



CRYPTO RAND GROUP

2022

# What To Expect?



A complete review of the past year  
from top to bottom, covering markets  
evolutions and our community highlights

2021 has been a year of many twists and turns, with unprecedented trades, unparalleled investment opportunities at Cypto Rand Group, and the departure of two friends in search of personal fulfillment. It has been a pleasure to share it with you all, and I hope you have made some amazing gains, knowledge, memories and friends as we as a team have as well.

We have put together a report for all members which we hope acts as an amazing overview of the year as a whole, but also as a thanks for making this incredible community what it is today!

In this report, you will find everything that made 2021 an exceptional year, both in the crypto world and in our community. A critical look at the year, including the state of crypto in the different parts of the world, highlights such as the rise of DEX or NFT, but also about the years to come.

2022 promises another year of opportunity, and hard work but we couldn't be more excited for what it shall bring.

I wish you a good reading and a wonderful year

Crypto Rand

#### Table of contents:

1. The Year in Numbers
2. Rise of DEXs
3. Blockchain Surprises on 2021
4. Crypto Regulations
5. NFT Explosion
6. Crypto Gaming
7. Past, Present & Future



CRYPTO RAND GROUP

2021

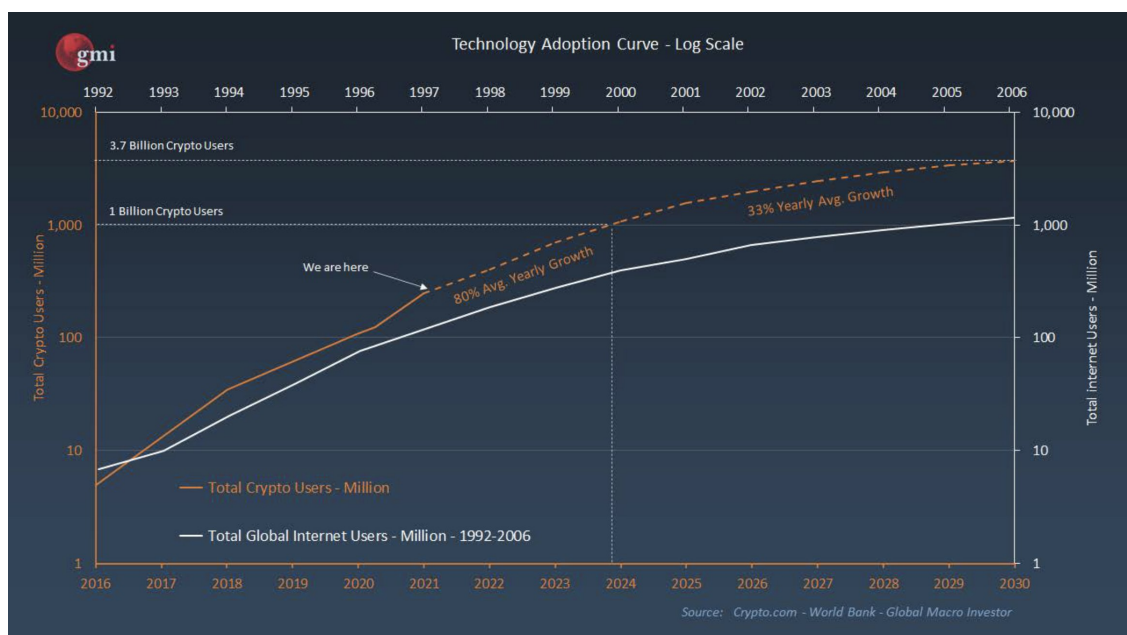
# The Year in Numbers

The market was from another planet  
sending Bitcoin to new horizons

This is the year where crypto managed to surpass the 3 Trillion market cap; precisely on Nov. 10th. A remarkable date where both main assets; Bitcoin and Ethereum, achieved their respective all time highs. With nearly a 300% rise in just 313 days for crypto as a whole. In the same period of time Decentralised Finance “DeFi” assets rose to 200 Billion, which is an increase of 823% - assets excluding BTC and ETH surpassed the \$1 Trillion mark in market cap.

At least 52% of financial institutions have already invested in cryptocurrencies. What's more, over 71% of institutional investors expect to buy or invest in digital assets in the future and of those, 90% expect crypto assets in their portfolio by 2026. Crypto adoption worldwide grew 2,300% from the third quarter of 2019 to the end of the second quarter of 2021, with Turkey having the highest rate (20%).

### Crypto adoption compared with Internet adoption:



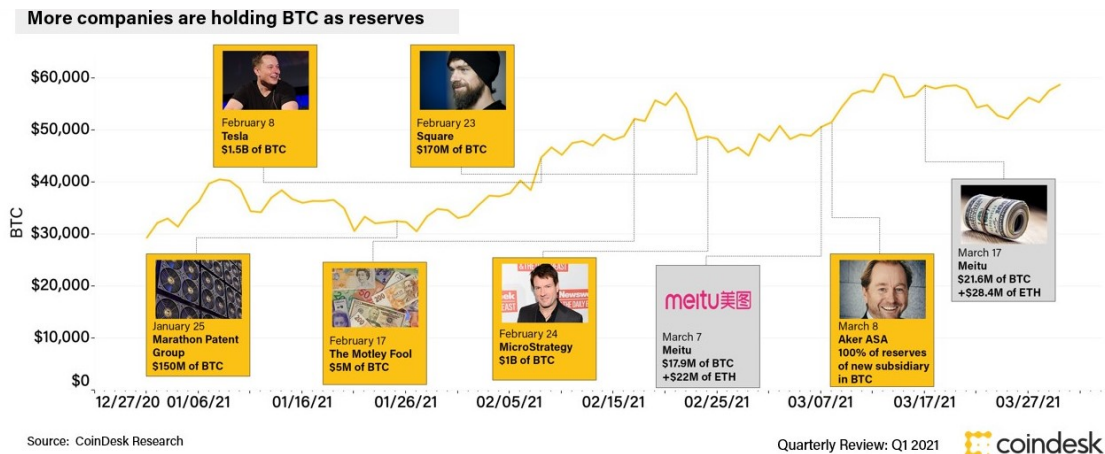


## Jan-May - Bullish Market & Elon-Mania

From Jan. 1st where the price of BTC was not even \$30K to the ATH where it was valued for over \$69K the crypto market saw the consolidation of institutional involvement. New names joining MicroStrategy in the bitcoin-on-balance-sheet movement, and with well-known traditional financial institutions announcing plans to roll out crypto services.

Tesla invested 1.5B in February and the man behind it, Elon Musk was impacting cryptomarkets directly with his twitter posts. This made the way to the meme coin mania and the rise of dog coins that drove the market at the end of Q1 after his support to \$DOGE, a meme coin, which managed to get over \$88B market cap and an have increase above 13,000% in 2021 entering in early May the Top 5 most valuable digital currencies rank flipping Tether (USDT), the world's most valuable stablecoin.

### Most remarkable companies investment in cryptocurrency on Q1 2021:

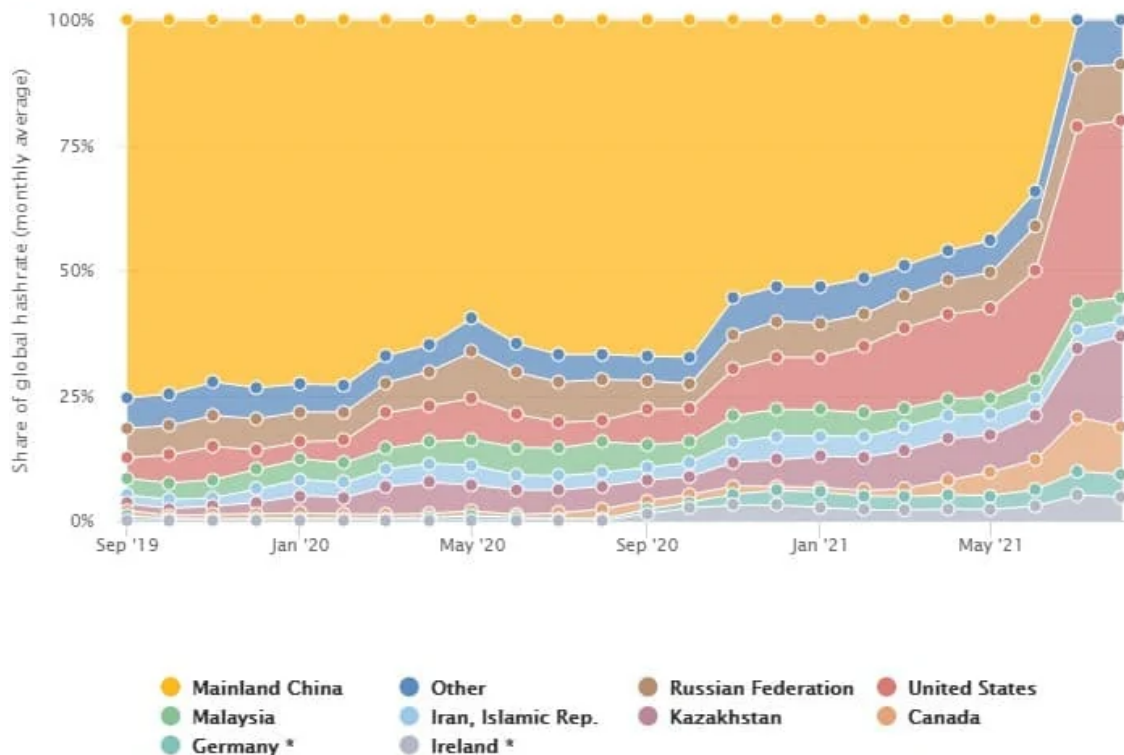


## May-Jul - All Time High & Major Nuke

After the Bitcoin ATH on April 14th followed by ATH of Ethereum in May 12th, and with the meme coin fever taking control of social media. Most crypto assets entered in decay suffering a hard correction over a -50% that lasted about 2 months, from mid May to mid July, most prominent and well known crypto analysts didn't see it coming. One of the triggers of the mentioned decay on the market was the ban of cryptocurrency mining activity by China, as the country aims to be carbon neutral by 2060.

The great mining migration to new geographical areas started. Countries with cheap electricity like Canada, Russia, Kazakhstan and, especially, the United States experienced a surge in interest from Chinese miners looking to partner with local firms. In June, the president of El Salvador Nayib Bukele made headlines when he announced the country would start mining Bitcoin powered by “100% clean, 100% renewable, 0 emissions energy” from a volcano. Later on, in September, El Salvador adopted the currency as legal tender.

### Evolution of Country Hashrate Share:



## Jul-Nov - Recovery Phase & Second Leg

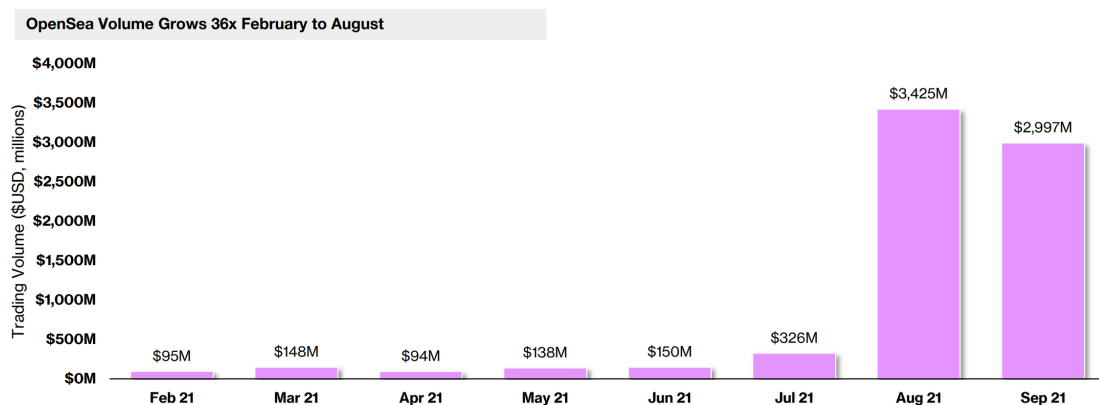
With BTC in the start line again at the sub \$30K price, on July 20th the market began to rise once more until the historic coordinated All Time High on BTC, ETH took place the 10th of November, the moment where global crypto acquired 3T market cap.

