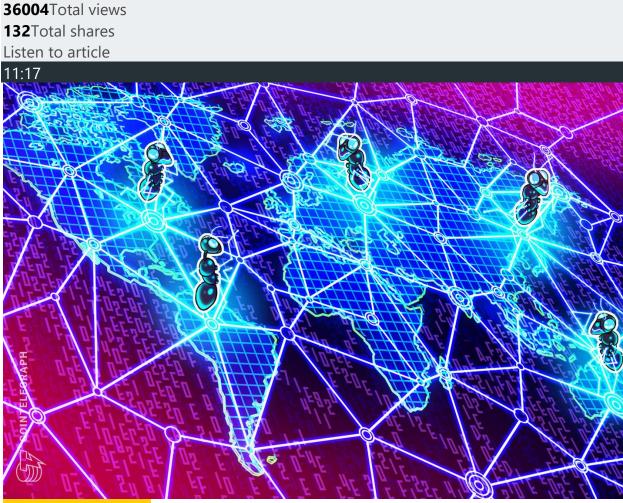


DEC 28, 2020

12 of the biggest enterprise blockchain players of 2020

The enterprise blockchain space in 2020 looks a lot different from previous years, demonstrating the continuation and a drive to mature and advance.



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Enterprise blockchain started gaining traction in 2017 shortly after Bitcoin had reached its all-time high of nearly \$20,000. Since then, enterprise blockchain has mainly been defined by private blockchain networks used by businesses for things such as supply chain management.

The enterprise blockchain space has changed quite a bit since 2017. For instance, 2020 has brought in a number of enterprise blockchain use cases that leverage public networks rather than private ones. The COVID-19 pandemic has also driven many companies, both large and small, to use blockchain for guaranteeing proof-of-health or to revive tourism. Finally, some blockchain companies this year have started showing an interest in decentralized finance, taking steps to drive this new sector.

Listed below are a total of 12 companies and solutions that have made strides in the enterprise blockchain space this year.

Ernst & Young

Big Four firm Ernst & Young has played an active role in enterprise adoption. The firm was one of the first to explore the cryptocurrency space in 2016 when the company conducted a survey to better understand the potential of digital assets. Since then, EY has been leading the way for public enterprise blockchain adoption.

For example, EY continues to contribute to the <u>development of the Baseline Protocol</u>, which uses the Ethereum public mainnet as a tamper-resistant state machine to record business data. In May 2019, EY <u>open-sourced its Nightfall code</u> for conducting private transactions on the Ethereum blockchain.

Moving forward, EY plans to make Nightfall and zero-knowledge proofs easier to use for developers. Paul Brody, blockchain lead at EY, previously told Cointelegraph that developers will eventually shift from building decentralized applications to creating zero-knowledge applications, or "ZApps," with EY's blockchain solutions.

IBM

Big Blue's open-source blockchain for business platform is powered by Hyperledger Fabric, an important technology that has contributed to the growth of the IBM Blockchain platform. For example, the IBM Food Trust network is currently being leveraged by major food producers, such as Nestlé, Dole and olive oil giant CHO.

The Food Trust network dates back to 2016 — one of the earliest examples of enterprise blockchain when <u>IBM blockchain was being leveraged by Walmart</u> to determine food products that needed to be recalled. Another important project powered by IBM Blockchain is Maersk's TradeLens platform, which helps <u>shipping giants digitize their supply chains</u>.

In addition, the Digital Health Pass platform uses IBM Blockchain to help provide verifiable health credentials, which has become extremely important due to the COVID-19 pandemic. IBM Blockchain's partnership with the American software company Red Hat is also notable in terms of open-source development and a <u>cloud strategy that heavily relies on blockchain</u> technology.

Hedera Hashgraph

The decentralized public network Hedera Hashgraph was developed in 2016 with the goal of enabling developers to build secure applications with near real-time finality. Since then, Hedera's network has grown to be owned and governed by an impressive list of companies, including Google, IBM and Boeing.

