1 peg for MakerDAO's DAI stablecoin. MakerDAO almost collapsed but the strength of the community carried it through.

The second crucial trend in 2020 was yield farming. The successful launch of Compound's COMP token proved to be an excellent user acquisition tool together with creating an incentivization model.

Other DeFi dapps quickly started to launch their tokens and incentivize activities, while other developers built meta protocols to maximize their yield. In time, other categories such as NFT collectibles and games also adopted the model.

Overall, the majority of tokens created within DeFi and NFT dapps were governance tokens. Firstly, it allowed the community to participate in decision making within the dapps. Secondly, the governance mechanism is another big step towards real decentralization

The hype around yield farming also highlighted further issues. One of them was user retention. Uniswap's leadership was shaken by the launch of the so-called vampire dapp SushiSwap and the case proved user retention to be a key metric for success going forward.

Increased activity within the Ethereum network brought another issue – scalability. High gas prices hit activity on low-value dapps, notably gaming, which declined by over 90% between May and August. In turn, this created an opportunity both for Ethereum-focused Layer 2 solutions, as well as rival Layer 1 blockchains.

Smart contract hacks and exploits once more proved that the industry is still very experimental which gave rise to Insurance products, which may become a critical component necessary to allow the sector to scale healthily.

Finally, protocols and developers started to consider that working in isolation might not be the best way to fight the competition. Some important mergers happened towards the end of the year and this sort of consolidation looks likely to be a major trend in 2021.

N.B: [The DeFi ecosystem](#) refers to Decentralized Finance and Decentralized Exchange dapps.

[NFT Marketplaces](#) refers to Collectibles and Marketplaces dapps

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2020 In -summary

Opinions that matter

Key Takeaways

- 2020 was a record year for the blockchain industry. Dapp transaction volumes surpassed \$270 billion with 95% accounted for by Ethereum's DeFi ecosystem.
- Total Value Locked (TVL) and adjusted TVL (aTVL) amongst top Ethereum dapps tracked by DappRadar reached all-time high figures in 2020 of \$13 billion and \$11 billion respectively.
- In 2020, 238 new DeFi dapps were submitted to DappRadar. Of these 106 (45%) run on the Ethereum blockchain.
- Overall, 1,353 new dapps were submitted to DappRadar in 2020. Of these 424 (32%) run on the Ethereum blockchain.
- Scalability issues were not the only challenge met in 2020. The increased usage of dapps resulted in multiple exploits and hacks that amounted to more than \$120 million.
- After the implementation of yield farming initiatives on the NFT marketplace Rarible unique active wallets spiked from around 200 to more than 1,500 in September 2020.
- NFT marketplaces demonstrated their potential in 2020, with multiple sales worth more than \$100,000.
- The grounds for the road to true decentralization were built by DeFi dapps in 2020 through distributing governance tokens. While it is early to confirm how the ideology of decentralization is going to be implemented.

2020 Challenges

Scalability concerns

2019 witnessed a growing number of new dapps launched across all blockchains. The most important were DeFi, NFT, and game dapps that had a positive effect on activity during 2020. As expected, the majority of the activity was concentrated within the Ethereum blockchain.

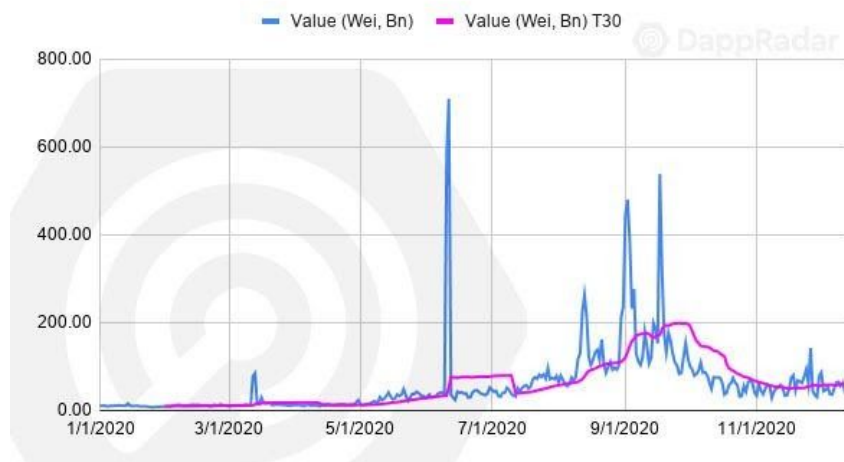
2020 was the year that dapps tried to grow at all costs. Of course, this came with consequences such as growing Ethereum gas prices.

The first wave of rising prices was down to the increased usage of the Tether USDT stablecoin on Ethereum. Combined with activity from several high-risk dapps, which were effectively spamming the network.

The second wave arrived alongside the newest trend in 2020 – yield farming. At its peak, an average transaction cost more than \$50.00.

Looking from a high-level, Ethereum effectively hit a wall in regards to scalability. The arrival of Ethereum 2.0 has become even more crucial not only to ensure Ethereum's leadership position but also survival.

Ethereum Gas Price

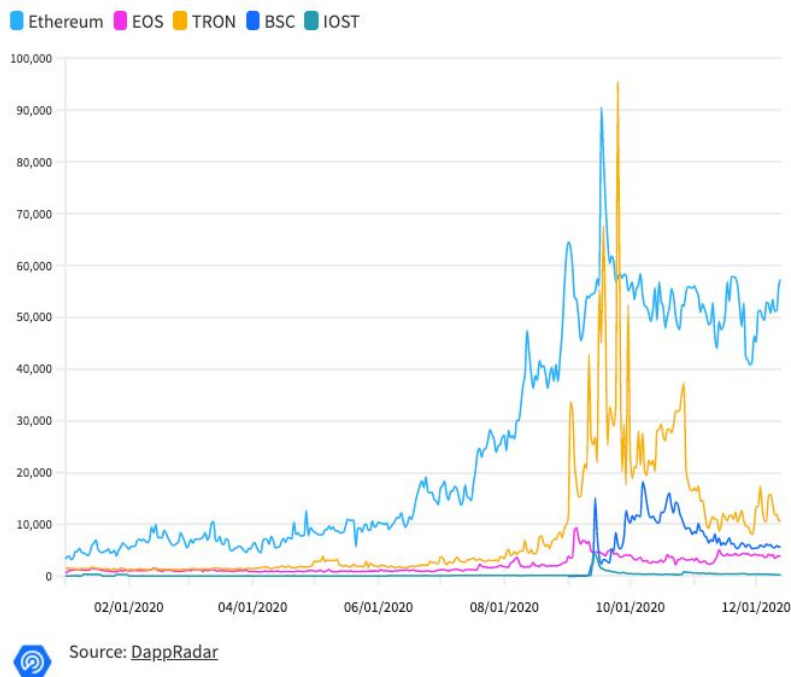


Source: [Etherscan.io Gas Price](https://etherscan.io/gas-price)

Increasing competition

In 2019 the main contenders to Ethereum's dominance were EOS and TRON and although these protocols generated substantial activity in 2020, other projects such as Polkadot and Binance Smart Chain (BSC) have quickly risen to prominence.

DeFi Ecosystem Unique Active Wallets By Blockchain, 2020



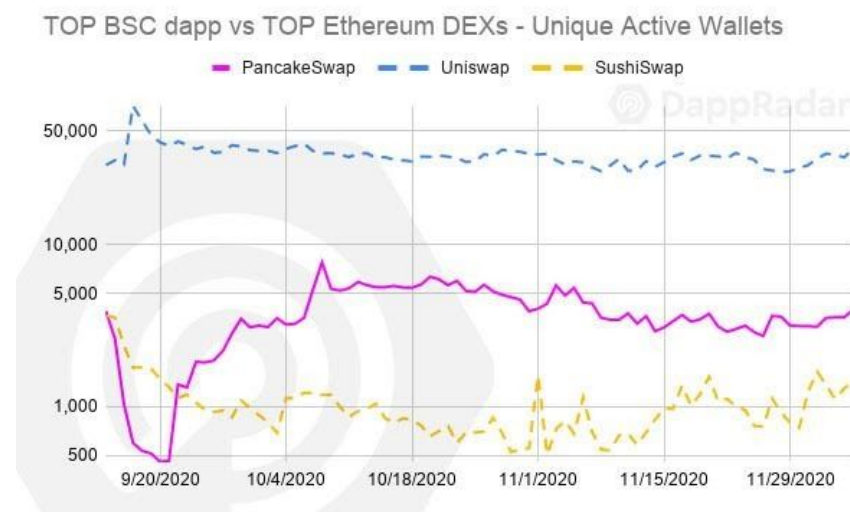
Without a doubt, in 2020 both EOS and TRON were effectively playing catch up as the DeFi category exploded. TRON built what were effectively Ethereum copies and these dapps started to generate substantial activity. There are more than 17,000 unique active wallets within the TRON DeFi ecosystem daily.

EOS was a bit slower and current activity is being driven by other categories of dapps outside DeFi. Still, the EOS DeFi ecosystem generates around 4,000 unique active wallets daily.

In 2020, more Ethereum contenders came online. For example, Cardano, Polkadot, Binance Smart Chain, Cosmos, Near, and Flow. Although, up to this point there are only a few projects active within these blockchains.

In terms of products launched, Binance Smart Chain (BSC) is leading. Within just three months of launching the top BSC dapps already generated approximately 10,000 unique active wallets.