The Bitcoin's positive price trend that drove it's value to \$69,019 is related with institutions starting to buy BTC in June and July and then accelerated the buying in the next two months.

Meanwhile, Ethereum can credit its performance to the EIP 1559 upgrade and the immense growth of DeFi and NFTs resulting in a maximum valuation of \$4,868.

“DeFi summer” trudged on as total value locked in the ecosystem grew, but NFTs did their best to steal the show. The huge demand for NFTs led to huge spikes in gas fees during the hype. The spikes gave fuel to the “alternative layer 1” narrative, which led to impressive asset price appreciation of potential substitutes of the Ethereum network, such as Solana. Users looked for cheaper smart contract blockchains on which to experiment and build. Talking about SOL, its price on Jan 1st was \$1.5 and it reached the all-time high at \$259.9 in early October; that's an impressive increase of over 17,000%.

### **NFT market Volume on Opensea:**



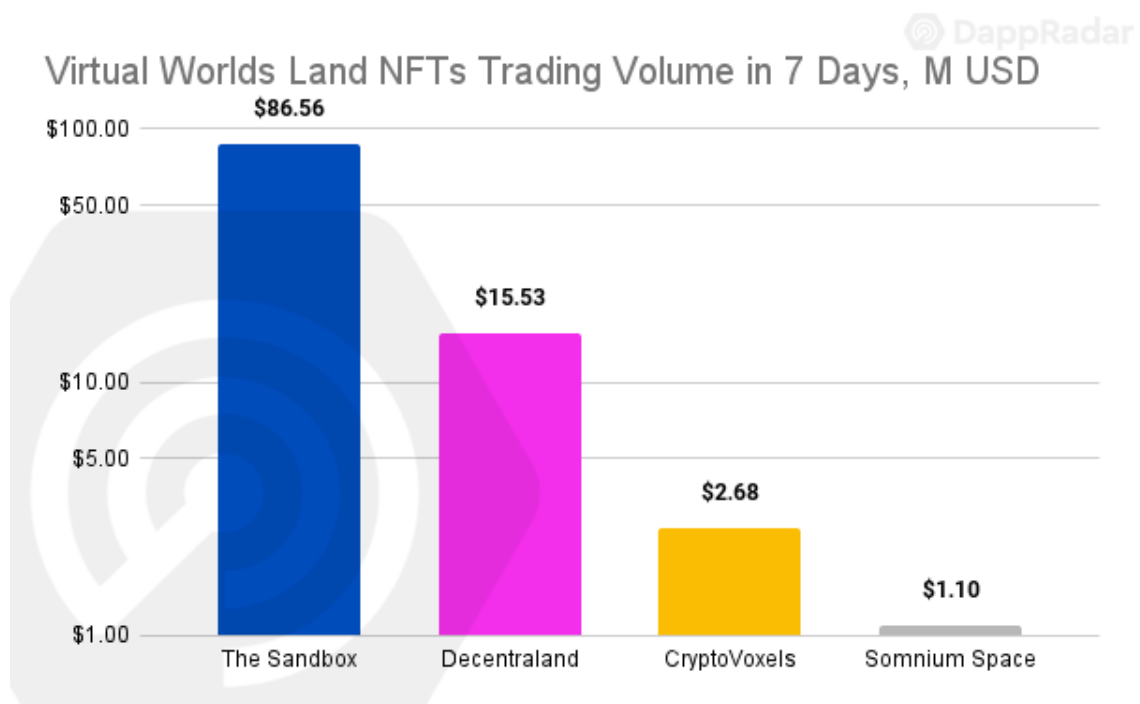
## Nov-Dec - Future & Metaverse

After the incredible bull run that led to multiple ATHs, and a valuation over 3 Trillion US dollars, the market cooled down again, but the industry was already on fire, and metaverse came kicking hard looking to exploit the potential of NFTs. While still in the early stages of development, metaverses present numerous potential social and financial opportunities with the use of NFTs and offer new ways for people to play, interact, gather, earn and transact. In the third quarter, Grayscale's fundraising totaled \$8.2 billion, of which Web3 and NFTs accounted for \$1.8 billion.

By incorporating VR, video games, social media and elements of crypto, the metaverses and NFT blockchain gaming will become an integral part of Web 3.0, an era where real-world businesses expand into the digital space, and users uncover the versatility of such environments.

The metaverse is thriving right now, as individuals and companies pile in. A total of \$106 million was spent on virtual property in early December, with purchases of digital land, luxury yachts and other assets. The cryptocurrencies that come with such metaverse projects have been performing at the end of 2021 year.

### **December's 1st week virtual Land sales:**



## BTC performance in 2021:



## ETH performance in 2021:



## TOTAL Market Cap 2021:





## CRYPTO RAND GROUP

I found your group by chance,

And it was the best accident in this year.

-Hoomanfn



CRYPTO RAND GROUP

2021

# The Rise of DEXs

More people, more exchanges  
More opportunities and adoption

While the number of active cryptocurrency exchanges has steadily decreased in the last year, decentralized exchanges (DEX) have grown massively.

In this article, we are going to review the main reasons behind it, starting from the beginning.

### What's in a DEX?

DEXs come in a variety of forms, but share one common quality: non-custodial. DEXs use smart contracts to manage funds on-chain, so users never have to trust a third party with their money. However, the exchange part of a DEX – the way buyers and sellers find each other – can vary widely from one implementation to another. When thinking about the future of DEXs, it's helpful to first understand their past.

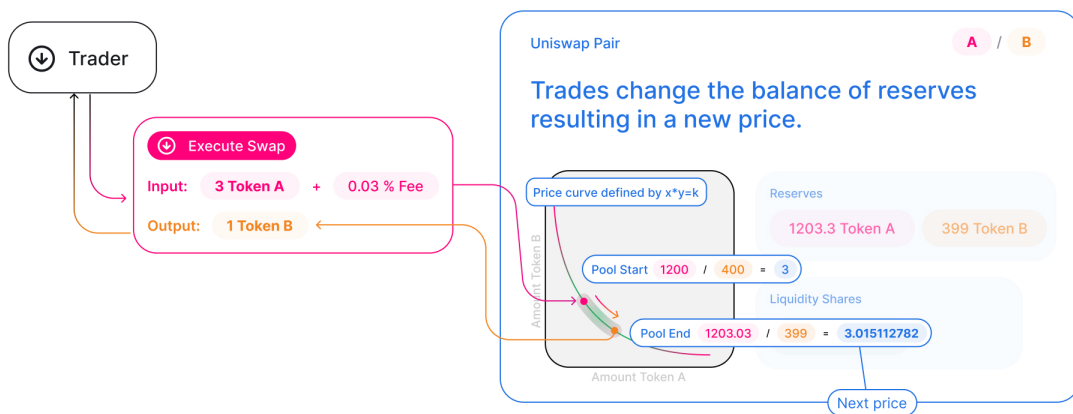
The earliest Ethereum DEXs, like EtherEx and OasisDex, built a traditional central limit order book (CLOB) exchange entirely out of Ethereum smart contracts. Developers and users quickly discovered that order management and trade execution are not well suited for a blockchain. In particular, the placing and canceling of orders by market makers, and the interaction of traders with the on-chain order book, were expensive and error-prone due to the high costs and latency of on-chain transactions.



## Technical view behind the rise of automated market makers

The AMM design is a creative response to the limits of hosting an order book on-chain. As we've discussed, many of the early CLOB DEXs struggled due to the fact that it's both expensive and slow for users to update their orders using a blockchain.

Uniswap responded by removing the order book altogether, replacing it with a simple on-chain formula.



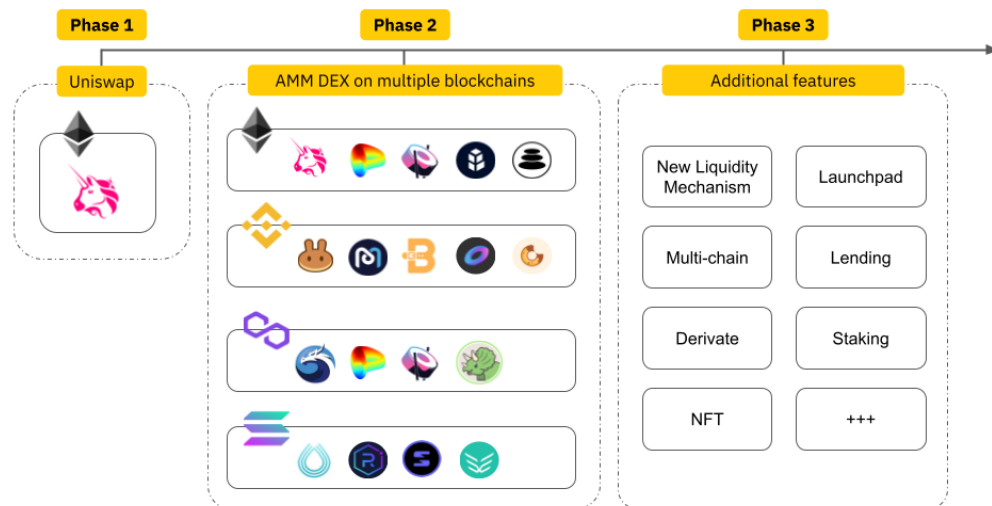
This architecture ultimately allowed Uniswap to achieve phenomenal growth. The “always-on,” permissionless liquidity made it a great solution for other applications to build on top of. The fully-decentralized architecture has led to a resurgence of ICOs in the form of Uniswap direct listings, as projects can easily deploy their own liquidity pool to jumpstart trading of a new asset. The liquidity pool structure also makes it easy for non-technical users to commit capital and earn a passive reward from trade fees and liquidity mining.

In spite of these numerous benefits, experts speculate that AMMs in their current form are a mere stepping stone in the path of DEX design, and many question their long-term viability. As a rule, these products provide a less flexible version of market-making than their centralized counterparts and will lag in markets that require sophisticated analytics and human intervention.

## New AMM models

AMMs have played an important role in DEX development, addressing key performance issues by removing the order book altogether and pricing assets using a static, on-chain function. Uniswap competitors like Curve have experimented with different functions, in this case choosing one that is better suited for assets where the market expects the price to be equal, such as stablecoins, or different types of wrapped bitcoin.

DEXs have come a long way. From clunky on-chain approaches in the earliest days of 2014 to today's wide variety of options, each evolution in DEXs has come closer to delivering a product capable of both performance and security. Regardless of what flavor they come in, the future will see DEXs challenge centralized exchanges by finally separating the custody from the exchange altogether.



