

## Regulatory Updates

### Increased regulation and scrutiny of Cryptocurrency markets

**Overview:** In light of an especially volatile cryptocurrency market, the period of April to March was characterised by advancements in the areas of taxation, consumer protection, and environmental sustainability for cryptocurrencies globally. On one end of the spectrum, the United States and Europe work towards enhancing existing frameworks and adopting an overall more permissive approach, while at the same time ensuring investor protection. On the opposite side, in Asia and the Middle East, countries like Turkey and China further tightened their comparatively restrictive approaches. All signs point towards the increased involvement of governments and regulators in a cryptocurrency market of rising popularity and importance.

### Regulatory developments in Europe:

Europe too is taking definitive steps towards regulatory standardisation and institutional adoption.

**Germany:** Starting on July 1st, new legislation in Germany will enable a special kind of investment fund known as "Spezialfonds" to invest as much as 20% of their portfolios in Cryptocurrencies. The new legislation could introduce as much as €350 Billion in institutional investment in the cryptocurrency market, [according to Boersen Zeitung](#). Spezialfonds are similar to Luxembourg's Special Investment Funds (SIFs), and Ireland's Qualifying Investor Funds (QIFs). Such funds are generally less restrictive, more flexible, and diversified than others.

Speaking to popular cryptocurrency news website Decrypt, Frank Schäffler, Member of the Bundestag mentioned that:

*"The addition of crypto assets in Spezialfonds is an important step for their acceptance" and continued, "The law is going in the right direction and we expressly welcome it"*

This development falls in line with other signs pointing to cryptocurrencies gaining increased momentum amongst Germany's regulators. Indicatively, in December of 2020, Deutsche Bank, Germany's largest, revealed plans for Crypto Custody.

**Ireland:** On April 23rd, [Irish regulators implemented](#) The European Union's Fifth Anti-Money Laundering Directive (5AMLD). As a result, businesses dealing primarily in the cryptocurrency space now have 3-month-period to register with the Central Bank. Additionally, virtual asset providers now must comply with the same know-your-customer (KYC), anti-money laundering (AML), and counter-terrorism financing (CTF) requirements as banks and other financial institutions. The implementation of this directive effectively puts a stop to anonymous cryptocurrency purchases and trading in the country.

**Spain:** Following the recent surge in the popularity of Bitcoin's in the country, Spain's Ministry of Finance issued a reminder/warning on the taxable state of cryptocurrencies and highlighted the harsh penalties for

cryptocurrency holders that fail to disclose their holdings. [Telemadrit](#) estimates that as many as 15,000 Spanish citizens will have to disclose their holdings in their tax statements.

## Regulatory developments in the US:

The US are taking definitive steps towards further bolstering cryptocurrency regulation, especially in areas that relate to taxation, consumer protection, and environmental sustainability. More specifically, and in terms of taxation, a [report issued by the US treasury](#) recognises the rising significance of cryptocurrency transactions, and outlines a new compliance plan that introduces additional requirements for businesses. Starting in 2023, businesses will be required to report transactions in cryptoassets that exceed a fair-market of \$10,000. By equating cryptocurrency reporting requirements to that of cash, the new provision aims to mitigate illegal activities and tax evasion. The news received a mixed response from the decentralised space. Neeraj K. Agrawal, director of communications at the thinktank Coin Center [commented on the technological neutrality of the new provision](#):

*"[...] As of now this rule looks technology neutral. Crypto same as cash. That seems good. (This) also only applies to intermediaries (and businesses). Not p2p transactions"*

Contrariwise, the price of the privacy focused coin Monero, that obscures the origins of transaction to ensure anonymity, increased by more than 30% following the Treasury's announcement.

**Consumer protection:** In terms of consumer protection, the newly appointed SEC chair, Gary Gensler, advocated on two separate occasions for additional measures. Appearing before the House Financial Services Committee on May 6th, Mr Gensler said that while the SEC is restricted to securities and products that might invest in cryptocurrencies, the Congress on the other hand could facilitate for regulatory clarity especially when it comes to cryptocurrency exchanges.

