Technological Trends & Developments

The latest updates from the ETH2 roadmap

As [outlined in an updated briefing from Ethereum Foundation](#) developer Tim Beiko, currently there is no official data for the Merge yet. According to Beiko, the network's much-anticipated shift to proof-of-stake might not come until the fall. A date will be set only once client teams are confident that the software implementations have been thoroughly tested and bug-free. As of April 2022, all client teams have in-progress implementations, which been tested by test suites, the launch of new testnets and shadow forks. Shadow forks run against both existing testnets and the Ethereum mainnet, which have revealed implementation issues in clients. When the clients work without issues on shadow forks, the existing Ethereum testnets (Ropsten, Goerli), will run through the Merge. Once testnets successfully upgraded, and proved stable, only then a timeline for the Merge will be set. The Merge, unlike previous upgrades, will not be triggered by a particular block, but by a total difficulty value. This will constitute harder to estimate. The difficult bomb is expected to start appearing around May, will be intensive in June/July, and will make blocks unbearably (read 15-20 seconds) by August. In case the client teams do not believe that they will be able to deploy the Merge to mainnet before block times are slowed too much, this needs to be delayed again. A list of tasks to be completed [before the Merge is available here](#).

Worldcoin is Open Sourcing it's stack

Over the past few months, Worldcoin had published parts of the work, but now the company has decided to open source most of their work from the last two years. Worldcoin is a new, collectively owned global currency that will be distributed fairly (according to the Worldcoin team) to as many people as possible. Worldcoin will launch by giving a free share to everyone on earth. The Worldcoin stack consists of many different components. The Worldcoin protocol includes an optimistic rollup on Ethereum (based on the [Hubble Project](#)), as well as tooling to manage anonymous identities and validate zero-knowledge proofs on-chain, using [Semaphore](#). The development has built a sequencer for Hubble (implemented in Go) and various infrastructure around Semaphore (implemented in Rust and Solidity). In May 2022, the Worldcoin team will open-source the Orb Hardware, a device that enables to verify uniqueness using biometrics in a privacy-preserving way, but the license will prohibit usage for surveillance or violating privacy. The Worldcoin SDK will make it easy for any developer to reuse the anonymous Proof-of-Personhood that the Orb issues. This will allow anyone to build their own Sybil-resistant applications (e.g., airdrops and democratic voting). Finally, the team aims to open-source the Orb firmware, which includes a custom Linux distribution, a Rust application, embedded C code running across several microcontrollers, and ML algorithms that convert the images captured by the Orb to unique codes which are transformed into irreversible IrisHashes, to effectively enable sybil-resistance without storing iris data.

Usage of the Baseline Pattern at European Investment fund

Unibright has commissioned to deliver a feasibility study on Usage of the Baseline Pattern at European Investment Fund. The study examines the use of models of the Baseline Protocol in the context of an EU-wide Intermediates Financing platform at the European Investment Fund. The authors of the study recommend the introduction of the Baseline Patterns and concepts in the design phase of the EIF Intermediated Financing Platform. A proof of concept including a sample implementation using Baseledger and Baseledger Proxy secures the assessments. The study shows how the transfer of individual, partially uncoordinated process steps into a workflow-based solution brings advantages which are reflected in higher maintainability, easier adjustment of details, greater automation and, last but not least, in the fact that they can be tested more easily in an automated manner. Potential extensions in the direction of limited or zero knowledge are not explicitly necessary in order to implement the desired use case, but are also discussed as a potential extension of the platform.

Parties clearly benefit from a standardized process that relies on many comparable cases, without being suspected of being a "data collector" in the negative sense of existing centralized platforms: The baseline patterns supports automation, scaling potential and inclusion of 3rd parties, without putting any of the applicant's information at risk of being exposed to an unintended use.

Ethereum Foundation announcing the Client Incentive Program

A diverse set of clients is critical to the Ethereum network's health and decentralization. Ethereum clients are Ethereum implementations that verify all transactions in each block, ensuring that the network is secure and that the data is correct. This diversity ensures the constant innovation of the base layer of the protocol, and protects the network from potential attacks, and client bugs. Ethereum Foundation has launched a Client Incentive Program, to offer client teams ETH-denominated rewards. Currently nine teams are eligible for the program rewards. Specifically, teams in the program will receive a total of 144 validators (4608 ETH) each to operate on mainnet. As of today, geth is currently the most popular Ethereum client with 79.58%, with erigon (11.65%) and openetherem (5.94%) to follow.

