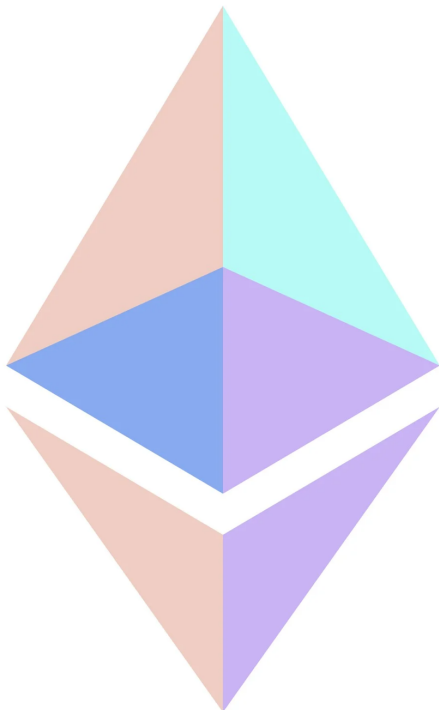




Imperial Blockchain

# The Story Of Ethereum

As Of Feb 2022



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## JUST AN IDEA

In 2013, a 19-year-old Vitalik Buterin published a whitepaper for an idea he had: a decentralised and public ledger which utilised cryptography to secure the network through a proof of work consensus protocol that also allowed the deployment of smart contracts on the network. It's the last thing I mentioned that made the idea different to the father of the space: Bitcoin. Vitalik wished to fulfill Nick Szabo's idea of contracts executed through code. So he and his team, which included the likes of Charles Hoskinson and Gavin Wood, created a Turing-complete programming language named Solidity to deploy smart contracts with. These smart contracts would allow for decentralised applications (DApps) to be built which would be secured by the very network it is deployed on.

## ICO

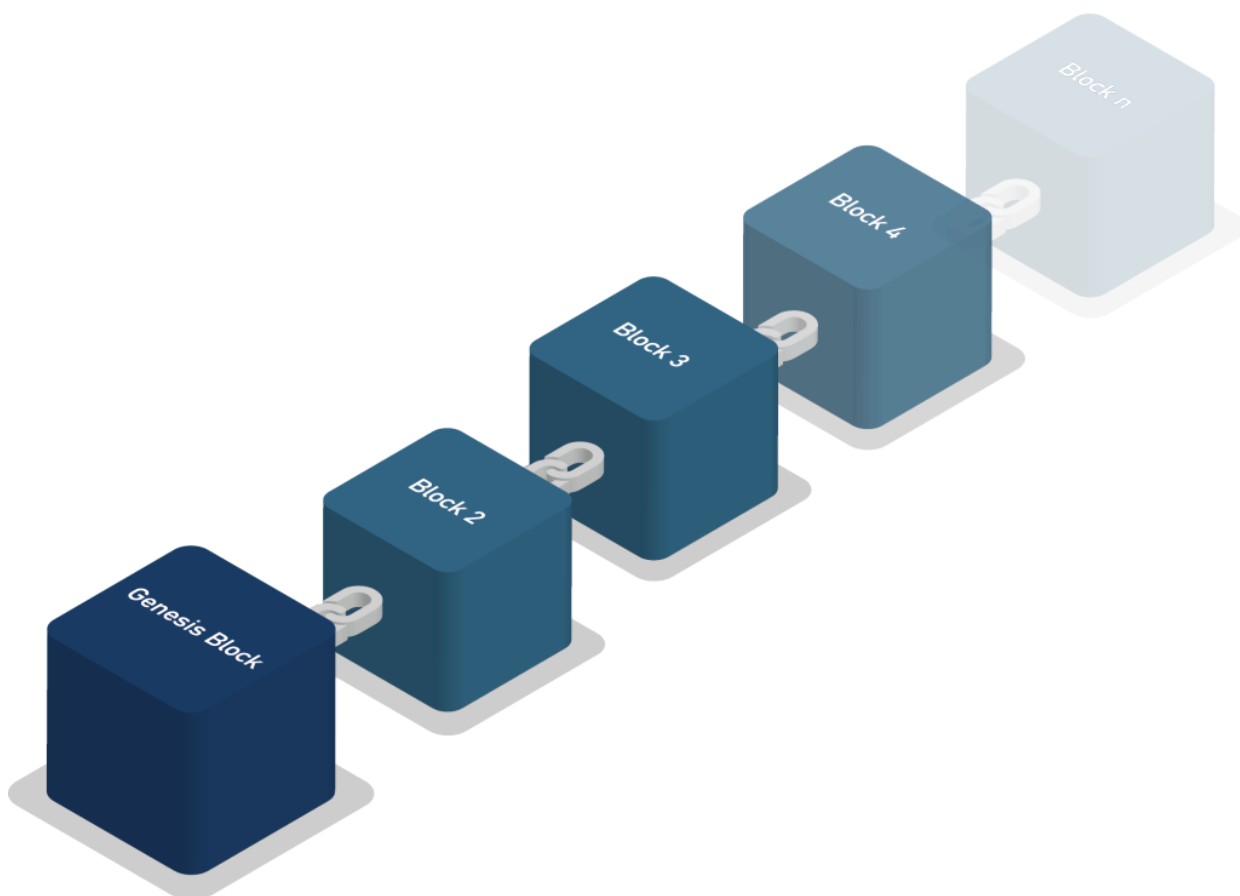
Fast forward a year to July 2014, an Initial Coin Offering was conducted where buyers received ETH in exchange for bitcoin at a price of \$0.31 per coin with no cap on how many ETH were up for up grabs. Raising around \$18M over a period of 42 days, months of the team being burnt out and broke seemed to have paid off. Following the sale, the team announced they would withdraw some funds, publishing a spread sheet outlining their budgets to expand their team, pay back debts, marketing etc. They were not messing about. What unfolded next was a chain of events that many investors could not imagine - a story for the history books.