*"[...] Right now these exchanges do not have a regulatory framework at the SEC or at our sister agency, the Commodity Futures Trading Commission. There's not a market regulator around these crypto exchanges and thus there's really no protection around fraud or manipulation"*

On [May 21st](#), while speaking at the 2021 Financial Industry Regulatory Authority's (FINRA) annual conference, the Chairman mentioned that "(The SEC) should be ready to bring cases involving issues such as crypto" and further noted that "rules of the road" and constant monitoring are necessary to protect consumers", before admitting that the necessary framework has yet to be established.

The above statements followed important changes in the Safe Harbor proposal, introduced in February of this year. The Safe Harbor proposal aims to update US security legislation to provide more leeway for cryptocurrency tokens. Following feedback from the industry, Safe Harbor 2.0 may now facilitate for a "magic frog" solution, by allowing up to three years before determining whether a cryptocurrency token is a security, and thus subject to relevant regulation, or not. If the proposal materialises, a token could theoretically begin its life as a security (i.e., a magic frog) but through building a functional, decentralized network and growing participation in it to the point that the network is not reliant on the efforts of the founding team, the token could be transformed into a utility (i.e., the magic frog becomes a prince) and any securities law restrictions would no longer apply. Notably, this approach is one that the SEC [opposed in the past](#).

Finally, following growing concerns regarding the sustainability of Proof of Work (PoW), New York State Senator Kevin Parker [proposed a bill](#) that -if approved- will only allow Bitcoin mining facilities to operate, after review of their environmental impact.

## Regulatory developments in the Middle East & Asia:

On the opposite side of the spectrum, an increasingly inhospitable approach against cryptocurrencies is adopted by some countries from Asia and the Middle East.

**Turkey:** As the Turkish Lira slips to its weakest point against the dollar since November of 2020, in what was characterised by Commerzbank's analyst Tatha Ghose as “self-reinforcing spirals”, the Country's Central Bank announced the ban of Cryptocurrencies for payments for goods and services. The notice cited "irreparable" possible damages and risk as reasons for the prohibition and noted that cryptocurrencies are "neither subject to any regulation and supervision mechanisms nor a central regulatory authority".

A short week after the announcement of the ban, [2 large cryptocurrency exchanges went offline](#). Cryptocurrency exchange Thodex abruptly halted trading and customer withdrawals. Shortly after, Vebitcoin also blocked trading and prevented users from accessing its platform. Thodex's CEO claimed that the operations were a result of Cyberattack, whereas Vebitcoin cited "intense transactions" that put the exchange in a “[financially difficult position](#)”.

In response, the Turkish watchdog MASAK froze bank accounts, detained staff, and seized computers, with the Turkish government revealing plans to offer cryptocurrency custody with the central bank, likely to prevent the outflow of funds. Additionally, Turkey's ministry of Finance announced that cryptocurrency exchanges will soon have to comply with new additional rules. As a first in a sequence of measures, they will have to report information on trades or investments that exceed 10,000 Turkish Lira (~€960) to the government's financial crime agency. [Bloomberg reports](#) that Cryptocurrencies are especially popular amongst Turks seeking to protect savings threatened by the volatility of the Turkish Lira.

**China:** Despite the 4-year crackdown on local [cryptocurrency exchanges](#) and [ban of ICOs](#) announced in 2017, cryptocurrency trading remains popular in China. In a new round of prohibitions, Beijing banned banks and payment providers from providing services related to cryptocurrencies and issued new warnings for potential investors. While cryptocurrency mining has been tolerated in the country up until now, in what appears to be the beginning of new cycle of restrictions, China's Inner Mongolia region, Guangzhou, proposed new punishments, such as license revocations, for companies that participate in cryptocurrency mining.

