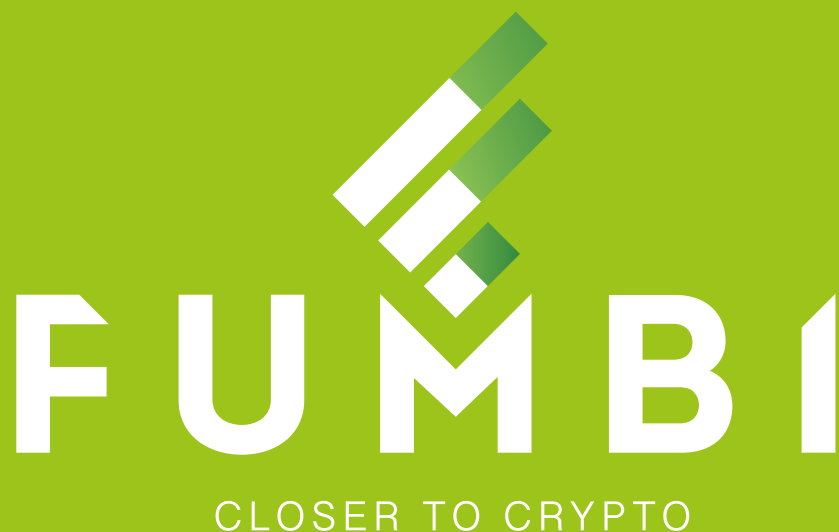




ANNUAL REPORT: CRYPTOCURRENCY MARKET IN 2022

AUTHORS

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PREFACE

The year 2022 was perhaps one of the most difficult years in the entire crypto history. It has been marked by many negative events and failures of individuals, institutions and protocols. While hacking attacks or protocol failures happen relatively regularly in the world of cryptocurrencies, the volume of stolen funds through hacks was very high this year.

We have already seen the collapse of large institutions in the world of crypto. When Mt.Gox, the world's largest bitcoin exchange, collapsed a few years ago, with over 80% of all trades being made through it at the time, many predicted that it would spell the death of Bitcoin. Fortunately, in 2022, such an influential and monopolistic organisation in the cryptocurrency ecosystem doesn't even exist anymore. This type of power has been decentralised over time. However, the number of major institutions that have gone bankrupt this year is unprecedented. Three Arrows Capital, Celsius, BlockFi, and FTX were among the biggest players in their respective fields. The reasons for the collapses of these companies varied. While some did indeed fail to manage the risk of their relatively reasonable positions, others irresponsibly gambled with client money. Some even shamelessly cheated and lied to their clients in an attempt to enrich themselves.

We cannot yet say for certain what was behind the events that caused this whole series of bankruptcies. The collapse of the Terra will surely go down not only in the history of cryptocurrencies but also in the history of finance. Never before in the history of cryptocurrencies has such a large project collapsed in such a bitter way within such a short period; moreover, with the support of such major players in the market. No doubt we will be able to watch documentaries about this saga sooner or later.

Unsurprisingly, negative news from the crypto world circulates more often and faster than positive ones. The positive ones, however, often don't get nearly as much media attention, although there is no shortage of them either. Especially if one looks at the development of various protocols, this is undoubtedly true of Bitcoin's Lightning network, for example, which has seen quite a lot of technological progress and the ecosystem's maturity has increased significantly. Ethereum developers have managed the feat of transforming the network into a Proof-of-Stake algorithm without ordinary users even noticing. Several projects in the world of DeFi are progressing at a meteoric pace and bringing interesting innovations. Uniswap has integrated NFTs, Polygon, and others have introduced versions of the Ethereum virtual machine (EVM) based on zero-knowledge proofs. While TerraUSD went bankrupt, another fractional algorithmic stablecoin - Frax - has managed to keep its peg with the U.S. dollar firmly in place.

Progress also took place outside of source codes. The Central African Republic was the next country to adopt Bitcoin as its own. Bitcoin has made its way into the retirement accounts of Americans, who can now save with it long-term. The European Union has finally published the final version of MiCA, which will govern cryptocurrency-related services in all member countries. Although the crypto market purge has caused a short-term drop in prices and interest, the cryptocurrencies' positioning remains unchanged in the long run. Their potential has not diminished. Quite the contrary. Surviving these turbulent times has strengthened the integrity of the entire ecosystem. It is only a matter of time before this begins to be reflected once again in the prices of cryptoassets.

David Stancel,
Chief Investment Officer

HIGHLIGHTS

- The year 2022 has been very challenging for crypto investors. Hundreds of billions of dollars have left the cryptocurrency market, and asset prices have plunged by tens of percent due to the poor macroeconomic situation.
- The biggest event of this calendar year was clearly the fall of blockchain platform Terra and its algorithmic stablecoin UST.
- The Terra collapse triggered a chain reaction of liquidations in the cryptocurrency market. Companies such as Celsius, Voyager Digital, Three Arrows Capital and crypto exchange FTX got into trouble. All of these companies went bankrupt.
- Ethereum underwent a very important upgrade in September called The Merge. This upgrade brought with it the transition from the consensus algorithm Proof-of-Work to Proof-of-Stake.
- MiCa's cryptocurrency regulatory framework will soon be a reality. The European Union has agreed on its legal text, and it should bring greater transparency as well as uniform rules for all crypto companies operating within the EU.
- BlackRock, the world's largest asset manager with more than \$10 trillion in assets under management, has entered the world of cryptocurrencies.
- The most widely used blockchain for interactions with DeFi apps in 2022 was Ethereum. Binance Smart Chain or Tron also grew in popularity.
- Trading volumes on the largest NFT marketplace fell by up to 97% during 2022. Last year's most bizarre event in the NFTs sector was the former U.S. President Donald Trump's NFT collection.
- USDT remains the largest stablecoin on the market, with a market capitalisation of \$65 billion. In second and third place are USDC (\$42 billion) and BUSD (\$22 billion).
- Fumbi brought several new products and innovations to its clients in 2022. Clients can invest in the new Fumbi Staking Portfolio and other products easily and securely through payments at the post office, our Fumbi mobile app or via our website.

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YEAR 2022 IN NUMBERS

Market Capitalisation of the Crypto Market

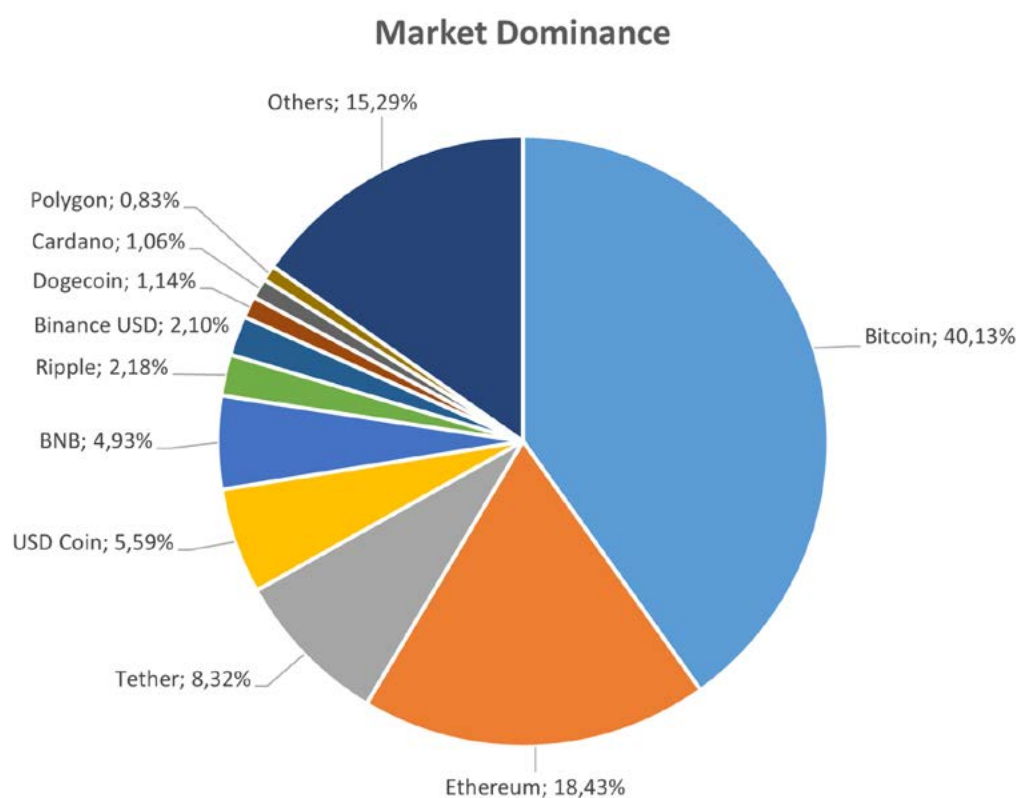
Total Market Cap in 2022



Source: Coinmarketcap

The value of the entire cryptocurrency market was at \$2.25 trillion in early 2022. Over the last twelve months, the market capitalisation fell by 64% to a year-end level of \$795 billion. This year's highest market capitalisation was reached on 3 January 2022, when the market capitalisation was \$2.26 trillion.

Market Dominance



Source: Fumbi Research

The downtrend of Bitcoin's dominance slowed considerably in 2022. Bitcoin's dominance remained almost unchanged, dropping just 0.4 percentage points over the year from 40.5% to a year-end 40.1%. However, some alternative cryptocurrencies, such as Ethereum, Tether and BNB, have strengthened their position in the market.

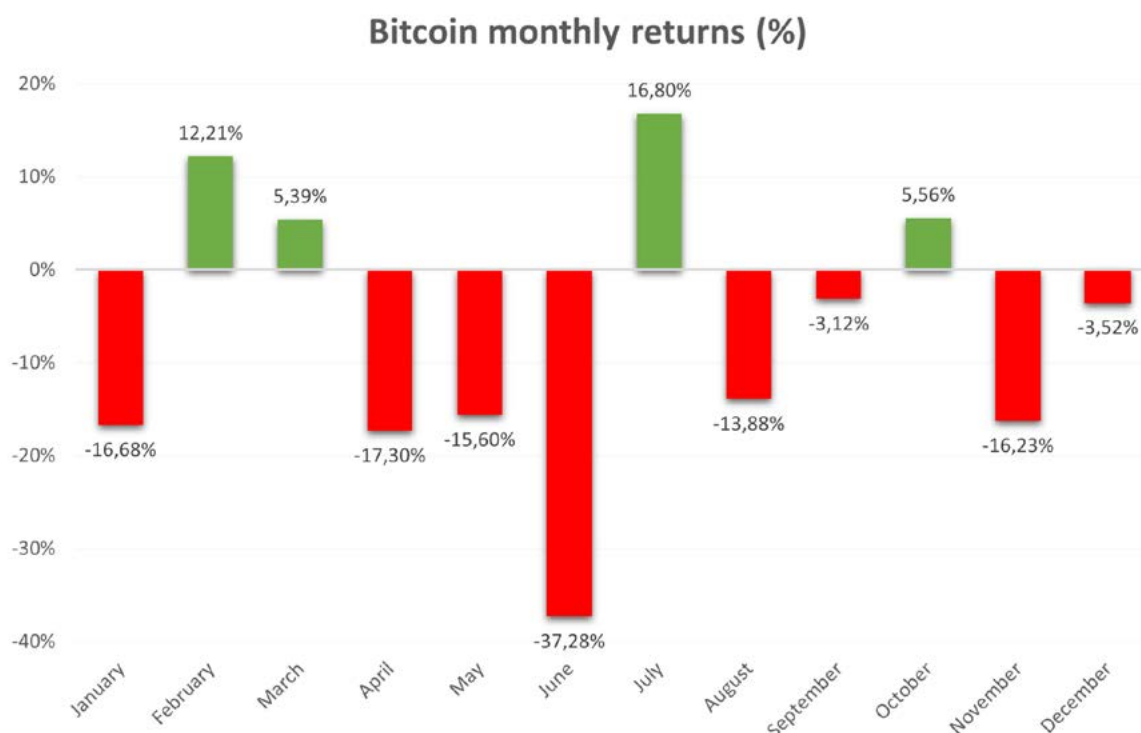
Bitcoin in 2022



Source: Coinmarketcap

Bitcoin opened 2022 at \$46,300 and closed at \$16,557. The value of Bitcoin has fallen by 64.23% compared to the beginning of 2022. The decline in the value of Bitcoin and other assets was mainly due to the unfavourable macroeconomic situation, high inflation and the war in Ukraine. The lowest value of Bitcoin this year was recorded in November during the FTX crisis when Bitcoin dropped to \$15,500.