Leading the BSC charge is PancakeSwap with 3,300 daily unique active wallets. While the figure is still eight times lower than the top Ethereum DEX Uniswap. PancakeSwap is already generating more than other top Ethereum dapps such as SushiSwap or Balancer.



Source: [DappRadar](#)

Other projects are still in the deployment stage, while most recently, Cardano announced that it will be releasing its first DeFi project – Liquid. Cardano is yet to deploy smart contracts, but as a top 10 project based on market capitalization, according to CoinGecko, it is considered a serious competitor.

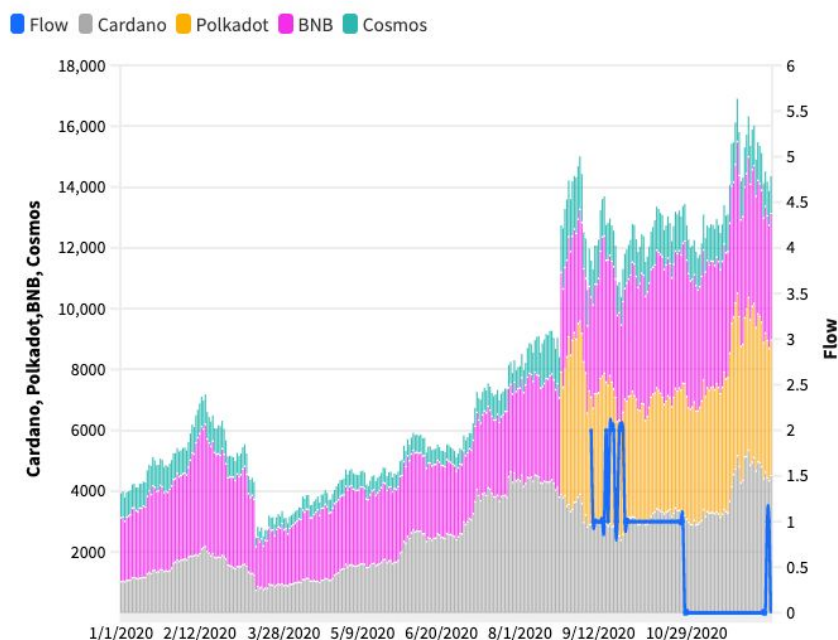
Although there are no projects launched yet, Polkadot is also on the cusp of launching an ecosystem to rival Ethereum. The protocol has attracted media attention and new investors such as KR1 and RockX, with RockX launching a \$20 million investment program to support projects building on Polkadot.

Another Ethereum challenger is Cosmos, which is creating a decentralized network of independent blockchains running on the

Tendermint consensus layer. Still, in the early stages of deployment, Cosmos has already been used by projects such as Binance Chain, OKChain, and Akash.

Flow is another contender, more aligned with dapp games, and is promising a fast, decentralized, and developer-friendly blockchain. To-date some of the world's top developers and biggest brands are already on board, such as NBA Top Shot, Animoca, and Ubisoft.

Ethereum Contender's Marketcap 2020, K USD



Source: [DappRadar](#)

Smart contract vulnerability











Besides record-high metrics in 2020 the DeFi category proved to still be a very fragile ecosystem. There were multiple hacks, exploits, and bugs especially within unaudited smart contracts, but even audited ones had issues.

One of the most important dapps in the ecosystem MakerDAO was put to the test during 2020. In the middle of March, cryptocurrency values dropped significantly negatively affecting the \$1 peg for MakerDAO's DAI stablecoin. MakerDAO almost collapsed but the strength of the community brought it through.

Another project that gathered very impressive traction within just 24hrs of launching was YAM. Promptly, the two-day-old project collapsed and the YAM token price plummeted from its high of \$200 to \$1.04.

An overall Increase in dapp usage during 2020 also resulted in a rising number of attacks and exploits. The total value of such events equates to more than \$120 million in 2020. This has made Insurance products a more important topic in the space and we predict they may become a critical and necessary component to allow the DeFi sector to scale healthily.

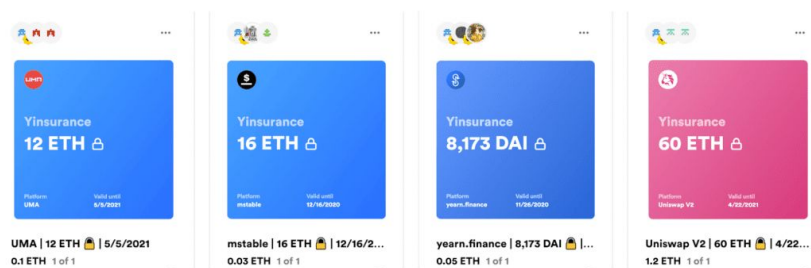
Smart contracts hacks and exploits, 2020

Image	Project	Date	Type of Hack	Amount Stolen
	bZx	14/02/2020	First flash loan Hack	2,676,700 USD
	bZx	18/02/2020	Second flash loan Hack	2,009,550 USD
	Lendf.me	19/04/2020	Wallet Hack	25,000,000 USD
	Balancer	28/06/2020	Flash loan Hack	500,000 USD
	Bancor	10/07/2020	Wallet Hack	23,500,000 USD
	Opyn ETH	04/08/2020	Smart Contract Hack	370,910 USD
	Harvest Finance	26/10/2020	Exploit	24,000,000 USD
	Akropolis	13/11/2020	Flash loan Hack	2,000,000 USD
	Value Defi	13/11/2020	Flash loan Hack	6,000,000 USD
	Origin Dollar	17/11/2020	Flash loan Hack	7,000,000 USD



Source: [DappRadar](#)

Both centralized and decentralized driven insurance initiatives are emerging. For example, yInsure's NFT insurance tokens created a buzz as a novelty item, and it appears the industry is ready to delve further into insurance options in 2021.



Source: [Rarible](#)

Another interesting example is from auditing firm CertiK. CertiK has developed a membership service that enables participants to have assets reimbursed in the event of an exploit.

The increased deployment and attention of such projects prove to some degree that insurance will be the next important DeFi ecosystem subcategory.

High yields came with high-risk

Rising interest in DeFi dapps and yield farming also added to the risk factor in 2020.

Multiple dapps were built that suggested remarkable yields, but the high returns were coupled with an element of risk.

There were numerous cases in 2020 where users lost considerable amounts of money through plain exit scams and fraud. Moreover, whilst dapps that contain a certain amount of risk are classified as high-risk dapps on DappRadar we are starting to see a blurring of the lines.

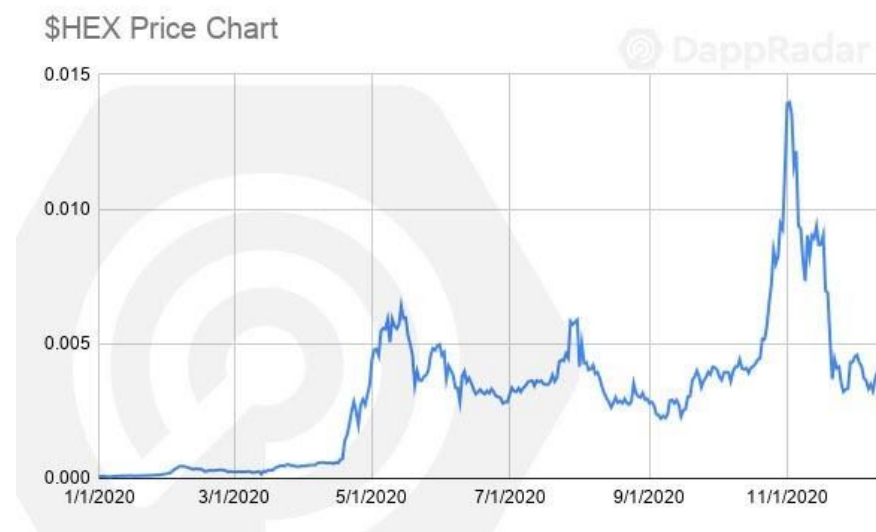
A project called HEX, fronted by longtime Bitcoin maximalist Richard Smart arrived in December 2019.

HEX is distinctive in that it is not a typical high-risk dapp structured around hot potato game theory or standard pyramid selling. Furthermore, it has been active for more than half a year whereas most high-risk dapps disappear after three months.

Instead, because it integrates its token with a long period, high return staking mechanic, and strong affiliate marketing. HEX might be better viewed through the perspective of an ambitious attempt to bootstrap a new cryptocurrency and community.

Users swap their principal in ETH for the HEX token and receive both their principal and interest in HEX. Hence, the high-risk element of HEX stays within the HEX token price volatility.

The value of the \$HEX token fluctuated a lot during 2020. Although the current value of \$HEX is not more than \$0,0044, it has shown a remarkable growth of 2,100% in 2020.