**Japan:** Following the extreme price fluctuations in the cryptocurrency market, Haruhiko Kuroda, Governor of the Bank of Japan stated that “Most of the (cryptocurrency) trading is speculative, and (that) volatility is extraordinarily high”. Mr Kuroda joins the many central bankers and top policy makers from countries such as the EU, US, and the UK warning against cryptocurrencies as investment vehicles. As the discussion around the environmental impact of Bitcoin and other PoW-based blockchains escalates on a global level, Mr Kuroda also highlighted the BoJ's intentions to further incorporate environmental sustainability in their upcoming monetary policies.

**Singapore:** companies Singapore-based DBS, one of the largest banks in Southeast Asia has [successfully issued](#) a tokenized bond on-chain bond as part of a Security Token Offering (STO) with a total value of over €12 Million. The bond is traded on DBS' own cryptocurrency exchange called DDex.

Eng-Kwok Seat Moey, DBS' head of capital stated the following: “We expect asset tokenisation to increasingly become more mainstream as more of our clients start to embrace security token issuance as part of their capital fund raising exercise”

**S. Korea, Indonesia, and India** are too considering additional regulations. [According to The Economic Times](#), the Indian government is considering the formation of a panel of experts responsible for examining additional cryptocurrency regulations and the operationalisation the country's CBDC, the Digital Rupee. Reuters reports that S. Korea's minister of finance is considering cryptocurrency taxation as soon as next year. [The same source](#), reported on Indonesia's plans to tax cryptocurrency trading as an additional revenue stream amid the coronavirus pandemic.

## Market

Following a period of exuberance during the first half of April, which saw Bitcoin (BTC) prices around USD 63 000 (approximately EUR 54 000), May was characterised by a more bearish environment. Ethereum and the broader cryptocurrency market falling up to 60 % from all-time-highs on 12 May. Nevertheless, the surging market has clearly been impacting adoption and investments. Several of the most notable changes are described below:

- The worldwide payment provider [MoneyGram](#) announced a cooperation with [Coinme Inc.](#), a crypto exchange and Bitcoin ATM operator, to allow clients in the United States to swap their cryptocurrency holdings for cash at its point-of-sale locations around the country. MoneyGram also disclosed that consumers would be able to acquire BTC and cryptocurrencies as part of the announcement, expanding on the existing crypto-to-cash model pioneered by the almost 20 000 cryptocurrency ATMs around the world. MoneyGram's ability to acquire Bitcoin at its physical locations might be a big step for would-be first-time crypto users who are intimidated by dealing with internet crypto exchanges.
- Non-fungible tokens (NFTs) are bound to change how digital property and ownership rights are appreciated. An iconic video with millions of views on YouTube titled "[Charlie bit my finger](#)" was sold as an NFT for the price of USD 760 000. As NFTs are a type of certificate of authenticity, the original video will be unavailable to YouTube.
- Auctions for non-fungible tokens, or NFTs, have been added to [eBay's](#) platform. According to a Reuters report, eBay customers who match specific conditions would be able to offer NFTs on the market. In the future, the firm plans to enhance its regulations and tools regarding digital collectibles, according to the firm.
- [Ernst & Young](#), one of the Big Four accounting firms, is continuing to engage extensively in blockchain, investing USD 100 million in engineering and creating distributed ledger technology for a variety of corporate applications. Through its own EY Blockchain Analyzer software package, Ernst & Young announced its second-generation Smart Contract & Token Review capabilities. This includes a testing studio that allows simulated smart contract execution for sophisticated decentralised finance applications.
- [IOHK](#) revealed that it has been collaborating with the Ethiopian government to develop a blockchain-based method to monitor academic performance at local schools. According to the official government statement, Ethiopian schools will use the Cardano blockchain to track student achievement.
- In April, the [Cardano Foundation](#) also announced a partnership with Ethiopia to provide aid in solving real-world problems with the use of blockchain. One of the initial actions will take place in the educational sector with the objective of improving the quality of education for students. Cardano has established offices in Addis Abbaba and the launch of the project is slated for 2022.
- Another event that attracted public attention in April was the Coinbase IPO that was estimated at around USD 100 billion. Coinbase is a centralised cryptocurrency exchange platform with no official physical headquarters. This suggests the growing interest in the digital transformation that is happening with the blockchain technology. Researchers have shared their opinions on the matter and such an opinion was shared by Phillip Sander and Jong-Chan Chung in a blog post.
- In May 2021, a coal mine in China's Xinjiang province flooded and was forced to shut down. The consequent impact on China's Bitcoin mining sector emphasised the practice's continued reliance on coal. The mine's