## THE LAUNCH

After spending the year of 2014 churning out papers exploring gas fees, DAOs and the infamous Yellow Paper, 2015 was the year everything came together for the launch. In April, the Ethereum foundation announced the creation of a grants program to incentivise developers to contribute to the Ethereum project. The month after, the release of Olympic was announced, a proof-of-concept Ethereum blockchain for the purpose of stress testing with rewards given to people who could find bugs and test the network to its limits. In the same month, they announced a program which allowed for mining of Ethereum through a raspberry pi reducing the barrier to entry for mining Ethereum significantly. Anyone could run a node now.

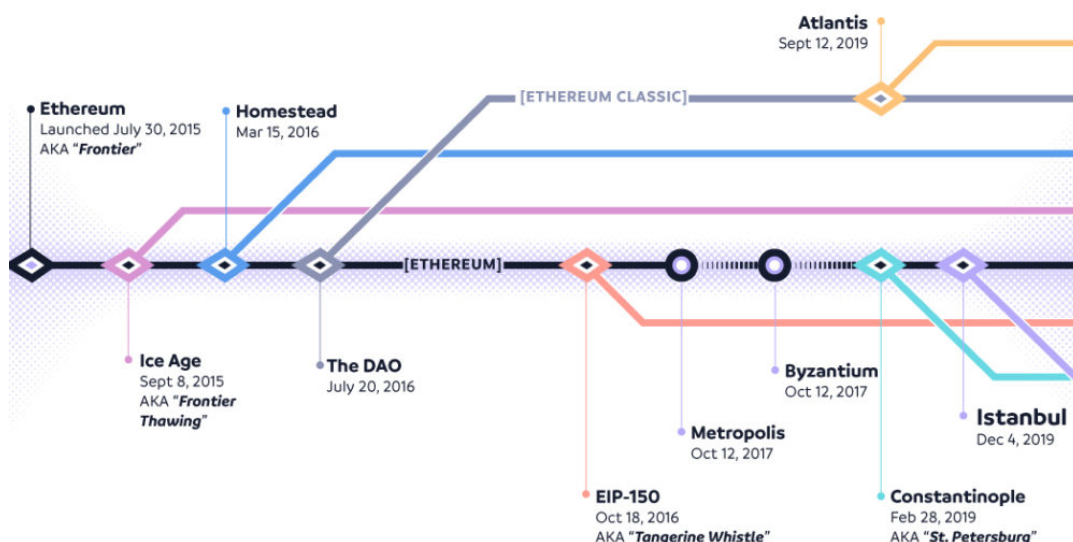
With all the building blocks (no pun intended), on the 30th of July 2015, the first block of the mainnet, the Genesis block, was mined. The rules were coded, 5 ETH per block with each block being mined every 5 seconds. The cogs were turning, the blocks were being added, the ledger was live.



## WHAT THE FORK? A FORK IN THE ROAD?

What followed was a series of hard forks in the network; the rules were changed multiple times. From the Frontier to Homestead, the most prominent one would be the fork subsequent to the DAO hack in 2016. A coder found a loophole in the code of a DAO which allowed them to recursively call a function which would allow for the draining of 3.6 million ETH from the DAO Fund. There was panic across Reddit and Github as the community tried to salvage this disaster. The attacker now owned 4.4% of total ETH supply. Vitalik suggested a soft fork so that the attacker was blacklisted and not be allowed to withdraw the funds. The attacker responded in the form of an open letter claiming he had not broken any laws and threatened to bribe miners to not comply with the network update. Tensions were rising and a very controversial solution proposed in the form of a hard fork did not help calm things down. The hard fork entailed rewinding and erasing the recent history of the blockchain so that the hacker no longer had a hold of the ETH and they were returned to the DAO. Sparking debates across the community, the fork seemed to split the community into two camps. A considerably sized group refused to go against the idea of an immutable blockchain, arguing human intervention should not be allowed. Hence, they decided to keep following the original protocol which is known today as Ethereum Classic (ETC).