Monthly Returns of Bitcoin in 2022



Source: Fumbi Research

During this calendar year, Bitcoin had 8 months with a negative monthly return and 4 months with a positive return. The worst month for Bitcoin was June when its price dropped by 37.28%.

Bitcoin market capitalisation in 2022



Source: Coinmarketcap

Bitcoin opened the year with a market capitalisation of \$876 billion and closed it with a market cap of \$319 billion. Bitcoin's market capitalisation has fallen by 63.5% during this year. Since the market peak reached in November 2021, Bitcoin's market capitalisation has fallen by 73.6%.

Ethereum in 2022



Source: Coinmarketcap

Market number two, Ethereum, opened 2022 at \$3,683. Ethereum's valuation has fallen 67% during this year to its current value of \$1,198. At the same time, the price of Ethereum has fallen 75.5% as of the end of this calendar year from its peak reached in November 2021.

Monthly Return of Ethereum in 2022



Source: Fumbi Research

During this year, Ethereum has seen 8 months with a negative monthly return and only 4 months with a positive return. The worst month for Ethereum was June when the asset lost 44.79% of its value.

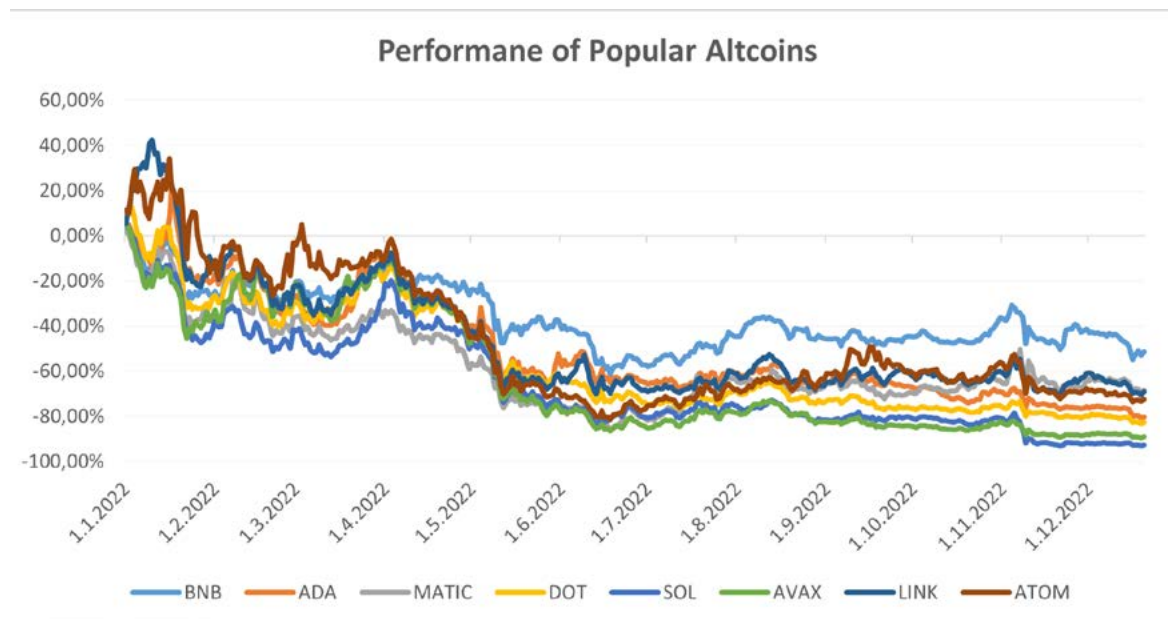
Ethereum market capitalisation in 2022



Source: Coinmarketcap

Ethereum opened 2022 with a market capitalisation of \$438 billion and closed it with a value of \$147 billion. Ethereum's market capitalisation has fallen by up to 66.4% compared to 1 January 2022. Ether's lowest market capitalisation this year was recorded in June 2022 at \$120 billion.

Performance of Popular Altcoins



Source: Fumbi Research

Among the altcoins tracked, BNB recorded the lowest loss in 2022, falling 51.2%. Solana was the worst performer among the tracked altcoins, which was linked to the collapse of the FTX crypto exchange. Solana lost 92.7% of its value in 2022.

THE MOST NOTABLE EVENTS IN 2022

The Collapse of Blockchain Platform Terra

In May this year, the cryptocurrency market was marked by the crash of the Terra blockchain platform, which can undoubtedly be ranked among the biggest disasters in the history of cryptocurrencies.

Terra was a platform ranked in the top 10 cryptocurrencies by market capitalisation, with its algorithmic stablecoin UST being the third largest stablecoin in the entire cryptocurrency market. The essence of UST was that it was algorithmic, meaning that there was no central entity behind its monetary policy management but an innovative algorithm that ensured the issuance and burning of UST and LUNA coins depending on the current supply and demand.

The attack on the stablecoin UST on the decentralised exchange Curve, as well as the massive short selling of the UST on the Binance exchange, caused it to lose the peg to the U.S. dollar, resulting in extreme fear and uncertainty in the whole market.

According to available information, the attacker borrowed up to 100,000 bitcoins and \$1 billion in USTs through OTC (Over-The-Counter) trades to carry out this attack. With this massive amount of capital, they managed to drain almost all of the liquidity of 3pool on the decentralised Curve exchange, with information about this event spreading at lightning speed. The growing panic triggered a snowball effect that resulted in huge withdrawals of USTs from the Anchor log and their subsequent sale and a massive increase in short trades on various exchanges.

As such, the algorithm continually sought to re-establish a peg to the dollar during this event. This triggered the so-called death spiral effect, during which the UST was continuously burned, and huge amounts of new LUNA coins were issued. The situation was partly remedied by the LFG (Luna Foundation Guard), which started selling its bitcoin reserves, specifically for crisis situations. However, the sale of these reserves during the height of the market panic was very poorly timed and had virtually no effect.

Everything that happened after that was just the culmination of this unfortunate event. The huge selling pressure on UST and LUNA in both spot and futures trading, UST's deviation from its peg or the death spiral effect caused something that UST and LUNA simply could no longer sustain. As a result of the attack, as many as 6.9 trillion new LUNA coins entered circulation in a matter of days, with the price per coin plummeting from \$80 to about \$0.00006. Similarly, the stablecoin UST, whose price plunged from \$1 to \$0.01.

The Crisis of Crypto Institutions and the Collapse of FTX

The year 2022 has significantly impacted the biggest players in the cryptocurrency world. Examples of this are the bankruptcy of Celsius, the hedge fund Three Arrows Capital, lending company Voyager Digital or, last but not least, the failure of one of the largest cryptocurrency exchanges in the world, FTX and its related company Alameda Research.

The first problems for the big institutional players were noted after the Terra crash, which caused an unusual domino effect throughout the industry. Terra's failure and the subsequent decline in the value of crypto assets triggered a wave of margin calls as well as a number of liquidations of open positions in the DeFi sector. The first to run into trouble were Celsius Network and Babel Finance, which were forced to suspend withdrawals for their clients due to „extreme market conditions“. While Babel was able to dig itself out of its financial problems, Celsius declared bankruptcy caused by its poor risk and liquidity management.

At one time, Three Arrows Capital was also a major investor in the world of cryptocurrencies. One of the largest hedge funds of the past bull market, led by Credit Suisse investment bank leavers Zhu Su and Kyle Davies, ran into huge liquidity problems and became completely insolvent after the value of crypto assets plunged. The fund, which managed more than \$10 billion in assets in early 2022, was unable to cover its liabilities and, like Celsius, was forced to declare bankruptcy.

In November, another intense event hit the market. The FTX crypto exchange came under tremendous pressure after the leak of information from the balance sheet of the trading company Alameda Research. The leaked data showed that Alameda's balance sheet contained a huge amount of illiquid FTT tokens, i.e. tokens issued by the FTX crypto exchange. This information triggered speculation about whether FTX is liquid and can meet its liabilities.

One of the first to react to the situation was Binance crypto exchange founder Changpeng Zhao, who announced that Binance would sell off all of its FTT tokens, which the company acquired by selling its stake in FTX. This triggered a massive sell-off of FTT tokens and withdrawal requests from FTX clients, which reached almost \$6 billion in three days.

Although for a while it looked like Binance was interested in acquiring FTX, after a thorough review of the situation by Binance, the exchange decided to withdraw from the acquisition. According to a statement from Binance, FTX had mishandled client funds and was at risk of being investigated by U.S. authorities.

The withdrawal from the acquisition was the final nail in the coffin for FTX, which triggered an avalanche of events that FTX could not withstand. A few days later, FTX was forced to declare bankruptcy and an investigation into the whole affair is currently underway.

Ethereum Migration to Proof-of-Stake

In mid-September, the second most-popular cryptocurrency Ethereum underwent an important upgrade called The Merge. The main goal of this upgrade was Ethereum's transition from the Proof-of-Work consensus algorithm to the new Proof-of-Stake model, eliminating the need for miners and the energy-intensive consensus.

Miners have been replaced by validators in the network, who guarantee the validity of blocks with staked ETH coins rather than computational power. As a result, the overall energy consumption of the network dropped by up to 99.9%. However, this update did not bring any changes to Ethereum's scalability, as an upgrade aimed at increasing throughput is scheduled for 2023.

A significant change within the upgrade was an adjustment to the issuance of new ETH coins. While under the old consensus, approximately 13,000 new ETH were put into circulation daily, after the upgrade and the switch to Proof-of-Stake, the daily issuance of ETH has been reduced to only 1,600 ETH. This has made Ethereum a much less inflationary asset that has the potential to reach deflationary levels under certain market conditions. This is made possible by the burn fees implemented as part of the EIP-1559 update that was adopted in early August.

The MiCA Regulatory Framework Is Taking Shape

The European Union (EU) has agreed on the full legal text of its important legislation known as Markets in Crypto Assets (MiCA).

MiCA represents the first-ever licensing scheme for cryptocurrency wallets and exchanges that can operate across the European bloc under a single set of rules. The legislative framework deals with regulating crypto service providers and issuers of crypto assets to protect cryptocurrency users and investors across the Union.

The main objectives of the MiCa regulatory framework include, for example, providing legal certainty for crypto assets not covered by current EU financial services legislation, replacing existing national regulatory frameworks applicable to crypto assets and creating a common regulatory framework, introducing uniform rules for crypto service providers and issuers of crypto assets, or setting specific rules for stablecoins.

Once MiCA enters into force, licensed crypto service providers will no longer need authorisation from each EU country to offer their services in jurisdictions within the EU. This reduces the regulatory burden on institutions and allows any service provider to register in any Union country and operate freely in any space within an EU jurisdiction.

Bitcoin as a Legal Tender in Another Country

In May, the Central African Republic was added to the still short but growing list of countries that have adopted Bitcoin as legal tender. According to an official announcement by the Office of the President, the Central African Republic became the second country in the world after El Salvador, to adopt Bitcoin as legal tender alongside its national currency.

The adoption of Bitcoin should help kick-start economic recovery and peace-building initiatives in the country. The International Monetary Fund (IMF) has strongly criticised the Central African Republic's decision, stating that the adoption is associated with major risks in the areas of financial stability, integrity or consumer protection. However, it is the IMF that has long failed to recognise the national currency used in the Central African Republic, making it very difficult for the country to conduct international business.

Tornado Cash App Banned in the U.S.

The popular protocol Tornado Cash, used to anonymise transactions in order to increase user privacy, made it onto the list of banned apps in the United States in early August. The U.S. Treasury Department outlawed the use of the app and outright banned U.S. residents from interacting with the protocol.

This decision has sparked a wave of backlash from the crypto community, which sees it as a huge government blunder that goes against the fundamental values of privacy and autonomy. However, the Office of Foreign Assets Control (OFAC) and the U.S. Treasury Department see it differently. In their joint statement, they called the decentralised Tornado Cash app a „significant threat to national security.“

At the same time, the Department announced a few weeks later that in order to withdraw stranded funds in the log after the ban, users would have to apply to OFAC for a special licence that, if granted, would allow them to withdraw their funds from the protocol.

Instagram Supports NFTs

Meta, the company behind apps such as Facebook, WhatsApp and Instagram, announced the integration of non-fungible tokens (NFTs) on Instagram in early August.

The integration of NFTs on Instagram allows artists, collectors or institutions to present their digital art directly on the Instagram app. Sharing digital art on Instagram is made possible through the integration of multiple non-custodial wallets, including Metamask, Coinbase Wallet or Trust Wallet. To share your NFT works, you need to connect the crypto wallet to Instagram via a web browser. Users can then share their virtual collections, whether as standalone posts or stories, or they can even share them with other users via a private message. There are no fees associated with sharing NFTs on Instagram.