@Coin98Insights\_en

COIN98  
INSIGHTS

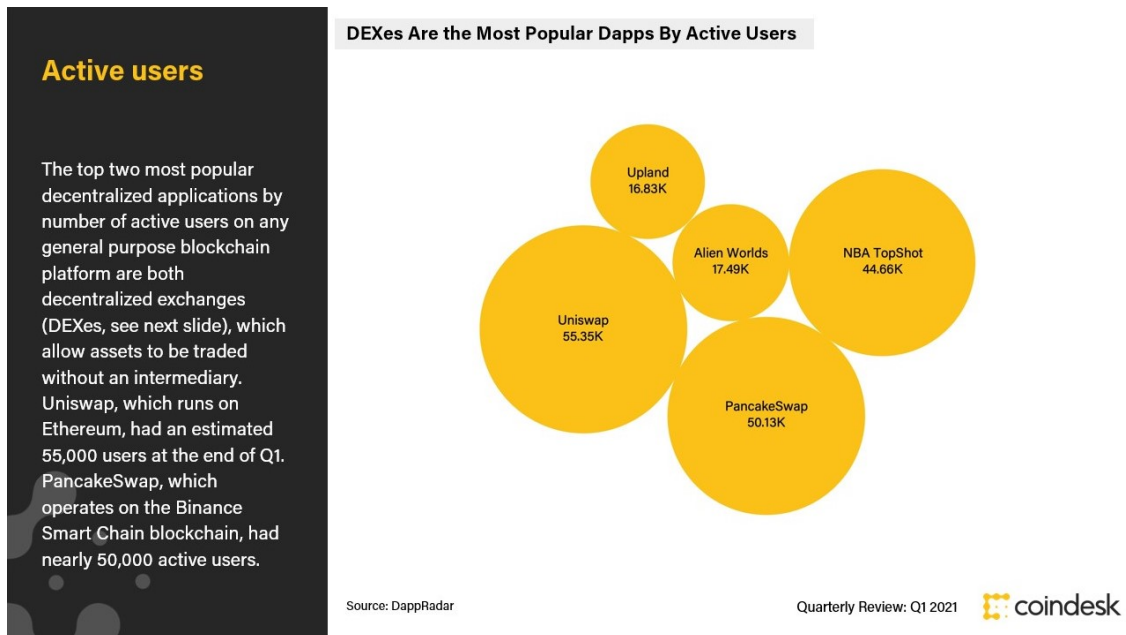
It's been several years since the first iteration of crypto exchange, but systemic issues remain, creating multi-million-dollar problems for traders; like exchange hacks for example.

All these issues stand as a backdrop to the ongoing battle between CEX and DEX environments. Regulatory and security concerns punctuate the growing need for traders to maintain custody of their assets and comply with regulators. Where CEXs often provide convenience for traders, they often come with security/seizure risks. DEXs, while more absolute in terms of asset control and security, offer little in terms of regulatory oversight.

## DEXs outperformance in 2021

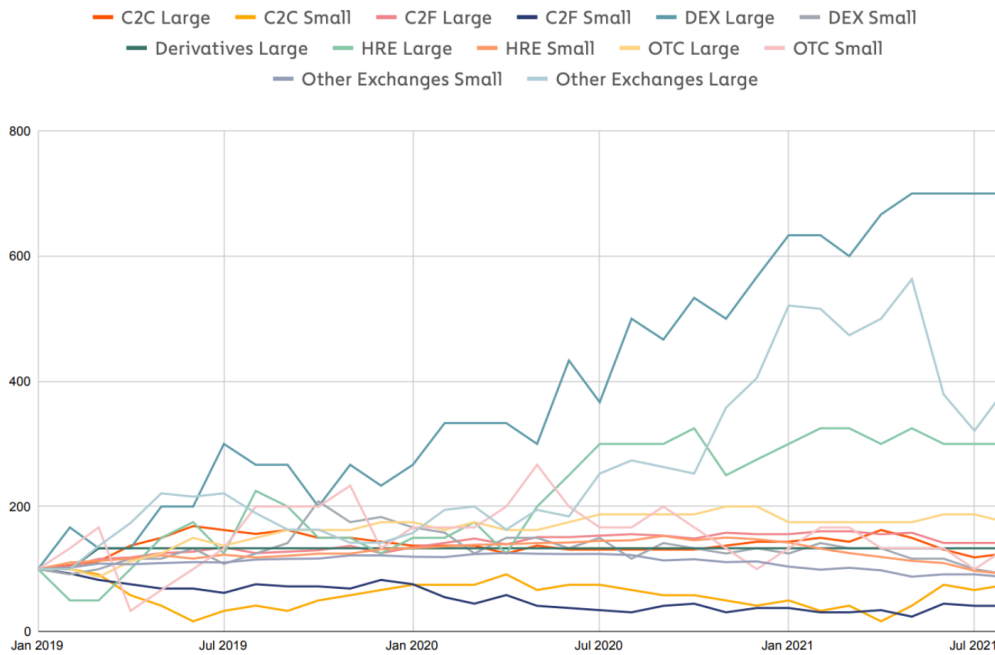
The value on large decentralized exchanges like Uniswap, PancakeSwap, Curve, and SushiSwap grew 5X compared to the last year. But the overall number of active cryptocurrency exchanges has been on a steady decline, as smaller projects shut down. On the other side, with the embracement of chains like Avalanche, Solana, or Polygon, dedicated DEXs like TraderJoe, Raydium or QuickSwap conquered the users during 2021.

### Data of active DEX users in Q1:



Not only did the volume flourish on the DEXs this year but the number of the large decentralized exchanges has grown more than any other category since 2019, and the one that was still increasing in 2021 compared with other kinds. One of the main reasons for their success would be their minimal know your customer (KYC) requirements.

## Number of exchanges growth 2019-2021:

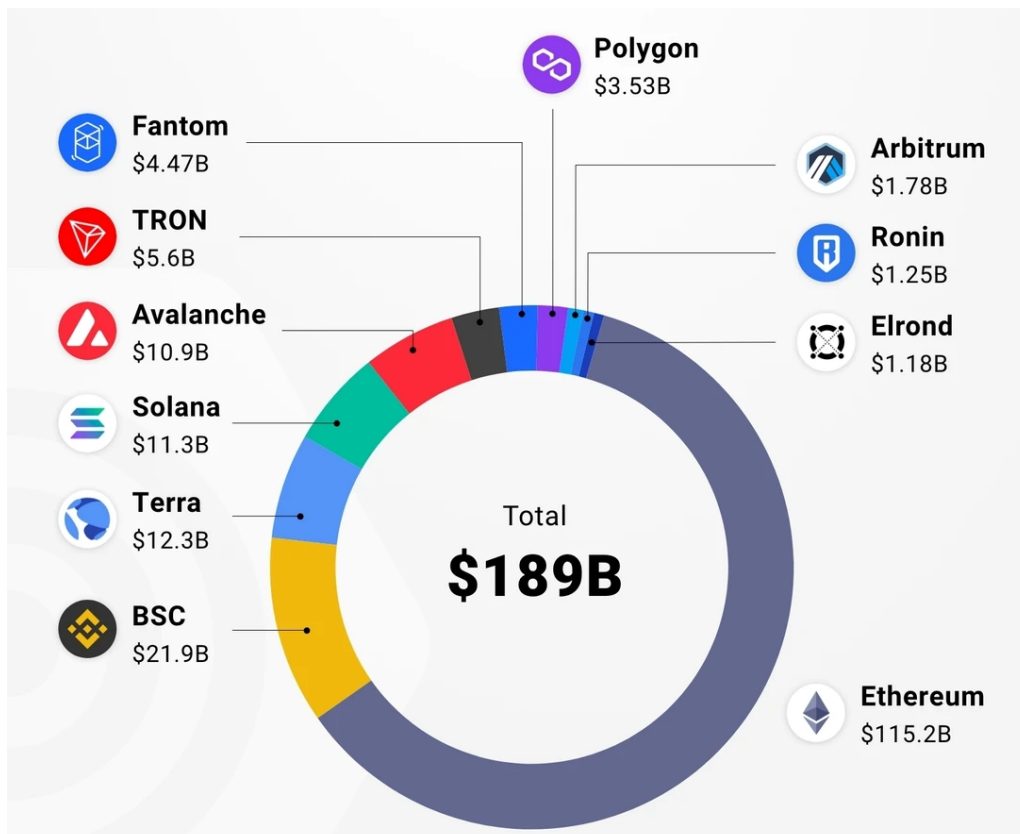


On the other hand, the growth of DEXs coincides with the explosive growth of the DeFi category in general. DeFi is a catch-all term for a group of financial products that allow their users to trade, borrow, and lend crypto assets without the need for third-party intermediaries.

## The big numbers behind the DEXs rise

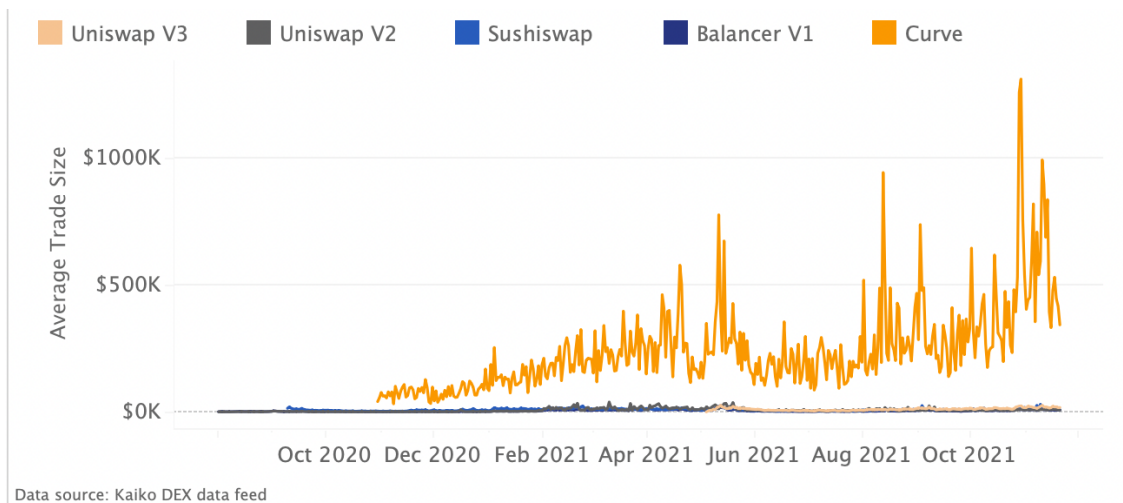
While several smart contract platforms facilitating cheaper and faster transactions such as Avalanche, Binance Chain, Terra, and Solana have emerged over the past 12 months, Ethereum still leads the pack. By December 2021 there were \$189 billion flowing in DeFi applications, and most of it was locked up in Ethereum-based DEXs such as Curve and Uniswap; that's more than eight times greater than Binance Chain's total value locked (TVL) of \$22 billion according to DefiLama.

### Top Blockchains by total value locked (TLV) in DeFi:



Talking about Curve Finance, the daily average trade size ranged from \$500,000 to \$1 million in December 2021, while deals on other prominent DEXs such as Uniswap V3, Uniswap V2, SushiSwap, and Balancer V1 average between \$10,000 and \$20,000. That's nearly 10 times larger than the average trade size of \$2,000 to \$4,000 seen on centralized exchanges (CEXs).

### Daily average DEX trade size across traded instruments:

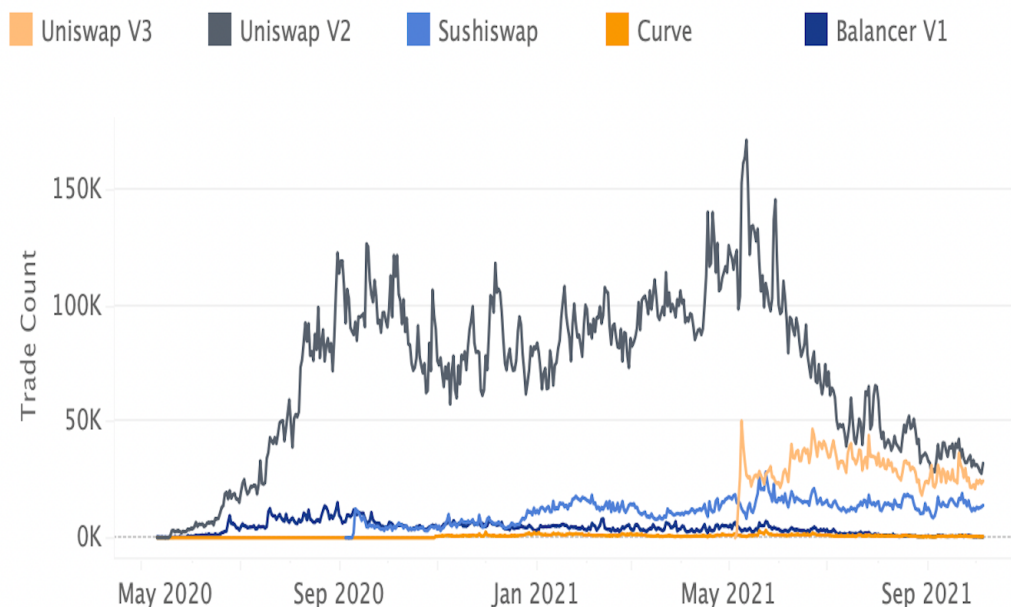


The daily trade count on CEXs, however, tallies into the millions while major DEXs process fewer than 50,000 deals per day, with Curve and Balancer V1 averaging fewer than 1,000 traders per day.