With a lot of uncertainty in the air, the network(s) continued running with community members marching on.



(SOURCE: VISUALCAPITALIST)

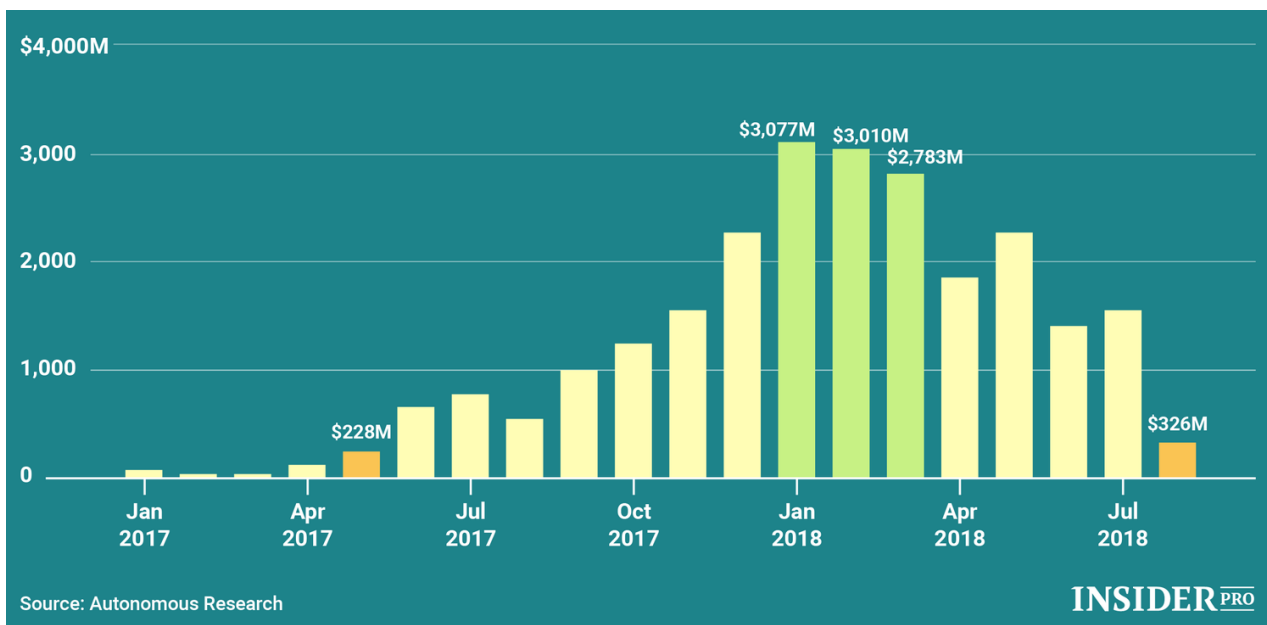
Speaking of empires, the next hard fork which followed was called Byzantium. This took place 15 months after the DAO fork and it included reducing the block mining rewards from 5 ETH to 3 ETH and modifying code to allow for the implementation of zero knowledge cryptography – a concept important when it came to scaling the network in the future. Mining rewards were planned to be reduced eventually to zero over time at which point a move towards a proof of stake consensus protocol was expected.

## **2017-2018 ICO BOOM**

You may be familiar with IPOs (Initial Public Offerings), where a private company offers shares to public investors before fully transitioning into a public company and being listed on stock exchanges. This is done in order to raise capital. ICOs (Initial Coin Offerings) are a similar concept, where projects in the crypto space can sell tokens in order to fund the development of their blockchain protocol or decentralized application. The ICOs utilised the Ethereum network, where tokens followed the ERC-20 standard, allowing them to function in the Ethereum ecosystem. Ethereum's open ended smart contract protocol allows any developers across the world to build applications and derivative tokens on top of the platform. The tokens offered in the ICO boom were promoted to have future applications/utility on the blockchain or dApps that they funded.

ICOs democratised access and removed barriers to funding to provide entrepreneurs with a way to develop their projects on an even playing field.

ICOs also had little to no regulation and with the red tape stripped, the ICOs boomed and the candles on the chart were only green and tall for a while. Around \$15 billion in token sales were accumulated from ICOs within a year. But eventually the music had to stop, the fun was short-lived.