CRYPTOCURRENCIES AND THE WORLD OF TRADITIONAL FINANCE

Aggressive Fed Monetary Policy

Under the influence of high inflation, which reached as high as 9.1% in the U.S. in June, the Federal Reserve (Fed) has had to raise its key interest rate several times over the past year.

As recently as January of this year, the base rate stood at 0.25%. The first interest rate hike since 2018 came in March this year when the Fed raised the rate by 0.25%. As inflation has continued to rise, the Fed has made several other and significantly more aggressive increases to the base rate in addition to that hike, which is currently at 4%.

So far, the Fed has been only partially successful in taming inflation. While in January 2021 the annual inflation rate was only 1.4%, in November 2022, the annual inflation rate was as high as 7.1%. However, this is a slowdown in inflation growth, as in June, the annual inflation rate was as high as 9.1%.

Fidelity Has Added Bitcoin to U.S. Pension Plans

Fidelity Investments, one of the largest institutional asset managers in the world, will allow investors to add Bitcoin to their 401(k) retirement plans.

In the United States, 401(k) plans are employer-sponsored retirement savings plans offered by U.S. employers that have certain tax advantages for the saver. For employees who are part of this plan, employers contribute a few percent of their wages directly to their retirement savings accounts. Employees are able to choose directly which funds they want to invest in.

An April report published by Fidelity revealed that some of the 401(k) plans that Fidelity administers should soon offer savers the option of investing in Bitcoin through so-called digital asset accounts. This is a very significant move from an adoption perspective, as Fidelity is the largest provider of retirement plans of this type in the United States.

BlackRock Enters the World of Cryptocurrencies

BlackRock, the world's largest asset manager with up to \$10 trillion in assets under management, entered the world of cryptocurrencies.

BlackRock has decided to create its own Bitcoin Trust aimed at institutional investors. According to the company's management, the move was the culmination of the ever-growing demand for Bitcoin from institutions looking to invest in it, especially with the current market slumps. Most institutional investors are registering that Bitcoin has lost more than 60% of its value reached in November 2021, which they see as a huge investment opportunity.

The trust is initially focused only on Bitcoin investments but does not rule out adding other cryptocurrencies such as Ethereum in the future.

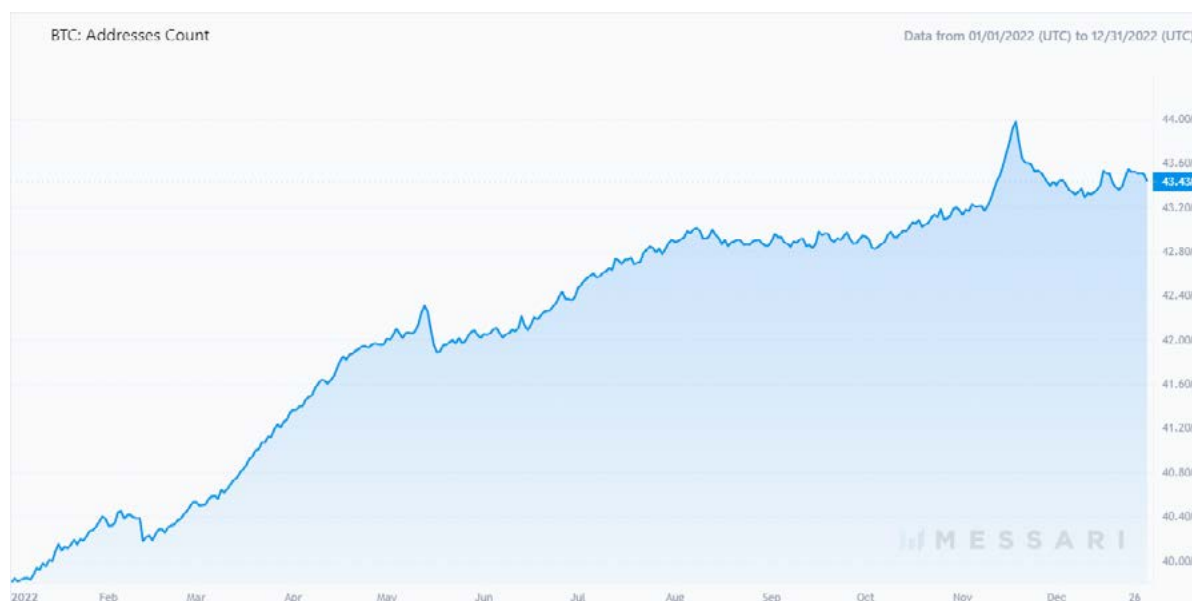
Shopify Integrates Strike Wallet

The world's leading digital payments platform, Strike, announced at the Bitcoin conference in Miami its collaboration with e-commerce company Shopify.

The collaboration between Strike and Shopify will allow U.S. merchants operating on the Shopify platform to accept Bitcoin payments from customers around the world via the Lightning Network. The adoption of Lightning Network has a number of practical benefits, such as diversifying existing payment methods, expanding into new, previously untapped global markets, or the fact that this integration will allow merchants on Shopify to generate savings through low-cost payment processing.

ON-CHAIN DATA - BITCOIN

BTC - Address Count



Source: Messari

The metric of the total number of addresses in the Bitcoin network represents the number of addresses that hold a non-zero balance. In practice, this means that these are addresses that hold at least some fraction of Bitcoin. As we can see, the number of these addresses has grown significantly over the past year despite the negative sentiment in the market. In January 2022, the number of such addresses in the Bitcoin network stood at 39,802,613, and during this calendar year, the number of such addresses increased by 9.12% to 43,430,998 addresses. This shows that, with prices falling, more and more users are accumulating Bitcoin. Today's largest bitcoin address is the [cold storage address of crypto exchange Binance](#), which holds up to 250,597 Bitcoins.

BTC - Addresses With Balance Greater Than 0.1 BTC



Source: Messari

The number of addresses with a balance of more than 0.1 BTC (approx. €1550) has increased significantly over the past year. The number of such addresses increased by 27.48%, from 3,296,314 addresses to 4,202,289 addresses. This fact may indicate that many, especially small investors, are taking advantage of the price drops to accumulate more Bitcoins. Moreover, this metric does not account for investors holding their Bitcoins on exchanges, which means that there is a high probability that there are in fact many more investors holding at least 0.1 BTC.

BTC - Circulating Supply



Source: Messari

Bitcoin's total circulating supply is currently 19,247,575 BTC, which means that a total of 91.65% of the total supply, which is fixed at 21 million, is already in circulation. In 2022, over 316,000 new Bitcoins were mined. A similar growth trend in the circulating supply can be expected in 2023, as halving and the block reward reduction from 6.25 BTC to 3.125 BTC per block is not scheduled to occur in the Bitcoin network until 2024. It should be added that it is estimated that 15-20% of the circulating supply has already been lost forever, which means that the real circulating supply of BTC is even lower.

BTC - 1 Year Active Supply



Source: Messari

The number of active bitcoins that were part of any transaction in the Bitcoin network has dropped by 20.8% over the past year, from an initial 8.1 million BTC to the current 6.4 million. In practice, this means that more and more bitcoins remain idle in their wallets. This may indicate, for example, investors' disinterest in selling

off their assets at current prices and, in some cases, the potential loss of investors' private keys and, thus, loss of access to the assets.

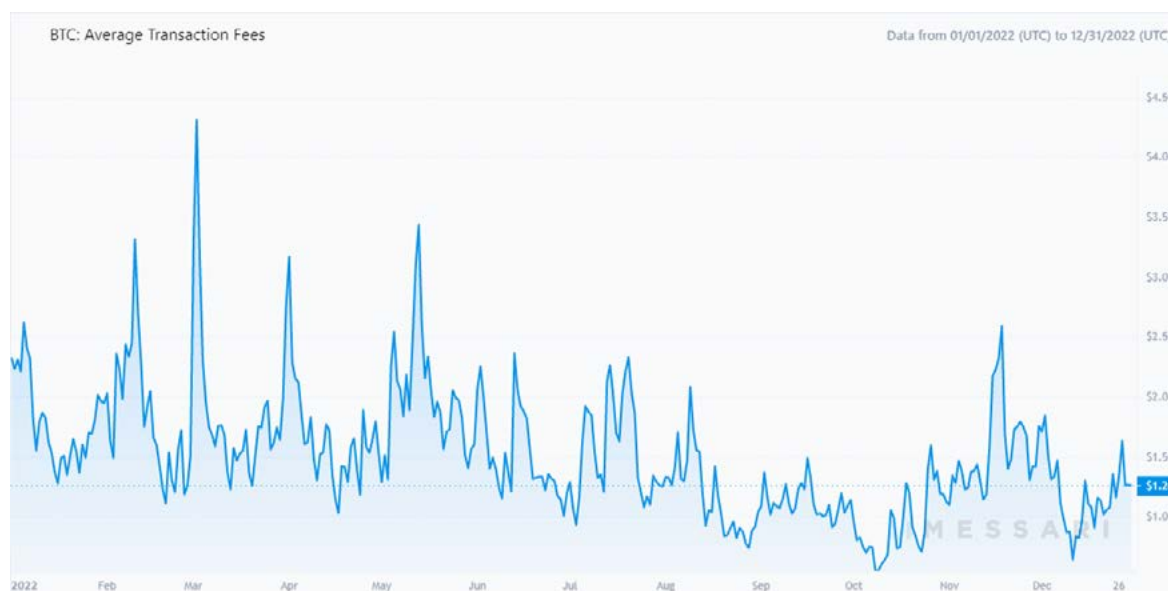
BTC - Balance on Exchanges



Source: Coinglass

The amount of Bitcoins held in exchange wallets trended downwards during the year. Several factors, such as the Terra blockchain's fall or the FTX exchange's collapse, contributed to this because it scared many investors and motivated them to move funds into their own custody. There are currently roughly 1.92 million bitcoins held on exchanges, a drop of 18% since the beginning of this year.

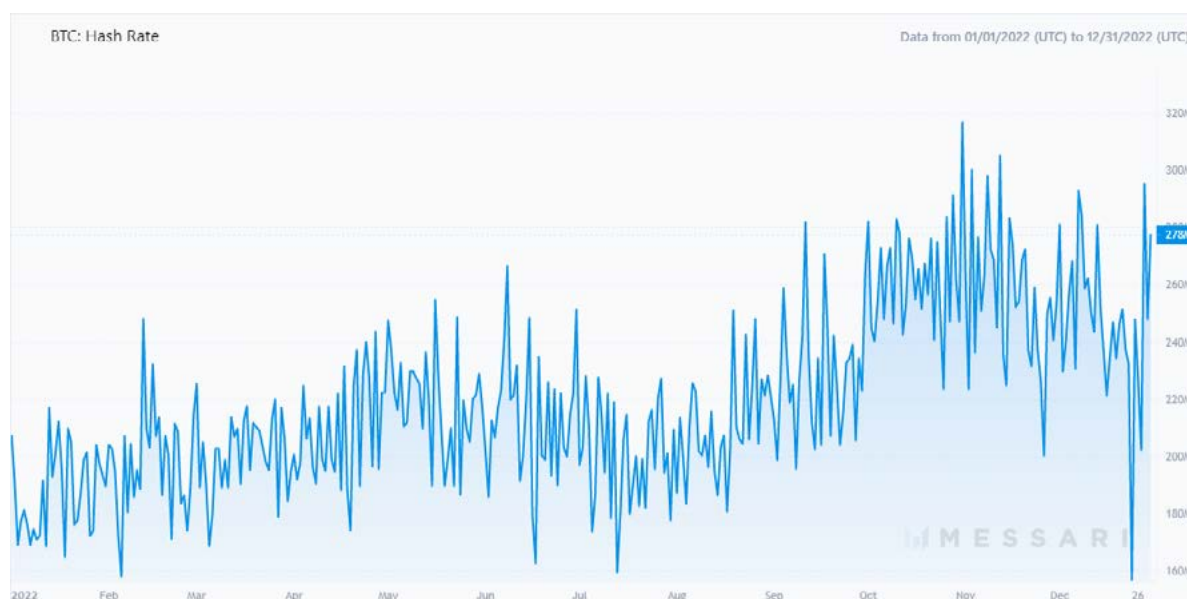
BTC - Average Transaction Fees



Source: Messari

The average transaction fee on the Bitcoin network was around \$1.26 at the end of the calendar year. Transaction fees in 2022 largely fluctuated between a price range of \$0.80 to \$2 per transaction. Of course, there were also exceptional situations in which fees outgrew this band. This was the case, for example, in early March when the fee per transaction was as high as \$4. Higher transaction fees are usually in response to increased demand.