closure coincided with a large decrease in Bitcoin's hash rate, the unit of measurement for the Bitcoin network's processing power. According to [Coin Metrics](#), the Bitcoin hash rate dipped to its lowest level since November 2020 during the mine shutdown.

On the subject of blockchain technologies in terms of CBDC, it is easy to note with confidence that more and more countries are beginning to show interest in innovations of this kind and are beginning to study their potential introduction into their economies.

Several of the most noteworthy examples (from April and May 2021) are described below:

- [The Bank of Israel](#) issued a statement announcing it was creating an action plan to investigate the economic benefits of a Digital Shekel. Even though the bank confirmed it had yet to decide whether to create a central bank digital currency, it noted its willingness to go ahead with the plan as long as the advantages outweighed the costs and possible risks.
- The European Investment Bank's EUR 100 million digital bond was a test of a digital currency issued by a European central bank. The digital bond was resolved using a CBDC on a blockchain, according to an announcement issued by France's central bank, [Banque de France](#). The two-year bond, having a maturity date of 28 April 2023, was issued on the Ethereum public blockchain on April 26, 2021 and settled the following day. Goldman Sachs, Santander, and Société Generale led the deal.
- [The Central Bank of Bahrain](#) formally declared it is currently working with JP Morgan and the Arab Banking Corporation BSC (Bank ABC) on a pilot plan to deliver an immediate cross-border payment solution based on digital currency technology.
- [The Kazakhstan National Bank](#) (NBRK) published a report on a digital tenge pilot project and launched a public consultation on the prospective digital currency of the Central Bank. The [Digital Tenge](#) publication reports is a new kind of money being produced by NBRK to enable the "future growth of the national payment system and the use of unique technical characteristics to lessen reliance on cash settlement." The bank emphasised that CBDC is not meant to replace cash or cashless payments but is used alongside existing payment methods.
- [The National Bank of Georgia](#) said it is contemplating introducing a CBDC. It announced this possibility in a statement, saying it wants to "improve the efficiency of the domestic payment system and financial inclusion." The NBG said fintech companies and other financial institutions will be invited to join in the initiative, known as "Digital Gel", following the country's fiat currency, the lari.
- Following years of research, the [Norwegian central bank](#), Norges Bank, is preparing to test several technical options for a central bank digital currency. Following the suggestions of an internal working group, the bank said that CBDC tests would be conducted over the next two years. "The working committee believes that the incentive for CBDC research has been reinforced. Many central banks are conducting comparable studies, and others are already doing technical testing," read the bank statement.
- The initial findings of [Sweden's central bank](#) digital currency pilot on a network based on R3's Corda blockchain were reported in a recent study. The bank modelled key components of a prospective CBDC system, such as liquidity supply via RIX, the bank's settlement system, and network members acting as e-kronor distributors. Participants, end-users, and payment devices such as mobile applications were also simulated by the central bank.
- [The Bank of England and Her Majesty's Treasury](#) have started early CBDC research that might lead to the formation of a national digital currency. The exchequer announced the formation of a CBDC task group in partnership with the UK central bank in a document issued by HM Treasury. According to the document, the task force will coordinate the work of all relevant statutory organisations in the UK in the establishment of CBDCs. The responsibilities of the task force include investigating preliminary concerns related to the design, implementation, and operation of a CBDC in the UK. The task group will also meet with academics, fintech companies, and other relevant businesses to examine the technological challenges that come with developing a sovereign digital currency.