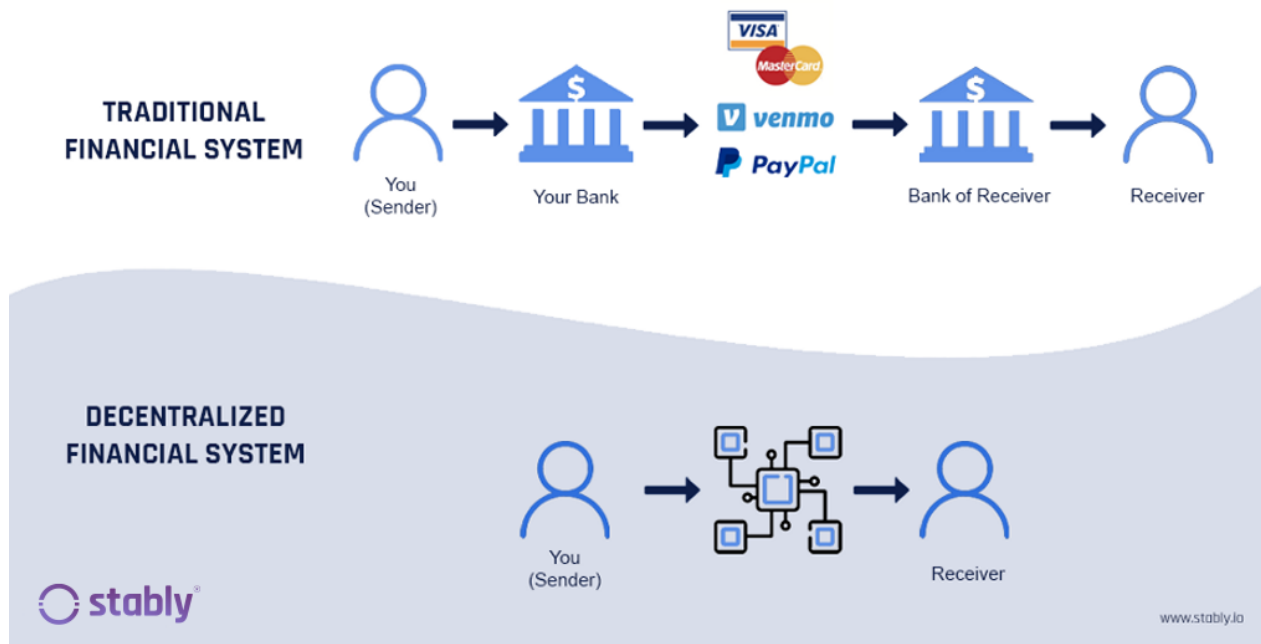


Due to the uncensorable nature of blockchain and the fact it was distributed globally, manipulation was very easy. Most of the volume flowing through ICOs were speculative traders who didn't look at the underlying technology behind ICOs. Whales holding a large amount of a token could orchestrate pump-and-dump schemes to direct the markets for maximum profits. For a few, they came out of the game alive but for many, it was a big hit to the net worth.

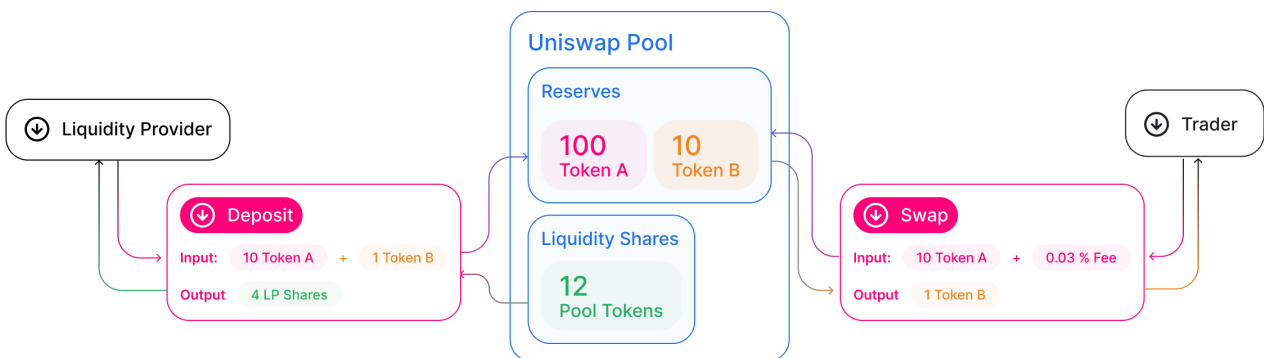
The bubble had burst and it grabbed the SEC's attention as they tried to clean up the mess left behind. The scammers and developers, who had no intention of building anything, went back into their caves and for a while there was silence in the markets.