Source: [CoinGecko](#)

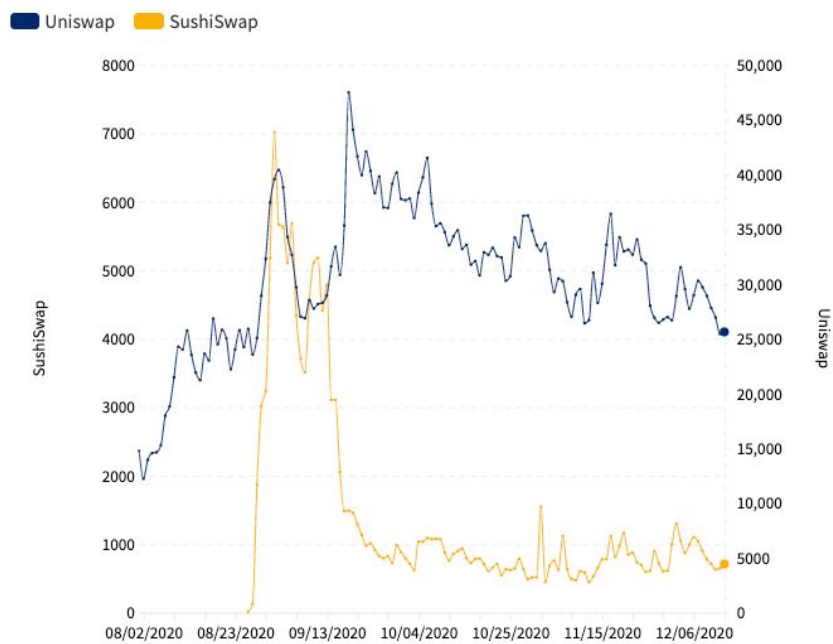
User retention

Rapid growth in 2020 also highlighted user retention in a different light. As previously stated, In the longer term, unique active wallets interacting with the dapps smart contracts will be a key measure of success.

Uniswap was the unquestionable leader of the decentralized exchange (DEX) category in 2020. However, another project was waiting in the wings to try and dislodge it. Enter SushiSwap. The launch of the so-called vampire dapp dominated headlines in mid-2020 as, In essence, SushiSwap incentivizes users to move liquidity from Uniswap.

The vampire tactic was successful for a couple of weeks but In the middle of September, Uniswap counter-attacked by airdropping current and past users their UNI governance token. While we observe that Uniswap recovered its leadership position, it can be argued that the event proved user retention to be fragile and bait driven.

Uniswap vs SushiSwap : Unique Active Wallets



Source: [DappRadar](#)

In 2020 the concept of growth at all costs brought fascinating and challenging issues to the blockchain industry and individual dapps. Nevertheless, through enterprise and perseverance, the industry found a way to succeed and record a year of all-time high metrics.

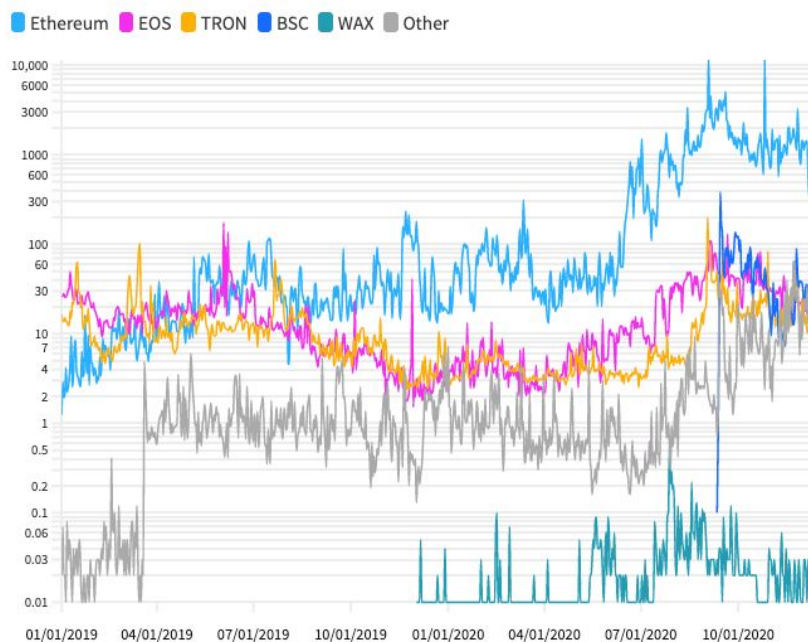
Growth at all costs

In terms of all metrics, the industry as viewed through the lens of the 16 blockchains tracked by DappRadar grew tremendously in 2020.

Unique active wallets grew by 466% from 58,000 at the end of 2019 to around 200,000 at the end of 2020. Whilst transaction volume grew by an impressive 1178% from \$21 billion in 2019 to \$270 billion in 2020.

On the other hand, results were highly concentrated within a few dapps. The top 10 DeFi dapps are responsible for 87% of Ethereum transaction volumes, or \$223 billion in 2020.

Transaction Volume By Blockchain In M USD , 2019- 2020



Source: [DappRadar](#)

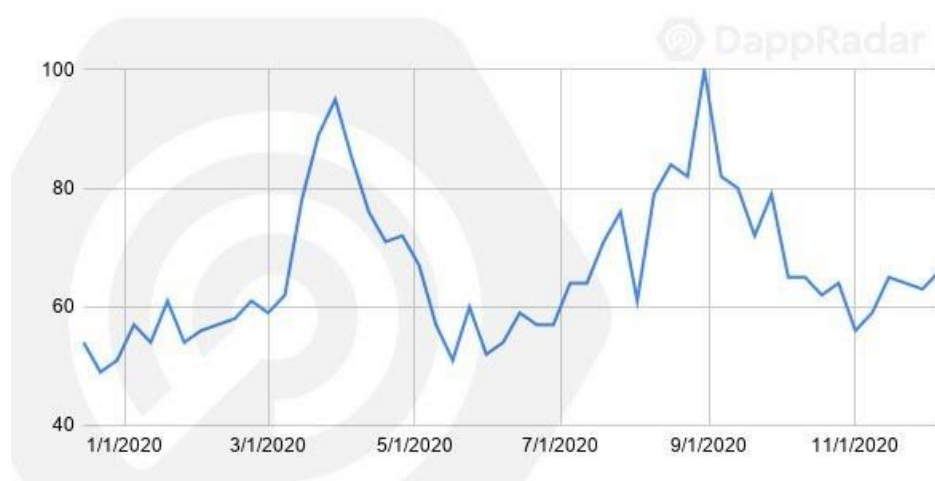
Ethereum's DeFi ecosystem was the main driver of Total Value Locked (TVL) with adjusted TVL (aTVL) as tracked by DappRadar

reaching all-time high figures in 2020. \$13 billion and \$11 billion respectively.

95% of transaction volume growth belongs to Ethereum DeFi dapps

DeFi was the main driver of dapp growth in 2020 and has become the dominant sector in terms of key metrics such as TVL, AUW, and Volume. It is also a key topic for news channels and social chatter with peaks in interest seen in April and September 2020.

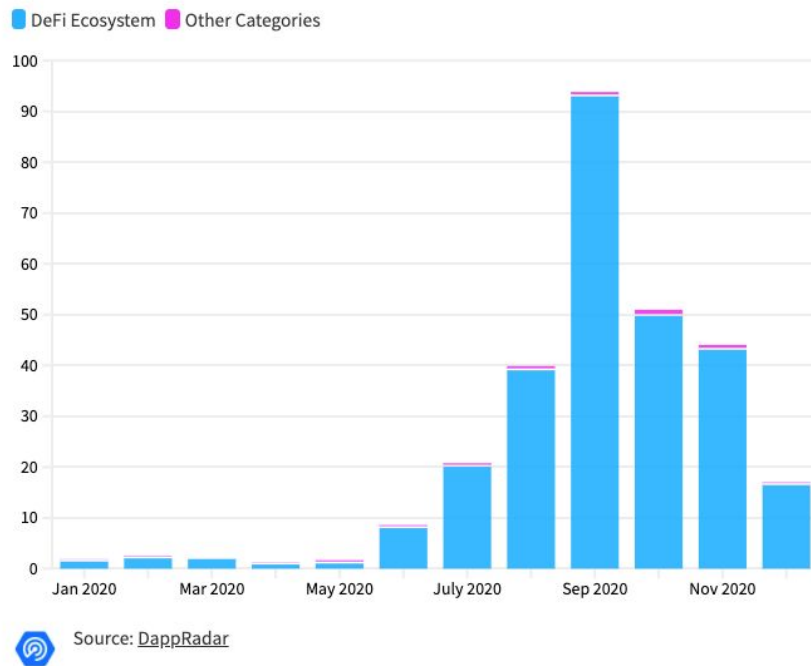
Google Trends Worldwide: 'DeFi' keyword



Source: [Google Trends](#)

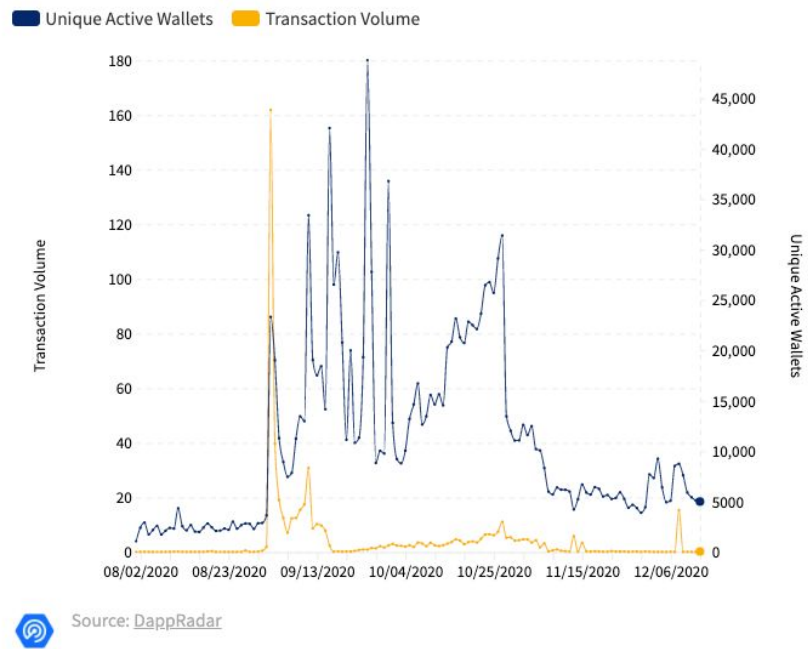
With competition struggling to make up ground fast enough. Ethereum's ecosystem was the first to develop and mature, whilst competitors mustered some valiant efforts.