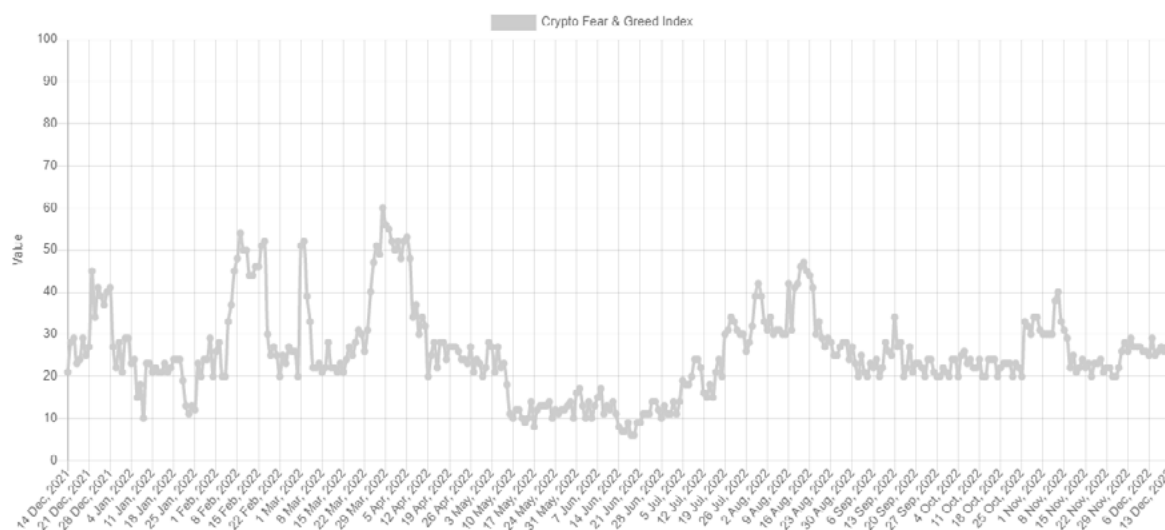
BTC - Hashrate



Source: Messari

The total computing power of the Bitcoin network has increased by more than 40% since the beginning of January to a year-end level of 278 million TH/s. Higher hashrate means more diversity and competition among miners, which is healthier for the entire industry. However, the network's computing power has slumped over the past two months from its all-time high of 317 million TH/s reached in October. The decline in hashrate in recent months was likely due to the fact that the slump in the Bitcoin price as well as rising energy prices reduced the profitability of mining, leading to the shutdown of some mining facilities.

BTC - Fear & Greed Index



Source: [Alternative.me](https://alternative.me)

The Fear & Greed Index has been in the range of 20 to 40 points for most of the calendar year 2022, representing fear and negative sentiment in the market. In addition, there were some positive and negative moments, during which the index fluctuated above and below that range. A month after the fall of blockchain platform Terra, the Fear & Greed Index reached 6 points, the lowest recorded value in the entire history of this index, which has been tracked since 2018.

ON-CHAIN DATA - ETHEREUM

ETH - Active Addresses Count

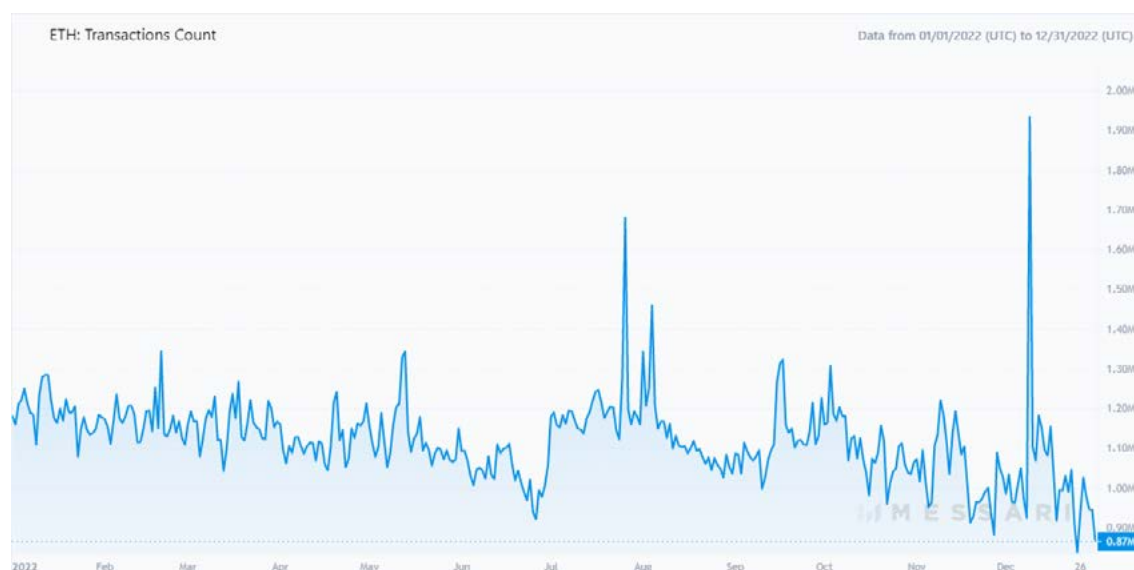


Source: Messari

The number of active addresses on the Ethereum network during 2022 was in the range of 400 - 700 thousand. However, as we can see from the chart, the number of active addresses tends to escalate. The first spike occurred at the end of July when the number of active addresses grew to 1.093 million. Such changes are often associated with „airdrop“ announcements. Airdrop is a situation in which a certain protocol announces that it will release its token.

When users speculate on „airdrops“, they are developing activity on that network (or testnet) in order to obtain that airdrop. The more addresses they have, the greater the chance of success. At the time of the first „spike“, there was some discussion about the expected launch of the Ethereum Layer 2 rollup (StarkNet), where it was announced that this rollup would have its own token, which is probably behind this spike. The second address escalation occurred on 9 December and was associated with a large transaction activity of ERC 20 tokens and stablecoins.

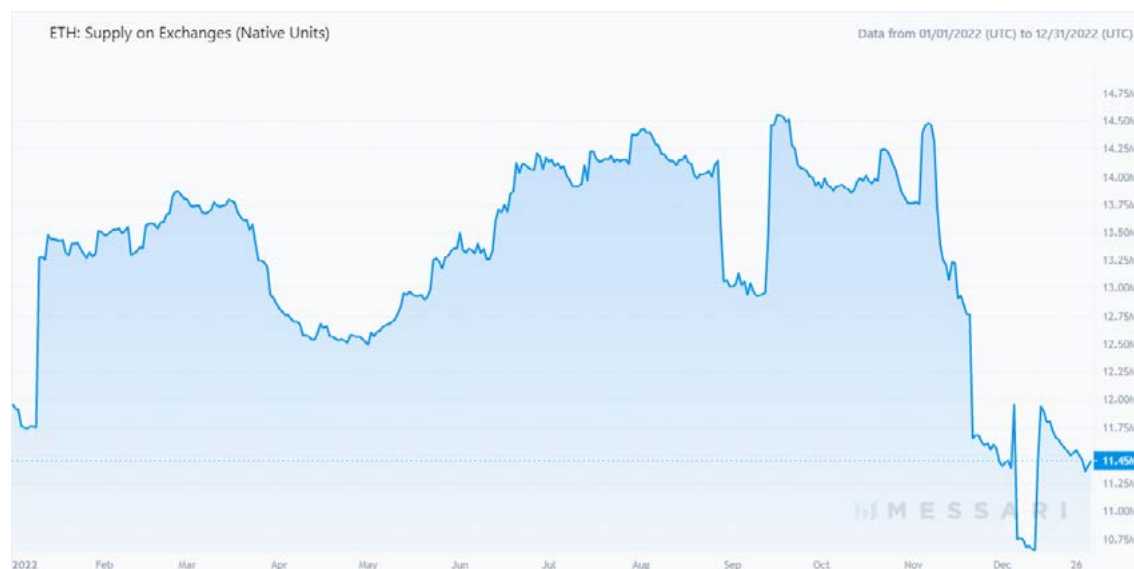
ETH - Daily Transactions



Source: Messari

The number of daily transactions follows the same trend as the number of active addresses. The number of daily transactions ranged between 900,000 and 1.342 million most of the time, with the highest number of transactions made within one calendar day on 9 December, with a total of 1,932,711 transactions.

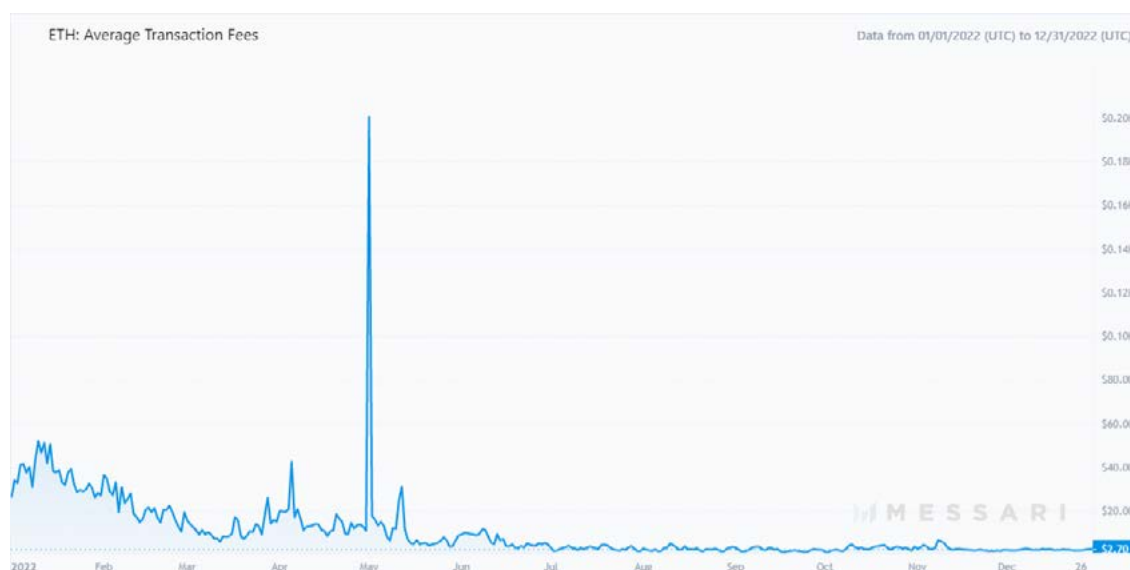
ETH - Balance on Exchanges



Source: Messari

The balance of ETH on exchanges for most of 2022 oscillated between 10.66 and 14.55 million ETH. The current amount of ETH sitting on exchanges is 11.45 million, down 4.6% from the beginning of this year. However, since the beginning of November 2022, when the FTX crypto crisis began, the amount of ETH on the exchanges has dropped by over 20%. The outflow of cryptocurrencies from exchanges is mostly driven by the interest in self-custody of the cryptocurrencies in question, which are moving from exchanges to private wallets.

ETH - Average Transaction Fees



Source: Messari

Average transaction fees on the Ethereum network ranged from \$2 to \$52. It is worth noting the significant increase in fees at the beginning of May, which we can see on the chart. This increase caused the average fees to rise to \$200. For example, the average fee on the Curve protocol at that time reached \$11,320, and the average fee for a swap on Tornado cash service climbed to \$15,300. It should be noted, however, that this was only a short-term issue caused by excessive transactional demand.

The huge short-term increase in fees was due to excessive demand for the VR land platform Otherdeed, launched by Yuga Labs. Yuga Labs is the company behind one of the best-selling NFT collections, Bored Ape Yacht Club. Names such as Stephen Curry, rapper Eminem and Brazilian soccer star Neymar are among the owners of this collection. When many interesting factors are combined, the situation we can see on the chart can occur. This is so-called FOMO, or the fear of missing out on a huge investment opportunity.