Ronin Validators compromised, leading to the biggest DeFi hack

Ronin validators have been compromised by North Korea based Lazarus Group, leading to the biggest cryptocurrency hack with $624 million stolen from Ronin Network. The hack has not been noticed by anyone for six days. Ronin was launched as an Ethereum side-chain in February 2021, in order to support the popularity of Axie Infinity Play to Earn game. The side-chain has brought fast, cheap transaction with high throughput which are necessary for a P2E game to function properly. In order to constitute the network more scalable, a Proof of Authority model with only nine validators has been selected. Four of those validates were operated by Sky Mavis, the company which has built the game and the sidechain. One more validator

had to be compromised in order to attack the funds in the network. The attackers were able to gain access to an additional validator due to an arrangement made between Sky Mavis and Axie DAO. A gas-free RPC node was established to ease costs for users during a period of heavy network traffic. This required Axie DAO approving Sky Mavis validators to sign transactions on their behalf. Despite that this was no longer applicable, the whitelist access was not revoked, allowing the attacked to also compromise the fifth validator and control the funds on the sidechain. The Ronin bridge has been exploited for 173,600 Ethereum and 25.5M USDC.

Tornando Cash Adds Chainanalysis tools for Blocking OFAC-Sanctioned Wallets from Dapp

The popular Coin mixer service, which has been used frequently to obfuscate the trail of cryptocurrencies obtained through cyberhacks. Previously, one of the founders of Tornando Cash, has said that it is technically impossible for sanctions to be enforced against decentralized protocols. Following the intensity of the regulators all over the world, the Tornando Cash is now using a tool developed by compliance firm Chainalysis to block crypto wallets sanctioned by the U.S. Office of Foreign Assets Control (OFAC). However, the exclusion applies only to the user-facing decentralised application, and not the underlying smart contract. Currently the Total Value Locked in the non-custodial anonymous transaction DAPP on Ethereum is approximately $645 milllion.

Hub Theta went live on Cosmos Blockchain

An upgrade known as Hub Theta went live on Cosmos blockchain. The upgrade is introducing interchain accounts, one of the most-awaited features by the Cosmos developer community. These allow blockchains to change data on another supported blockchain. Other features introduced with the upgrade are the updated versions of Cosmos SDK- a developer framework, and the Inter Blockchain Communication protocol, which allows users to transfer crypto assets between supported blockchains. Interchain accounts enable users to give permission to an application running on one blockchain to perform an action on another.

Avalanche announces new "Core" Wallet and Bitcoin Bridge

Avalance has announced that it will launch its own wallet application which is called "Core". Core according to Ava Labs is a curated Web3 operating system. The Core wallet will support native Avalanche bridging functionality, which enables users to directly interact with dapps on the Avalanche blockchain. To-date, users across the Avalanche ecosystem have accessed Web3 applications using agnostic, Ethereum-compatible Wallets like MetaMask. Furthermore, Avalanche announced that the Avalanche Bridge will support Bitcoin in early Q2. For a deeper dive into how the Avalanche Bridge functions, see this technical review.

Regulatory Updates

EUROPE

According to Sweden's National Bank, Riksbank, the Swedish CBDC project, known as the e-krona, has successfully finished its Phase 2. The aim of the second phase was to investigate whether the e-krona is technically able to function within the country's existing digital banking infrastructure and to prove that it can e successfully exchanged for fiat money and used in online and offline transactions. Next up, the project will enter into Phase 3, however it is not set in stone yet whether the e-krona will be actually used. (source)

The Govern of National Bank of Georgia, Koba Gvenetadze, announced that Georgia is preparing legislation to regulate the cryptocurrency market, in accordance with the requirements of international agencies. As Gvenetadze stated, the size of the Georgia crypto market is unknown due to the lack of regulation and until there is a clear state of the regulation scene, any crypto activity will be considered high-risk and "subject to appropriate enhanced preventive measures". Although a small country, it currently accounts for almost 1% of Bitcoin mining. (source)

The Slovenian government has proposed a flat-rate tax of just under 5% proposal on crypto redemptions, as part of the government's post-COVID recovery plan. The government asked the Slovenian Parliament to quickly approve the proposal, aiming to be due when virtual currencies are sold or exchanged. Moroever, with this proposal the Slovenian government stated that it aims to make the country more competitive as crypto markets take off and become on of the few countries with such a simple crypto taxation. (source)

In a recent interview, Mairead McGuinness, the Commission's most senior financial services official, indicated that private intermediaries like banks will be assigned a role in distributing CBDCs, should a European central bank digital currency (CBDC) be implemented. If the implementation happens, the digital euro will be imposed with various laws, but not as necessarily as strict as the ones imposed to cryptocurrencies, since they remain controversial, when it comes to privacy, and unsettled. (source)