## 2020 & 2021: THE RISE OF THE DAPPS: DEFI SUMMER

The first application of DeFi (Decentralized Finance) is arguably Bitcoin. Cryptocurrencies are a part of DeFi, and Bitcoin was the first to allow people to transact in a decentralized fashion. Ethereum, however, quickly gained popularity because of its programmability feature using smart contracts. DeFi applications were built on the network where people could lend and borrow cryptos using applications like Aave) and partake in liquidity protocols (using applications like Synthetix). These were based on a user-to-contract model where users interact with smart contracts containing pooled funds from multiple other users. This cut out middle-men that existed in traditional financial markets and services potentially leading the way for a more capital efficient solution to the way we utilise money.

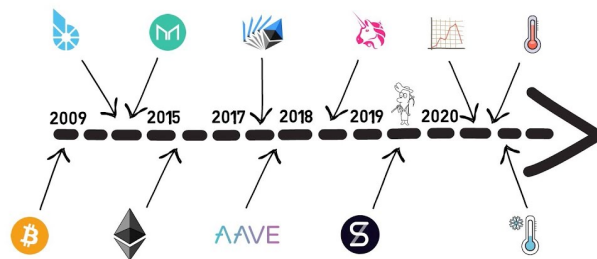


These initial notable DeFi projects were able to be developed due to the influx of capital during the 2017 ICO Boom. In late 2018, the first version of Uniswap was published on the Ethereum mainnet. This was a significantly important project, which created a decentralized exchange allowing users to trade ERC-20 standard tokens, based on the concept of liquidity pools. Users could swap between token pairs in both directions, contributing to the liquidity of one and taking away from the other. The protocol used an automated market maker protocol in place of a traditional order book to determine prices based on the ratio of assets in the pair's liquidity pool.



HOW THE USE OF LIQUIDITY POOLS ALLOWED FOR DECENTRALISED EXCHANGES

# HISTORY OF DEFI



(SOURCE: [HTTPS://WWW.YOUTUBE.COM/C/FINEMATICS](https://www.youtube.com/c/FINEMATICS))

Eventually, more and more Uniswap-type applications using the concept of liquidity pools were developed. One of the biggest is called Compound which also allows users to lend, exchange and borrow cryptocurrencies via liquidity pools. Initially, liquidity providers who deposited their money on the Compound blockchain were incentivised with interest payments which ultimately came from fees paid by the borrowers. Unlike with traditional banks, where once the money is withdrawn it can no longer accumulate interest, users receive a proportionate amount of cToken versions of the same crypto which can be used as collateral for a loan. This allows funds to be spent whilst they are earning interest. The APY differs for different tokens based on the supply and demand of its underlying smart contract on the Compound network. More lenders of a certain asset makes borrowing the asset cheaper, so if enough people are borrowing then the interest rate is driven upwards by the pool's smart contract.





The launch of the COMP governance token in May 2020 kick-started the DeFi Summer of 2020 as things started to heat up for the Ethereum DeFi space. Compound's new "liquidity mining" protocol allowed users to earn COMP tokens by simply providing liquidity to pools, as either lenders or borrowers. This created incentivisation for people to participate in both sides of the pool and earn money doing so, causing lending and borrowing APY's for different pools to skyrocket. In addition, the concept of yield farming began to develop, where users could keep switching between borrowing and lending different tokens across different liquidity providers to maximize yield. Capital flooded into more and more liquidity mining protocols and applications, such as Yearn and Curve. The launch of the Uniswap token UNI was one of the last major events of the 2020 DeFi summer, where previous Uniswap owners and liquidity providers were airdropped with \$1000 worth of tokens.

## **2020 & 2021: DEFI WINTER**

As with all summers, winter must follow. The DeFi market entered a mini-recession with top protocols trading 70-90% lower in November than their ATHs set in the summer. Uncertainty about regulations for DeFi exchanges and lending protocols played a role in causing the sharp decline of DeFi token prices over a period of a few months in late 2020. There was also building FUD (Fear-Uncertainty-Doubt) around stable coins, particularly about whether USDT/Tether's reserves are backed 1-to-1 with dollars, which further impacted the use of protocols like Curve.

Then, it got worse. The DeFi space saw a rise in the rug pulls in 2021. There were a number of cases where the funds from liquidity pools (provided by users of the platform) were pulled by the developers. The team that created a platform called Compounder Finance (attracting investors by mimicking the legit Compound Finance) stole over \$10.8 million in customer and investor funds by replacing secure audited smart contracts with modified ones that allowed them to access locked money.