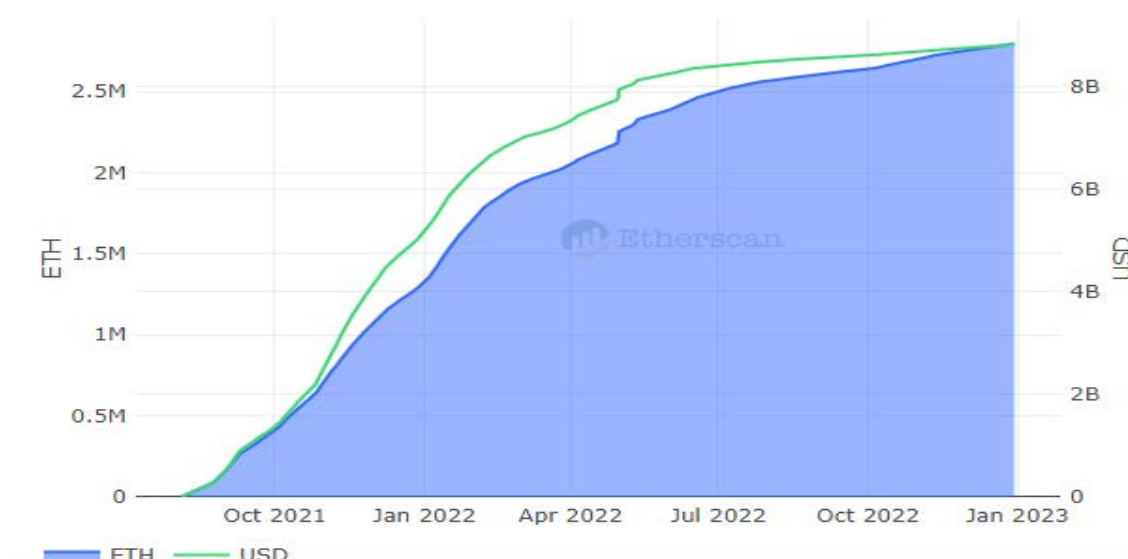
ETH - Supply



Source: Messari

On the ETH token supply chart, we can see two different paradigms, namely POW and POS. The POW consensus algorithm worked from the launch of the Ethereum network until 9/15/2022. Until this date, the supply of ETH was effectively increasing. The Ethereum network launched the EIP 1559 after the London Hard fork (05.08.2021), the main benefit of which was the changes in the fee structure. This caused some fees to be burned, but during the POW, nearly 13,000 new ETH were still issued into circulation daily. However, the issuance of new ETH decreased significantly after the switch to POS. Now, only about 1,600 new ETH are issued daily, a drop of up to 87% from the previous issuance. At the same time, fee burning through EIP-1559 continues to occur, effectively reducing the circulating supply of ETHs. The situation is very well illustrated in the chart.

ETH - Supply Burned

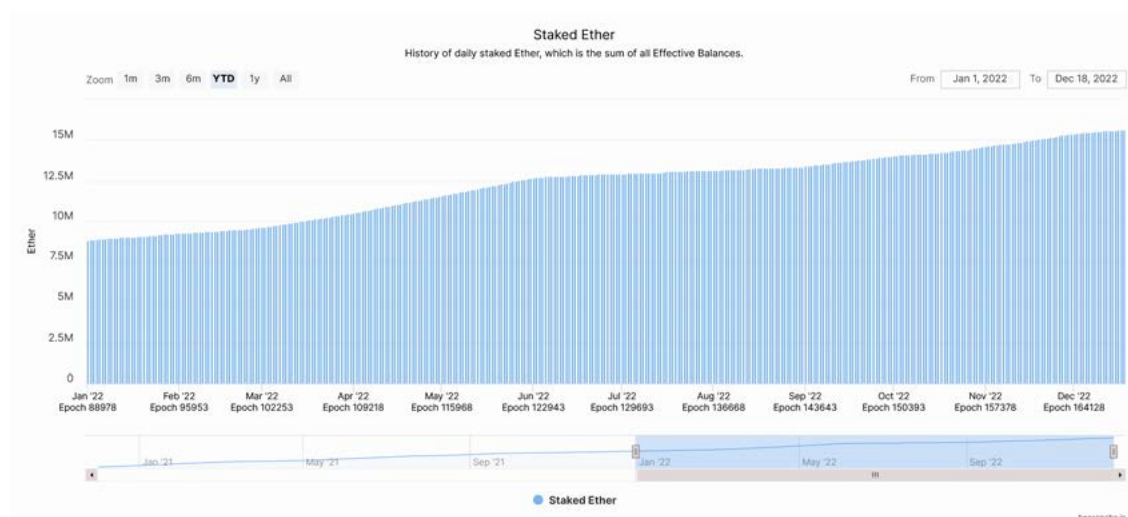


Source: Etherscan

According to data from the official blockchain explorer Etherscan, a total of more than 2.79 million ETH worth over \$8.8 billion have been burned since the start of the EIP-1559 implementation as of the end of this calendar

year (1.28 million ETH were burned in 2021). Thanks to the EIP-1559, which modified the fee structure of Ethereum transactions, a portion of ETH is burned with each transaction. This reduces the circulating supply of ETHs and helps Ethereum on its way to becoming a deflationary asset.

ETH - Staked ETHs



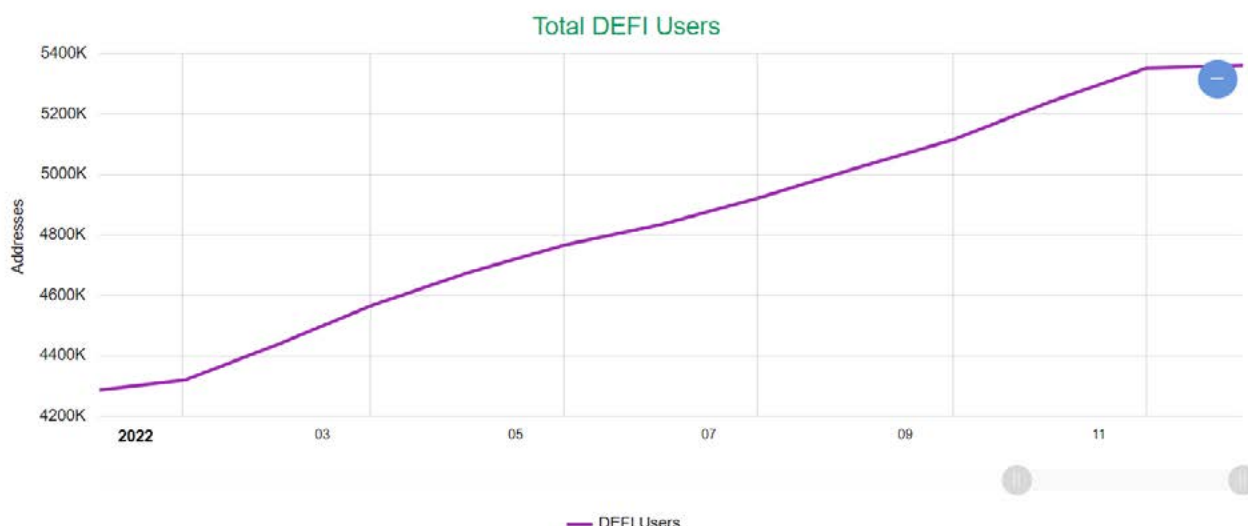
Source: Etherscan

The amount of ETH staked climbed to nearly 15.7 million ETH in 2022. We can see a clear uptrend in the willingness of users to participate in transaction and block validation. For this validation, validators currently earn a reward of approximately 4.2% APY in ETH.

Interest in staking continues to grow, even in light of other expected enhancements to the Ethereum network. The next enhancement to the network is scheduled for 2023 and aims to apply so-called sharding. Sharding is the process of horizontally partitioning a particular database in order to distribute the computational load that the database carries. This upgrade is expected to increase the overall network throughput and thus increase the so-called TPS (Transaction Per Second). Some experts also admit to a potential reduction in network charges.

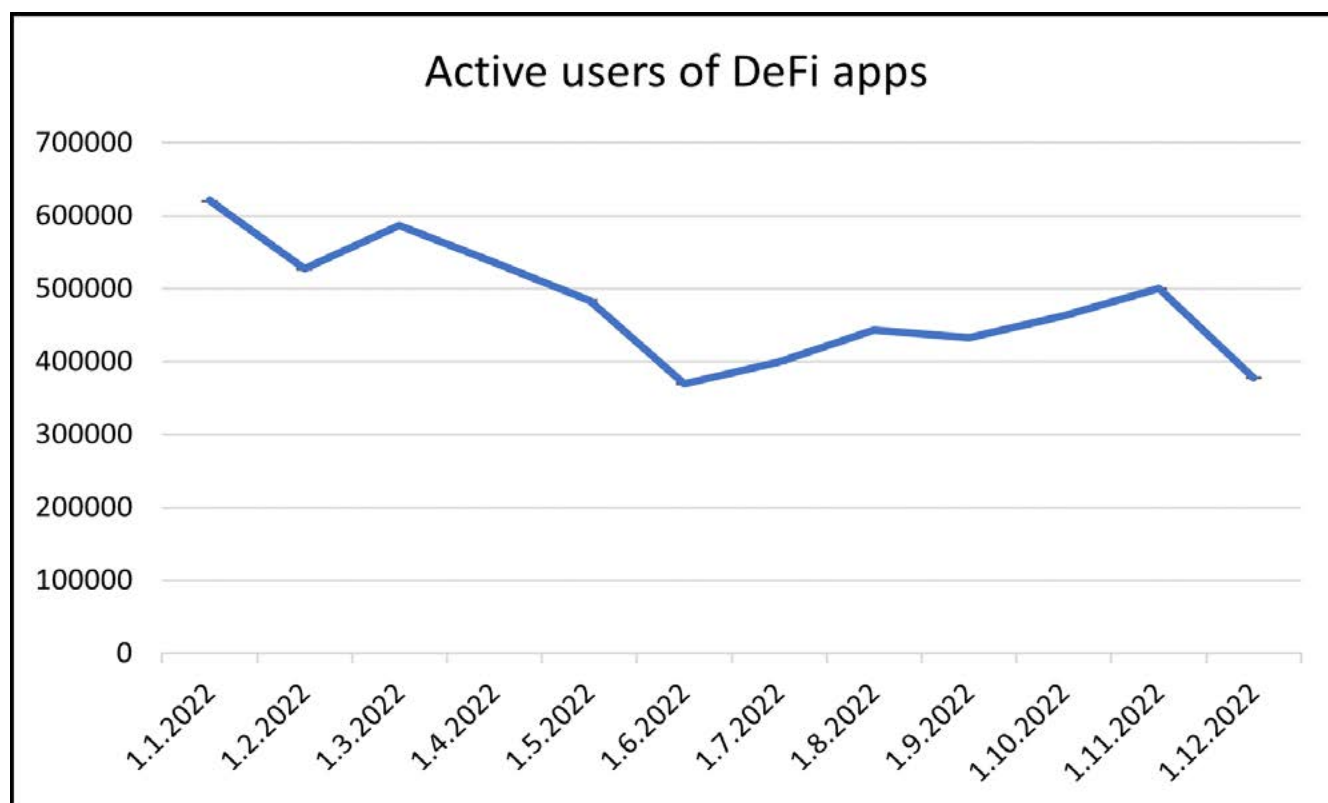
DEFI RETROSPECTIVE

Total DeFi Users



Source: Cryptobeholder

The DeFi sector is one of the most common uses of cryptocurrencies. In 2022, more than 1.041 million unique addresses interacted with DeFi platforms. But, DeFi is experiencing a significant decline in interest in current market conditions. The amount of assets that are stored in this sector has decreased by over 77% in the last year. This development is obvious, given the bear market that the world economy is currently in. We can observe a similar trend in the number of active users of DeFi applications.



Source: Fumbi Research

The number of active users in 2022 dropped by about 39%. However, despite this decline, new projects are still being developed in the DeFi sector to make the use of these applications more efficient. Therefore, it can be assumed that the cyclicity that characterises cryptocurrencies will also be evident in this sector.

zkEVMs

For a better understanding of what zkEVM is, we will split this title into two parts. ZK stands for „zero-knowledge proofs“, which is an encryption algorithm that the company ZK Proof came up with in 2019. This algorithm is groundbreaking in that it allows one to verify the correctness of a certain computational result without knowing the variables that produced that result. EVM stands for „Ethereum Virtual Machine“, which represents the heart of the Ethereum blockchain.

ZkEVM can thus be characterised as the ability to verify data directly on the Ethereum blockchain (or its second layers) without the need to know all the data. This not only saves space on the network but also preserves and enhances the users' privacy.

zkEVMs are further subdivided based on how they prove the correctness of their calculation. They are divided into so-called „Valid Proofs / Validity Proofs“, which prove the correctness of an executed transaction in a very efficient way, and „Zk Proofs / Zero Knowledge Proofs“, which prove the correctness of an executed transaction without revealing sensitive data about that transaction. Examples of rollups that have chosen to incorporate zkEVM include Starknet, zkSync, and Aztec.