USA

Shopify announced the integration of the payment app Strike, in order to accept Bitcoin through the Lightning Network, enabling its users to spend their Bitcoins without needing to go through the Know-Your-Customer (KYC) process. As expected, this raised legal objections from the regulatory community, like lawyer's Kevin Thompon pointed that "spending BTC without going through the KYC process enables the users to dump BTC and avoid taxes". He also suggested that a possible response of the regulators to this integrations might be to "create reporting requirements for Shopify". (source)

The FDIC, a US government agency that provides deposit insurane for savings and commercial banks, expressed its concerns, over a letter to the institutions it supervises, of their ability to adequately assess the safety, financial stability and consumer protection implications of crypto-related activities, without closely monitoring each one of them. In order to address this issue, the FDIC asked all the institutions to provide insights on their current and future crypto-related activities. (source1, source2)

California Representative Norma Torres and Arkansas Representative Rick Crawford have proposed that the State Department creates a legislation plan in order to mitigate the risks of El Salvador's adoption of Bitcoin as legal tender. Although El Salvador's independency to self-govern is recognized, Torres stated that the U.S

need to have a plan to protect its financial systems, urging the Secretary of State, as well as federal department and agency heads, to report to Congress on a plan within 60 days. (source)

After El Salvador's decision to establish Bitcoin as legal tender, the Prospera ZEDE economic zone in Honduras announces Bitcoin as a de facto currency to be. Prospera ZEDE is a special economic zone (SEZ) on Roatan in the Western Caribbean and the Nothern Corridor of Honduras plays host to the SEZ. The SEZ has its own administrative, financial and budgetary autonomy and its flexible regulatory framework enables the use of Bitcoin by residents, businesses and governments as payment. However, the Honduran Central Bank stated that it doesn't support cryptocurrencies adoption.(source)

UK

Influenced by the U.S.A. and EU's approach on crypto regulation, the United Kingdom has decided on setting a detailed regulatory framework on how businesses can set up shops and operate in the country using cryptocurrencies. Such a plan was long anticipated by the EU, as the Treasure has declared that the U.K. needed to "act quickly" on creating a regulatory framework to preserve its position as a crypto hub. Moreover, as Nicholas du Cros, head of compliance and regulatory affairs at CoinShares stated, the MiCA negotiations that may be soon finished, are pushing U.K. towards quickly creating the framework, in order to determine how closely it is going to replicate or not the MiCA regulations. (source)

REST OF THE WORLD

The South African Reserve Bank (SARB) has brought South Africa a step closer to implementing its central bank digital currency (CBDC), as the technical proof-of-concept for the project has been successfully completed. This technical proof-of-concept tested distributed ledger technology (DLT) for interbank payments' settlement, successfully replicating the banks' "SAMOS" real-time gross settlement system. Moreover, another phase of Project Khokha may be started to build on the last one, "performing live transactions in a sandbox environment in a different use case." (source)

The Commonwealth Bank of Australia (CBA) aims to grant all of its 6.5 million users access to cryptocurrency services through its mobile application. However, financial regulators like the Australian Securities and Investment Commission (ASIC) has tied up the launch with an excessive amount of bureaucracy, as the commission is concerned regarding the level of protection granted to the consumers. Despite the raise of objections, the CBA has partnered with the offshore crypto exchange Gemini and blockchain analysis firm Chainanalysis and, once launched, the product will include Bitcoin, Ethereum, Bitcoin Cash and Litecoin. (source)

The Singaporean government has granted the Monetary Authority of Singapore (MAS) the power to respond to crypto firms that operate outside the country with legislation. More specifically, the government passed the Financial Services and Markets Bill requiring virtual asset service providers doing business outside Singapore to be licensed and subject to Anti-Money Laundering and Combating the Financing of Terrorism requirements and the financial watchdog will be able to investigate these providers at any time. (source)

A member of India's upper house of parliament and a member of the governing Bharatiya Janata Party (BJP), Sushil Kumar Modi, has called for a 50% tax increase on cryptocurrency profits. Modi stated that he aims to discourage residents investing in crypto assets, due to their risky nature and the fact that there is no related

regulatory framework. India has been condemning cryptocurrencies as an unreliable investment system for more than five years now, however trading hasn't been held back. ([source](#))

Market

Overall a slowdown in growth of market capitalizations of cryptocurrency projects following a tumultuous start to the year with many geopolitical factors causing uncertainty. Nonetheless enterprise and financial interest in the space continues to expand rapidly.