The protocol Iron Finance made headlines for suffering one of the first crypto bank runs, where its token TITAN lost 100% value in one day. This had implications on the partially-collateralized stablecoin IRON, 75% backed by USDC and 25% by TITAN. A system failure caused by a fault in the stabilization mechanism caused unwarranted selling of TITAN, resulting in its collapse. Users began to sell TITAN for IRON which ultimately led to the depegging of IRON from its near stable \$1 per token value pre-collapse, leading to lots of people losing their investments. From another perspective, hackers saw the rise in the DeFi space as a goldmine. Yearn Finance, a well known platform, had an exploit in one of the stablecoin DAI lending pools allowing Hackers to steal \$2.8 million from a shared digital vault. There is an estimated total of 75 DeFi exploits that have occurred as of early 2022, where approximately \$1.7 billion of funds have been lost.



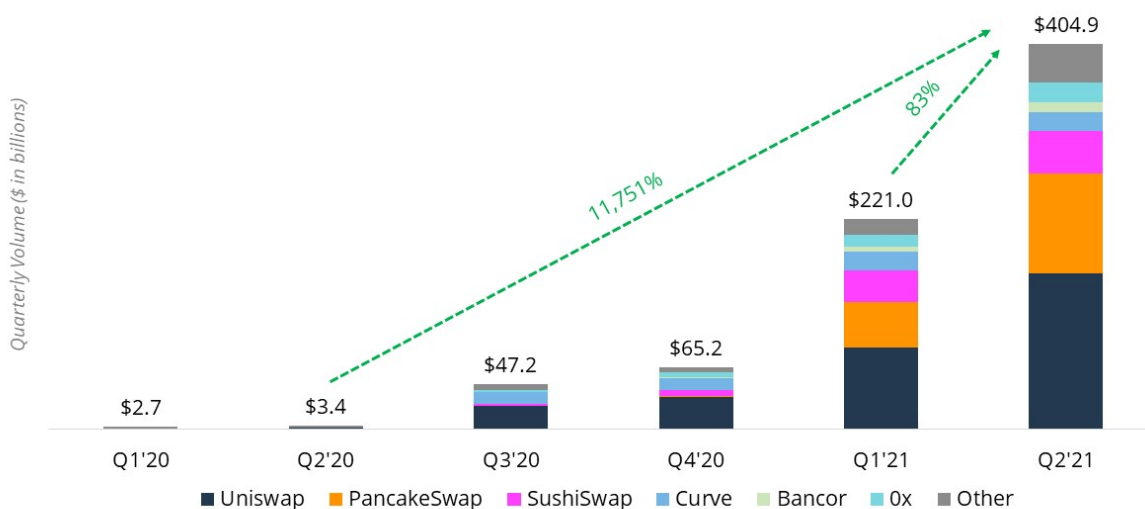
PRICE CHART OF \$TITAN (IRON FINANCE)

Despite all the FUD around DeFi and the recent bearish conditions of the market, the total value locked (TVL) in DeFi has been rapidly increasing. The TVL went from \$800M in April 2020 to \$10B that same year, and as of 2022 is holding above \$200B! As with all previous obstacles, the space adapted and evolved.

## MESSARI

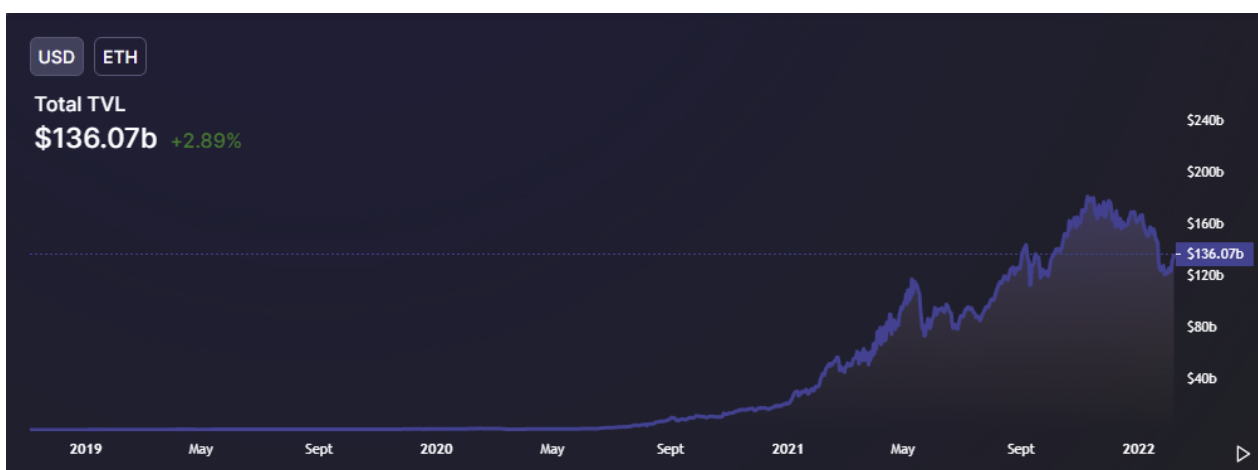
### Quarterly DEX Volume

DEX volumes continue to soar as they eat into centralized exchanges share and the bull market heats up