- [The European Central Bank](#) (ECB) received more than 8 200 replies to its public digital euro survey, a new high for the bank in terms of public consultation participation. The majority of respondents, 43 % of all individuals and professionals who took part in the study, agreed that privacy was the most desired attribute for a hypothetical future digital euro. The ECB underlined in its research that “privacy is regarded the most crucial aspect of a digital euro by both individuals and professionals participating in the consultation, notably retailers and other businesses.” Security and the capacity to pay throughout the eurozone were cited as top considerations by 18 % and 11 % of respondents, respectively, in the survey. A total 9 % of respondents underlined the significance of reducing extra charges, while 8 % highlighted the requirement for a digital euro to be used offline.

The further development of the digital yuan in China should also be noted. According to [Bloomberg](#), the Hong Kong Monetary Authority personnel certified last week that the currency's cross-border usage had passed the first level of testing. Multiple parties participated in the early testing, including chosen merchants and a bank recognised by mainland Chinese authorities.

Traditional businesses are also showing interest in the development of the national digital currency. As an example, Alipay, Ant Group's mobile payment network, will soon allow some of its customers to engage in the digital yuan commerce ecosystem. This new functionality is the result of MYbank's involvement in the country's extended digital currency electronic payment testing processes, according to [a report by China Securities Journal](#).

## Technological Trends & Developments

### Eth 2 latest updates

Over 144 500 total validators, 4.7 million ETH staked, and an increase in new deposits summarise the latest updates surrounding the Ethereum 2.0 Beacon Chain. As [outlined here](#), the first incident occurred on the beacon chain on 24 April when a vast number of blocks started to go missing. Typically only 1 % of beacon chain slots are missing their block, while in the incident period, more than 70 % of the slots were empty (403 out of 560 slots). The incident [was due to a bug](#) in the Prysm client. The incident resolved itself when the network voted in a new Eth1 deposit root, which takes places every 7 hours approximately. The Prysm team fixed the issue. According to the latest updates, the Merge, the point in which we transition from Ethereum Proof of Work over to Proof of Stake by merging it with the beacon chain is slated for the end of the year. Vitalik Buterin, Ethereum co-founder, [has outlined in a post](#) some less appreciated benefits of Ethereum's PoS. The transition will require much lower resource expenditure than PoW needs and the economic finality. Secondary benefits are outlined below:

- **Block Time Distribution:** PoS will introduce a regular schedule of one block per 12 seconds. This, in combination with EIP 1559, will massively improve Ethereum's User Experience.
- **Faster pre-finality confirmation:** It takes two epochs for a block to be confirmed and confirm the feasibility to be reverted. The PoS version, even after 12 seconds, will mark hundreds of attestation supporting it, which will render it very difficult to revert.
- **Better Light client protocols:** While there are many PoW light clients, they are resource-demanding to turn on and maintain. A PoS light client protocol is [well-designed](#), and requires only a few kilobytes per day to remain in sync.
- **Faster ability to detect network issues:** In a PoW, if half of the nodes go offline or are affected by a bug or attack, it will take time to become known. In a PoS, if participation drop from 99 % to lower within a slot, it will be immediately noticed.

## Bitcoin's Taproot Upgrade

**Taproot** is expected to be the most significant Bitcoin upgrade since 2017. It has led to a hard-fork of the network. Taproot has achieved the required minimum of miners signalling support to proceed with the upgrade. As defined by the Speedy Trial rules, at least 90 % of blocks mined within one of Bitcoin's difficult periods need to signal support for the upgrade to be locked in for activation in November 2021. The long process, which started on 1 May 2021, requires six possible signalling periods to initiate the Taproot Speedy Trial activation process. While the upgrade will only affect two lines of code, the Taproot will introduce a new signature scheme known as the Schnorr signatures. Schnorr signatures are similar to the Elliptic Curve Digital Signature Algorithmic, which is currently being used. Schnorr signatures were invented much earlier than ECDSA, and many researchers wonder why they haven't been integrated from the start. The most logical explanation is that the patent expired in early 2008.