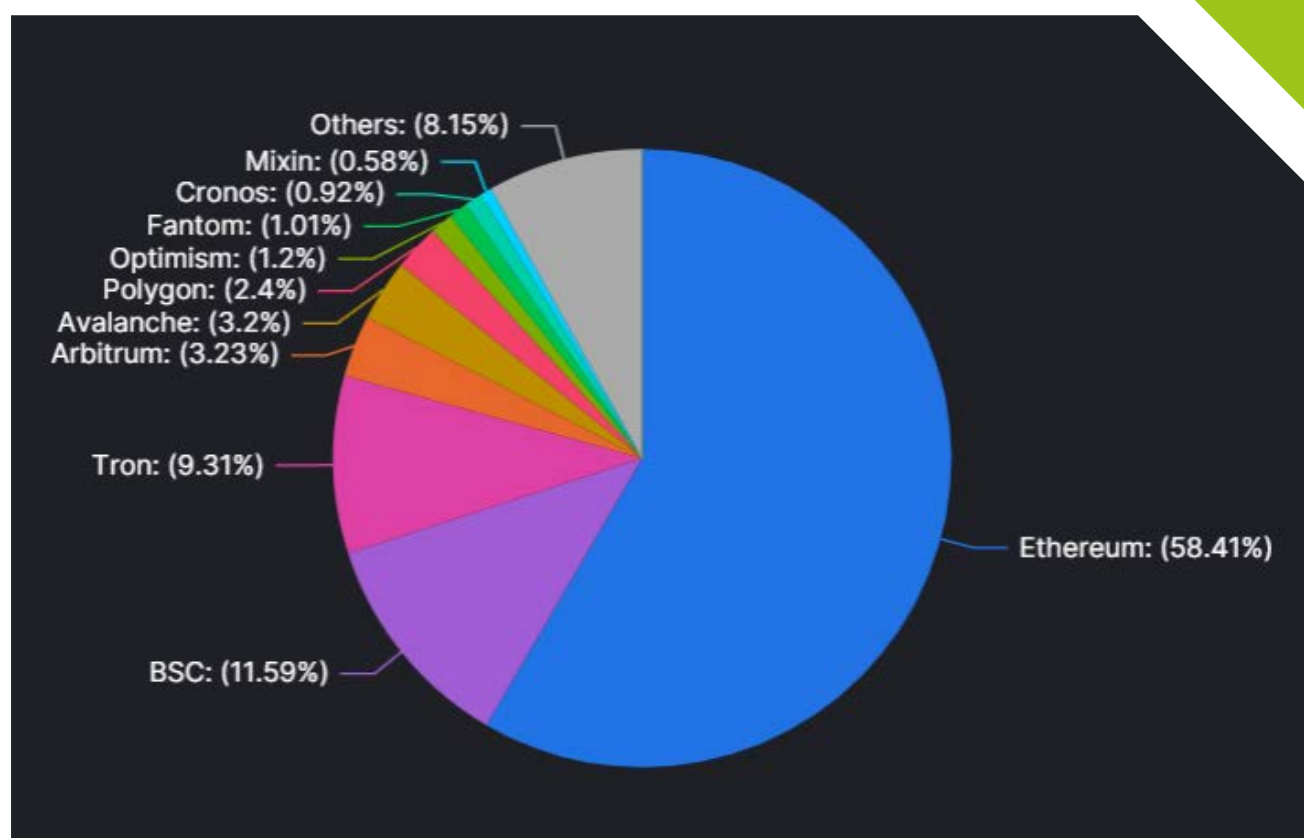
DeFi - Total Value Locked (TVL)



Source: mc.xyz

The total value locked in the DeFi sector at the beginning of the year was approximately \$242 billion. As of the first week of December, the funds deposited in DeFi were less than \$62 billion. The decline through 2022 is nearly 75%. As we have already mentioned, this decline is linked to the current market cycle known as a bear market, which is currently prevalent not only in the cryptocurrency market but also in more traditional markets such as the stock market.

TVL - Chains



Source: DeFillama

According to DeFillama, to date, 160 blockchains provide DeFi services. In the chart of the top 10 blockchains from this area, we can still observe the clear dominance of Ethereum. The second largest blockchain, with a market share of 11.59% in the DeFi sector, is Binance Smart Chain. The third largest blockchain by TVL (Total Value Locked) is Tron, which gained significant market share after the fall of the Terra blockchain.

Most Popular DeFi Apps

The TOP 5 most popular DeFi applications today are MakerDAO, Lido, Curve, AAVE and Uniswap. Maker DAO is a protocol that enables the minting of one of the most widely used decentralised stablecoins, DAI. There is currently \$6 billion in this application, mostly made up of USDC, GUSD and USDP stablecoins. The second largest application is Lido, with a focus on liquid staking. For this staking, users collect so-called „liquidity provider“ tokens, which they can further use in other applications such as Curve and receive additional returns on their original stake.

Curve finance is one of the most used decentralised DEXes today, with nearly \$4 billion allocated. This exchange allows users to swap and stake. The primary focus of the AAVE protocol is on lending/borrowing. The assets that AAVE users can borrow are stablecoins, ETH and WBTC.

Currently, the fifth largest app is Uniswap, one of the first decentralised exchanges ever, enabling swaps and liquidity provision back in 2018. Since then, it has undergone several changes. For example, its current version offers an enhanced user interface with the ability to set the highest price range (slippage) the user is willing to accept when executing a transaction.

Most Popular DEXes

Decentralised exchanges reflect the fundamental value of using cryptocurrencies, which is decentralisation. The most popular decentralised exchanges of 2022 were:

- Uniswap
- Curve
- PancakeSwap
- DODO
- SushiSwap

We've already characterised Uniswap and Curve, so we'd like to take a brief look at PancakeSwap. PancakeSwap is a decentralised exchange that operates primarily on the Binance Smart Chain, and since 1 September, this exchange is also available on Ethereum. Its average monthly traded volume in 2022 was \$12.08 billion.

Another protocol is DODO Finance. DODO is a protocol that features an algorithm that provides liquidity providers and market makers with a fixed level of liquidity. Last year, the average monthly volume traded on this exchange was \$5.18 billion.

SushiSwap is an exchange that supports token swaps from up to 10 different blockchains. Also, it allows the provision of liquidity in over 19,000 pools. SushiSwap's traded volume metric is similar to the DODO exchange. The average volume that was traded through Sushiswap was nearly \$5 billion per month.

Analysis - Uniswap

As we have already mentioned, Uniswap is a decentralised exchange that allows users to buy and sell cryptocurrencies without the need for a central authority or mediator. One of the new and significant innovations of Uniswap is the integration of non-fungible tokens (NFTs).

NFTs are unique digital assets representing ownership of a specific item or piece of content, such as art, music, videos, and more. This content is stored on the blockchain, and its nature is similarly tradable to traditional assets. Uniswap has integrated NFTs into its platform in a number of ways. One is the NFT marketplace, which allows users to trade NFTs using cryptocurrencies. This marketplace is powered by smart contracts that are automatically executed, which means that the platform has no access or ability to intervene in the settlement process of a transaction that is made between two entities.

Another way of integration is to allow the use of NFTs in the form of collateral in DeFi. Integrating another type of asset brings to Uniswap completely new opportunities and possibilities from which the users of this DEX will benefit. In this way, collectors of NFTs do not have to get rid of their works but can collateralise them. Only a few exchanges, such as niftygateway or NFTfi, offer this form of collateralisation so far.

Bridges

Approximately \$54.2 billion was moved via crypto bridges in 2022. The most used bridges included HOP protocol, Synapse, Celer cBridge, Stargate and Polygon PoS Bridge. In recent months, the most used bridge has been the Arbitrum Bridge, with a transaction volume of \$605.7 million. Such an increase in transaction volume is often associated with airdrop speculation, which has been increasingly discussed in recent weeks. The second most used bridge is currently the Optimism Gateway. Approximately \$253.69 million has crossed this bridge in the past month.

REN - transition to 2.0

REN, formerly known as the Republic Protocol, is an open-source, decentralised protocol that enables secure and anonymous movement between blockchains. In 2021, the REN community announced its plans to transition to REN 2.0, an update to the protocol that aims to improve scalability, security, and usability. This transition has been highly anticipated by the REN community as it is expected to bring significant benefits to the protocol and its users.

One of the main goals of the REN 2.0 update is to increase the scalability of the protocol. REN 2.0 aims to address this issue by implementing a number of scalability enhancements, including the use of sharding, which allows the protocol to process multiple transactions in parallel. REN 2.0 also includes the introduction of new features, such as cross-chain atomic swaps, which allow users to exchange digital assets between supported blockchains. This transition to the new version also carries with it some risks. The main risk is that if there are any resources on the REN network, they may be permanently lost after the migration. There are still 640 BTC on this network, some of which are also held by players such as Curve with 33.87 BTC or Uniswap with 9.95 BTC.

DeFi Hacks

In the following paragraphs, we'll take a look at the hacking attacks in the DeFi sector that rocked the entire crypto community during 2022.



Source: *Token Terminal*

Nomad Bridge

The hack that happened on this cross-chain bridge was due to a vulnerability in the code. The vulnerability was discovered by an attacker who noticed that Nomad's code incorrectly verified that a message was approved before Nomad processed it. Once other users noticed this flaw, all they had to do was copy the attacker's transaction details, replace his address with their own, and the hack was executed. Thanks to this bug, several thousand addresses collected an identical amount, namely 202,440 USDC. Only Ethereum-based tokens were affected by this hack. However, the attackers included not only the evil, so-called „black-hat“ hackers but also „white-hat“ hackers, who returned more than \$36 million back to Nomad.

BNB hack

The problem on the Binance network was noticed by its validators. They noticed suspicious activity on the bridge of their BSC Token Hub. The validators assessed that the target of the activity being performed on one of their bridges was minting additional BNB tokens. The hackers „minted“ 100 million worth of BNB in 90 minutes, with maximum damage estimated to be as high as 570 million. However, thanks to the prompt intervention of the network validators, this did not happen. A week after the hack, Binance responded by burning 2,065,152.42 BNB, bringing the total BNB supply back to its original level.

Wormhole

Wormhole is a cross-chain bridge that allows sending and receiving tokens from multiple networks such as Ethereum, Solana, Avalanche, Polygon, BNB Smart Chain and others. The attacker was able to carry out the hack by forging a valid transaction signature, which allowed them to freely mint 120,000 wETH on the Solana network. This „wrapped“ Ethereum equivalent was worth \$325 million. The tokens were subsequently exchanged for approximately \$250 million in ETH, which was sent from the Wormhole address to the hacker's address. With this attack, the attacker managed to destroy most of the ether tokens that served as collateral for their wrapped versions on the Solana network. The capital hole created by this hack was filled by the Jump Crypto venture capital fund, and it was filled in its entirety. They subsequently tweeted that cross-chain is one of the essential areas needed for a multichain future.

Axie Infinity

The company's official report states that hackers were able to gain access to the private keys of the validation nodes, leading to the compromise of five of the nine validation nodes, the minimum required signatures needed to reconcile transactions. The root cause of the hack can be traced back to last year when Axie DAO granted access to Sky Mavis to sign transactions on its behalf in order to mitigate user volume. However, this access was never taken away from Sky Mavis, which eventually led to the hackers gaining access through an imaginary back door, ultimately resulting in \$600 million worth of assets being hacked.

Harmony

As with previous hacks, the vulnerability of the cross-chain bridge between Harmony, BSC and ETH played a major role in this one. However, Harmony did not reveal the exact method of the hack of funds from its bridge and declined to comment further on the situation. The information that is known states only the amount of stolen funds. Approximately \$100 million was stolen in the incriminated hack.

NFTS, GAMEFI & METaverse

What happened to the NFT market in 2022?

NFT Yearly Sales Overview

Shelly • 2022-12-23 • 7

Block Date: Year	Sales (\$)	Unique Buyers	Unique Sellers	Transactions	Average Sales (\$)	Sum of Amount
2022	55,630,961,834.28	3,090,085	2,670,924	45,382,331	1,074.26	8,836,249,704.59
2021	20,200,911,355.46	1,577,930	891,707	14,362,148	1,374.15	73,671,754,378.93
2020	142,630,601.37	32,475	22,610	260,643	398.86	3,591,431,881.69
2019	19,152,362.80	8,051	7,911	98,963	106.04	108,095,219.26
2018	11,342,549.81	2,878	1,961	15,984	599.69	136,785,356.64
2017	140,221.16	167	83	1,222	114.75	498.82

Source: Cryptoslate

NFTs are still considered one of the most interesting ways to attract people to try interacting on the blockchain. Comparing 2022 to the previous year, total year-end sales were over \$55.5 billion, up 175% from \$20.2 billion in 2021. However, it should be added that most of the gains and record sales were made in the first quarter - since then, we've seen a continuous trend of declining sales.