99% of Total Transaction Volume Belongs To DeFi Ecosystem, Bn USD



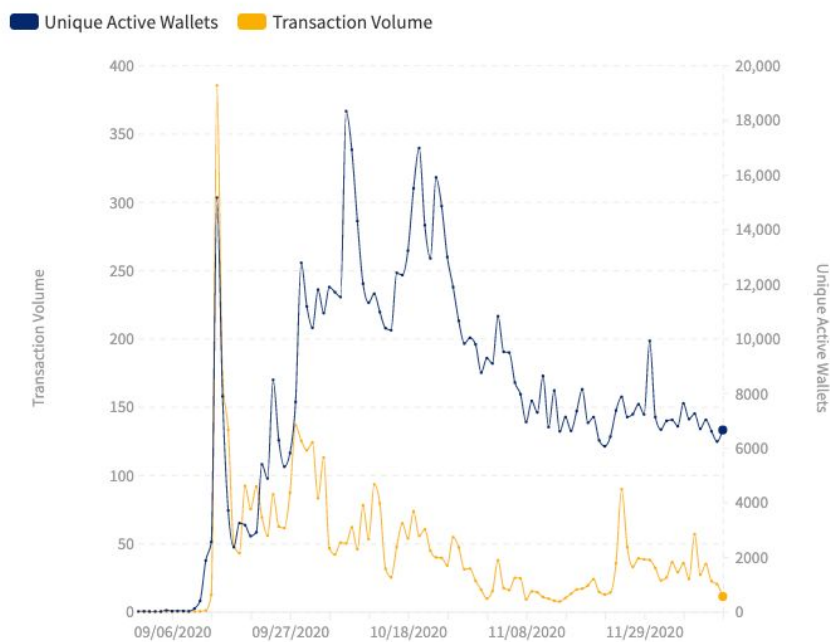
TRON was the first blockchain to catch up in terms of growing a DeFi ecosystem. There are more than 70 dapps built on the network to date. The majority of activity is concentrated within the top three. USWAP, JustSwap, and UME generate more than 5,000 daily unique active wallets and account for 70% of total DeFi ecosystem activity.

TRON : DeFi Unique Active Wallets And Transaction Volume, M USD



Binance Smart Chain (BSC) is another protocol that caught up quickly and within a few months of launching generated approximately \$3 billion in transaction volume. While still a relatively small amount compared to Ethereum's yearly figure (\$256 billion), it is close to TRON's (\$3.6 billion) and EOS's (\$6.5 billion) numbers.

BSC : Unique Active Wallets and Transaction Volume, M USD



Source: [DappRadar](#)

One of the main drivers behind Ethereum's DeFi ecosystem growth in 2020 was the hype surrounding yield farming and governance token distribution.

Yield farming inspires DeFi ecosystem activity

Synthetix was the first to introduce yield farming, while Compound with their COMP token made it popular. It could be argued that Compound's introduction of the COMP governance token set off a chain-reaction in the industry.

Balancer and Curve also followed the trend, spiking key metrics on their way. Despite this, the biggest growth point can be observed upon the launch of SushiSwap. Data points for the most important launches and spikes in unique active wallets are provided below:

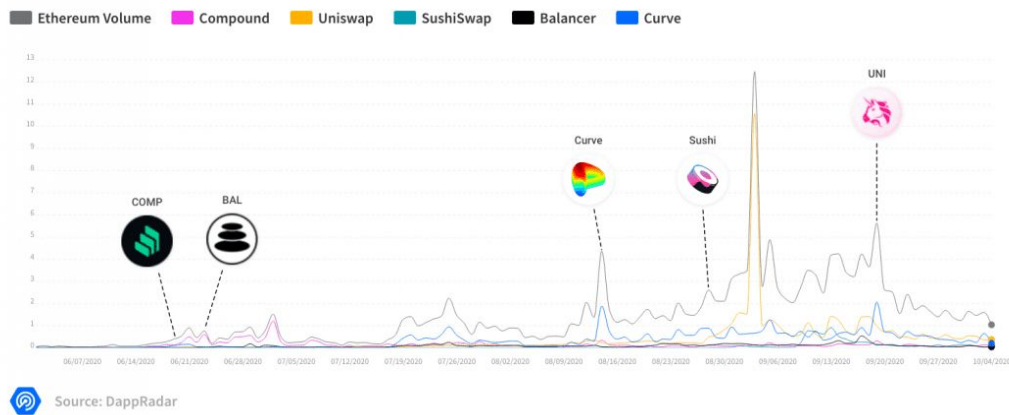
- COMP: within the week, UAWs number increased from around 300 to 2,700 (+800%).
- BAL: within the week, UAWs number increased from around 200 to 650 (+225%).
- CRV: within the week, UAWs number increased from around 1,000 to 4,100 (+310%).
- Sushi: within the week, UAWs number increased from around 10 to 7,100 (+70,900%).
- UNI: within 24 hours, UAWs number increased from around 30,000 to 71,000 (+137%).

At the end of August, the launch of SushiSwap shook the DeFi ecosystem. The project used Uniswap as a launch base, intending to migrate liquidity away. In return, to incentivize users to switch, the protocol gave away Sushi tokens. In September 2020 the project generated more than \$6 billion in transaction volume.

Uniswap counter-attacked by releasing their token and airdropping 400 UNI to all wallets that had interacted with Uniswap in the past and currently. 400 UNI tokens were distributed to each user, and at that moment, and for a few hours proceeding, it was worth around \$1200.

The transaction volumes peaked momentarily. \$33 billion was generated by Uniswap in September, accounting for almost 60% of total transaction volumes.

Governance Token Effect on Transaction Volume, Bn USD



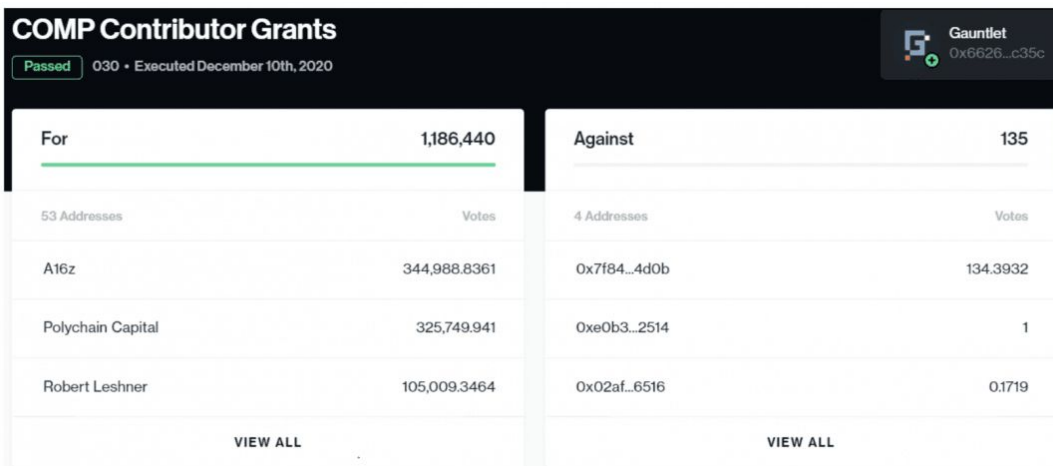
Generally speaking, yield farming and the release of governance tokens created a template for other dapps to start understanding how to incentivize users within the blockchain industry.

The road to true decentralization

All of the above-mentioned dapps released governance tokens in 2020 allowing holders to theoretically vote to distribute fees collected by the platform as revenue to themselves.

Curve was one of the first dapps to initiate a dividend payment to token holders and it will be interesting to see how other platforms develop.

Recently, both the Compound and Uniswap communities voted on a proposal that would enable the [ecosystems to issue grants](#) and pay contributors using governance tokens. If realized, this would be a key step for two vital projects in the Ethereum DeFi ecosystem on the road to decentralization.