Contrasting with the size data on the previous graphic, the most accepted DEXs in number of transactions are Uniswap V2 and V3, while Curve is the one showing the minimum.

Looking at that data on the size and count of trades, looks like the adoption of decentralized exchanges (DEXs) that facilitate peer-to-peer transactions without an intermediary remains restricted mainly to large traders, what we know as whales, specially when looking at Curve.

### Sum of daily DEX trade count across all instruments:



Data source: Kaiko DEX data feed

Overall something remains unchanged, DEXs have the acceptance of the crypto users and looks like the preference of whales. The last couple of years the overwhelming data around decentralised exchanges has confirmed that this solution is fitting in the crypto market, and it's here to stay. Some different technical solutions are on display in the DEX landscape. Coexistence with CEXs looks like the perfect permanent solution, future will tell.

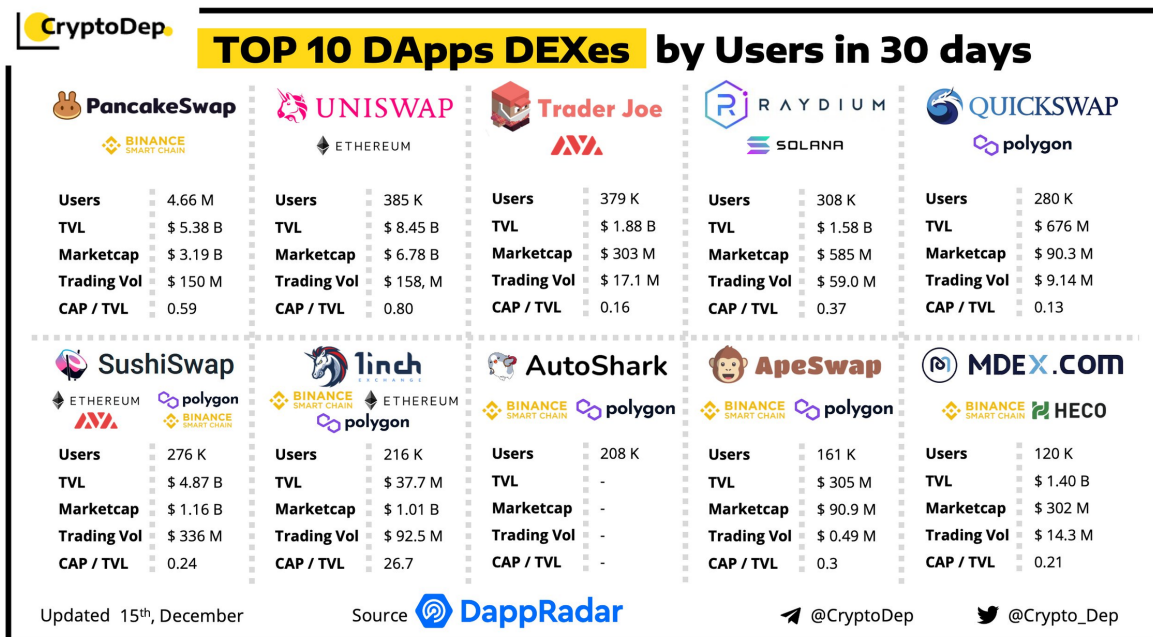
## DEX panorama for 2022

Over the course of the year, the DEX trading volume trajectory was downward, by 142% since May's peak. One of the main reasons probably were Ethereum's unstable gas fees, which can range up to hundreds, even thousands of dollars when doing most complex transactions within DeFi protocols.

Fortunately, Layer 2 scaling solutions are starting to integrate Ethereum-based dApps to address this issue. For instance, Arbitrum One portal has several dApps available, with drastically lower transaction fees.

Bear in mind that DEXs could end up offering the same services as CEXs do, but with significantly lower costs. Case in point, in July this year, Uniswap achieved 77% of Coinbase's trading volume with 33x fewer employees.

Knowing that, the possibility of seeing DEX trading volume surpass that of CEXes in the next year 2022 is a reasonable possibility.







**CRYPTO RAND GROUP**

**CryptoRand Group is the home of  
interdependent crypto thinkers.**

**Simply, the best crypto investment  
& research group on the web.**

**-Amani Rex**



CRYPTO RAND GROUP

2021

# Blockchain Surprises

Sometimes new contenders are gems  
in the making, our unexpected ones

## Blockchain Performances that shocked the industry

This section is going to highlight some of the biggest blockchain surprises of 2021. Which projects went crazy and then kept going and going. Who were innovating the most, breaking expectations and then still managed to do more. What ecosystems emerged and continued to flourish in ways no one expected. Some of these projects flipped the unflippable, and we are all for it. In this section we will discuss the performance and drivers behind these projects' meteoric rise.

We are looking at projects which have a profound impact on the crypto space as a whole, those which have captured astonishing amounts of market share and have risen from potential to real deal. Yes, we know some microcaps will have done 1000x from a \$20,000 market cap - but we are interested in the 2021 powerhouses and their incredible rises.

2020 & 2021 has seen a new 'Multichain Environment' really take hold - with greater demand, higher prices and increased usage on blockchains; scalability and cost have proved problematic. The Ethereum Network is overloaded, and the 'ETH Killers' have seized on this opportunity. Attempting to alleviate these pains, and provide competition have seen a number of projects attempting to innovate, improve and thrive with these conditions. Markets are perfect.

ETH is the original Layer 1 Protocol and in many eyes the gold standard of blockchains (decentralisation, ecosystem, TVL, L1 provenance) and I don't disagree. However there can be no doubt that Ethereum has many elements crippling the protocol (predominantly gas fees & scalability) - transaction fees averaging around \$20-50 and even rising as high as several hundred. So look to read this section through that lens and with that assumption in mind - we will not make repeated comparisons to ETH, they should instead be understood as context.

Outside of that we have seen unparalleled growth in the Crypto Gaming sector and we will discuss the performance of one of the most successful games of 2021, not only within Crypto and Play-to-Earn but in Global Gaming. The gains are eye-watering and the projects are incredible:

**These are our biggest Blockchain Surprises of 2021**



## Solana (SOL)

**Price:** Jan 2021 (\$1.84), High (\$259.24), Today (\$187.26)

**Market Cap:** Jan 2021 (\$77.2M), High (\$77.56B), Today (\$57.8B)

**Total Value Locked (TVL) - March 2021 (\$148m), Today (\$11.84B)**

Solana has had an incredible 2021 and has arguably been the stand out performer for the entire market - not just with regards to price, but has been a leader in innovation, adoption and investor sentiment.

Solana launched in March 2020 and ranged between \$0.50 - \$2 on average. Underperforming compared to many assets, particularly DeFi. Even going into early 2021, Solana was a slower mover compared to the other more traditional Layer 1 protocols such as Ethereum, Cardano and Polkadot who all started the year much stronger in terms of price appreciation. However throughout the year Solana went from \$1.84 (Jan 1st), to a peak of \$259.24 (Nov 7th) - representing an eye watering 137x increase in just over 10 months. Currently trading at \$187.26 (101x) at the time of writing.

The Solana protocol is notoriously fast, theoretically being able to process 710,000 transactions per second (currently around 65,000). Incredibly cheap, with transactions costing as little as \$0.0015 per transaction, as well as generally having an exceptionally smooth user experience. Reported to have 1.3 million active accounts, having processed over 38bn transactions. So clearly there is a lot to be admired.

The number of Dapps in the ecosystem has exploded. We have seen TVL in DeFi protocols on Solana rise from \$148m to highs of \$15b in 2021 - with highly successful projects such as Raydium, Serum and Mango Markets acting as cornerstones for SOL DeFi. Aside from that we have seen hundreds of quality projects built in all areas of the ecosystem including: Infrastructure, Stablecoins, Bridges, Staking, NFT, Gaming, Metaverse, DeFi, Wallets, Oracles etc.

Developers want to build on Solana - it's fast, reliable, has low transaction fees and allows for a simple user experience. As well as a full ecosystem to allow for projects to flourish. Outside of Ethereum, which is the undisputed hub for NFTs - no other Layer 1 protocol has come close to have the same level of success in gaining adoption for NFTs. Solanart is the NFT marketplace of SOL (Opensea equivalent) and there have been a number of renowned NFT projects which have seen significant success, namely SolMonkeys which I believe earned its status as blue chip, with one of the NFTs selling for 13,207 SOL (\$2million).

Outside of this it has an incredible team and some amazing backers, including one of the greatest minds in crypto with Samuel Bankman-Fried (SBF). [Here is literally one of the greatest tweets.](#) SOL was \$2.

Overall it has been the standout performer of 2021. This is what bringing value to a project looks like, and the price has reflected it. It was the one that continued to defy expectations.



## Terra (LUNA)

**Price:** Jan 2021 (\$0.65), High (\$103.34), Today (\$87.20)

**Market Cap:** Jan 2021 (\$314M), High (\$36.3B), Today (\$31.50B)

**Total Value Locked (TVL):** Jan 2021 (\$53M), Today (\$18.4B)






Terra (LUNA), has been another standout performer of 2021 and whose performance has been nothing short of miraculous. With stand out tokenomics and a flourishing ecosystem, Terra has established itself as a huge player in Crypto & DeFi.

Terra started the year priced at around \$0.65, before rallying to highs of over \$103 (158x) and is currently trading at \$87.20 (134x). A number of factors have contributed to this meteoric rise for Terra - namely its flourishing DeFi ecosystem, which saw the protocols TVL rise from \$53M in January to a staggering \$18.4B at the time of writing (347x)

Terra recently implemented its highly anticipated Columbus-5 upgrade to the ecosystem which has enabled some even more impressive tokenomics to come into play. The relationship between LUNA and its stablecoin UST is ingenious. In short, Terra tokens rely on a 'two token seigniorage model' so holders are able to exchange \$1 worth of LUNA for \$1 worth of UST and vice versa. Previously the LUNA accrued from minting UST were held and used to incentivise community ecosystem building - however since these pools have become so overfunded a 'burn all seigniorage' proposal was passed within the protocol. Effectively with the expansion of the UST supply, this will lead to a dramatic contraction of the LUNA supply (due to the tokens being burned). These are incredible tokenomics and will provide sustained and long term growth for LUNA holders. In November, 88.675 million LUNA (\$4.5 billion) was burned - the biggest from a major crypto ever - incredible.

The tokenomics and health of the ecosystem is something to be admired, this model massively improves the long term strength of the LUNA token. With other top projects built on top of this, including: Anchor Protocol, Mirror Protocol, StarTerra - we are seeing some truly exceptional growth.

Terra also recently eclipsed BSC in TVL to become the second largest ecosystem in crypto behind Ethereum. With over \$17.12B locked (34.31% increase in 7 days). Now up to 18.4B just a few weeks later - wow. Read up on the tokenomics if you haven't already - their moon branding maybe isn't all that fanciful.