Data as of: Apr. 1 2021  
Source: Messari, Dune Analytics, Coingecko

(SOURCE: MESSARI)



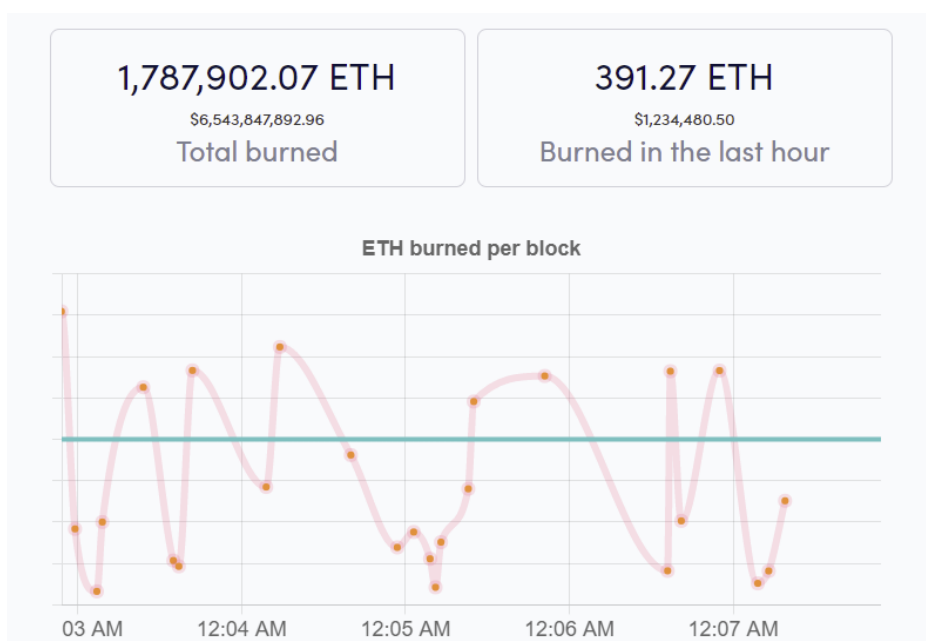
GROWTH OF TVL IN ETH OVER TIME  
(SOURCE: DEFI LLAMA)

## 2021: BURN IT ALL!!!

EIP 1559 was a proposal by Vitalik himself that would alter the fee/gas structure of Ethereum, and hence change the monetary policy of the token. It proposed that users would pay a base fee which would be algorithmically adjusted for each transaction with the option to pay more for speeding up the transaction. A bit like having to pay to go into a theme park and queue for the rides but also having the option to buy fast track so you could skip long queues and be given priority. This structure would introduce a two-tiered fee system which would allow for flexible block sizes that will become bigger or smaller depending on demand (cue flashbacks of Bitcoin Cash's birth in 2017). This is meant to reduce gas price volatility.

That isn't all. The proposal outlines that the base fees would be burned and not kept by miners. This introduced a new potential deflationary dynamic into the tokenomics especially when the proof-of-stake merge occurs which has been planned since very early days. This is because under Proof of Stake, minimum base gas fees to offset new ETH issuance as rewards to validators will be much lower than the minimum under Proof of Work (where miners are being issued ETH instead of validators).

The hard fork that implemented these changes was named the London Hard Fork. The fork occurred on 5th August 2021.



LIVE DASHBOARD DISPLAYING ETH BURN FIGURES

(SOURCE: ETHBURNED.INFO)

## NOW

The current landscape of ETH is enormous and its applications stretch far and wide into all sorts of sectors and narratives. The Defi 2.0 wave kicked off with protocol owned liquidity projects proposing a new concept for stablecoins that were made for the purpose of decoupling from the current fiat monetary system. DAOs also made a noteworthy rise with total DAO treasury assets rising exponentially. NFTs had its boom too, with PFPs such as CryptoPunks gaining traction as owning one gave you some sort of status. The metaverse further accelerated the NFT surge as gamers bought NFT items to use in games such as Axie Infinity.