Hedera has recently demonstrated an important blockchain use case with the release of its "SAFE HealthCheck" app, which is being applied for remote COVID-19 testing. The app is currently <u>being used at Arizona State University</u>, where it provides over 70,000 students and staff members with remote testing and digital health status verification. The Hedera Consensus service, <u>the company's enterprise blockchain solution</u>, is also being used for other important use cases including acting as an <u>early-warning system for airstrikes in Syria</u>.

IconLoop

South Korean blockchain company IconLoop was founded in 2016 to enable real-world blockchain applications within the banking, healthcare and government sectors. The company is headquartered in Seoul and has raised over \$15 million in funding. IconLoop recently announced that Jeju Island, a tourism hot spot in South Korea, will use its Decentralized Identity blockchain to provide secure COVID-19 contact tracing.

It's also notable that The Financial Services Commission recently approved IconLoop's decentralized identity authentication service into the "Innovative Financial Services and

Regulations Sandbox." In October this year, Cointelegraph reported that <u>IconLoop</u> <u>secured \$8 million in a Series A funding round</u>, which will be used to help launch a blockchain-based digital identity authentication service called my-ID.

World Economic Forum

The World Economic Forum Global Blockchain Council was <u>developed</u> to help advance blockchain technology for the global public interest. As such, the WEF council has launched a number of initiatives that leverage blockchain for public development. In May of this year, the council developed a list of <u>blockchain principles</u> to protect the rights of those in the blockchain community.

Understanding the risks and benefits of blockchain, and the right to store and manage cryptographic keys are included on the list. The blockchain council also recently launched a proof-of-concept to track greenhouse gas emissions from mining and metals companies across a blockchain network. It's also notable that the WEF believes that blockchains can enable sustainable digital finance.

PayPal

PayPal, one of the largest online payments systems, has taken a keen interest in cryptocurrency and blockchain since 2014. It was during this time that the company announced it would enable merchants to accept Bitcoin (<u>BTC</u>) through Braintree via several partnerships. The company <u>noted</u> it was looking for a way "to understand how to leverage blockchain to better serve merchants and users."

In 2016, PayPal's administration became interested in developing its own blockchain to enable high-speed transactions using digital currencies. However, PayPal really shook up the crypto sector this year when the company announced plans for a new <u>service to support cryptocurrency starting in early 2021</u>. In November of this year, <u>PayPal's crypto trading and payment platform went live for U.S. users</u>. PayPal's recent entry into the cryptocurrency market is <u>predicted to impact the price of Bitcoin</u> moving forward.

Microsoft

Software giant Microsoft offers a blockchain-as-a-service through its cloud computing arm, Azure. While many companies such as GE Aviation and Starbucks leverage Microsoft's blockchain platform for supply chain management, the company has taken a much larger role in blockchain development.

Most recently, Microsoft announced a partnership with EY to use the <u>Ethereum</u> <u>blockchain for Xbox gaming royalties</u>. In regards to the pandemic, the Albany Airport is trialing a "Wellness Trace App" to ensure cleanliness of surfaces inside the airport. The app is <u>powered by the Microsoft Azure blockchain</u>. In June of this year, Microsoft joined the InterWork Alliance to help <u>create global standards for tokenized ecosystems</u>.

Visa

Payment giant Visa has shown an interest in blockchain and cryptocurrency since 2015 when it made an investment in blockchain startup Chain. In October 2016, Visa announced a preview of "Visa B2B Connect" as a system powered by Chain to quickly and securely process business-to-business payments globally.

Visa's early efforts in the blockchain space eventually flourished into groundbreaking developments in fintech. For instance, Visa now powers a number of crypto debit cards, like those from <u>Binance</u> and <u>BlockFi</u>. In December of this year, Visa joined forces with blockchain services company Circle to make USD Coin (<u>USDC</u>) stablecoin transactions compatible with certain credit cards.