Name	Protocols	1d Change	7d Change	TVL ↓	Mcap/TVL
1  Ethereum (ETH)	376	-0.56%	-0.60%	\$154.32b	2.88057
2  Terra (LUNA)	14	+2.00%	-4.47%	\$18.4b	1.71615
3  BSC (BNB)	252	-1.62%	-0.55%	\$16.51b	5.35023
4  Avalanche (AVAX)	120	+2.05%	-5.48%	\$11.92b	2.13392
5  Solana (SOL)	42	-1.06%	+3.94%	\$11.51b	4.708



## Axie Infinity (AXS)

**Price:** Jan (\$0.59), High (\$163.25), Today (\$102.99)

**Market Cap:** Jan (\$31.40M), High (\$9.77B), Today (\$6.23B)

**Total Value Locked (TVL)** - N/A (Axie Infinity's Katana AMM - \$1.2B Locked)

Axie Infinity has unquestionably been one of the standout performers in crypto as a whole, and is the undisputed GOAT (at least for 2021) in what has been a monumental breakthrough year for Crypto Gaming. The numbers are phenomenal, everything from token price & market cap down to active users and revenue has been incredible

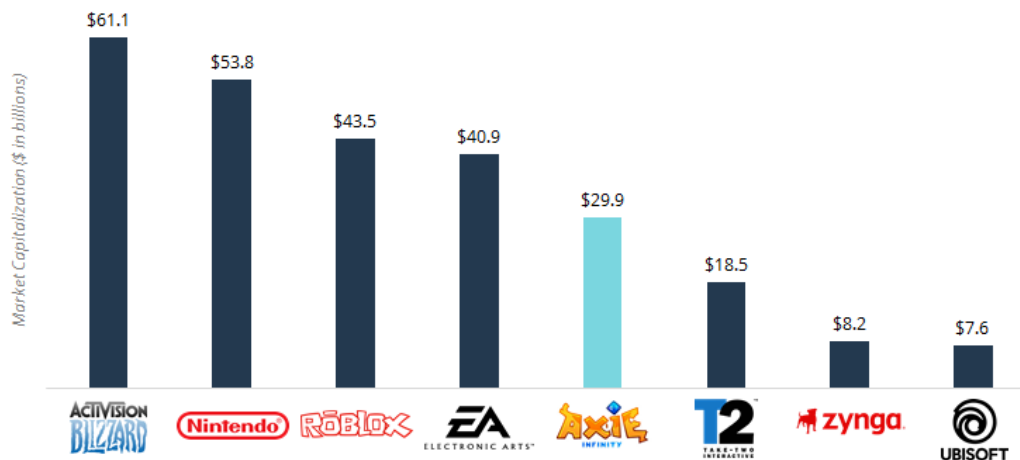
Axie Infinity started January priced just below \$0.60 per token. 2021 saw the token rise to over \$163 (272x) in July, and is currently trading at a modest \$103 (171x) at the time of writing. Some truly incredible gains within only a few months. Play-to-Earn (P2E), is a newly founded gaming model, which sees players earn in-game tokens for simply playing, interacting and winning within blockchain games - all of which can be realised into real world profits. Axie were the first project to implement the Play-to-Earn model successfully and on a mass scale which paved the way for an entire industry and created immense value for them as a project. Axie's market cap grew from \$31m in January to over \$9.7B at its peak in July.

The other entries on the list were Layer 1 protocols, DeFi machines and 'Ethereum Killers', but Axie serves a different market. Axie Infinity is a game - the company reported more than 1.8 million DAILY users in August and daily sales volumes reaching as high as \$33m in a single day. To put this into context FIFA, the leading franchise by gaming powerhouse EA Sports generated on average around \$2m per day in in-game sales...

### MESSARI

#### Video Game Companies By Market Capitalization

Ethereum based video game Axie Infinity ranks among the top 5 video game organizations in the world by market capitalization



Data as of: Oct. 1, 2021  
Source: Messari, TradingView

Note: Axie Infinity is not a company, rather it's a decentralized project; Axie Infinity market capitalization computed on a fully diluted basis



Let's not forget about other very good performers:

### **Honourable Mentions**

#### Avalanche (AVAX)

**Price:** January 2021 (\$3.66), High (\$134.53), Today (\$108.07)

**Market Cap:** January 2021 (\$277M), High (\$32.19B), Today (\$26.2B)

**Total Value Locked (TVL)** - February 2021 (\$3M) Today (\$11.47B)

Avalanche is another ecosystem which has seen incredible growth, adoption and interest in its continually growing ecosystem. The AVAX token has risen from only \$3 in January to over \$134 (44x) at its peak. The market cap and TVL of the project have grown in tandem. Avalanche again solves a number of the scalability and usage problems highlighted by Ethereum's flaws. The protocol is much faster and has significantly lower fees - this is achieved through Avalanche's 3 interoperable blockchains:

**Exchange Chain (X-Chain)** - Supports creation and trading of native AVAX Tokens

**Contract Chain (C-Chain)** - Facilitates Dapp creation & Smart Contracts

**Platform Chain (P-Chain)** - Coordinates validators and verifies transactions

This triple-blockchain design allows AVAX to process more than 4,500 Tx/s (ETH can process around 14 Tx/s). This has led to interest from traditional companies, like giants Deloitte who announced they are working with Ava Labs to produce a Disaster Recovery Platform built on the Avalanche Blockchain.

In addition to this Avalanche already has over 150 projects in its ecosystem including: TraderJoe, Ampleforth, Aleph and others. AVAX is also backed by some serious big-brains including Zu Shu.



## Polygon (MATIC)

**Price:** January 2021 (\$0.017), High (\$2.45), Today (\$2.17)

**Market Cap:** January 2021 (\$85M), High (\$17.51B), Today (\$15B)

**Total Value Locked (TVL):** January 2021 (\$324k) Today (\$4.91B)

Last but certainly not least is Polygon (MATIC). Polygon was able to capitalise on the inefficiencies of Ethereum and provided a solution to the high fees and scalability issues. The MATIC token performed incredibly, rising from just \$0.017 in January to over \$2.45 (144x) at its peak earlier this year. Similarly, Polygon has established itself as a powerhouse within crypto, trading today with around a \$15B market cap.

Polygon is a side chain to Ethereum and achieved adoption by acting as a scaling solution - connecting blockchain and applications to Ethereum via sidechains. Critically however, Polygon is significantly cheaper at doing so. The price action is no surprise given that it was the first ETH scaling solution to get real traction, serve millions of users and servicing billions of dollars in value. Many developers and users work and trade on Polygon given its cheap fees and speed. With \$5B locked in DeFi protocols and a healthy NFT ecosystem - the chain continues to provide a fantastic experience without the high cost.





## CRYPTO RAND GROUP

I've never been in such community  
before, amazing, interesting, helpful,

and most of all a great teamwork.  
Learned a lot and still am everyday

-NBM



CRYPTO RAND GROUP

2021

# Crypto Regulations

2021 has seen a lot of new institutions  
and governments adopting Crypto

2021 was a historic year for bitcoin when it comes to institutional and governmental adoption, in this report we will be looking at both in detail as well as what happened in 2021 across the crypto mining space.

## Institutions

The year was really a tail of two halves when it comes to institutional level investment in BTC and crypto in general in late 2020 you had some isolated institutional level players that were willing to take a gamble early, they were generously paid out in Q1 2021 as the price and user activity on the network peaked these early institutional level adopters sold the highs just as retail started to reach euphoric levels. They then returned in a different fashion after the great May selloff...

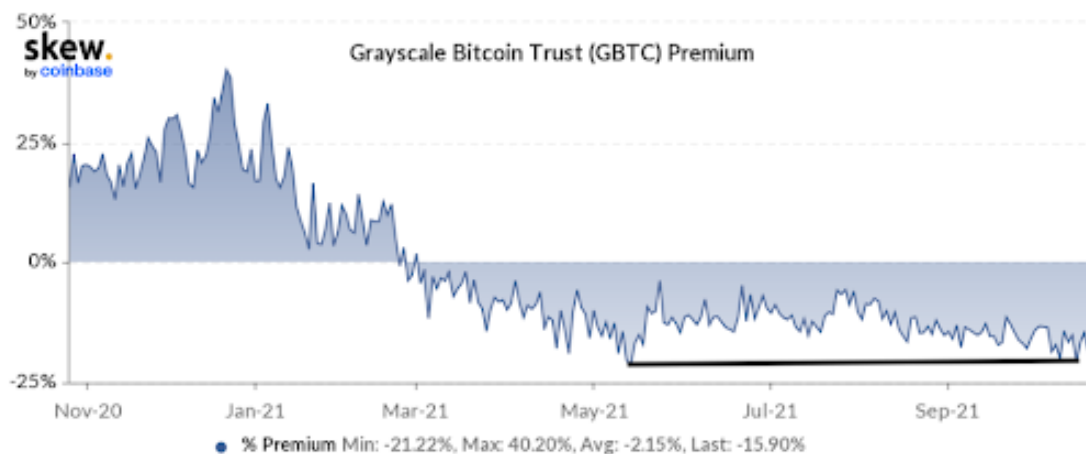
For me the chart that best displays this dynamic has to be the “Mean Transfer Volume” chart, this chart helps you see the average value of each transaction on the network. When retail come in this brings the average value of a transaction down as they generally transact in smaller amounts – During the first five months of the year you can see crypto interest was at peak euphoria levels bringing the transaction value down... Retail were then totally rekt in May and this is where things got interesting.



Institutions started to bid BTC aggressively in the 2nd half of the year and you can clearly see this in the metric above. The average transaction values started to hit record levels bringing averages as high as \$2,000,000. During this period retail have been almost non-existent in BTC, much of this volume was either completely rekt back in May and the average person has no interest in BTC or crypto anymore after being burnt so aggressively OR they have moved to Alt plays and NFTs for a greater chance of a higher return. Personally, I think it's a bit of both.

One thing you may also notice from the chart above is the return to lower levels. There seems to be some pause in the market at the moment while the inflation and policy tightening narrative from Powell dampens the appetite for high risk assets. In short we need to start seeing higher demand on an institutional level in 2022 if we want to see higher prices.

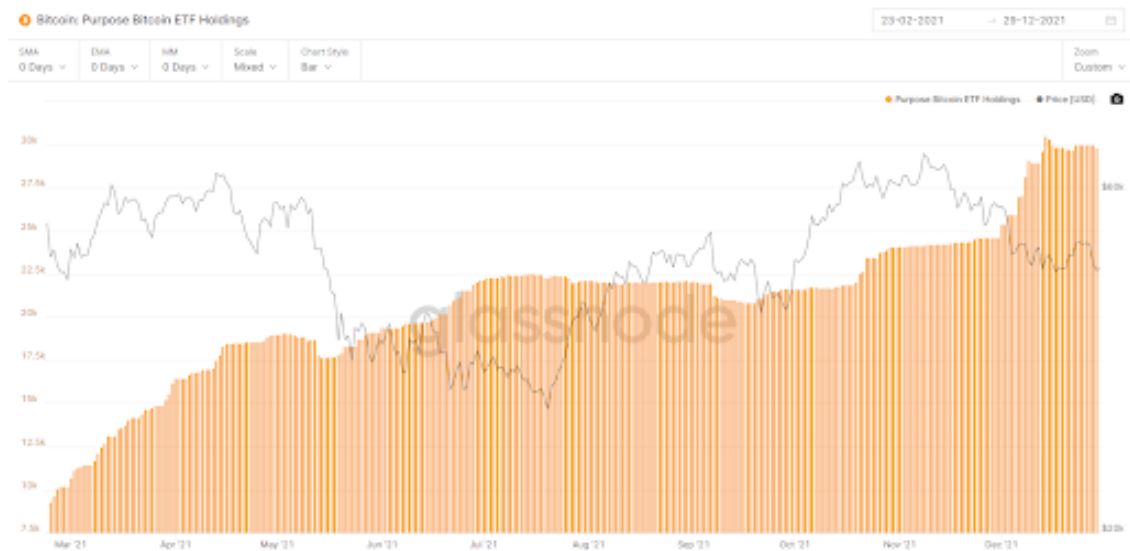
Before we move on I also wanted to highlight just what happened early in the year, why was there such a drop off and what lead to the selloff in May? This was mainly institutionally lead – We had the GBTC arbitrage trade come to an end in March where institutional traders were essentially buying spot BTC all throughout mid/late 2020 up to about February 2021 and putting that spot into Grayscale's fund. Grayscale's fund allowed big players to put the BTC into the fund and then sell the underlying shares off at a profit – at some stages this arbitrage trade yielded 20% profits and institutions were able to book the gains instantly. This premium effectively came in when institutional demand outpaced GBTC's supply. Once this arbitrage opportunity went away demand dropped and couldn't keep the price afloat.