- Polygon raised about **$450 million** through a private sale of its native MATIC token in a funding round led by Sequoia Capital India with participation from SoftBank Vision Fund 2, Galaxy Digital, Galaxy Interactive, Tiger Global, Republic Capital and prominent investors like Alan Howard (co-founder, Brevan Howard) and Kevin O'Leary (Mr. Wonderful from ABC's Shark Tank);
- Despite persistent regulatory uncertainty and market volatility, Sequoia Capital is creating a cryptocurrency-focused fund worth up to **$600 million**, the latest hint of venture capital interest for crypto firms. "We believe that cryptocurrency will be a megatrend in the next 20 years," stated Sequoia Partner Shaun Maguire. "It's the money of the future." Sequoia's decision to form a separate crypto fund is a departure from convention, given the 50-year-old business has never done so before, although it was widely predicted. The change comes after the firm's structure was overhauled, giving it more freedom to take positions in public firms and the capacity to maneuver around regulations that limit venture capital investments in crypto to only 20% of a fund;
- ConsenSys, the major Ethereum and decentralized protocols software business with MetaMask, Infura, and Truffle as product suites, has closed a **$450 million** Series D fundraising round headed by ParaFi Capital. Temasek, SoftBank Vision Fund 2, Microsoft, Anthos Capital, Sound Ventures, and C Ventures were among the notable new investors. Since the firm's $200 million Series C raise in November 2021, its valuation has more than doubled;
- Former Meta workers and key figures from the company's failed stablecoin project Diem have secured **$200 million** to expand Aptos, a new project. According to a statement, Andreessen Horowitz (a16z) led Aptos' strategic fundraising round, which also included leading businesses such as Three Arrows Capital, FTX Ventures, Paxos, and Coinbase Ventures.
- The Ministry of ICT, Science, and Future Planning in South Korea has committed 223.7 billion Korean won **($186.7 million)** to the creation of a comprehensive metaverse ecosystem to promote the growth of digital content and business growth in the country. According to an official announcement from the ministry, funding will be used to complete four primary objectives in the creation of the "Expanded Virtual World," which looks to be an all-encompassing metaverse environment. The government agency plans to use its metaverse to boost the virtual industrial expansion of cities, education, and media.
- Binance has made a strategic investment in Forbes to increase consumer awareness of cryptocurrencies and blockchain technology. Forbes and Magnum Opus Acquisition Limited, a publicly listed special purpose acquisition company (SPAC), said on Thursday that Binance has agreed to invest **$200 million** in the firm. Forbes previously announced intentions to go public in August 2021 through a business combination with Magnum Opus, with the transaction set to finalize in the first quarter of 2022. Binance's strategic investment will be made through the assumption of subscription agreements totaling $200 million in the $400 million private investment in public equity (PIPE) that Forbes announced in conjunction with his plan to go public.

Traditional businesses continue to invest resources into implementing blockchain technologies and by cooperating with cryptocurrency companies:

- Tezos signs a $27 million contract with the UK's Manchester United football club, that will place the company's brand on the team's training uniform. Man United has finished filming promotional material ahead of the actual announcement, according to reports. According to the source, the relationship might include technical collaboration, such as a metaverse or other Web3 initiatives.
- Gartner, a research and consultancy firm, discovered that, in preparation of this metaverse migration, marketers are already putting in place the infrastructure that would allow their consumers to digitally reproduce their lives. According to recent study, by 2026, 25% of individuals would have spent at least one hour each day in the metaverse for work, shopping, education, social, and entertainment activities. Brands will need to collaborate in order to unite the metaverse, according to Gartner vice president Marty Resnick, as their customers continue to expect virtual, interactive, three-dimensional experiences.
- Apple has revealed plans to provide Tap to Pay on the iPhone, a new feature that basically transforms the smartphone into a point-of-sale device for companies and merchants. According to the statement, owing to near-field communication technology, or NFC, iPhone-owning shops may accept contactless payments by utilizing their mobile devices as a point-of-sale system. Apple's soon-to-be-released Tap to Pay feature will support "Apple Pay, contactless credit and debit cards, and other digital wallets," according to the company. Customers who have a Coinbase Card, Crypto.com Visa Card, or a similar payments card will be able to use their bitcoin holdings to make payments using Tap to Pay unless Apple puts a direct obstacle in the way.
- After establishing cooperation with local crypto exchange BTC Markets, publicly traded business SelfWealth has purportedly become the first Australian online share trading platform to provide cryptocurrency investing. Investors will be allowed to trade five key crypto assets from Q2 2022, according to BTC Markets CEO Caroline Bowler, pending authorisation from Australian financial regulator AUSTRAC.
- Red Bull Racing has signed a three-year deal worth $50 million per year with Singapore-based crypto trading platform Bybit. The charge will be paid in a combination of currency and BitDAO (BIT) tokens, according to the release. The cooperation, according to the business, intends to increase the F1 team's fan interaction by using its crypto exchange capabilities. As part of the partnership, Bybit will issue fan tokens and serve as a digital incubator for Red Bull Racing. This implies that the exchange will aid the team in disseminating its digital asset collections as well as supporting its other efforts, such as the Red Bull Technology Campus in Milton Keynes, which focuses on talent development.
- Companies build offices in the metaverse, believing it to be the 'future of work'. Companies have been leveraging the metaverse to push their enterprises into the digital realm, from online meetings to product demos. Companies (Kucoin, Atom, Bjarke Ingels, SCB 10x) have confirmed or announced plans to establish metaverse offices for online meetings with foreign clients, internal innovation centres, and improving social connection with users.
- Visa is looking for new college graduates for its Crypto Development Program, according to a recent job offering. Visa is looking for fresh college graduates to join its 18-month rotating Crypto Development Program, according to the job seeking. Applicants will rotate across Visa's existing crypto ecosystem's three departments: crypto product, crypto solutions, and digital partnership, where they will get training, development, mentorship, networking, and leadership exposure in addition to actual industry experience.

