

Technological Trends & Developments

The latest updates from the ETH2 roadmap

According to data available by the [open source Ethereum 2.0 Beacon Chain Explorer](#), the staking contract has reached 10 million ETH staked by approximately 312,500 validator instances. [As explained by Ben Ednigton](#) (Eth2 at ConsenSys), this milestone is interesting, since it is aligned with the modelling assumptions as those developed when the beacon chain was originally designed. The participation chart indicates high network participation over the recent months, which is approaching even 99.77%. It has been decided that the name of the execution layer upgrade that will enable the Merge will be named after the city of Paris. Ethereum Foundation has announced the Kiln testnet, which is underway, and is expected to be the last dedicated testnet before the Merge event.

Solidity Developer Survey 2021

Soliditylang.org has published the [results of the Solidity Developer Survey 2021](#). Solidity is an object-oriented, high-level language for implementing smart contracts, which has been influenced by C++. Solidity remains the most active and maintained language for programming smart contracts. Of survey participants, 62.8% said they work in technology and 15.5% in financial services. Other sectors named in the survey include education, media gaming, creative, non-profit, public sector, healthcare, retail/consumer, telecommunications, energy, and transportation. The majority of respondents (80.4%) indicated that they use Solidity for their personal projects, with 60% of all respondents using Solidity at work. Some 30% of participants indicated they contribute to open-source projects written in Solidity on a daily or weekly basis. In a response to which language they use the most, the participants indicated that they use JavaScript and Solidity (both 27%), followed by TypeScript (14.7%), Python (10.9%) and Java. Among the most interesting questions have been “How long did it take you to become productive with Solidity” with the 26.7% of respondents feeling productive in less than a month, and 30.7% in less than half a year. A total 7.7% of participants said they needed more than a year to feel comfortable with the language. More than half of the participants are using VSCode as their core editor when writing Solidity, followed by Visual Studio (14%), Remix (11%), Vim (7%), IntelliJ (5.8%).

Algorand Blockchain upgrades to support easier creation of Complex Dapps

The Algorand blockchain has released an important technical upgrade engineered to support cross-chain interoperability and better support developers to deploy complex decentralised applications. [The upgrade](#) has introduced the following components:

- Smart Contract Compatibility with contract-to-contract calls which allow complex Dapps to be built and trustlessly interact with other smaller dapps to extend functionality and usability.
- Algorand’s first major milestone to support trustless cross-chain interoperability is the release of Post-Quantum Falcon Keys. These keys will be used to generate State Proofs, a new blockchain infrastructure which will enable Algorand to be trustlessly accessed in low-power environments like mobile phones, smart watches, and on other blockchains.

Algorand Foundation [has announced a \\$10 million grant](#) available to teams that will research and deliver technical work needed to deliver EVM compatibility on Algorand.

Report Layer 1 Blockchain Performance

Dragonfly Capital [has published an extensive report](#) reviewing the performance of Layer 1 Blockchains. As the report suggests most data presented by the blockchains teams are only calculating Transactions Per Second of simple value transfers, which lead to big numbers but are far different from reality. Furthermore, most of those calculated TPS have been achieved in permissioned testnets or devnets with limited decentralisation, and optimal performance, which is difficult to be achieved on a mainnet. To measure performance, the research team has utilised data of **throughput** and **latency**. Throughput measures the number of transactions in each period, and latency the time until a transaction is executed. Given the diverse types of transactions, the team has selected as a benchmark the Uniswap V2 contract, which is currently one of the biggest spenders of ETH gas fees. Furthermore, it has been selected because it is easy to measure, every blockchain has a Uniswap V2-style AMM on production, and the smart contract patterns are typical. While the below data are illustrative in getting a view on performance, it does not account for any smart contract performance. We have created a comparison table by utilising data as those provided by the research.

Blockchain	Ethereum	Celo	Polygon	Avalanche	Binance Smart Chain	Solana
Average Trades per second	9.29	24.93	47.67	31.65	194.60	273.34
Maximum trades per second	18.38	49.68	95.33	175.68	Flat number per transactions per second	Not Applicable
Time (seconds) to finality	66	5	2.5	2	3	13

The report does not compare. It accounts for all Layer 1. However, it creates a good basis for everyone who wants to experiment further and compare the performance of different blockchain infrastructure.