However, Visa's growing interest in fintech has also been met with scrutiny. In January, Visa acquired fintech firm Plaid, which was <u>criticized by the U.S. Department of Justice</u>, <u>provoking a lawsuit</u> against the payment provider.

JPMorgan

JPMorgan Chase is the biggest bank in the United States and one of the largest financial holdings in the world. The organization showed an interest in blockchain in 2017 when JPMorgan joined the Enterprise Ethereum Alliance, an association comprising companies interested in advancing the Ethereum blockchain.

In 2018, the banking giant published the "Bitcoin Bible" to explain to investors the positives and negatives of investing in crypto. In February 2019, JPMorgan announced its <u>"JPM Coin" to help banks settle transactions quickly</u>, which was subsequently launched in 2020. JPMorgan also leads the <u>Interbank Information Network</u>, a blockchain consortium consisting of over 130 banking partners that use distributed ledger technology to enhance compliance and reduce processing delays.

Related: JPM Coin debut marks start of blockchain's value-driven adoption cycle

While JPMorgan is clearly pro-blockchain, the firm has taken a harsh stance toward Bitcoin over the year, <u>yet this outlook seems to be changing</u> as the price of Bitcoin continues to reach new all-time highs.

Baseline Protocol

Announced in March of this year, the Baseline Protocol initiative was launched as an Oasis open-source project to enable advanced interoperability for blockchain applications. Baseline Protocol started with 14 founding companies and has since grown to a community of over 700 members, with sponsor organizations, such as <u>Accenture and ConsenSys supporting the project</u>.

The Baseline Protocol is attempting to <u>resolve the blockchain interoperability dilemma</u>, which will ultimately bring more organizations onto the Ethereum blockchain. Currently, big companies, such as <u>Coke One North America</u> and SAP, are leveraging the Baseline Protocol to synchronize and share business data among multiple participants.

The Baseline Protocol, with help from enterprise blockchain company Provide offering "Baseline-as-a-Service," will eventually pave the way for enterprise DeFi. This will allow businesses to move items of value, such as financial data included in invoices, across various networks.

Salesforce

Software giant Salesforce rolled out its first blockchain-based product in May 2019. Known as "Salesforce Blockchain," this is a low-code blockchain platform that extends the power of Salesforce's customer relationship management system, or CRM, which caters to over 150,000 customers.

Salesforce previously told Cointelegraph that its blockchain is meant to connect businesses with IT teams to drive ROI. The product is used by a number of companies, such a Automobili Lamborghini — the Italian automobile brand — <u>to authenticate</u> <u>heritage Lamborghini cars</u>.

In April of this year, Salesforce <u>integrated Lition's commercial blockchain technology</u> to help the company leverage data decentralization in its CRM. Most recently, Salesforce <u>partnered with IBM</u> to bring IBM's blockchain-based Digital Health Pass onto the Salesforce platform.

Fujitsu

Japanese IT company Fujitsu began showing interest in blockchain technology as early as 2016. In 2017, the IT giant announced that it was <u>developing blockchain software</u> <u>powered by Hyperledger</u> for data handling, access and distribution. Shortly after this, the company announced plans to <u>commercialize its enterprise blockchain solution</u>, making Fujitsu a direct competitor with IBM's blockchain solution. Most recently, Fujitsu has taken an interest in digital identity, leveraging its <u>blockchain</u> <u>solution to detect a user's identity and credentials</u> for online transactions. It's notable that Japan's third-largest bank, Mizuho Bank, along with local payments giant JCB, <u>plans</u> <u>to pilot a digital identity interoperability system</u> powered by Fujitsu's blockchain solution.

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- <u>#PayPal</u>
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New name, old problems? Libra's rebrand to Diem still faces challenges

The Diem Association's rebrand from Libra was supposed to herald a new day for the project, but a touted 2021 launch may not go as planned.

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Facebook-backed Libra Association's rebrand to Diem looked to quash negative perceptions of the project, but its new name has not changed the regulatory pressures the project still faces.