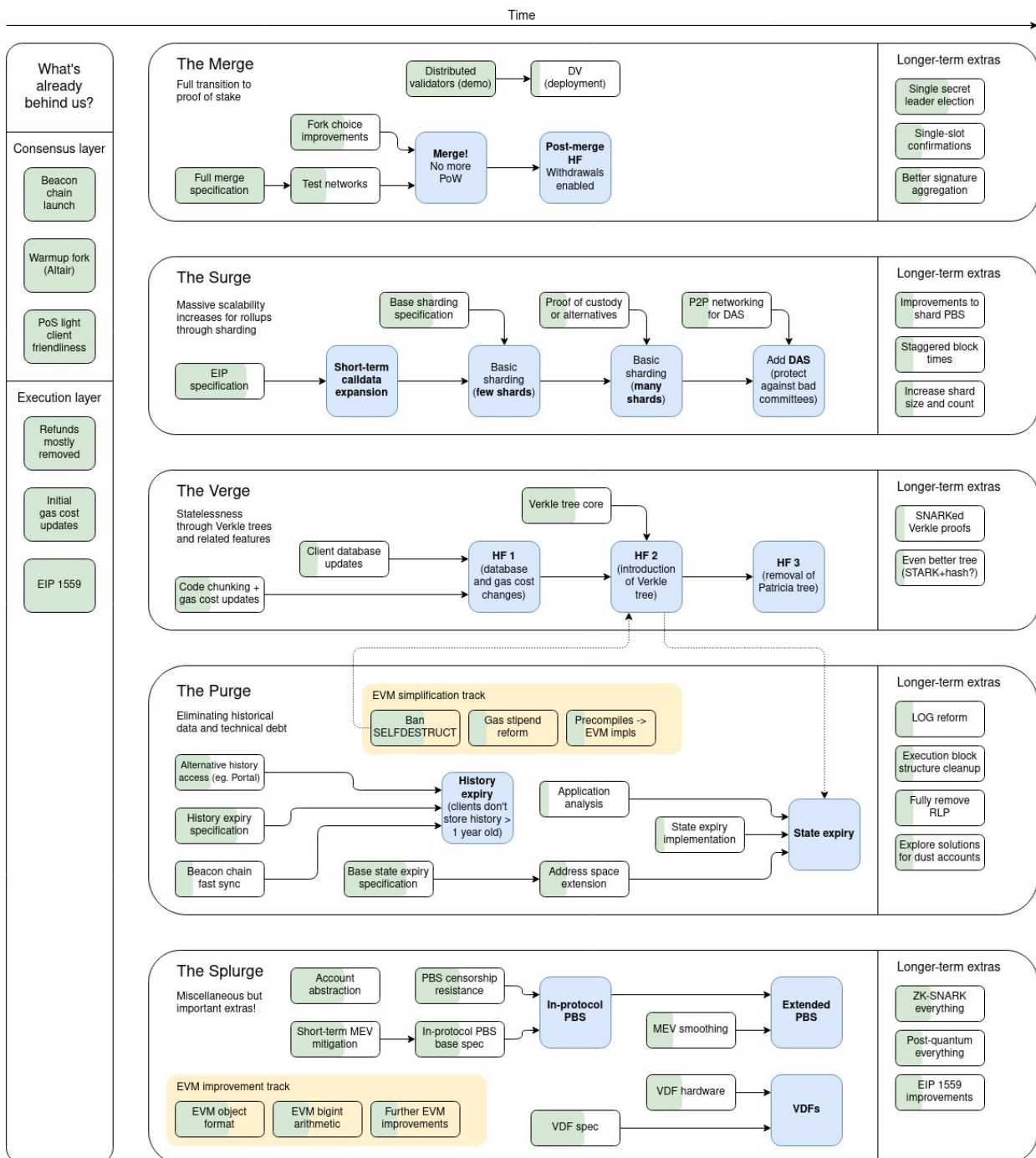


Scaling solutions also began gaining traction and Layer 2s such as Arbitrum, Metis and Optimism started seeing users take advantage of lower fees while their funds were still under the security of the Ethereum network. Technologies such as zero knowledge proofs and optimistic rollups are being implemented to make Ethereum a more egalitarian network and not just for the ones who can afford to pay the currently high gas fees.

# UPCOMING

The long awaited merge to proof of stake is expected to occur around Q2 2022 where the current blockchain will merge with the beacon chain which has been running for a couple of years under proof of stake.

'Imagine Ethereum is a space ship that isn't quite ready for an interstellar voyage. With the Beacon Chain the community has built a new engine and a hardened hull. When it's time, the current ship will dock with this new system, merging into one ship, ready to put in some serious lightyears and take on the universe.' - Ethereum Foundation



Vitalik's Roadmap for Ethereum 2.0

TLDR: Some teenager got fed up of playing video games in his mum's basement so programmed something revolutionary that could potentially change the course of the world while making billions in the process and potentially stamping his name in history.

Disclaimer: This article leaves out a lot of the nitty gritty and is just a general narration of what we think are important events that unfolded. Feel free to delve deeper! Whether we have inflated the importance of this story in recent history will be something we will probably find out in the next 10 years but we are optimistic!

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