Teleport implements the CoinSwap privacy technique to improve bitcoin privacy

Bitcoin privacy developer Chris Belcher [has released a preliminary version of Teleport](#), which incorporates a privacy technique called “CoinSwap” that aims to make transactions invisible. The project, which is open-source, is not ready for use with real funds because it requires further testing according to the developer, and it is still missing key features. CoinSwap has been initially described by cryptographer Gregory Maxwell since 2013. According to Belcher is similar to CoinJoins, but it cannot be blocked because the transactions look exactly as regular transactions. CoinJoins is currently utilised by projects such as Wasabi, Samourai, and JoinMarket. Currently, privacy-conscious users utilise wallets such as the above to execute CoinJoins, which can mix a user’s bitcoin with many other users’ bitcoins, and by doing so can obscure the coin’s tracks. Surveying and auditing services are able to view that a CoinJoin has taken place. On the other hand, CoinSwap transactions cannot be detected since they appear as normal transactions. Belcher suggests that the project will require years to support Schnorr signatures, which were introduced with the Taproot upgrade to Bitcoin in November 2021. Schnorr is not currently suitable for CoinSwap because the anonymity set for ECDSA would be much greater, all addressed today are ECDSA and none are Schnorr.

NFT Marketplace OpenSea investigated “Exploit Concerns”

OpenSea [planned a successful migration of smart contract](#), which intended to ensure that old, inactive listings on the platform would expire. Following the upgrade, many posts across social media expressed their concern that their accounts were hacked and lost valuable NFTs. In an announcement, the co-founder and CEO of the NFT marketplace, Devin Finzer, suggested that the users have experienced a phishing attack, and 32 users of the marketplace have signed a malicious payload from an attacker causing their NFTs to be stolen.

Decentralised Finance Platform Aave launches V.3 with cross-chain swaps

Decentralised Finance lending platform “Aave” has launched its v3 version across six different blockchain. Aave is ranking second, as the largest decentralised money market, with more than \$11 billion in total value locked. The new features are cross-chain portals, isolated markets that will allow the protocol to better compete with permissionless counterparts and a high efficiency mode to enable high loan-to-value borrowing on select assets.

Regulatory Updates

EUROPE

Shortly after the 28 February, the Market in Crypto Assets (MiCA) was indefinitely postponed by Stefan Berger, EU Parliament's rapporteur for the legislative package. Concerned about the MiCA report being interpreted as "a de facto ban on Bitcoin" a new version of the report emerged. As Stefan Berger confirmed to the BTC-ECHO, the controversial part of the report has been removed and "the Bitcoin ban in the EU is off the table for now." However, due to the Russian invasion of Ukraine Stefan Berger later noted that it is essential for regulators to "get MiCA through the Parliament as quickly as possible." This followed a call from Christine Lagarde, president of the European Central Bank (ECB), for the EU to immediately adopt MiCA in order to prevent Russia from using cryptocurrencies to evade sanctions. France followed a similar approach with Finance Minister Bruno Le Maire announcing measures to prevent Russia from exploiting cryptocurrencies to evade sanctions. ([source1](#), [source2](#), [source3](#))

Along with [Ukrainian Prime Minister Mykhailo Fedorov](#) who is pushing for the addresses of all Russian customers to be blocked by the Ukraine government officially requested from eight big crypto exchanges, Coinbase, Binance, Huobi, KuCoin, Bybit, Gate.io, Whitebit and Kuna, to halt support for the Russian ruble, ruble spot pairs and fiat getaways. However, so far only Whitebit has responded positively to this request, while the majority of the other crypto exchanges claim a complete ban of ordinary Russian citizens contradicts the principles of crypto. Coinbase, one of the world's largest cryptocurrency exchanges, announced that it would block 25,000 accounts linked to Russian people or entities engaged in illicit activity. ([source](#))

Following Switzerland's September 2021 decision to put the Bitcoin Law into effect, allowing all residents and visitors to use BTC as legal tender alongside the US dollar, Lugano, a city in southern Switzerland plans to accept BTC, USDT and LVGA token as 'de facto' legal tender. More specifically, Tether's chief technical officer Paolo Ardoino said that the firm set up a fund with 3 million Swiss francs in collaboration with Lugano official, aiming to encourage the adoption of the cryptocurrencies by the shops and businesses of the city. Moreover, there are future plans for the project to extend payments to parking tickets, public services and tuition fees for students. ([source](#))