## ETFs

2021 was certainly an interesting year for ETFs, we had multiple market makers apply for approval from the SEC, BITO was the first to do it and get a product to market. In many ways this was great and it opened the door for more approvals and certainly increased the level of institutional interest by creating more onramps.

An area of controversy around the US ETFs is that they aren't actually backed by spot BTC, its all futures based so while we have an ETF product we don't have the holy grail in the US just yet. Over in Canada it's a different story where BTCC (Purpose Bitcoin ETF) IS backed by spot BTC and demand in the product has only strengthened in recent months and shows no signs of slowing. I expect next year we will see a SPOT BTC ETF approved in the US but its going to take time...



## Crypto Mining

Even the miners couldn't escape the drama in 2021 – we had some pretty historic events that changed the entire landscape of the bitcoin network and I'm referring to the great miner migration...

China does what China does and they banned crypto mining in the country – a complete blanket ban. This was huge news as mining at the time was around 70% concentrated in Asia, Miners scrambled to sell BTC to support the migration costs, BTC took a hit and the rest was history. Miners moved out extremely quickly and setup operations in other nations, this was all visible when looking at the BTC hash rate that bottomed around July and ripped back to life as other miners took advantage of what was happening.



This created a great state of play for the north American and Canadian miners, who were the largest outside of China. Due to the drop in hash rate difficulty decreased coupled with additional mining rewards so for a good 6 months they reaped the rewards. This was also an industry wide win for the entire space in my opinion as it also made BTC mining/the network even more decentralised. Now some countries are even looking at volcano powered mining operations....



And that brings me nicely onto El Salvador

## El Salvador

100% one of the biggest stories of 2021 has to be the adoption of Bitcoin by El Salvador. In June the president announced bitcoin would be classed as legal tender.



**Nayib Bukele**    
@nayibbukele



1. Great weather, world class surfing beaches, beach front properties for sale.
2. One of the few countries in the world with no property tax.
3. No capital gains tax for [#Bitcoin](#), since it will be a legal currency.
4. Immediate permanent residence for crypto entrepreneurs.



**H.E. Justin Sun**    @justinsuntron

Crypto investors and entrepreneur will start to move to El Salvador!  
[#Bitcoin](#)

When the law actually took effect, bitcoin's price began to sell off – a classic “buy-the-rumor, sell-the-fact” scenario. (A similar thing had happened earlier in the year, when the big cryptocurrency exchange Coinbase held its direct stock listing on the Nasdaq exchange.) BUT they keep buying that dip.

This was a historic event for BTC as it gained some validation and pathes the way for other nations to follow suit. I imagine 2022 could have other nations jump on board but thats yet to be seen.



## CRYPTO RAND GROUP

**I think that being part of  
the group is worth it**

**My year was better with  
CryptoRand group!**

**-Vladalmi**





CRYPTO RAND GROUP

2021

Year of  
the NFTs

The NFT craze has started, from collectible  
to real life applications: what are those?

## What are NFTs?

NFTs (Non-Fungible Token) are cryptographic assets on the blockchain with unique identification codes, metadata and usually visual appearance to distinguish them from each other. NFTs helped shift the paradigm for how we understand cryptocurrencies - traditionally cryptocurrencies are 'fungible', i.e. they can be exchanged and traded equally for one another as they are the same. For instance one Bitcoin is always valued the same as another Bitcoin. NFTs are unique and irreplaceable, which makes them impossible to be valued equally.

NFTs are represented as the ERC-721 token standard as opposed to the traditional ERC-20 standard for fungible ETH assets. Meaning that ERC-721 tokens are not divisible and ultimately unique.

NFTs as a concept are still very new - the scope for NFTs reaches as far as anything that needs provable ownership. This may include:

Digital Art - Images, Videos, Music, Collectables, Game Items

Real World Items - Deed to a car, tickets to event, legal documents

## The Copy/Paste & 'Right Click Save' Argument

Understandably when people don't understand something, the first instinct is to oppose or challenge it. This is no different in the emerging world of NFTs.

A common argument used to discredit the value and utility of NFTs, is the ability for anyone to be able to download/copy/save the digital asset onto their device themselves so they can 'own' the asset themselves. Yes, people generally can download the digital item - but what can they do with it?

I can download a jpeg of the Mona Lisa or a scanned copy of a World Cup Final ticket - but they hold no real value. Why? Because no one can verify they are the real thing. You can't use them for anything for this exact same reason. Try and stake your 'right click save' for yield or sell it on the open market and see how you do.

Owning the real thing is as valuable as the market makes it. The fact this is verified and upheld by the trustless blockchain is where the value of ownership comes from. Does this mean I necessarily believe \$3million for a profile picture is reasonable? Not really. But I also wouldn't pay \$300,000 for a mint condition Pokemon card. The market decides the value - and the scarcity and provenance are traits; this is just the digital version.

### the "right click saver"

i just right click saved this jpeg thanks, lmao.

no one  
cares what  
the  
blockchain  
says about  
it



why would you pay  
for this when you can  
just download it ????

its mine now  
too

loooooool you paid \$1m for this and  
i just got it for free

"that was easy"

another one to add to my  
collection

## Use cases

To many 'digital art' is the only use case for NFTs and is the most widely adopted, but NFTs can be used to represent ownership of any unique asset. Their use cases are seemingly endless and NFTs have the potential to revolutionise a number of industries. Some of the most interesting and important use cases:

**Gaming** - This is arguably the clearest vertical integration for NFTs to gain adoption in the near future. We have seen Play-to-Earn create billions in value, and without even a proper AAA Game yet. Giving ownership and real world rewards back to the player through the utilisation of NFTs will change gaming forever.

**Metaverse** - The world is becoming more and more digital every year. Shopping, transport, food delivery, hotel booking have all succumbed to a world of digitisation. Our social experiences are going there as well. Facebook is now Meta, Adidas have bought retail space in the Sandbox. NFTs will be used to personalise and verify our experiences here.

**DeFi** - There are lots of ways NFTs and DeFi can and will integrate. Play-to-Earn allows NFT holders to play games and be rewarded in tokens. NFT holders can get loans against their NFT assets to be used in the real world - all verified and upheld by the blockchain and smart contracts

**Fashion & Wearables** - With the metaverse incoming, people are going to need some cool stuff to wear right? Trainers, clothes, cars... all of this will go online and my bet is the biggest global brands will want a piece of it. Nike bought RTFTK - so they can produce their branded goods into the digital world through NFTs

**Virtual Land** - "Buy land, they're not making it anymore" - a quote meant for the real world and one which applies to the virtual one. Virtual world giants like The Sandbox and Decentraland have virtual real-estate hard caps, meaning that their virtual land is scarce like the real kind. With more demand, comes higher prices.

**Music** - As digital art, music also will likely see revolution through NFTs in the future. The ability for artists to release music and get royalties. In an industry which has needed some reform for some time, this may be a breath of fresh air.

**Digitisation of Physical Assets** - Everything from copies of trainers, clothes, watches, cars, even wine or food may have demand for digital versions to be ported into the metaverse. We are already seeing real world property being fractionalised through NFTs. Verifiable deeds, proof of ownership is all well suited on the blockchain with verified ownership. The possibilities are endless.

This is to name but a few examples, there are more and many more will come...



## Overall NFT performance in 2021

NFTs have exploded in 2021 - everything from value, adoption and utility down to social interest and sales. We have seen billions in dollars spent on jpegs, let's look at some of the most astounding numbers in NFTs for 2021:

**\$23 billion in trading volume** - at the time of writing there has been over \$23 billion in trading volume for the NFT market this year alone. For context 2020 had recorded a comparatively modest \$100 million in trading volume just 12 months earlier.

**140,000 active daily wallets** - the number of active daily wallets engaging with NFTs rose from 5,000 at the start of the year to 140,000 by the end of 2021.

**\$69,346,250 NFT collection sale** - Beeple's 'The First 5000 Days' NFT collection, which was the first purely digital NFT based artwork collection offered by a major auction house (Christies) sold for over \$69 million.

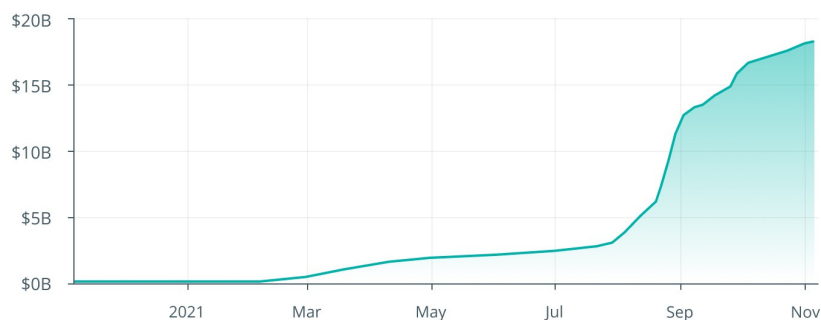
**CryptoPunk sale for 4,200 ETH** - Over \$7 million was spent on purchasing Punk 7804.

**Bored Ape sale for 769 ETH** - Bored Ape #2807 was purchased in September for 769 ETH.

**Art Blocks 'Fidenza' sale for 1000 ETH** - The Fidenza collection by Art Blocks are algorithmically generated pieces of fine art, which culminated in Fidenza #313 selling for 1000 ETH back in August.

These are a few of the most interesting and mind blowing statistics recorded by the NFT market in 2021. An incredible year and something to truly be respected and admired.

**2021 total annual sales in U.S. dollars in the art NFT market as of November 2021**



 | cointelegraph.com

source: Nonfungible



## Blue Chip NFTs

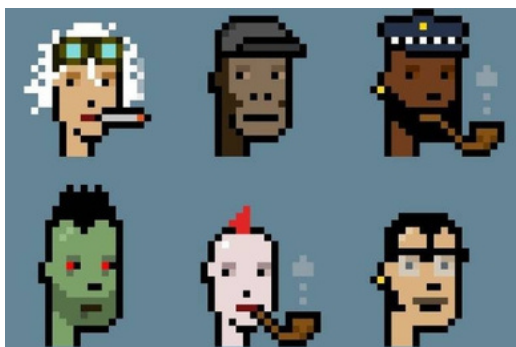
There is a lot of debate around what can be considered a ‘Blue Chip NFT’ and the term simply describes highly prized assets within the NFT space. In the same way cryptocurrencies such as Bitcoin, Ethereum and Solana are considered blue chip assets and Tesla, Apple and Amazon would be considered blue chip stocks. These are subjective, and will mean different things to different people - but I will highlight current stand out performers and those which have established.

Generally these assets have a number of characteristics or are particularly valuable in a select few. Numerically, I would consider factors such as performance since mint to help determine a blue chip (floor price, sales volume, average sales price) as well as more social indicators and increase since mint (Twitter following, Discord following, Social Engagement). Blue Chip NFTs should have somewhat exponential growth in both - as we have seen with the likes of CryptoPunks and Bored Ape Yacht Club.

Non-quantitatively areas such as team, long term vision, utility, art and even supply to help determine projects which are blue chip worthy or have potential to be.