Trading Value (V)

Trading Value (V) • 2022-12-23 • 4



Source: Footprint Analytics

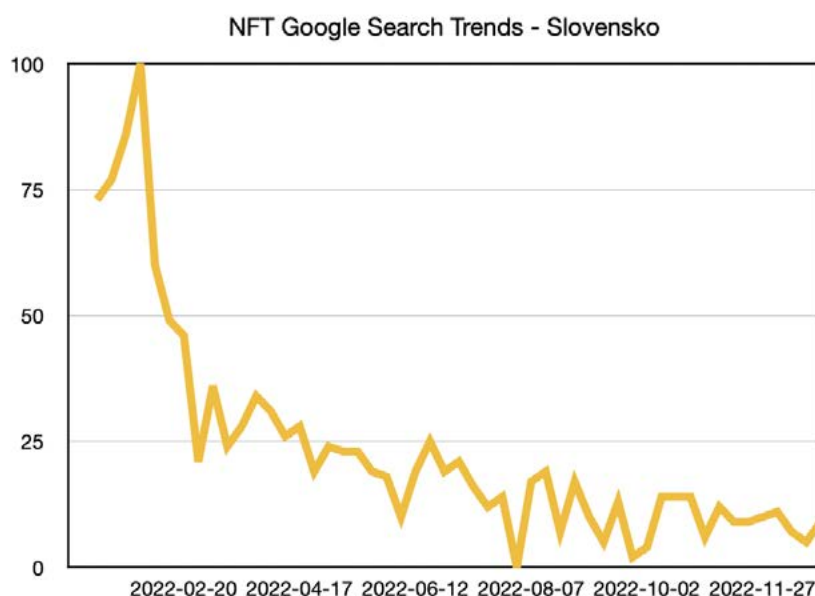
Despite the high enthusiasm for innovative uses of NFTs, by the end of 2021, it seemed that the market was already too oversaturated. The days when the most bizarre images from around the world were sold on the OpenSea platform for several million dollars are over for a while. NFT trading volume peaked in January at \$17.4 billion. According to Bloomberg, by the end of 2022, NFT trading volumes were down 97% from their January peak. Despite the huge declines in metrics such as traded volumes, the number of unique owners of NFTs, and the average price per NFT, we've seen various positives as well. There have been interesting projects, artworks, unique collections directly from artists/organisations (e.g. Johnny Depp created the „Never Fear The Truth“ collection, FIFA World Cup 2022 NFTs) and many more.



Source: Twitter

This year, some pieces were traded at remarkable prices on the NFT marketplaces. Just like in 2021, NFTs from the CryptoPunks collection were popular this year. However, with how easy it is to create an NFT and understand the concept of how it works, a huge number of collections came to market. It is worth mentioning, for example, XCOPY NFT auctioned for \$6.2 million or NFT CryptoPunk #5588, which was sold for \$23.7 million. AssangeDAO, an organisation fighting for the freedom of WikiLeaks founder Julian Assange, won the bid for Assange and Pak's Clock NFT. It cost them \$52.7 million in February, which went to the legal defence of Julian Assange. These record prices were reached in early 2022, followed by a drop.

Google Trends - Slovakia



Source: Google Trends

Google statistics show that interest in NFTs in Slovakia also declined throughout the year, -90% from the new year's high. The most searched NFTs were in China, Hong Kong and Singapore. Slovakia ranked 61st in the number of searches.

December Bizarro: Trump Digital Trading Cards



Source: The New York Times

In early December, the crypto art world received an unexpected visit from Donald Trump, who announced his own Trump NFT collection on Truth Social, the social network he uses as an alternative to Twitter. Back in 2021, Trump was clearly not a fan of blockchain and cryptocurrencies in his statements, so his NFT collection on the Polygon network, which consisted of 45,000 NFTs at a starting price of \$99 apiece, was probably not expected by anyone.

It should be added that the company behind this collection is NFT INT, which was licensed directly by Trump to use his look and likeness on NFT cards. The money earned from selling NFTs will reportedly not go to

his presidential campaign. Additionally, Trump now refers positively to NFT as an art „very similar to a baseball card, but much more exciting.“

The entire fundraiser sold out in a matter of hours, bringing in a profit of around \$4.45 million in 12 hours. The NFTs are currently trading on the OpenSea platform, where the price is currently around \$250 per card. 10% of the price for each sale goes directly to the creators. The big hype seems to have died down, as both the traded volumes and the prices at which people are trading these NFTs dropped by 90% by the end of December.

What is Metaverse?

Metaverse is a virtual world with a virtual economy that uses blockchain to allow users to work and play in that virtual world. Metaverse brings an online virtual reality where one can work, play, shop, exercise and socialise. Every user in Metaverse can create their own avatars based on facial recognition, start their own businesses, buy real estate, create content, own assets, attend concerts, and many other things possible in the real world - all in one virtual environment. It's an immersive experience that leverages blockchain and DeFi's gamified mechanism to provide a functional and digital internal economy.

Meta - What Will Happen to the Metaverse?



Source: Meta

In 2022, we saw a lot of „not so exciting“ articles written about Meta - layoffs of more than 11,000 employees, a decrease in revenue from Facebook Ads, which has always been the main component of the company's income, and plenty of other news.

We do not want to be biased, as the negative numbers are affecting many other tech companies, but we would like to reflect on how the whole idea of metaverse turned out in 2022. Mark Zuckerberg has devoted a lot of effort to building his own metaverse to create a virtual world for hundreds of thousands of users.

The WSJ published figures showing Horizon World (Meta's metaverse product) has less than 200,000 users, and most of them never come back after trying the product. Additionally, the Oculus Quest VR headset is experiencing record sales declines, and in the following year, we expect the launch of competing products from Apple and Sony, which could potentially have another negative impact on sales numbers.

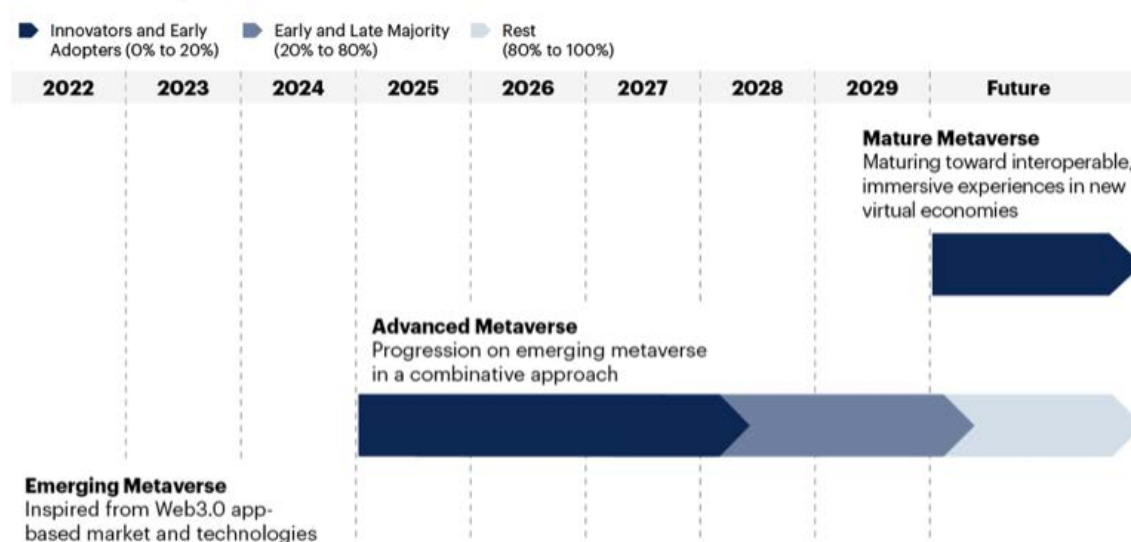
In his vision, Mark Zuckerberg presented a world in which digital ones replace everyday objects, and what's more, everyday activities such as exercise, and visiting loved ones, the way we work and socialise would also be transformed.

Whether this is a good idea is up for debate. In any case, 2022 was not exactly the most suitable year for such an experiment. The return to 'normal life' after Covid, when people stopped spending all of their time online, the deterioration of the economic situation and the company's lack of due diligence in terms of market potential research in this area contributed to the fact that this experiment cost the company up to 18 billion dollars in 2022 in the Reality Labs segment alone, which deals with AR/VR. Meta had planned to hit numbers somewhere around 500,000 users of the Horizon Worlds product by the end of 2022, which fell far short of that, and the development of this product is currently on hold. For comparison, even the most popular decentralised virtual worlds on the blockchain, such as Decentraland or The Sandbox, have only a few hundred active users per day - so you can see how ambitious these plans were.

Another aspect is that the Metaverse in the form introduced by Meta is not decentralised, which discourages not only some users who love the idea of data and identity ownership but also developers who want to build and sell digital products in the Metaverse. Meta charges developers who want to sell their metaverse products in the ecosystem a whopping 47.5% (30% fee for the Meta Quest Store + 17.5% Horizon Worlds fee). Of course, this does not give them any incentive since the „Facebook Metaverse“ does not even have enough users to make it worthwhile for them to build and sell their products there.

Metaverse Web 3.0 version

Evolution Spectrum for the Metaverse



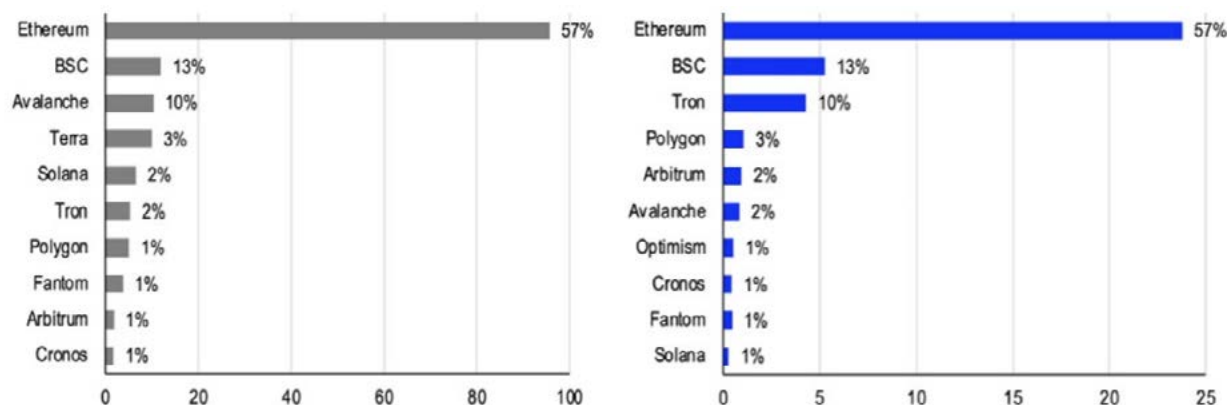
Source: Gartner

Metaverse in decentralised Web 3.0 form consists of digital worlds based on the blockchain - the basic pillar is that users have control over the ownership of their identity, data and assets.

Metaverse is probably still in its very early days, but new ideas for its use are gradually emerging, which are no longer only related to games, art and virtual worlds. This year, Decentraland and SandBox projects announced collaborations with various financial institutions - Standard Chartered and HSBC, in collaboration with The Sandbox, and JPMorgan, in collaboration with Decentraland, bought their first virtual plots of land. Fashion brands such as Gucci and Burberry have created their first virtual boutiques in collaboration with Sandbox and Blankos Block Party. The Metaverse Fashion Week was for the first time held in Decentraland's virtual world in March. It is still early to fully comprehend what the scope of applications of metaverse will be like since we are still in the early stages of inventing and adopting what this technology could be like and how it could help us to interact with each other virtually - we are positive and excited to see new developments in the following years as more and more brands, artists, corporations and like will come on board.

ALTERNATIVE SMART-CONTRACT PLATFORMS

Development of Smart Contract Platform Ecosystems in 2022



Source: Coinbase, DeFiLlama

Despite growing competition in the form of more than 140 L1/L2 smart contract platforms, Ethereum managed to defend its first place. Due to the current market conditions, the total TVL on alternative platforms fell by more than 50% - the Terra and Solana platforms recorded the largest drop. On the other hand, Binance Smart Chain (BSC) still maintains its popularity, and platforms like Polygon, Arbitrum, and surprisingly, Tron, have seen a significant percentage increase. While 2021 was marked by the popularity and emergence of competing DeFi projects on newer L1 platforms such as Solana, Avalanche, or Terra, in 2022, we returned to the basic building blocks. Ethereum has gained back its large share of popularity; people started using more L2 solutions built on Ethereum (i.e. Arbitrum, Optimism) or decided to go for Binance Smart Chain or Tron, which are blockchains forked from Ethereum. We see a clear trend there which suggests Ethereum is here to stay, retaining its popularity and users' confidence.