On 9 February, two major factions of the EU Parliament, led by Belgian MEP Assita Kanko (European Conservatives and Reformists) and Spanish MEP Ernest Urtasun (Greens–European Free Alliance), submitted a policy blueprint for regulations to counter money laundering and terrorism financing in crypto transactions. The blueprint follows Financial Action Task Force (FATF) official advice about money laundering and terrorism, an advice that puts the organisation in a very decisive position on how European policy is shaped. Kanko and Urtasun support that, since small transactions with cryptocurrencies are being used more than often to fund terrorism and laundering, exchanges and wallet providers should record the "travel information" for every single transfer, obtaining the name of the sender and the recipient, the sender's home address, passport number and the wallet address of both the sender and recipient. In this context, they also argue that the €1,000 threshold for crypto transactions should be removed, allowing however a whitelist of crypto exchanges to be excluded. ([source](#))

USA

Along with 43 other co-sponsors, New York State Assembly Members Amy Paulin and Ken Zebrowski support the New York State proposal to suspend fossil fuel-powered proof-of-work (PoW) mining for three years. The three-year suspension requires the New York State Department of Environmental Conservation (NYSDEC) to assess New York's crypto mining industry, regarding the impact on water, air quality and greenhouse gas emissions. According to Anna Kelles this assessment would determine whether an immediate mining ban should be in order. She said: "If that is what's necessary to ensure that the industry does not prevent us from reaching our climate goals." ([source](#))

New York State is speeding up in enforcing sanctions against Russia with the Department of Financial Services (DFS) expediting the adoption of additional blockchain analytics technology. More specifically, the DFS aims to use this technology to efficiently detect exposure to Russian individuals and entities subject to federal sanctions and is looking into a set of technology tools and service providers to enhance current supervisory capabilities. Along the same lines, Federal Reserve Board Chair Pro Tempore Jerome Powell, commenting on whether Russia could use cryptocurrencies to bypass sanctions, stated that there is an imperative need for Congressional action on digital finance, especially cryptocurrencies, with the set of a corresponding regulatory framework. The Federal Reserve also noted the possibility of terrorists or other malicious actors using cryptocurrency as further examples of the need for additional regulation. ([source1](#), [source2](#))

[According to a Bloomberg report](#), the US Securities and Exchange Commission (SEC) is investigating NFT creators and marketplaces for regulatory violations. More specifically, the SEC has sent subpoenas related to the investigation in order to determine whether NFTs "are being utilised to raise money like traditional securities". Although the investigation does not guarantee an enforcement action, the SEC wants to examine whether the cryptocurrency projects are just coming up with new ways of unregistered securities. ([source](#))

UK

The United Kingdom's Financial Conduct Authority (FCA) has announced it has more than 300 cases of unregistered crypto firms in the last six months, 30 of which are currently active. This suggests there is a high possibility for many of them to be scams. The investigation was sparked by the 16,400 inquiries sent by UK residents between April and September of 2021. The regulatory body is working on applying more assertive supervisions and to become tougher with firms that operate in the UK. ([source](#))

REST OF THE WORLD

The South African Treasury aims to finalise further crypto regulations during 2022. The aim is to address any person providing advice or intermediary services related to crypto assets as a financial services provider who must comply with the act's requirements. However, Hermann Vivier, the founder of Bitcoin Ekasi — a South African Bitcoin Beach-inspired project authorities stated that this is a "one-size-fits-all solution" and not a beneficial one for those who earn below a certain level. Moreover, the Treasury report hints at examining the risks presented by stablecoins to be addressed in 2022, with a prospect of launching CBDCs in South Africa by the end of the year. ([source](#))

The central bank of China, the People's Bank of China (PBoC), claimed in a recent note that China's share in the global Bitcoin (BTC) transactions has aggressively dropped from over 90% to 10%. China is among the few nations that have maintained an outright aggressive stance against crypto use since the beginning. However, despite China's banks and regulators aggressive stance against crypto, Chinese tech colossus Tencent has filed a patent for virtual concerts in the Metaverse, leading China's charge into the Metaverse, in response to Chinese companies racing to secure metaverse trademarks. ([source1](#), [source2](#))

Binance and Cuscap Berhad acquired a key stake in MX Global, one of the four Recognised Market Operators - Digital Asset Exchange licensed by the Securities Commission (SC) in Malaysia. This signifies their return to the Malaysian markets. Binance aims to expand the sustainable growth of the crypto market in Southeast Asia and to cooperate with regulators, while MX Global aims to rely on the recent partnership and new flow of capital to expand its market and become a leading liquidity hub in the region. ([source](#))

The Australian Cyber Security Industry Advisory Committee released a study citing the rise in crypto adoption and the urgent need for regulatory settings that provide greater clarity and safety on how the cryptocurrency market can operate in Australia. More specifically, the federal advisory suggests the exploration of four core fields that can help determine the regulatory context: minimum cyber security standards, awareness through specialised training, the follow-the-lead approach and operator transparency, with a primary goal of reducing the cybersecurity threats aiming at cryptocurrency. ([source](#))