It has been <u>18 months since</u> Facebook announced that it was looking to launch its very own payments system project that would plug into its social media platforms. <u>Interest in the Libra project quickly turned to scrutiny</u>, especially from regulators, financial institutions, central banks and major governments.

Facebook <u>faced intense pressure from the United States Senate</u> and even <u>more from the</u> <u>House Financial Services Committee</u> over its plans to launch the Libra project, given that its social media platform is <u>used</u> by a considerable portion of the world's population. There were understandable fears that the sheer number of people that would have access to the Libra platform would have an effect on conventional financial and payment systems.

As the pressure mounted on Libra, it had to address a number of concerns from detractors and continued to kick its launch date further and further down the road. Nevertheless, the development of the platform, <u>built on blockchain infrastructure</u>, continued behind the scenes.

Toward the end of 2020, a report surfaced claiming that the Libra project would finally launch in early 2021. The report outlines that <u>its native token would be pegged to the U.S. dollar</u> but would inevitably serve as a stablecoin pegged to individual fiat tokens as opposed to the original plan that involved a basket of tokens.

Then, early in December, the Libra Association <u>officially announced that it would be</u> <u>rebranding</u> to the Diem Association — the word *diem* meaning "day" in Latin. The reasoning behind the move was to escape out from under the regulatory cloud that has hung over the Libra project since it first came into the public domain. In the announcement, Diem Association CEO Stuart Levey said that the change signaled a "new day" for the project, which still hopes to provide an innovative platform for billions of people to transact with each other.

Novi, the digital wallet that is set to integrate with the Diem payment system, also went through a rebrand <u>earlier this year</u>. A representative told Cointelegraph in May that Novi had received the necessary licensing and approval to launch and is expected to be integrated into Facebook Messenger and WhatsApp.

There's already another Diem

The positive publicity surrounding the Diem Association's rebrand was fairly shortlived, <u>as news broke of a potential legal battle</u> with a fintech startup based in the United Kingdom that already operates under the name Diem. An October article published by Forbes <u>highlights</u> that this other Diem application had already launched. The platform is an online pawn service that allows users to liquidate physical assets into cash.

Essentially, the U.K.-based Diem purchases a user's assets and credits their online account instantly, offering a cash-for-assets service that doesn't require an actual bidder for a sale. It also offers a physical debit card linked to the user's digital account. The project is still in its infancy and was only in a beta testing phase just a couple of months ago. Nevertheless, its leadership intends to protect its brand identity, <u>following</u> the advice of legal experts.

<u>Dean Steinbeck</u>, a corporate lawyer in the U.S., told Cointelegraph that the primary purpose of trademark law is to protect consumers from being unsure of the source of the products and services they consume, further adding:

"As a result, a complex body of law has developed to allow companies to register trademarks and settle disputes. When deciding if one mark conflicts with another, courts look at the relatedness of the marks and the relatedness of the products and services. If the marks are confusingly similar they cannot co-exist."

Steinbeck then highlighted the fact that things are far more complicated when it comes to international trademark law. This is due to the fact that trademark protection is based on consumer protection, which is limited to the geographic region where that trademark is used and recognized by its consumers: "It's unclear how related Facebook's stablecoin is to Diem's 'digital pawnbroker' platform. My guess is not very." Therefore, users are unlikely to confuse the two products.

Steinbeck further stated that while the U.K.-based Diem might be crying foul about Libra stealing its name, the truth of the situation is far more nuanced and complicated: "My guess is that Diem will use this publicity to gain users and receive a settlement from Facebook." But that may prove to be an impossible task due to the vast resources that Facebook possesses.

With that said, Steinbeck also conceded that the U.K.-based Diem can easily prove that it used the trademark first due to the fact that it has been operational for some time and has users on its platform. The Diem Association, on the other hand, has not yet launched its offering, so it's fairly clear that the other Diem was the first to use the trademark in Europe.