Source: [Compound Proposal 030: COMP Contributor Grants](#)

Rising yields incentivized BTC to flow to Ethereum

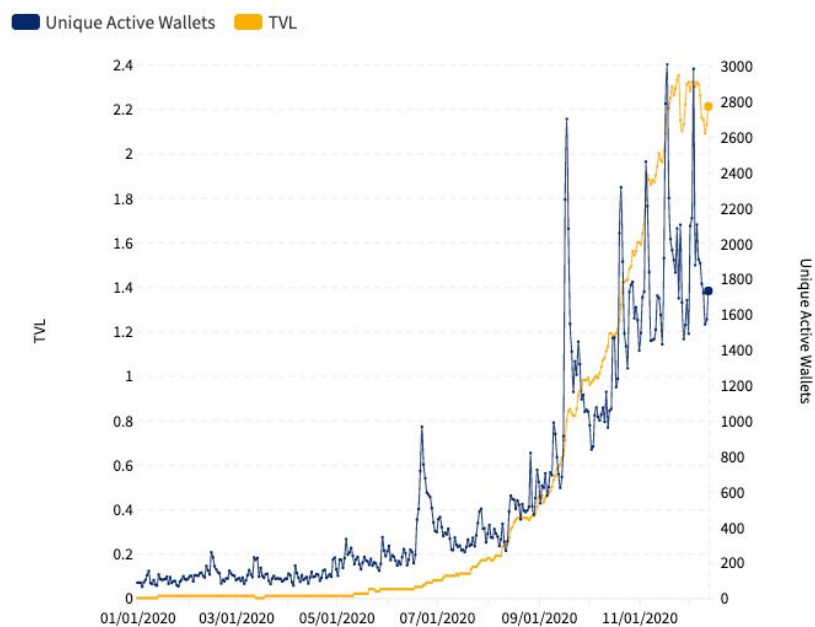
Bitcoin is still the number one cryptocurrency in the world by market capitalization and represented a pot of liquidity that wasn't previously entering the Ethereum DeFi space.

The smooth fusion of the two was an important step to integrate Bitcoin holders into Ethereum network activity.

While rising yields were the main trigger of Bitcoin flowing to Ethereum, wBTC is the leading provider of tokenized Bitcoin on Ethereum.

Furthermore, there are more use cases, and while custodial solutions lead the race, non-custodial solutions have been raising funds and launching. renBTC is currently the leading non-custodial tokenized BTC on Ethereum.

WBTC: Unique Active Wallets And TVL In Bn, USD

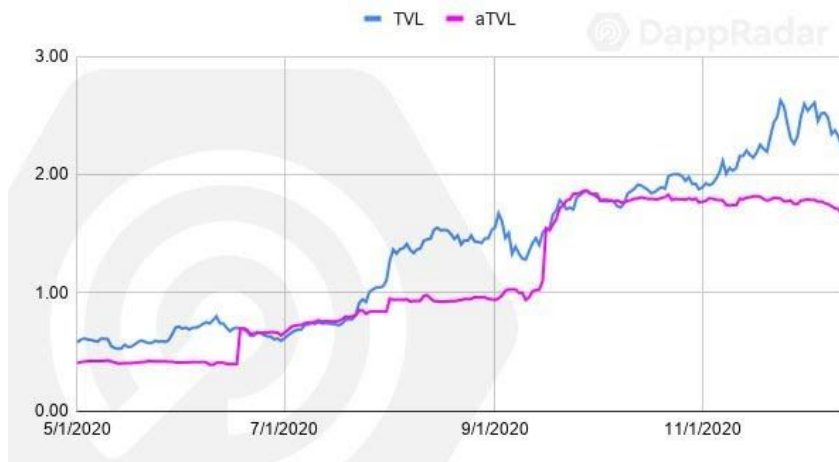


Source: [DappRadar](#)

Measuring DeFi activity accurately – aTVL

At the start of 2020, a new metric became the standard way to measure growth within the DeFi Ecosystem. TVL serves as the chief measure of growth and measures the value of assets (usually in USD) locked in a dapp's smart contracts. Most commonly assets are locked as part of liquidity provision activity.

MakerDAO: TVL vs aTVL



Source: [DappRadar](#)

TVL is most often quoted in USD. As such, the price of the locked assets in a smart contract can have a bigger impact on TVL than the number of assets locked.

In 2020 DappRadar effectively solved this issue by presenting a new metric. aTVL or adjusted total value locked. In the event of a surge in the price of ETH and other altcoins, aTVL shows the true growth of assets added to the smart contracts.

Furthermore, the addition of a unique active wallet (AUW) metric can show if the activity is being driven by multiple users or single whales. Furthermore, it can show if there is wider community engagement.

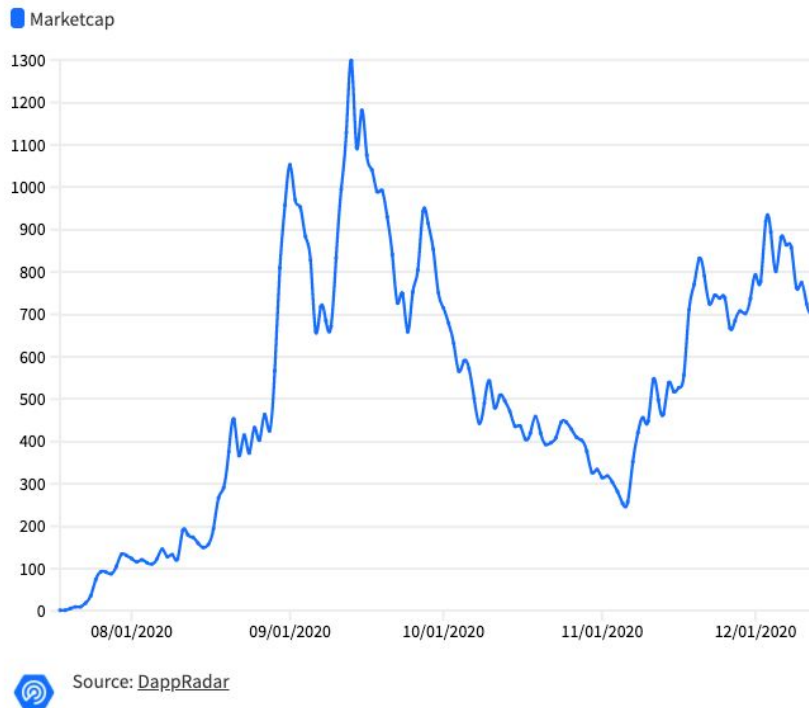


Source: [DappRadar](#)

DeFi teams join forces

Another important trend began to emerge at the end of 2020. There were several announcements that projects were planning to join forces. For example, Yearn Finance partnered or merged with at least five different DeFi projects in 2020: SushiSwap, Akropolis, Cover, Cream, and Pickle.

yearn.finance (YFI) Marketcap, M USD



Every project appears to have a particular specialty, but each has faced a difficult time against the competition. A number of these mergers looked like developer acquisition strategies, with Yearn picking up development teams that may have fallen on hard times.

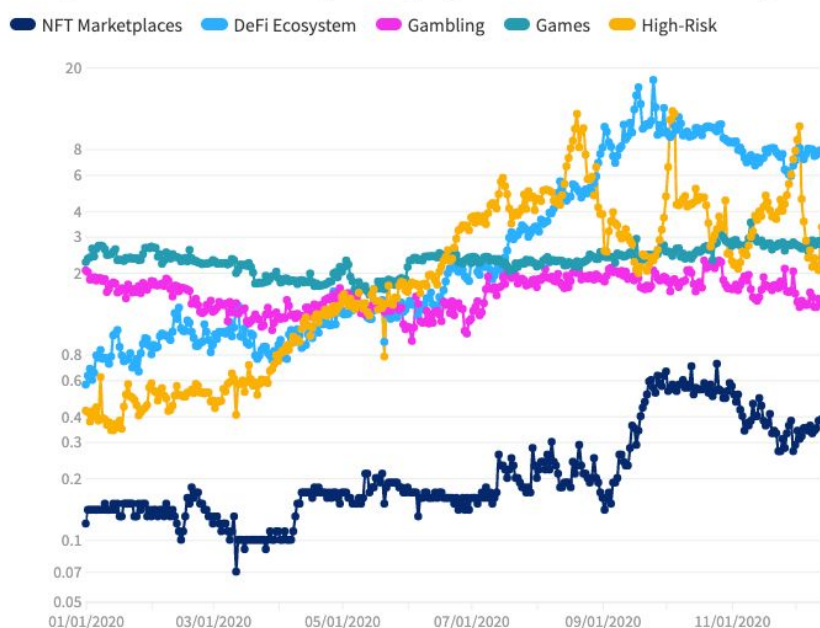
Mergers are quite common in traditional markets, while this was the first one that has been executed in the decentralized space. Mergers might give other dapps a template and impetus to follow the trend.

Overall the DeFi ecosystem has progressed remarkably in recent years but the results were quite extraordinary in 2020. Furthermore, It could be argued that the DeFi ecosystem created a blueprint for other categories to evolve. It is expected that very soon DeFi will facilitate further value transfer for NFT marketplaces and dapp games.

A base to grow

DeFi is the infrastructure for the crypto economy, the plumbing layer, and as a result, the NFT and game sectors have started to embrace DeFi practices to grow their activity.

Unique Active Wallets By Category Across All Blockchains, K



Source: [DappRadar](#)

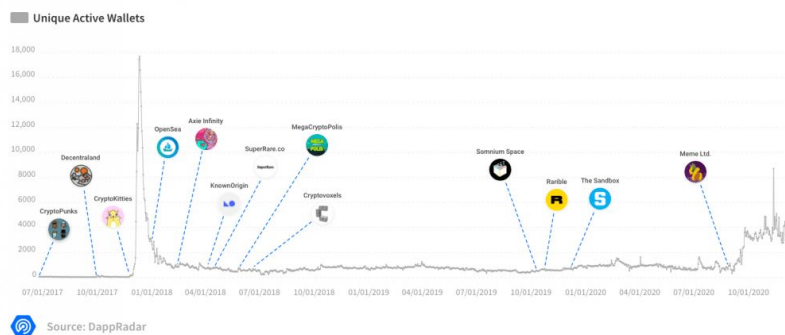
Rarible was the first NFT platform that introduced a governance token through RARI to incentivize users and add liquidity mining. Whereas gaming is using DeFi to create value and liquidity for play-to-earn models.