For this reason, might likely Satoshi Nakamoto decided to proceed with the open-source ECDSA. Schnorr signatures are simpler compared to other alternatives. This is why they are considered more secure. Schnorr signatures also have another competitive advantage: linearity. Linearity supports certain activities. Multi-signature transactions are the most noteworthy of activities. In contrast, the Bitcoin network already supports multi-sig (requiring more than one key to authorise a transaction), which is resulting in both economic viability and reduced privacy. Schnorr signatures will introduce features such as signature aggregation, which merges signatures from multiple parties into a single "master signature".

## AURORA Layer 2 launching on NEAR Protocol

Aurora, a new Ethereum Layer 2 blockchain, has been released and using NEAR as the underlying protocol, together with its development-friendly features such as sharding and developer gas fee remuneration. Aurora consists of two components. The first is the Aurora Engine runtime, which allows deployment of Solidity & Vyper Smart Contracts. The second is the Aurora Bridge, which provides permissionless transfer of tokens and data between Ethereum and Aurora. Aurora fees are expected to be a thousand times lower than Ethereum, host thousands of transactions per second. It also inherits the fast finality from the underlying NEAR Protocol, which is approximately two seconds. Fast finality is critical and avoids the inherent risks of frontrunning attacks. Aurora implements a smart contract on the NEAR Blockchain, which implements two primary interfaces: Execution and Token. Aurora will use ETH as the base currency for the gas costs in terms of protocol economics. Most Ethereum layer 2s require developers and users to acquire L2's native tokens.

## Understanding Flashbots

**Miner Extractable Value (MEV)** is consensus security that models miners' profit for their activity to include, exclude or re-order transactions for the blocks they produce. Users of Ethereum express their interest to pay for inclusion in a block through the number of gas costs they are willing to pay to the miners. Miners select the transactions with the highest gas fee and prioritise them. Decentralised finance has introduced arbitrage opportunities, with the concepts of frontrunning and backrunning. Backrunning further incentivised bad actors. These have caused inefficiencies such as network and chain congestion. Particularly in cases of transactions that change the pricing significantly, this may cause traders to earn or lose considerable monetary resources. Miners who are usually knowledgeable about such opportunities may profit from such activities at the loss of users. [A 2019 study](#) already explored the phenomenon, suggesting that sophisticated bots operators profited from MEV in Ethereum. Bots were searching the Ethereum mempool to identify new MEV opportunities by copying and frontrunning users' transactions. Flashbots is a research and development organisation aiming to

mitigate the negative externalities of current MEV to avoid existential risks that MEV could cause to state-rich blockchains like Ethereum. April and May 2021 has been a period of tremendous growth and experimentation for Flashbots. Released in January 2021, Flashbots Alpha v0.1 introduced a communication channel between miners and users that enables transparent and efficient MEV extraction. Users who send transactions on Flashbots, called searchers, can send transactions directly to miners and bid for inclusion in a block. The v0.2 upgrade was released on 17 May 2021 and introduced new and upgraded [features, as outlined here](#).

- Bundle merging: More revenue for miners, the higher chance of inclusion for searchers.
- Revamped auction pricing: Solve for bundle stuffing and maintain compatibility with gas price payments.
- Discard bundles with reverting transactions: avoid unintended transactions from landing on the chain leading to less chain bloating
- Replace HTTP endpoints with WebSockets: Reduce latency, improved node security for miners.

Mining pools that account for more than 80 % of the Ethereum network have adopted Flashbots, while the searchers' community has grown significantly.