Facebook executive says Diem deserves the "benefit of the doubt"

While it's still not clear if and when the Diem Association will face a legal challenge from the similarly named U.K. company, it's full steam ahead, with 2021 looming on the horizon. On Dec. 8, during the Singapore FinTech Festival 2020, Facebook Financial head <u>David Marcus</u> said that the association plans to launch the Diem cryptocurrency and its native crypto wallet, Novi, <u>sometime in the new year</u>.

Given the bumpy road that the project has traversed over the past 18 months, Marcus called for the general public to give Diem a chance to showcase how it could potentially improve the payments landscape for a large number of people around the world: "I don't think what we are asking for is just immediate trust. I think [...] what we're asking for is at least to have the benefit of the doubt."

Launch still hinges on regulatory approval

Once again, the actual launch of Diem is still subject to the necessary regulatory approvals from the Swiss Financial Market Supervisory Authority, or FINMA. This process has been ongoing since April when the then-Libra Association <u>applied</u> for a payment system license.

Nevertheless, that hasn't swayed the view of some, like Germany's finance minister, Olaf Scholz, <u>who told a meeting of G-7 finance ministers</u> that the project would not get the green light in the country if it did not address ongoing regulatory concerns. In October, the G-7 released a draft document indicating that <u>the launch of Diem would be</u> <u>opposed</u> until it "adequately addresses relevant legal, regulatory, and oversight requirements."

All the while, Facebook has faced intense pressure from the U.S. Congress and Federal Trade Commission over allegations of <u>widespread anti-competitive practices</u> over the past 10 years. The FTC has filed a lawsuit pertaining to these points, with the end goal to force the spin-off of its acquired entities such as Instagram and WhatsApp into independent companies.

Cointelegraph reached out to the Diem Association with a range of questions related to the reception of its rebrand, but a representative declined to comment on any specifics, instead referencing previous press releases for information that has long been in the public domain.

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Corporations and institutional investors seeking an alternate store of value amid the pandemic crisis drove crypto to new heights in 2020.

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The COVID-19 pandemic dominated the news in 2020, affecting myriad sectors — health, economics, social justice, politics and trade, as well as the cryptocurrency and blockchain industry. As country after country locked down to halt the virus's spread, governments seized upon stimulus payments to preserve economic life.

While necessary, these measures raised the specter of global inflation. This, in turn, pushed many traditional investors and institutions to take a new look at cryptocurrencies as an alternate store of value, especially Bitcoin (<u>BTC</u>), the top crypto. Following a March 11 dip, BTC went on a tear, reaching record levels by year end. With that as a backdrop, here are 2020's top 10 stories of the crypto and blockchain world.

Bitcoin soars to record heights

The world's oldest and most widely held cryptocurrency shattered price records and then some in 2020. Now, at the end of the year, Bitcoin's market cap is standing at about \$500 billion — surpassing Visa and Berkshire Hathaway — and its price on spot markets <u>continues to inch toward \$30,000</u>.

The pre-rally record high of \$19,850 was set in December 2017 by retail traders in Asia (many of which just discovering cryptocurrencies) driving the price, but this year, it was by mature investors continuously purchasing increments of Bitcoin and often holding it off-chain as a long-term investment, as the New York Times <u>noted</u>.

"We're seeing fresh stories about institutional crypto adoption on almost a daily basis at this point," Bitcoin Depot CEO Brandon Mintz <u>told Cointelegraph</u> in mid-December. MicroStrategy, Square, Paul Tudor Jones, Guggenheim Investors and even venerable insurance company MassMutual were among those purchasing BTC in 2020. "We are being driven by corporations and billionaires now, not just retailers," said Minerd.

Decentralized finance bursts forth

"2020 was unequivocally the year of decentralized finance," declared Da Hongfe, the cofounder of the Smart Economy network, in a <u>Cointelegraph op-ed</u>. True to that, the amount locked in DeFi had soared to almost \$15 billion on Dec. 30, compared with only \$658 million at the beginning of the year, according to <u>DeFi Pulse</u>.