In my opinion there are two clear ‘Blue Chip NFTs’ and these are:  
CryptoPunks (by Larva Labs)  
Bored Ape Yacht Club (by Yuga Labs)

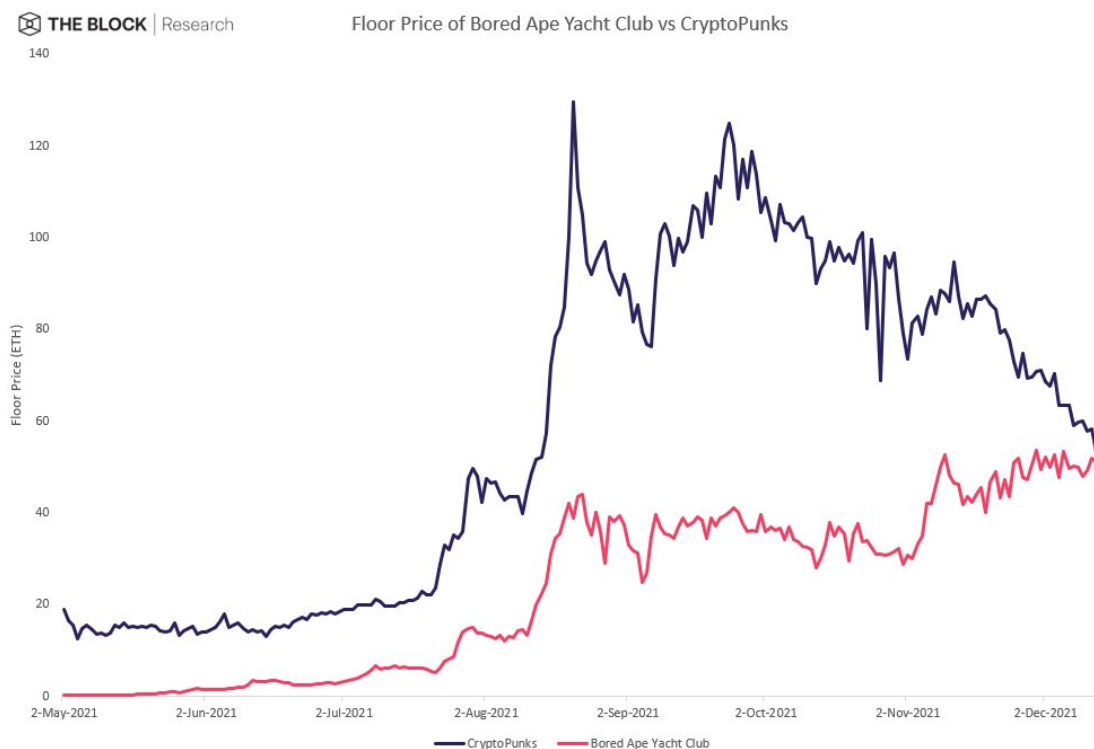
Both have seen meteoric rises in value since their inception. CryptoPunks were first launched back in 2017, were the first truly desirable Profile Pic Project (PFP) with a significant amount of value given their provenance within the space. Whereas the Bored Ape Yacht Club (BAYC) collection has gained an incredible amount of attention, an unbelievable community and subsequent value in 2021 alone. Both have had many multi-million dollar sales and boast floors of over 50 ETH at the time of writing.



## The Flipping 2.0

Long has there been talk of the original flipping and the belief/debate that one day Ethereum would 'flip' Bitcoin and become the most prized cryptocurrency (maybe it one day still does). However with NFTs throughout 2021, it became clear that two aforementioned NFT projects were in a league of their own - in terms of price, volume traded and overall sentiment. CryptoPunks had enjoyed what seemed like an insurmountable advantage for much of that time, with a floor price over 125 ETH at its peak. However recently BAYC were able to 'flip' the punks and the floor price became more valuable and ultimately claimed the #1 spot in the overall NFT rankings. A truly incredible achievement.

It seems as if the constant innovation and continued development from the BAYC team has paid dividends at least in the short term. BAYC created the Mutant Ape Club as a derivative collection, partnered with Adidas Originals and overall continued to push their project along whilst the CryptoPunks relied on their provenance and paid the price. It will be interesting to see how both projects continue from here - but unquestionably these are the two stand out blue chip NFT projects in crypto.





## Honourable Mentions & Blue Chip Potential

Some of these may already be considered as Blue Chip NFTs, but I have chosen to reserve that title for those which are clearly still head and shoulders above the competition

**Blue Chip Contenders:** Art Blocks, CyberKongz Genesis, Cool Cats

**Blue Chip Potential:** Neo Tokyo, MetaHeroes, Rumble Kong League, Wolf Game, Punks Comic

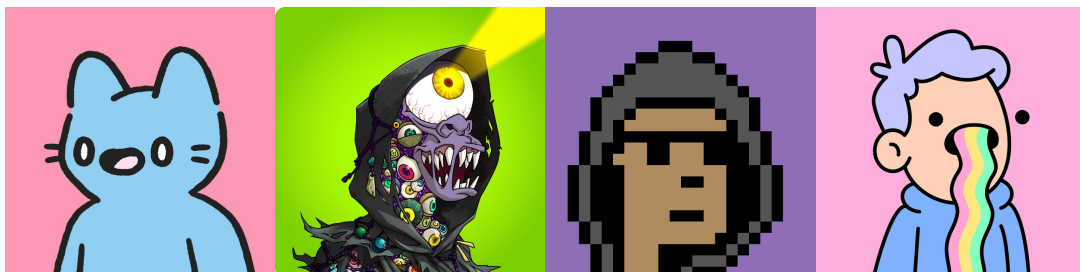
## Types of NFT Projects

In this section, we will briefly touch upon a few different types of NFT projects and their value/utilities. Some projects are a combination of these types.

### **PPF (Profile Picture) / Generative NFT**

As mentioned in the previous section, we have seen a meteoric rise in PFP projects with thousands launching in the wake of success seen from **CryptoPunks**, **BAYC** & others. A key driver behind such projects has always been the sense of community and belonging within a certain group which only seems to get stronger as the project's popularity increases. Holders change their profile picture and instantly deepen that connection - the affiliation drives the value and ultimately a feeling of relative pride (yes, it is just a picture of an ape or a penguin). Many holders find an identity within such projects and that is where their value comes from.

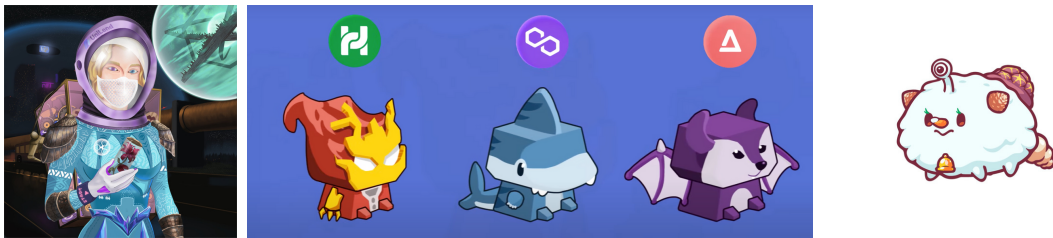
Given the success of such projects, we have inevitably seen thousands more follow - many of which are complete s\*\*t and don't hold any sort of value post mint. Research the vision, consider the art, look at the team and try to derive if such projects truly have value.





## Play-to-Earn NFTs

As the name suggests, these projects allow holders to utilise their NFTs in blockchain games. This new gaming model has taken crypto by storm, where participants use their in-game NFTs to play and ultimately earn in-game tokens. This rewards NFT holders and players for supporting the project, and creates an incredible feedback loop for driving value within the game. Axie Infinity is the most notable example, which at its peak saw over 1.8 million daily users interacting with the game, generating over \$30m a day in revenue.



## NFTs & DeFi

Although Play-to-Earn can certainly be considered DeFi orientated. We are also seeing traditional DeFi mechanics being integrated into NFTs and games also - staking and yield were before limited to traditional DeFi but now we are seeing this in a variety of ways for NFTs. A highly innovative and groundbreaking example in 2021 was Wolf Game. The game embraced game theory, and provided a game which was completely on-chain and had staking mechanics which rewarded stakers with \$wool tokens as a reward. Many of the AAA titles such as SIDUS Heroes, have also detailed plans for staking NFTs for rewards.





## CRYPTO RAND GROUP

**I'm really thankful for the opportunities  
you provide for the group!**

**It really does change lives,  
not only in a financial way!**

**-Gizmania**



CRYPTO RAND GROUP

2021

# The Rise Of Crypto Gaming

Practice your Konami code, because Gaming is coming  
to blockchain and it's changing the whole industry

One of the most exciting developments in crypto over the last twelve months has to be the rise of crypto gaming. The sector was almost nonexistent in January and now we sit at a collective market cap of over 25 Billion.

In the report we are going to look at the following elements to understand three things - **what got us here, where we are now, and where we think the sector is heading:**

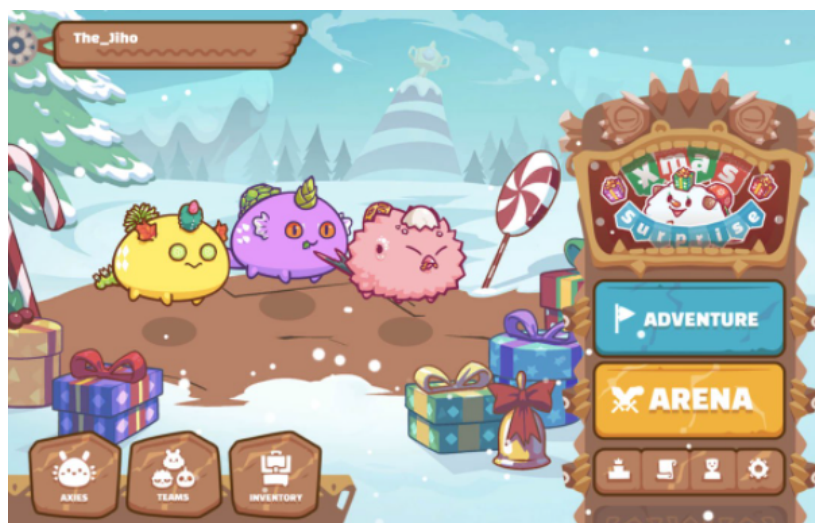
## What Got Us Here?

**First off, what is play to earn?** Quite simply, play to earn is the process of playing games for money or tokens. Quite a simple concept on paper but when you actually think about the bigger picture here and the potential behavioral changes it's quite amazing. I'm sure many of you have always viewed gaming as a black hole of time and resources... You play a game all day for hours only to look back and think "what a waste of a day" - Well with play to earn this dynamic changes and that wasted time can actually be monetized.

**The gaming sector seemed to fit in so seamlessly it was almost like NFTs and crypto we're created for gaming.** One of the most breakthrough innovations in crypto gaming were the use of NFT assets, turning in-game items and even characters into NFTs created multiple additional revenue sources for playing as well as encouraging further innovations.

**2nd and 3rd world countries** were the main driving force behind this explosion in demand where monthly incomes are less than 100\$ in some places these developing nations were the first to really grab the bull by the horns and start playing blockchain Play To Earn games... Why would you work in a factory when you can just play Axie infinity all day and make 10x what you normally would?