Bitfinex, a major global cryptocurrency exchange, is moving forward with its security token (STO) platform in Kazakhstan. The platform is regulated within Kazakhstan’s national financial hub, the Astana International Financial Center (AIFC). Bitfinex Securities, Bitfinex’s blockchain-based investment platform operates from a special economic zone in Kazakhstan that comes along with an independent court system. Bitfinex Securities inaugurates trading with the Blockstream Mining Note (BMN), a STO offering non-US investors an option to mine Bitcoin or invest in Bitcoin mining stocks. ([source1](#), [source2](#))

Hamas, a militant group based in the Gaza Strip, was linked to a set of 30 crypto wallets from 12 exchange accounts. Israeli authorities seized the crypto wallets, which [Israel](#) said were being used by Hamas leaders to fund terrorists’ efforts against the nation. Israel’s National Bureau for Counter Terror Financing (NBCTF) conducted the seizure of the wallets. ([source](#))

Hong Kong welcomes the launch of a cryptocurrency over-the-counter (OTC) service, launched by the virtual asset platform Huobi Technology Holdings. According to the related announcement, Huobi Technology allows investors to trade crypto via OTC using crypto block trading services and fiat currencies. ([source](#))

Market Updates

EUROPE

Many investors have commented on Russia’s invasion of Ukraine as a big test for the future of Bitcoin. The token has been fluctuating between a range of \$37,000 and \$45,000 over the past few weeks, surpassing the \$40,000 threshold following Russian President Vladimir Putin announcement that the negotiations might be heading towards a positive shift. Yuya Hasegawa, a cryptocurrency market analyst with Tokyo-based cryptocurrency exchange, Bitbank, made the following comment:

“A highly volatile asset like bitcoin has been and will be affected by the stock market volatility, but a tug of war between risk off sentiment and inflation hedge will likely force bitcoin to move within the current mid-term range.” ([source1](#), [source2](#))

Sweden is moving closer towards establishing a digital currency issued by its central bank and completely eliminating cash, as stated in a review announced by the government. The review is the latest among the many that have been introduced over the last years about removing cash from the country’s economy.

However, as Per Bolund, Sweden's financial markets minister has commented, the country has yet to figure out the specifics of implementing a digital currency, since "it can have large consequences for the entire financial system." ([source](#))

The global crypto derivatives and spot trading exchange FTX is expanding to Europe, under the name of "FTX Europe," after receiving approval from the Cyprus Securities and Exchange Commission (CySEC). This new venture, headquartered in Switzerland along with regional headquarters in Cyprus, will offer leading products of the company to the EU clients via a licensed investment firm across the European economic area. FTX will also be able to offer its derivative crypto products, a big breakthrough given Binance's shut down of all crypto derivatives products across Europe last year. ([source](#))

The financial services company, Fidelity International, is planning to list a Bitcoin exchange-traded product on the SIX Swiss Exchange and Germany's Xetra digital stock exchange. However, according to an announcement from Deutsche Börse, a physical Bitcoin exchange-traded product (ETP) from Fidelity International is currently available for trading on the Deutsche Börse Xetra and Frankfurt Stock Exchange, under the ticker FBCT. Fidelity Digital Assets is going to act as a custodian for the physically-backed Bitcoin ETP, which will be cleared with global exchange Eurex Clearing. ([source](#))

UK

The UK's Financial Conduct Authority (FCA) has announced that all 81 UK cryptocurrency cash machines (ATMs) are operating illegally and must be shut down. Although crypto-ATMs are used for people to buy cryptocurrency, such as Bitcoin, using their bank cards, no company offering cryptocurrency services in the UK has a license to operate a crypto-ATM. The FCA stated that the shutdown of the crypto-ATMs is necessary because crypto assets are unregulated and high-risk and people should be prepared to lose their money. ([source](#))

There is news the UK is considering turning their crown jewels – some of its most physical images, into non-fungible-tokens (NFTs). Moreover, Rupert Murdoch's publishing arm is evaluating turning the Time and the Sun's extensive archive of cartoons, photos and classic front pages into non-fungible-tokens (NFTs) as well. ([source](#))

USA

According [to new research from crypto analytics project](#) the crypto-related lobbying expenditures in the U.S had totalled \$4.9 million during 2021, which is more than double from the \$2.3 million spend during 2020. According to the available data, Ripple Labs, the developer of Ripple, is the biggest-spending crypto company in terms of lobbying expenses, with approximately \$2 million over the past 5 years.