## Towards External Calls for Blockchain and Distributed Ledger Technology

It is widely accepted that blockchain protocols cannot execute calls to external systems since each node has to reach a deterministic state. However, this does not mean that different nodes cannot undertake additional computation. Consensus can be achieved as long as they reach the same. Dr J. Elul and Dr G. Pace from the Centre for Distributed Ledger Technologies [have published a paper](#) and a prototype demonstrating verifiable external calls. In this prototype, the academics have shown how blockchain and DLT systems can make external calls by using verifiable signed responses. This requires the service can provide signed responses back, but the paper argues that it is not a problem for the following two reasons. First, oracles are currently required to pay fees to inject information into the chain. However, using this approach, the oracle would not have to pay fees. Secondly, signed web responses have been proposed to be introduced in web protocols, which are eventually used as a standard according to the paper.

## DFINITY Foundation launched the Internet Computer Network

As outlined by the Dfinity Foundation, the Internet Computer Network is a new decentralised system used for running all the applications we are familiar with, from Web 2.0 to blockchains such as Ethereum. It is described as "a new type of blockchain computer with infinite capacity and performance that rivals the traditional cloud". The particular node machines hosting the network are operating under the complete control of the Network Nervous System (NNS). The NNS is a decentralised and tokenised open governance system. The main innovation behind the Internet is Chain Key Technology, which accelerates new technologies such as the consensus mechanism Non-Interactive Distributed Key Generation (NI-DKG), the Network Nervous System, the Internet Identity and more. The Internet Computer Network will accelerate its initial debut with use-cases such as building front-end websites, which are pivotal for decentralised applications to become more resistant to regulation and censorship. TIC runs a network of database centres distributed around the world.

## Cardano & Scantrust collaboration

The Cardano Foundation, in collaboration with Scantrust, announced a [supply chain traceability and anti-counterfeit solution](#) which aims to enhance transparency, promote trust and assist brands to retain customers. This particular solution leverages metadata on the Cardano blockchain.



## Chrysalis Network launched by IOTA

The IOTA foundation launched the Chrysalis Network following the migration period<sup>(Error! Reference source not found.)</sup>. The updates are affecting an extensive number of the network aspects like protocols, libraries and wallets. [Another update by the IOTA foundation was announced in May 2021](#). This was a beta release for IOTA Identity. The solution is a Self Sovereign Identity (SSI) that will allow people and machines to create and manage their identity. The continuous updates aim to achieve the objective of the foundation to be the backbone in the IoT sector in a more efficient way.

## Oracles by Chainlink

Chainlink is actively committed to further developing Oracles, as well as refining and expanding their functions and roles on the blockchain. Its latest effort resulted in [a whitepaper issued in April 2021](#). Presenting the collaborative work of researchers in various fields, the whitepaper elaborates on a framework for multiple interoperating Decentralised Oracle Networks (DONs).

## Algorand Blockchain Open API Connector is live on the SAP API Business Hub

As is the case with all projects, Algorand is also announcing developments. [One very interesting announcement was made in May 2021](#). Specifically, it was announced that the Algorand Blockchain Open API Connector is live on the SAP API Business Hub. This is exciting news since it's an effort that aims to allow centralised and legacy systems to eventually harness the benefits of smart contracts. Moreover, similar efforts enhance the interoperability between systems.

## Stellar blockchain & the decentralisation power

In April 2021, there was an incident on the Stellar blockchain which showcased the decentralisation power. Stellar remained online and active to process transactions, [while the entirety of the SDF node was down](#). A blog entry explained in detail the [continuous availability of the network](#). In brief, nodes encountered an issue that resulted in halting their activity. On the other hand, the network was uninterrupted as there were sufficient validators for the transactions until a resolution to the issue was made available. Similar incidents demonstrate the power of decentralisation that are generally fault-tolerant and free from single points of failure by moving away from centralised structures with servers.