NFTs drive dapp growth in 2020

Over the past few months, the hype has started to grow around art and game non-fungible tokens (NFTs). A number of tokens have launched in 2020 that offer different use cases such as governance

or utility, but all are working towards the same goal – user acquisition.

Ethereum: NFT Unique Active Wallets

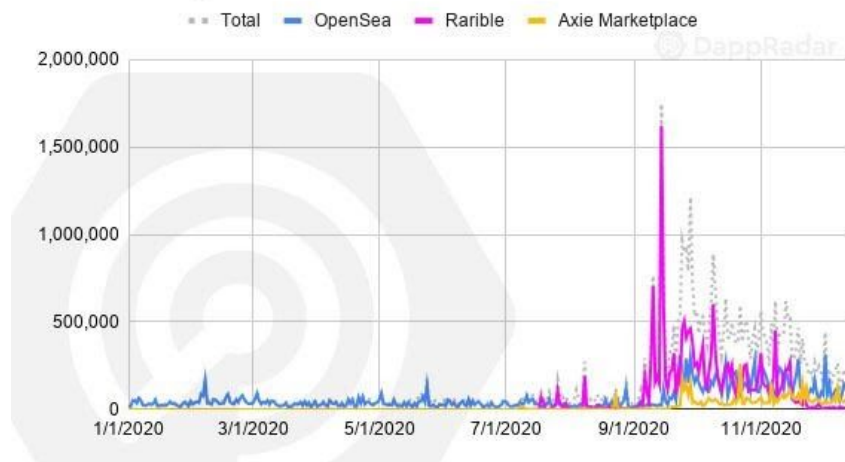


Source: [DappRadar](#)

Rarible was the first platform that offered token farming within the NFT Marketplace category and it was swiftly accepted by users and ended in increased metrics.

At peak times, Rarible generated more than \$1.5 million in daily transaction volume. On the other hand, that figure has decreased recently due to fees introduced by the platform to help mitigate wash trading and maintain integrity.

NFT: Trading Volume



Source: [DappRadar](#)

Another governance token example came from one of the most popular dapp games Axie Infinity. Axie announced the launch of the ANX token. Of course, it affected both the game and Axie Marketplace activity as sales of NFTs spiked immediately and unique active wallets rose to around 800 at the end of the year.

On the other hand, OpenSea, one of the most well known NFT marketplaces, hasn't distributed a token yet. Regardless of this, the platform proved that it can attract and retain users quite quickly even after loyalty faded momentarily. This could be down to the UX and amount of features OpenSea already has in place.

It has become apparent in 2020 that the DeFi and NFT sectors are heavily interconnected. Recently, a [platform called NFTfi made it possible to borrow cryptocurrencies while locking non-fungible tokens as collateral](#).

For example, an NFT art piece, a parcel of land from Axie Infinity, or a CryptoPunk collectible can now be used as collateral to borrow money.

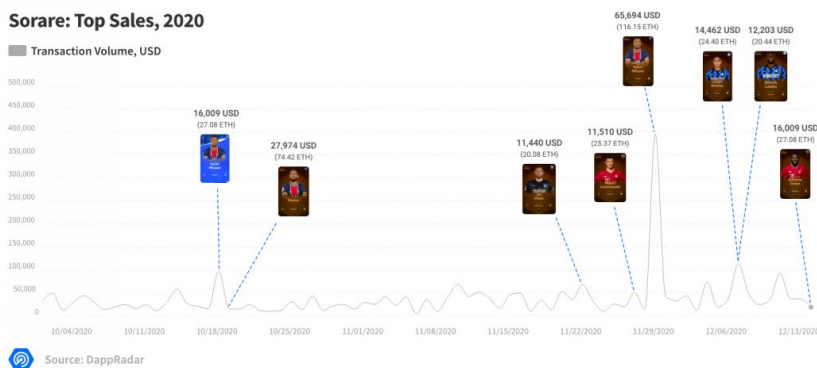


Source: [NFTfi.com](https://nftfi.com)

Recent NFT sales show real potential

NFT transaction volumes are still relatively small, not more than \$63 million in 2020 or 0.02% of the total transaction volume across all categories. More recently, NFT sales within dapps such as Sorare and CryptoPunks proved the category's true potential.

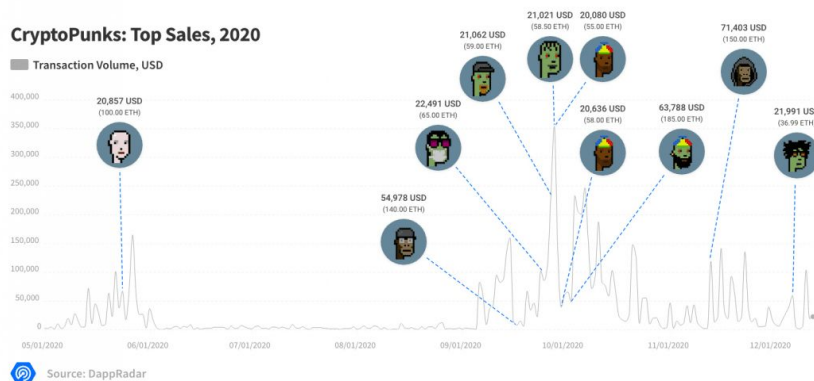
Sorare is looking to separate itself from the pack when it comes to digital sports collectibles and recently a Kylian Mbappé card sold for 116.15 ETH or over \$64K. Making it one of the biggest collectible sales of 2020.



Source: [DappRadar](#) (ETH/USD conversion rate on the day of the transaction)

Arguably, CryptoPunks started the trend over 3 years ago with the introduction of their unique and limited supply of NFT art pieces. During its existence, CryptoPunks has made some impressive sales ranging from 21 to 185 ETH per punk, according to Larva Labs' top 60 sales data.

Interestingly, there were two large sales within the last two months where two punks sold for over \$63,000 and \$71,000 respectively.



Source: [DappRadar](#) (ETH/USD conversion rate on the day of the transaction)

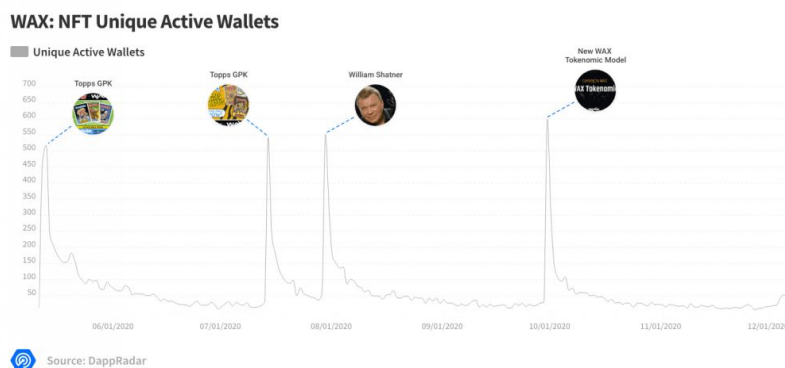
Some of the most important sales of 2020 were Axie Infinity NFTs. Looking at the top 10 sales during 2020, two of them gathered over \$130,000 and \$97,000 respectively. To sum up, Axie could be chosen as the leader in terms of the highest NFT sales in 2020.

WAX builds its own NFT hub

Ethereum is not the only blockchain experiencing a surge in NFT importance. Since its inception and launch, the WAX blockchain has

put a substantial focus on the delivery of brand partnered NFT content.

The first five major NFT sales on WAX sold out in record times and put NFTs into the hands of thousands of users.



Source: [DappRadar](#) (ETH/USD conversion rate on the day of the transaction)

Within 2020 WAX not only released some very successful NFT projects such as the iconic Garbage Pail Kids Topps cards but also introduced a new tokenomic model into the blockchain.

Simply put, WAX wants to inject the economic value created on WAX into the Ethereum DeFi ecosystem. More precisely, using what WAX does best – creating, selling, and trading NFTs – and linking the value generated to Ethereum.

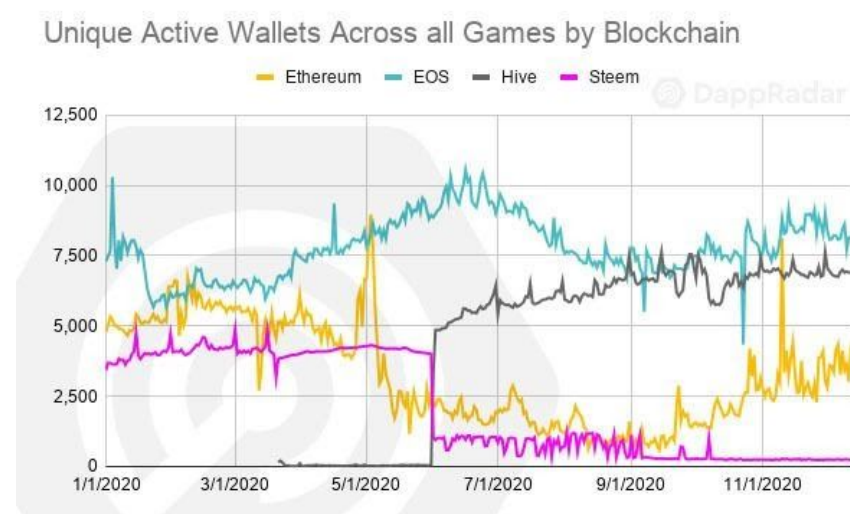
Although NFT marketplaces on WAX are still relatively small, it is clear that their positioning and dedication to a particular category has huge potential to be another big trigger for future industry growth.