Various cross-chain protocols offered a step towards higher DeFi adoption and ease of use, for example, the messaging protocol Layer Zero, which came up with a solution that allowed mutual communication between blockchains without having to depend on a third-party protocol. This benefit will make it possible to create new types of applications, such as swap protocols (Stargate), allowing native assets to be swapped between different supported blockchains or between protocols.

Implications for the Solana Smart Contract Platform After the Crash of the Ftx Exchange - Will It Recover?

The fall of the FTX exchange also affected DeFi on the Solana blockchain, which continued to thrive during the third quarter. Until then, new projects were created on it, and the entire ecosystem appeared stable. Solana attracted many users and developers with its speed, scalability and low fees.

However, Solana was closely associated with Sam Bankman-Fried (SBF), trading firm Alameda Research and his project Serum, one of Solana's main providers of DeFi liquidity. Part of the Serum was an order book that was integrated into almost all DeFi projects on Solana. It turned out that Serum was not controlled by the community but by a private key owned by the FTX exchange - which basically meant that anyone with access to the key could change the rules and code arbitrarily.

So DeFi on Solana was not as decentralised as many had hoped, especially if they were using Serum. Companies around the FTX exchange owned almost all SRM tokens (97%) in circulation. Thanks to on-chain data, many on Twitter pointed out how Alameda Research bought tokens from the Solana ecosystem, participated in DeFi on Solana (yield farming) and then dumped the tokens after the price of the tokens shot up after listing the coin on the FTX exchange - that is, in essence, a form of insider trading.

Many are asking what will happen to Solana in the coming months. The truth is that this network still has supporters, especially in developer circles on Solana. However, the situation is not good because a lot of liquidity left with the Serum project, and the community has fragmented. On the plus side, the central element that was the large stake of Alameda Research and FTX in the ecosystem is gone, which can potentially attract new interest in DeFi projects on Solana. After the official announcement of the collapse of the FTX exchange, developers and the community mobilised very quickly and decided to fork Serum (the SBF's project) and create a new OpenBook project, continuing without any ties to the FTX exchange. In addition, Solana Labs is planning a hackathon in January and offers grants for developers of the new OpenBook project to replace Serum.

STABLECOINS



Source: Coingecko

The year 2022 has been a transformative one for stablecoin adoption. The stablecoins with the highest market capitalisation included USDT (nearly \$66.3 billion) and USDC (\$42.2 billion). In 2022, more traditional stablecoins such as DAI and USDT lost significant percentages of their market capitalisation. USDT has lost approximately 15%, while DAI has lost more than 42% of its market capitalisation since the beginning of this year. Demand for the FRAX stablecoin has declined similarly to DAI, by as much as 43%.

However, not all assets that move in the stablecoin market have suffered a loss. The stablecoin issued by Binance recorded the most significant increase in market capitalisation. The market capitalisation of BUSD grew by almost 22% during 2022. Another stablecoin for which user preference grew was USDC. However, this growth in preference resulted in only a 4.6% increase in the market capitalisation of this stablecoin issued by Circle Internet Financial, LLC.

How Were Alternative Stablecoins Doing in 2022?

To encompass the evolution of the market capitalisation of alternative stablecoins, we looked at the major stablecoins in this category, such as FRAX, Pax Dollar (USDP) and USDD. Among these stablecoins, FRAX had the highest capitalisation, with its innovative monetary policy system currently having a market capitalisation of over \$1 billion. However, at the beginning of this year, it was almost 1.81 billion, meaning that its market capitalisation has fallen by 43% over the past year.

Interest in the USDP stablecoin, the value of which is backed by U.S. short-term Treasury bills and other cash equivalents, has been on a clear downtrend over the past year. Since the beginning of this year, the market capitalisation of this stablecoin has fallen by more than 15.5%.

Another stablecoin that bears mentioning is the controversial USDD created by Tron. This is an algorithmic stablecoin whose minting, and burning mechanism of the money supply is reminiscent of the mechanism on which the Terra protocol failed earlier in 2022. However, the protocol behind Justin Sun's whitepaper claims that this stablecoin will be over-collateralized by at least 120%, with liquid assets such as BTC, USDT and TRX. This stablecoin was created in May 2022. The market capitalisation of USDD has been relatively stable, ranging from \$667 to \$799 million during the year.

USDC - Freezing Addresses Associated With the Tornado Cash Protocol

On 8 August 2022, the U.S. Office of Foreign Assets Control (OFAC) issued sanctions on the Tornado Cash Protocol. OFAC justified the move by stating that it was simply trying to prevent hackers of the Lazarus group from legitimising stolen cryptocurrencies. Circle immediately responded to these sanctions by freezing all USDCs at addresses that interacted with Tornado Cash at the time. These sanctions impacted 81 addresses where 75,000 USDCs were frozen. According to Dune Analytics, more than 7.3 million USDCs are currently frozen. What is worth noting is that the police arrested the author of the code itself (Jeff Coleman) four days after the announcement on suspicion of engaging in financial concealment and money laundering activities, which is a dangerous precedent. Indeed, it has never happened before that freedom of expression (which is what the code is) has been banned by a certain state body.

The users of this protocol argued that they wanted to preserve their anonymity on a transparent blockchain since if they own large amounts of, e.g. ETH, they automatically become a target of attacks. Through this application, users could preserve their anonymity and, thus, their security. Even Vitalik Buterin responded to the sanction by using the app himself several times to anonymise his address when he sent funds to the Ukrainian Government for support at the start of the war in Ukraine. However, the U.S. state authorities consider such activity to be illegal as of 8.8.2022.

Maker Dao - Interaction With TradFi

Last October, Maker Dao announced a 3-step process to make its protocol more resilient and decentralised. Part of this plan is to change the nature of the DAI course. Stablecoin DAI is currently pegged to the USD at 1:1. Once all three steps are complete, DAI will become a stablecoin with a floating exchange rate. The first step to making this plan a reality is to create exposure to traditional financial assets. For these assets, Maker Dao has chosen U.S. Treasury bills with maturities of up to 1 year and corporate bonds at a 4:1 ratio. Maker Dao has earmarked up to \$500 million for this investment.

NEWS IN FUMBI

Fumbi at Dubai Expo 2022

Fumbi was the only crypto-investment company from Slovakia to participate in Expo Dubai 2020. Our CEO Juraj Forgács gave a lecture in Dubai on *Bitcoin: where it comes from and how it gains value*.

Fumbi's invitation to Dubai Expo 2020 came from the Ministry of Economy. According to our CEO Juraj, it signals that state institutions are aware of the importance of cryptoasset technology for the future of the Slovak Republic.

SuperBrands a Deloitte Technology Fast 50 Awards

In 2020, we received two major awards - SuperBrands Slovakia 2022 and Deloitte Technology Fast 50.

The international Superbrands programme is the most respected independent global authority on brand evaluation. Each year, it selects the top brands from all brands operating on the market based on business results and public opinion research. These are then judged by an expert Brand Council panel of business, communications, marketing and media experts. Our company Fumbi, which already has more than 110,000 users and launched the first crypto-investment TV ad in Europe, was also included in the club of the strongest brands.

Furthermore, Fumbi was awarded 3rd place in the Companies to Watch category of the Deloitte Technology Fast 50, which seeks and recognises the fastest-growing technology companies in Central Europe. A total of 400 companies from 16 countries entered the competition, and Fumbi ranked highest of all Slovak companies in its category.

Fumbi at the Post Office

One of the major projects this year was the integration of Fumbi into Slovak Post. In addition to the possibility of buying cryptocurrencies by bank transfer or credit card, there is now the option to make a deposit to your Fumbi account at any post office in Slovakia and even in cash.

This service, mediated by SKPAY, can also be used to buy cryptocurrencies with cash or card. Cryptocurrency purchases are available from as little as €50.

Fumbi Mobile App

Fumbi launched its own mobile app earlier this year. Through the app, clients can invest their money in cryptocurrencies through Fumbi products and withdraw them easily, in addition to keeping track of their account balance. Simply choose a product and a payment method and make a minimum deposit of €50. The app is available for download on Google Play (Android) and App Store (Apple).

Fumbi Credits

In the first half of this calendar year, we introduced to the public an innovation in the form of Fumbi Credits. Fumbi Credits allows our clients to react to market movements in a much more flexible way - anyone can deposit funds into the Credits at any time, which they can put into our products whenever it seems most beneficial to them.

At the same time, thanks to the Credits system, anyone can quickly move their funds between different Fumbi products without having to send funds to their bank account. Depositing and withdrawing to Fumbi Credits in euros is free of charge.

Fumbi Academy

During this year, we launched an educational academy called Fumbi Academy. It currently features 15 videos that take you from the very basics of cryptocurrencies and blockchain technology to more complex and technical information. The Academy is publicly available and can be viewed by anyone. The only requirement is to have a Fumbi account.

We at Fumbi believe that education in the field of cryptocurrencies is extremely important and downright essential. That's why we're happy to be able to spread awareness about cryptocurrencies through our education academy in addition to our Fumbi podcasts.

Fumbi Staking Portfolio

In early September, Fumbi expanded its product portfolio with a new product called Fumbi Staking Portfolio. Our new product features up to 10 cryptocurrencies operating on the Proof-of-Stake consensus algorithm, generating staking rewards of 5-7% per year directly in cryptocurrencies.

These cryptocurrencies have a lower market capitalisation than Bitcoin, so their price tends to fluctuate more than Bitcoin. However, the reward for taking a higher risk is the possibility of higher returns. With this product, our clients pay no initial or annual fee, and their reward is credited weekly.

Fumbi Employee Program

Fumbi has decided to expand in the area of cryptocurrency adoption by Slovak companies. Our experts have created a product that will allow employers to pay their employees part of their salary directly in cryptocurrencies to their secure Fumbi account.

In this product, the employees of Slovak companies themselves have the opportunity to choose what part of their salary they want to invest in cryptocurrencies. Employers can thus offer their employees a unique benefit that can improve their position in a competitive market.

INVEST IN CRYPTOCURRENCIES WITH FUMBI

Capitalise on the potential of cryptocurrencies and invest with us easily, safely, and in just a few clicks. We bring crypto to the general public with the possibility of small deposits and minimisation of all possible risks. Since 2018, over 110,000 users have relied on us.

Start investing from 50€.

Fumbi Product Portfolio

- **Fumbi Index Portfolio**
Our most popular Fumbi Index Portfolio product currently consists of more than 20 top proven cryptocurrencies. The sophisticated Fumbi Algorithm mirrors the growth of the entire cryptocurrency market.
- **Fumbi Staking Portfolio**
In the Fumbi Staking Portfolio you will find 10 cryptocurrencies that we will stack for you. These cryptocurrencies have a lower market capitalisation than Bitcoin and, therefore, can be more volatile. However, with higher risk comes the possibility of higher profit.
- **Fumbi Custom**
With Fumbi Custom, we bring everyone the opportunity to invest in a cryptocurrency of their choice. Choose your preferred cryptocurrency and invest in it easily, comfortably, and safely.
- **Fumbi Bitcoin and Gold**
The world-unique product Fumbi Bitcoin and Gold monitors the value of Bitcoin and cryptocurrency PAX Gold, backed by real gold. The algorithm divides your finances in a 50:50 ratio. It intelligently buys the cryptocurrency that has fallen and sells the one that has risen. Thanks to this combination, you can save for your future easily and stress-free.
- **Fumbi Custody**
Have you purchased cryptocurrencies, and are you thinking about how to store them as safely as possible? Take advantage of the first-class cryptocurrency storage with Fumbi. We employ the world's safest cryptocurrency storage solutions to keep your crypto safe at all times.
- **Fumbi Business Custom**
Appreciate your company's assets safely with the first company in Slovakia that also brings a sophisticated tool for investing in cryptocurrencies to legal entities.
- **Fumbi Business Staking Portfolio**
In the Fumbi Business Staking Portfolio you will find 10 cryptocurrencies that we will stack for you. These cryptocurrencies have a lower market capitalisation than Bitcoin and, therefore, can be more volatile. However, with higher risk comes the possibility of higher profit.
- **Fumbi Employee Program**
Through Fumbi, you can bring a unique benefit to your company's employees - they can automatically receive a portion of their paycheck in the form of crypto to their own secure Fumbi account. Your employees will choose what portion of their paycheck they will receive in the form of cryptocurrencies in the Fumbi Index Portfolio.

www.fumbi.network