The blockchain market continues to evolve, increasing governmental scrutiny does not signal a slowdown in adoption by governments, regulatorys, or industry in their pursuit of a digital transformation.

- According to Fortune Business Insights' "Blockchain Industry Analysis Research Report, 2021–2028," the worldwide blockchain market is predicted to reach a staggering $104.19 billion by 2028, growing at a CAGR of 55.8% during the forecast period. Major industry companies like as IBM, Microsoft, Oracle, AWS, Digital Asset Holdings, and others are projected to have a substantial effect on the North American market throughout the projection period. In 2020, the regional market was estimated to be worth $1.44 billion.
- As part of a partnership with cryptocurrency exchange Coinbase, tax filing software TurboTax is now allowing US taxpayers to get their refunds in cryptocurrency. Coinbase announced that consumers who used TurboTax to file their taxes would be able to receive any refunds in cryptocurrencies like Bitcoin and others accepted by the site. Users may deposit money to their Coinbase accounts in fiat or have it immediately converted to cryptocurrency with no trading costs, according to the exchange.
- On the day of the Beijing 2022 Winter Olympics' opening ceremony, more transactions were allegedly conducted with China's central bank digital currency (CBDC) than through Visa. A source familiar with the situation told the Wall Street Journal that digital yuan transactions outpaced Visa transactions at the Beijing National Stadium, popularly known as the Bird's Nest, which hosted the 34th Olympic Winter Games' opening ceremony. Many of the stores using China's central bank's digital currency, the digital yuan — or e-CNY — were, however, outside the Olympic "bubble" for athletes, media, and staff.
- According to a new estimate from the Financial Service Commission, South Korea's crypto market rose to 55 trillion won **($45.9 billion**) by the end of 2021. South Korea is one of the hardest crypto marketplaces in terms of regulatory policy execution, and its new Travel Rule and KYC requirements made regular news throughout 2021. Despite the regulatory monitoring in 2021, the Korean crypto industry has risen to unprecedented heights. The FSC studied transaction data from 24 regulated cryptocurrency exchanges and discovered that daily crypto exchange transactions in Korea were 11.3 trillion won ($9.4 billion). A total of 3.37 trillion won ($2.8 billion) was generated by 24 firms. Over the last year, nine crypto exchanges have declared a net loss.
- Japanese cryptocurrency exchanges are apparently seeking to make the process of launching new cryptocurrencies easier in order to compete with international crypto trading platforms. In late March, the Japan Virtual and Crypto Assets Exchange Association (JVCEA), a self-regulatory organization made up of 31 local crypto exchanges, plans to produce a "green list" of 18 commonly recognized cryptocurrencies. The green list intends to eliminate the need for Japanese crypto exchanges to screen cryptocurrencies with the JVCEA each time they want to offer them on their platforms. The JVCEA allegedly stated in an online presentation that the digital assets on the green list will no longer be subject to review.
- Rio de Janeiro will begin accepting Bitcoin payments for taxes on residential and commercial property inside the municipal borders, also known as '*Imposto sobre a propriedade predial e territorial urbana'* (IPTU). Chico Bulhes, the Secretary of Economic Development, Innovation, and Simplification, revealed that the new pro-crypto tax rules will go into effect in 2023.