Not all fun and games

2020 was extremely challenging for the dapp game category overall, especially for games running on the Ethereum blockchain.

At the beginning of 2020, the games category was the largest in terms of unique active wallets. At its peak showing around 10,000 unique active wallets. Increasing Ethereum gas prices due to a demand for DeFi dapps shrank the category to less than 1,000 unique active wallets by August 2020 and has been slowly recovering since.

The main reason for the collapse was that dapp game users were not prepared to pay such a high fee for a normally simple and low-cost transfer. Whilst those who were moving hundreds of thousands were prepared to pay the fees.



Source: [DappRadar](#)

This downfall provided the perfect platform for other blockchains to step up. For instance, the newly forked Hive protocol kept a strong position in terms of unique active wallets. The main driver of this activity was Splinterlands, which is currently the number one game

across all blockchains attracting more than 6,000 unique active wallets daily.

EOS is leading the games category currently. Despite activity only being generated by a few individual dapps, namely Upland and Crypto Dynasty. These two games are continuously driving growth on EOS. Accounting for 42% and 16% respectively of the total daily active wallets within the EOS game category in 2020.

EOS property flipping game Upland went from strength to strength in 2020 and recently introduced Tilia Pay allowing players to cash out fiat currency by flipping properties. Soon, the game is looking to allow users to sell NFTs via their virtual businesses e.g. art galleries, nurseries, and car dealerships.

In our opinion, Upland is a great example of a play-to-earn blockchain game done in the right way. Slick UX and the majority of the blockchain features being hidden in the background have made the game very popular.

Crypto Dynasty is another play-to-earn game that proved to be popular over the last two years whilst sustaining activity on the EOS blockchain. While currently, unique active wallets are at least three times lower than at peak times, Crypto Dynasty still generates around 1,500 daily unique active wallets.

It is worth noting that a recently observed decrease can be attributed to updates and downtime for the game. Moreover, we envisage the figures stabilizing once again in 2021.

EOS: Top Games Unique Active Wallets

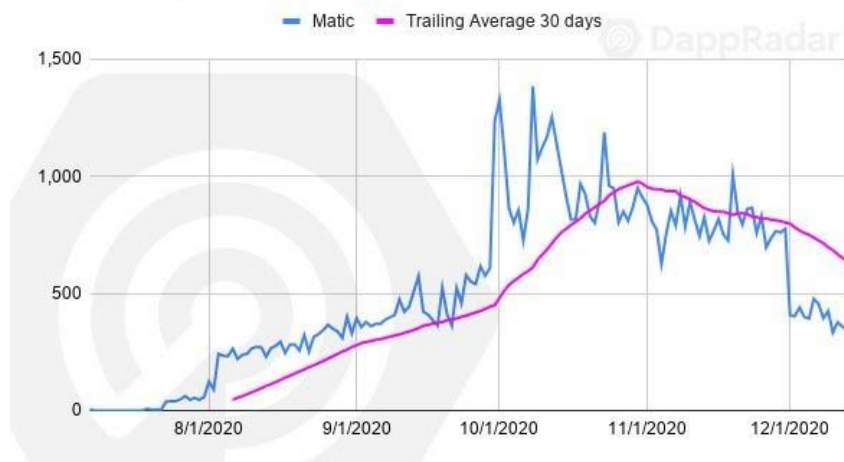


Source: [DappRadar](#)

EOS and Hive were not the only blockchains to make an impact in the games category. Layer 1 and layer 2 solutions also looked to find a place amongst the action.

One of the most popular layer 2 solutions tracked by DappRadar, Matic, generated a relatively modest but noticeable increase to approximately 300 daily unique active wallets with the biggest contributor being 0xUniverse.

Matic: Unique Active Wallets



Source: [DappRadar](#)

As mentioned earlier, Flow is another contender setting their sites on the gaming category. Flow is a layer 1 solution that aims to be fast, decentralized, and developer-friendly. With brands such as NBA Top Shot, Animoca and Ubisoft already onboard we envisage more competition in 2021 coming from this blockchain.

Play-to-earn

High gas prices almost killed the Ethereum games category in 2020 and although it has recovered recently the main reason behind the growth is the rise of the play-to-earn game model.

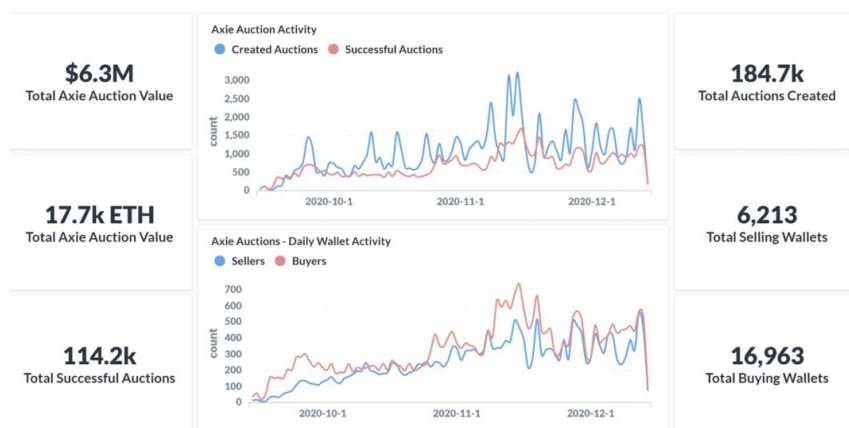
The play-to-earn model is the latest development in the dapp game industry. It's a business model that embraces the concept of an open economy and provides financial benefits to any players that add value.

One of the first blockchain games that introduced play-to-earn was Axie Infinity. For example, you can play the game with an Axie, improve its features, and sell it on the Axie Marketplace or other

similar platforms. In 2020 there have been many reports of players making a sustainable income from their game time.

It could be considered as an investment opportunity and currently, the game has increased its activity to around 2,500 daily unique active wallets. The activity was fueled by a new wave of interest after the AXS token release on Binance in early November 2020.

Extended Analytics



Source: [Axie Infinity extended analytics by DappRadar](#)

The play-to-earn model however is not restricted to these types of dapp games and is common in another sub-category of Ethereum games – virtual worlds.

Ethereum's virtual worlds

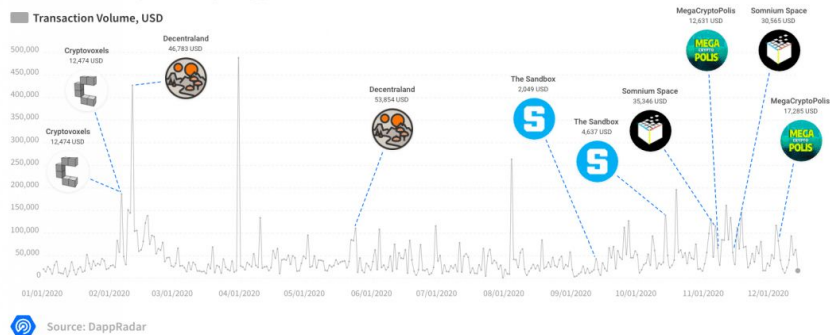
The majority of virtual world dapps are currently concentrated on the Ethereum network. Projects like Decentraland, MegaCryptoPolis, The Sandbox, and Cryptovoxells have enabled the creation of entire universes on the blockchain. These universes contain properties, items, wearables, art, group events, and more. Giving users the ability to interact and own items in virtual environments. Moreover, these dapps create an opportunity to participate in a virtual economy and earn from it.

For example, MegaCryptoPolis allows you to build buildings such as offices and rent them to other users. Wallets are rewarded with game resources that could be easily exchanged for the game token \$MEGA.

Other worlds are more like virtual art galleries and locations where events are being organized such as concerts, exhibitions, or festivals.

The UX of these games is currently limited but evolving and it is clear the developers have big plans for their worlds. For now, it allows users to dig deeper into the virtual blockchain world whilst also earning an income.

Virtual Land Top Sales By Dapps



Source: [Nonfungible.com](https://nonfungible.com) (Token/USD conversion rate on the day of the transaction)

Although the majority of user activity within virtual worlds is still very events driven, these dapps proved their capability to generate impressive sales.

Looking from a high-level overview, it is evident that the majority of activity is still very concentrated on the Ethereum blockchain whilst scalability issues made it hard for some categories and individual dapps to survive.

Still, to mitigate risk arising from such activity within a specific blockchain, interoperability or bridge building might prove to be the key to success in 2021.

2020 In Summary

Overall, 2020 proved to be an incredible year. Despite the challenges and the backdrop of a global pandemic, blockchain applications came into their own. It would appear the global pandemic brought increased attention to decentralized solutions as conversations deepened around the distribution of a basic universal income and worldwide database management systems.

Ethereum dominated the landscape and maintained its strong leadership position but new competitors also arrived in 2020 looking to take the crown. The arrival of Ethereum 2.0 has become even more essential to retain such a strong position going forward.