Indeed, a new term, "<u>yield farming</u>," entered the crypto lexicon. In return for staking one's BTC or Ether (<u>ETH</u>) as collateral with a DeFi firm, a user might receive a governance token <u>enabling</u> the holder to "debate, propose, and vote on all changes to the [platform's] protocol."

Ownership of these governance tokens became quite lucrative in 2020. First issued in June, Compound's COMP rose in value from \$61 on June 18 to \$382 on June 21 following its <u>launch on United States exchange Coinbase Pro</u>. It is <u>closing</u> the year at \$148 on Dec. 31, 2020.

DeFi is a "game changer," Giuseppe Ateniese, a professor at the Stevens Institute of Technology, <u>previously told Cointelegraph</u>. "With decentralized finance, there's no human in the loop, no server, no organization. There's no bias." It isn't like a traditional car loan, where if the borrower defaults, the bank goes after the car seeking repossession, he explained. "With DeFi, assets are digital and locked/committed through smart contracts. If I don't pay the loan back, the digital asset that I used as collateral is taken, and there is nothing I can do about it."

PayPal deals in crypto

It took Bitcoin 12 years to gain 100 million users. Then, in a single month, the network additionally gained a potential 300 million more users as payments giant PayPal announced it would allow users to buy, sell and hold Bitcoin, Ether, Bitcoin Cash (<u>BCH</u>) and Litecoin (<u>LTC</u>).

"It's already having a huge impact," <u>declared</u> Pantera Capital in November. "Within four weeks of going live, PayPal is already buying almost 70% of the new supply of bitcoins." The following month, Pantera updated: "Within two months of going live, PayPal is already buying more than 100% of the new supply of bitcoins."

Bitcoin survives quadrennial halving

Bitcoin halvings, designed to limit BTC's issuance rate — which is capped at 21 million units — occur roughly every four years, and they are typically marked by some anxiousness. They are analogous to a company telling its workers to expect a 50% pay cut. Here, it is the block reward for the Bitcoin network's validators, known as miners, that is sliced in half.

The May 2020 halving reduced miners' block reward from 12.5 BTC to 6.25 BTC, and it came and went without calamity — no exodus of miners or collapse in the network's computing power (hash rate), as <u>some had feared</u>. Seven months later, Bitcoin is selling at roughly three times its pre-halving level (\$8,566 on May 11).

China tests, but The Bahamas launches world's first CBDC

The race to issue the first central bank digital currency, or CBDC, at scale moved closer to resolution in 2020, with China's August announcement of a <u>trial run of its digital</u> <u>yuan</u> in four city hubs — Shanghai, Beijing, Guangzhou and Hong Kong — a test area with 400 million people, or about 29% of the country's population.

Many anticipated China's digital currency electronic payment (DCEP) project would soon achieve full rollout, but disagreements arose as to its significance. Would a digital yuan challenge the U.S. dollar as the world's reserve currency, as the Financial Times feared?

The publication <u>wrote</u> in August: "China's rapid development of a central bank digital currency has the potential to upset the global monetary order."

Or are CBDCs still so riddled with unsolved problems, such as fraud prevention and cyber attacks, that <u>launching one now at scale would be irresponsible</u>, as United States Federal Reserve chief Jerome Powell implied in October?

In any case, China will not have the world's first CBDC. That distinction belongs to The Bahamas, an island nation in the West Indies that made history on Oct. 20 with the official <u>launch of its central bank digital currency</u>, the so-called Sand Dollar, built on a blockchain platform.

MicroStrategy goes all in on BTC

2020 was the year publicly owned corporations and institutional investors started to move the crypto needle, and no listed company embraced crypto with quite the fervor as MicroStrategy, a Nasdaq-listed business intelligence firm. Not only had it accumulated \$250 million in Bitcoin by August, but it made BTC its primary corporate reserve treasury.