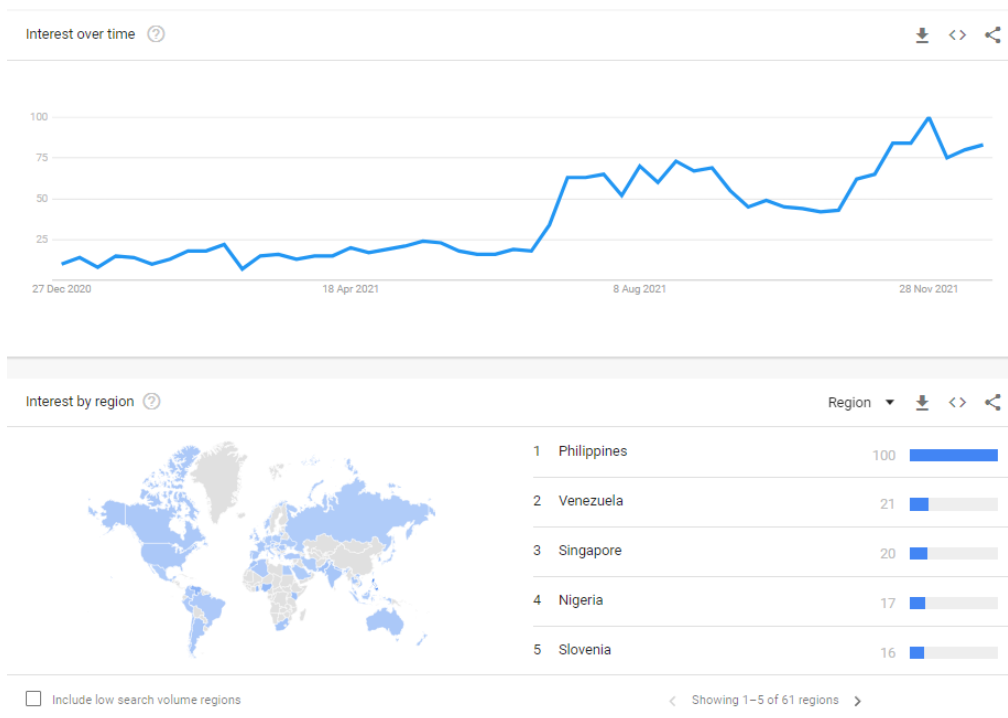
**See below some sample screenshots of Axie infinity,** this was one of the first to explode onto the scene and currently boasts a market cap of nearly 7 Billion Dollars - Primitive right? We will touch on this more in our "where we think the sector is going" section.



## Where Are We Now?

Data collected by Dapp Rader show's an increase of 6,566 daily unique wallets interacting with game-related smart contracts, rising from around 21,000 in Q3 of 2020 to 1.54 million per day in Q3 2021

This surge in interest and demand can also be seen via Google search trends, also note the geographical data for these search terms:



We have also had an explosion in new gaming projects as well as projects looking to support the infrastructure. As of today the total market cap for all "Play to earn" stands at nearly 27 Billion Dollars and consists of over 350 gaming projects. Some of these games are very quickly raising the quality bar, I showed you some screenshots of Axie above... Let's now take a look at what's in the pipeline to be released in the next 3 months.

Sidus hero's project:

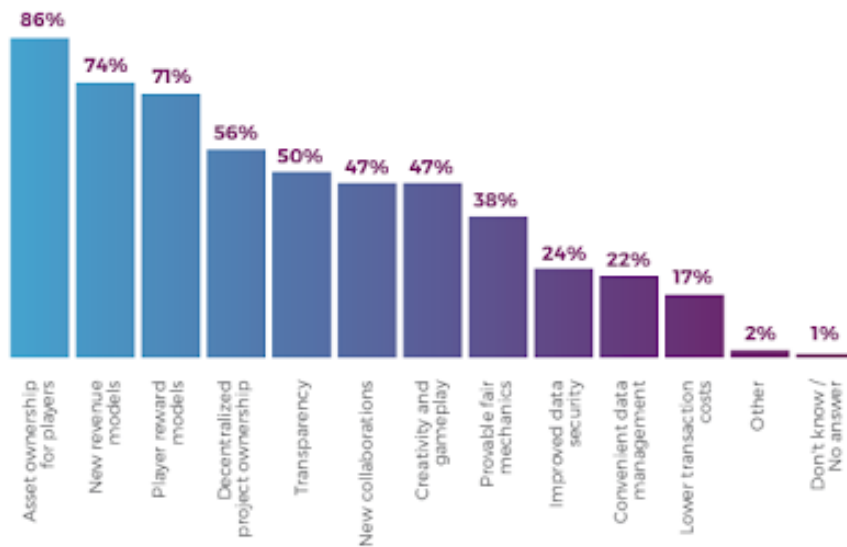


As you can see a huge leap in terms of graphics, but not just that, the levels of sophistication within these games is increasing drastically. I'm sure some of you may have played MMORPG's in the past - Games like World Of WarCraft... Well we're not far from reaching that level of size and sophistication already.

Its all very good and well innovating but what has the reception from consumers been like? Below is a survey conducted by GBA - They asked consumers the question "How does the gaming industry benefit from blockchain technology"?

### HOW DOES THE GAMING INDUSTRY BENEFIT FROM BLOCKCHAIN TECHNOLOGY?

Respondents were given the option to select more than one answer.



As you can see the three main answers were all around asset ownership, new revenue models and reward models. So the sector was crying out for this... We just didn't know it yet.

## New innovations supporting the infrastructure:

We've looked at what play to earn is, what got us here, where we are now but before moving onto where we head next i also wanted to mention the infrastructure surrounding this new sector because the innovations here are just as impressive and I'm going to use GuildFi as an example of great infrastructure innovation that will help drive the space even further.

Guildfi are looking to offer the below 4 core services:

**Marketplaces** - This is where players and groups of players will be able to trade in game assets seamlessly in one place. This could be anything from a character to a weapon on a game and I'm sure this will expand over time.

**IGO Launchpads** - We already have general launchpads out there in the market but this is an area i see expanding further. As a games developers will look to plug into more direct launchpads that touch a very specific customer base, this will optimise any game looking for a successful launch.

**Guilds** - Guilds are being setup to reduce the barriers to entry for some of these games. For example some blockchain based games are costly to enter and these costs can run into the 1000's - Through guilds you can effectively borrow player accounts or items and pay the owner a percentage of your winnings within the game (or whatever is contractually agreed). Guilds work together to achieve two common goals, progress in a game and earn money.

**Staking / Lending** - The final piece that ties into all of the above, through blockchain based games you can now lend or stake pretty much anything in a game. This is a very exciting innovation as it further increases the revenue generation models for the player while at the same time it can reduce other players barrier to entry. Everyone wins scenario. This also helps with the issues around playing a game, sinking loads of time into it then never touching it again... As mentioned at the start of the report this is dead time... But through blockchain based games thats not the case, you can still earn a passive income from lending / staking items.

## Where Are We Heading?

In a nutshell guys i think this space will continue to evolve and explode, this year alone over 4 Billion Dollars have been invested into blockchain games and this shows no signs of slowing down. The biggest investors so far are:

Fote: *900 Million*

Soare: *800 Million*

Dapper Labs: *600 Million*

Mythical Games: *270 Million*

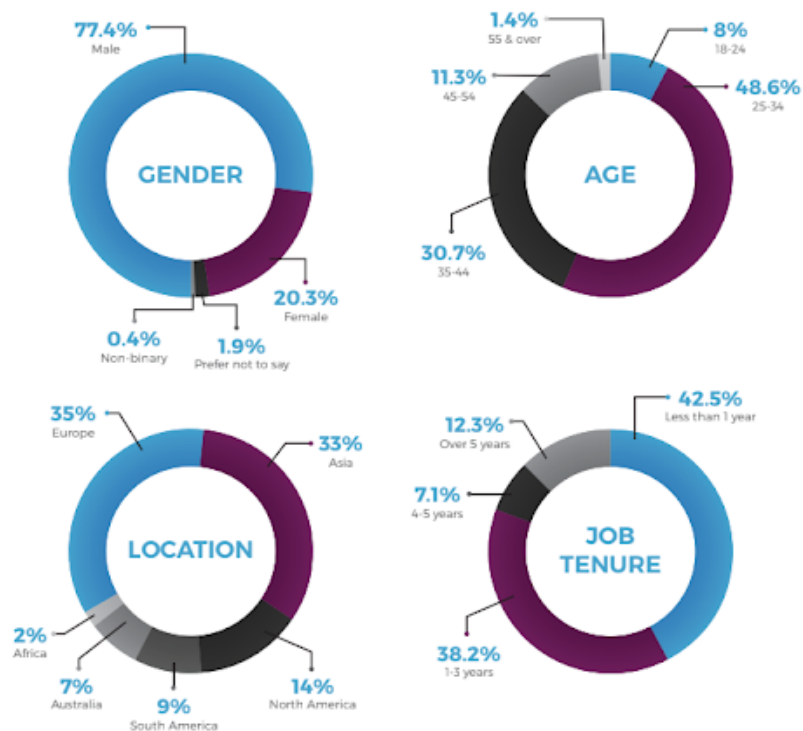
Animoca Brands: *200 Million*





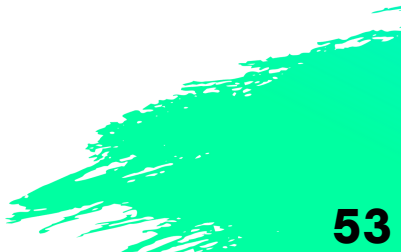
Over the course of 2022 I think we start to impact the lower age brackets, specifically the 18-24 year old sectors, in addition to this i think we will see location changes. I anticipate Asia will pull away further based on other social metrics but the area i see most change next year has to be the location metrics, currently only 14 / 9% respectively in america. This also highlights the continued growth opportunity for the sector.

**Demographics changes:**



The biggest change we will see next year has to be the introduction of big players into the space. They have been watching and have seen the potential and we've only just started to see the start of this - In december we had Ubisoft launch NFTs for its popular Ghost Recon game and this is just the beginning - speaking to figure heads in the industry they are already aware the big players are looking to enter next year, how they do it is still to be seen.

I'm expecting the big players to dip their toes in Via NFTs / NFT marketplaces initially - I don't see any of them going for the full defi layer with the the direct play to earn aspects with lending, staking and a tokenized in game economys i think this needs more time to mature and regulation may delay the full embodiment of gamefi.





## CRYPTO RAND GROUP

In this group I have learned a lot from both the administrators and other users.

And on top of that I have earned some money.

-BrianD



CRYPTO RAND GROUP

2022

# Past, Present, Future

A global overview of what we can expect in  
the years to come for Crypto in every domain

We wanted to provide a high level overview of the market in 2021, looking at some on chain metrics to provide insight on what got us to this point and what's needed in 2022 for continued growth.

We highlighted this in December but what we have essentially seen across 2021 is a huge period of consolidation, a period of consolidation that's rekt retail many times over in the pursuit of spot accumulation.



In April we had “peak retail” interest in BTC and this can be seen evidently in the “Mean transaction” data – this essentially shows an average of each transaction value, large transactions = institutions and big players. Smaller averages means retail.



This can also be captured in the address Data, retail got rekt in may... Didn't return and we're now in the hands of institutions. We've had a slowdown and a pause from the big players in December and we are now looking for these metrics to turn up again in order to sustain a rally in 2022.



If we don't get this in the first few weeks of 2022 then we can expect further downside until prices become attractive enough for big players to re-enter.

One narrative I'm open to in 2022 is ETH flipping BTC, NFTs look ready to continue the trend in 2022 with many businesses implementing an NFT strategy and multiple marketplaces now being built. We also mentioned it earlier in the report but I expect gaming to have an impact on this trend as well as Defi.



This is all great but I expect 2022 to have its challenges, with multiple assets up many 1000's of percent people are still asking "when alt season" - This is quite concerning when we have legacy markets at all time highs with the largest multiples in valuations in history. There needs to be some more pain before things can really get moving again.





## CRYPTO RAND GROUP

A friend recommended me this discord  
and I am very happy with community

I think this year went amazing for  
me because I found you guys

-Licinka



# CRYPTO RAND GROUP



[@crypto\\_rand](https://twitter.com/crypto_rand)



[Cryptorandgroup.com](https://cryptorandgroup.com)



[discord.gg/cryptorand](https://discord.gg/cryptorand)