Undoubtedly, 2020 has been the year of decentralized financial services and products and although categories jumped on the momentum this year, the headlines certainly belong to DeFi. Looking forward to 2021 we expect to see DeFi playing an even more influential role than in 2020.

Expectedly, the DeFi ecosystem is going to form the foundation of the crypto economy, not only for NFTs and games but also for social, logistics, and other dapp categories.

A year of all-time highs within the NFT and marketplace categories indicates a strong year ahead as new synergies are unearthed and builders start to come together to solve problems and fight the competition. Mergers and acquisitions became a trend in late 2020 and could be expected to continue not only in dapps but across the blockchain industry as a whole.

Metrics would suggest that Binance Smart Chain should be considered a serious Ethereum contender going forward. The

dapps launched on the blockchain gathered impressive attention within a couple of months of existence with continuing momentum.

Flow also proved to be a very promising contender within the game and NFT categories. Looking into 2021 we believe that user onboarding and retention will become the next challenge and a key metric for these two fledgling blockchains.

Finally, While regulation is not the topic of this overview, it is undoubtedly going to play a vital role in 2021. The industry is tentatively braced for impact as new rules and regulations could affect the way smart contracts work. It might even challenge the current blockchain infrastructure entirely.

Opinions that matter

To add to an already vibrant 2020 in the blockchain and dapp sector, we asked a handful of partners and media outlets for their thoughts on 2020 and the year ahead.

N.B Opinions given here are that of the individual respondents and not those of DappRadar

Aleksander Leonard Larsen – Co-founder and COO at Axie Infinity

2020 has been the best year to date for Axie Infinity, with our user base growing over 700% since the start of the year. Small Love Potions were without a doubt the biggest win for us – it has been amazing to see how life-changing it has been for some players.

2021 should be even better for Axie with a major update to our battle system, the official launch of land gameplay, and our Ronin sidechain to scale it all. The secret sauce is of course Axie Infinity Shards, which will enable viral growth for our products.

Tim Copeland – News Editor at Decrypt

This year has been characterized by institutional adoption of Bitcoin, largely through the Grayscale Bitcoin trust and companies, such as MicroStrategy, buying Bitcoin directly. I think it will be really interesting to see, now that so many wealthy people own so much Bitcoin, how it will progress from here.

On the Ethereum front, while it has made technological improvements and has started the big move toward Ethereum 2.0, it was DeFi that exploded this year. It was interesting to see how much innovation can take place on this blockchain platform. But it's also worth noting just how risky this was. A lot of money was poured into experimental smart contracts and a huge number of hacks led to big losses for many investors. This industry is moving at breakneck speed and it looks like nothing is stopping it.

Next year might see more of a regulatory battle. Now that so many institutional investors and companies have exposure to Bitcoin, regulators may see more reason to get involved. They have already been fairly active this year, with the SEC cracking down on ICOs and bills being proposed, such as the Stable Act. But this is crypto, so it's very unpredictable.

Sebastien Borget – Co-Founder and COO of The Sandbox

2020 proved there is a hunger for connected game experiences. Virtual worlds saw more interest than ever, Minecraft is alone seeing 124M active users in August. But it was events like Travis Scott's *Fortnite* concert being enjoyed by 12M players and *Roblox* having an estimated \$8B stock market value that showed gaming's potential.

Despite these successes being built on their communities, they offered no benefit to the players because the games' economies

exist within walled gardens, where purchases remained locked inside. In 2021 this will change.

In early 2021, we're going to introduce our "play-to-earn" seasons system as we're going to announce our first playable beta. Items players earn in one of the game's 166,464 LANDs (owned by players and investors like Atari), can be moved to other LANDs, traded, or sold for "SAND" (the game's cryptocurrency). As NFTs are trackable and limited, items also gain value based on scarcity.

In virtual worlds, we can design new models that will drive engagement of the community in a meaningful manner and provide more value, and we haven't yet explored the realm of interoperability, which provides a huge potential for unlocking the true value of millions of NFTs!

There is still a large avenue for growth in Gaming alone, with more experimentations around governance, staking, and DeFi. NFT based crypto art and games have seen this last month's new groundbreaking sales numbers that hint at further growth in 2021.

Han Kao – CEO & Founder at Crypto Briefing

If I summed up 2020 in one word it would be Bittersweet. Unfortunately, it took a global pandemic to bring emphasis to the digital economy. As people and processes moved online, and governments looked to fund recovery efforts the thesis postulated in the crypto community started to resonate with a wider audience.

On a global scale, people have had to deal with some really hard times. However, we have seen that the Bitcoin narrative gets validated by macro events and prominent traditional investors, while DeFi is no longer a pipe dream.

2020 allowed a lot of dapp developers to finally build and experiment on a production scale. With more tools and more options appearing, we should see more development and

innovation, hopefully with a greater focus on the end-user experience.

Matthew Lam – Analyst at OKEx Insights

opinions are of Matthew Lam only, not that of OKEx insights

I would wrap up 2020 as “progressive”. In particular, I saw much development progress in DeFi, NFT, and CBDC. Liquidity mining has been the number 1 buzzword among the crypto community!

I believe while 2020 is the year of “progressive”, 2021 will be the year of “Harvest”!

In terms of DeFi, I think AMM and price oracles are the ones to watch! Meanwhile, it will not be surprising to see China launch DCEP next year and Wall Street giants compete against each other to launch their crypto trading desks and institutional-grade crypto custody solutions!

I think the launch of ETH 2.0 serves as a long-term price driver and the price of ETH tends to be bullish next year!

Raindy Lu – Marketing Manager at Ontology

A major win for us this year was the launch of the Inclusive Pool on the Wing Platform, a 1st of its kind credit-based, cross-chain pool built on the Ontology blockchain.

Moving forward into 2021, our focus is on continuing further ecosystem developments by helping more dapp’s focus on self-sovereign ID & data protection. Another goal is to further optimize product development, and also to bring deeper user adoption for the ONTO wallet, SAGA, and the Wing Platform.

We believe that DeFi will continue its upward trend well into 2021, as more players are just at the tip of entering the sector. This will

result in further innovation, such as different combinations of staking or additional development of NFT's.

Antonio Madeira – Head of Advertising at CryptoCompare & CoinTelegraph contributor

2020 was the year DeFi took the spotlight as the new kid on the block (pun intended) and Bitcoin showed it is here to stay as it dips its toes in the major league institutions.

I believe DeFi will begin to show signs of maturity and that other subsets of the space will begin to shine, especially NFTs. I think Bitcoin will continue to gain traction among institutional investors. I believe a lot of altcoins will continue to drop in interest and value, as the majority serves no real purpose.

Justin Sun, CEO and Founder at TRON

2020 has been quite a year! I am very happy with the progress TRON has made in 2020. A lot of new products were launched including JustStable, JustSwap, JustLend, JustLink, SUN community, which lays the foundation for TRON's decentralized finance ecosystem.

We are going to be focused on growing and scaling our DeFi infrastructure. With our host of DeFi products, TRON's DeFi project will use JST as a foundation to integrate decentralized lending, exchange, and other financial services. JST will then evolve into a source of empowerment and become the essential token of the entire TRON DeFi ecosystem. Our position in DeFi illustrates the evolution of TRON, from achieving smaller victories, to being a sector leader and innovator.

DeFi will continue to grow in 2021 as it makes financial services accessible for many "unbanked" people and businesses. We will

continue to grow the stablecoin ecosystem on TRON and invite more regulated stablecoins.

Interest in Blockchain technology is continuing to accelerate, today more than ever large institutions are investing hugely into blockchain solutions.

Dirk Lueth – CEO at Upland

One word: Beginning. (of course, I mean the beginning of NFTs going mainstream).

2020 was not yet the year of NFTs. Only towards the end of the year, we started to see the ideas mature, products became more sophisticated and we saw early signs of non-crypto aficionados start paying attention. Even though there were some NFTs that have sold for thousands of USD, that's not what mass-market adoption means.

We can say that blockchain is starting to see mainstream adoption once +100k DAUs have been reached. In 2021 the first companies will break this barrier. However, the big question remains whether it will be newcomers who have blockchain DNA from the ground up or whether it comes from the incumbents who add a blockchain feature to one of their existing games.

I believe that the transactions of blockchain marketplaces for e.g. digital art, collectibles, and other assets will start to move into metaverses because the latter can create much better content, user, and trading experiences.

Finally: The world of NFTs will be enriched by tokenized assets from the real world – a piece of a Picasso anyone? – blurring the line between the digital and physical worlds.

Dr. Jesse “aggroed” Reich – CEO and Co-Founder of Splinterlands

Splinterlands is doing fantastic. We hit 10k monthly active users for the first time in September. We’re seeing new user growth around 10% per month, and our social media presence keeps expanding its reach. That all contributed to the success of our land sales where the first one sold out in 21 seconds and the second one sold out in under 30 minutes.

We are adding a second round of combat where players see the board and then play items and spells. To achieve this we have to sell items and spells and rather than just put them in packs we are handing minting rights over to players. Landowners will harvest resources, erect buildings, slay monsters, and use all of that to craft items and spells that can be used in battle rented out or sold in the market.

I see 2021 as an incredible bull market for bitcoin and crypto. I see every type of business in crypto doing exceptionally well and enjoying the largest transfer of wealth in the history of the world.

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