As CEO Michael Saylor <u>explained</u>, unprecedented government stimulus measures undertaken to combat the COVID-19 crisis were expected to have a "significant depreciating effect on the long-term real value of fiat currencies and many other conventional asset types, including those traditionally held as part of corporate treasury operations." In this new world, Bitcoin is a dependable store of value "with more longterm appreciation potential than holding cash."

MicroStrategy continued to purchase BTC through the year, and in late 2020, it raised \$650 million through the sale of convertible notes to buy even more Bitcoin. As of Dec. 21, the company <u>held a total of 70,470 BTC</u>, purchased at an average price of \$15,964 per Bitcoin. The Wall Street Journal <u>marvelled</u> at the firm's transformation, asking: "Is this a publicly traded company or is it a hedge fund?"

Coinbase probes IPO waters

In December, exchange Coinbase announced a bid to become the first crypto-native corporation to be listed on a major U.S. stock exchange. The 35-million-customer company could be <u>valued at \$28 billion</u>, according to research firm Messari, if its initial public offering comes to fruition.

"It is a massive event," Vladimir Vishnevskiy, director and co-founder of Swiss wealth management firm St. Gotthard Fund Management AG, told Cointelegraph, and <u>not only</u> <u>in the U.S. but in Europe too</u>, because "the IPO will provide a marker in terms of how markets are ready to value such companies."

The IPO is a "milestone for the crypto industry," <u>noted</u> *Fortune* magazine. "It's far from clear, however, whether the United States Securities and Exchange Commission would sign off on such an arrangement." Coinbase stirred some controversy in 2020 for discouraging employees from political activism in the workplace, and in November, the New York Times reported that some of Coinbase's black employees had <u>voiced concerns</u> <u>of discriminatory treatment</u>. Others noted the exchange was <u>still plagued by untimely</u> <u>service outages</u> during times of high price volatility.

Even so, the IPO announcement <u>is a major event</u>, said University of Texas finance professor John Griffin, "showing that the path of Coinbase to work within the regulatory process is an economically profitable one."

Telegram Group abandons TON project

Telegram Group Inc. had sought to build a decentralized blockchain platform along the lines of Bitcoin and Ethereum — only better, that is, "vastly superior to them in speed and scalability," <u>according</u> to Pavel Durov, founder and CEO of the open-source encrypted messenger service firm, with some 300 million users globally. But Telegram <u>failed to overcome resistance from the SEC</u> and pulled the plug on its TON (Telegram Open Network) project in May.

The Dubai-based firm had already raised \$1.7 billion to launch the project's "Grams" token, but the SEC deemed the coins to be unregistered securities and moved to halt their distribution — not just in the U.S. but anywhere in the world. A federal court gave the agency preliminary support.

"We are still dependent on the United States when it comes to finance and technology," <u>wrote</u> Durov in a blog, adding: "This may change in the future. But today, we are in a vicious circle: you can't bring more balance to an overly centralized world exactly because it's so centralized." Telegram had the participation of a number of prominent investors, including blue-chip venture capital firms Kleiner Perkins and Sequoia Capital.

Investor Paul Tudor Jones endorses BTC

COVID-related government stimulus efforts had many investors worried about inflation in 2020, and some were willing to give cryptocurrencies a fresh view as an alternate store of value. Prominent among them was Paul Tudor Jones, a hedge fund investor who reported in May that a portion of his assets was now <u>invested in Bitcoin</u>.

The endorsement of a celebrated investor like Jones — who predicted the 1987 stock market crash — <u>paved the way for mainstream investors</u> and others to become involved in crypto. "Making the case for Bitcoin as his preferred hedge against what he [Jones] calls 'the great monetary inflation' has significantly reduced 'career risk' for many of his peers considering an allocation to Bitcoin," Bitwise Asset Management's David Lawant <u>previously told Cointelegraph</u>. The Wall Street Journal also <u>commented</u>:

"The [Bitcoin] rally has attracted a wide cast of characters, from the Wall Street billionaires Paul Tudor Jones and Stanley Druckenmiller to momentum investors who aim to ride winning assets higher and losing markets lower. Their participation, in turn, has fueled more buying."