Coinbase is moving forward with its plans for a crypto derivatives business in the United States, which comes months after Coinbase announced its acquisition of FairX, a CTFC-regulated derivatives exchange, now known as Coinbase Derivatives.

JPMorgan Chase announced the [decision to invest](#) in a blockchain intelligence entity, TRM Labs. The acquired entity has expertise in blockchain and delivers functionalities in detecting and investigating frauds in digital asset transactions.

Propy, a real estate tokenisation blockchain startup, has sold its first property in the United States, with the new owners to receive a non-fungible token (NFT) as digital proof-of-ownership. The NFT is associated with the ownership of an LLC which owns the physical asset, and not the housing deed itself.

Illinois aims to approach Bitcoin miners to the state with data centre tax incentives. To qualify, applicants must invest at least \$250 million and create 20 jobs.

According to publications, Jared Polis, the governor of Colorado, said Colorado will accept state taxes and fees in cryptocurrency by the summer of 2022. Though the state will not hold those assets, it will utilise a payment platform to convert them directly into dollars. This initiative aims to serve as a matter of convenience for the users, but also for supporting faster payment speeds.

ASIA

NFTs are a tool to facilitate and structure the digital economy, so collaborations are announced between companies with technological companies in launching projects. The South Korean entertainment company, YG, along with Binance are to introduce an [NFT project](#) with the subject K-pop. The collaboration has an expert in blockchain development and infrastructure partnered with an organisation that can provide the content.

Asia attracts entities to invest in the region, as knowledgeable experts can support the development of applications based on blockchain. For example, [Cion Digital](#) has established offices in India, as the country has an interest in blockchain and seeks applications to accelerate the country's digitalisation. The plans involve establishing an R&D centre in Pune, as [reported](#). Another recent initiative took place in South Korea, where the blockchain company, [AMAXG](#), established a research centre. The AMAXG's aim is to focus and expand its operations in the metaverse, artificial intelligence, and digital personal safe businesses. The entity has observed the need to proactively address issues in a hyperconnected society and support new businesses derived from virtual assets.

As the use of cryptocurrencies matures, more entities will find ways to incorporate them into their operations. There are a handful of examples in entities that look for such solutions in Asia. [Mitsubishi UFJ Trust](#) aims to use cryptocurrencies for settling securities transactions instantly. Especially, CBDCs can be a cornerstone to accelerate the settlement, unlike contemporary currencies needing days to conclude the procedure. Similarly, [Mitsui & Co.](#) is reported to plan for a digital currency linked with gold prices. The currency name will be ZipangCoin (ZPG) and will be initially available via the company's exchange.

New projects emerge on the scene and attract investment funds to grow. [Degis](#) is a protection protocol on the Avalanche network that was incubated by the HKUST Crypto-Fintech Lab. The protocol is a DeFi insurance protocol for mitigating on-chain and off-chain risks. Degis successfully gathered investments in a seed round.

AFRICA

There is ongoing adoption of blockchain and cryptocurrencies in Africa. [VALR](#), the exchange hailing from South Africa, managed to raise funds in the largest funding round in order to expand their operations to other African countries and India. In the [blog post](#), the entities involved in raising funds were mentioned. The efforts and work from African entities on cryptocurrencies are ongoing, with the example of [Quidax](#) being one. Essentially, Quidax is the first crypto exchange based in Africa that is listed on CoinMarketCap.

Blockchain is a technology that can enhance transparency with its adoption in various sectors. In this fashion, [Basqet](#) launched a payment gateway to enable businesses to accept cryptocurrencies for settling transactions.

A subject for blockchain is the ongoing research on Web 3, and applications are constantly deployed with the vision of achieving a decentralised web. The recent emergence of [Super App Jambo](#), an application aiming to introduce the public to the new digital financial ecosystem with gamification and decentralised finance applications, is notable due to the funds raised in the seed round. Institutions participating in the seed round are Coinbase Ventures and Delphi Ventures.

Educational initiatives are organised to support the growth of the blockchain community by establishing skilful individuals. The collaboration between Circle Internet Financial, American-based Bowie State University, and South African-based Rhodes University will offer students [a module titled](#) 'Digital Financial Literacy'.

Another news in the business ecosystem in Africa relates to a press release announcing the collaboration between World Mobile Token and Astroswap. In this collaboration, the token from [World Mobile Token](#) will be available via the Cardano ecosystem's DEX. World Mobile aims to establish a communication network, and the adoption will start in East Africa as the initial area.