Declaring XRP a security, SEC sues Ripple

The <u>XRP</u> token was the third-largest cryptocurrency by market value — trailing only Bitcoin and Ether — when in late December the San Francisco-based firm <u>ran into a</u> <u>buzzsaw in the form of the SEC</u>.

Led by outgoing chairman Jay Clayton, the commission <u>filed</u> legal action against Ripple and its top-two executives, alleging that the XRP coin created by Ripple was in fact a security, and that the firm had raised over \$1.3 billion through an unregistered, ongoing digital asset securities offering. In the three days following the announcement, <u>XRP's</u> <u>price plummeted 41%</u>, and it became unclear whether the firm would survive in its present form.

On Dec. 27, Coinbase, the largest U.S. exchange, announced that it would <u>suspend XRP</u> <u>trading</u>, and with others delisting the token, the climate around the coin has become increasingly unstable. On Dec. 29, Grayscale Investments, the world's largest digital asset manager, reportedly <u>liquidated more than 9.18 million</u> in XRP.

Ripple <u>denounced the SEC's action</u> as "an attack on the entire crypto industry here in the United States" as the company's CEO Brad Garlinghouse stated that he would continue to support its customers in the U.S. and globally.

More clarity in 2021?

All in all, corporations and institutional investors seeking an alternate store of value amid the ongoing COVID-19 crisis propelled crypto to record levels in 2020. Elsewhere, blockchain innovation continued on several fronts, including decentralized finance and CBDC development.

In the U.S., a wary SEC stymied digital token expansion, launching lawsuits against XRP and Telegram's TON. A change of administration in Washington, including new SEC leadership, however, could bring more regulatory clarity in 2021.

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DEC 30, 2020

Japan's crypto market matured in 2020, but 2021 may see huge growth

2021 may be the year of natural selection for the Japanese crypto industry.

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In 2020, the Japanese crypto industry seems to have entered its maturation phase. With new crypto laws established in May, large exchanges have solidified their leading positions, while crypto startups and unregulated businesses have exited the market. However, it seems that a winner has not yet been declared. There are already more than 25 registered exchanges in the small nation with a population of over 100 million, but global crypto giants are just starting to enter the market. Some believe a significant industry reorganization is coming through buyouts of licensed exchanges. And with the current bull market expected to continue, we may see a further expansion of crypto companies in Japan in 2021. One question that must be asked, though, is: Does the industry actually have to show maturity now? With just 12 years having passed since Bitcoin was created, the entire crypto and blockchain industry is still in a nascent stage. Can we, therefore, foresee future development and regulate the industry at all? Regulatory clarity may be an advantage, but leaving it vague for now — whether done intentionally or not — as can be seen in the United States and China may be the right move for innovation.

Revised crypto laws

Japanese legislators <u>amended the nation's crypto regulations</u>, the Payment Services Act and the Financial Instruments and Exchange Act, on May 1. The new rules seek to address the vulnerabilities exposed by the hacking of exchanges <u>Coincheck</u> and <u>Zaif</u> in 2018 and <u>BITPoint</u> in 2019. Money laundering is another concern for regulators.

While the new regulations are supposed to show the industry's maturity in Japan and attract institutional players, to some custodians and wallet service providers they appear to be regulatory overkill due to high compliance costs.

For example, on March 31, a blockchain-based social networking service called Valu announced that it would end its service due to strict regulations for digital-asset custodians. Valu enabled users to trade their "value as individuals" by using cryptocurrencies such as Bitcoin (<u>BTC</u>). Therefore, it was managing users' funds on their behalf. Valu <u>commented</u>: "As the crypto custody service is the core part of VALU, if we can't maintain it, we have to change the management plan drastically."

Unregulated exchanges

The new regulations affect crypto exchanges based outside of Japan. In April, BitMex, one of the world's biggest crypto derivatives exchanges, announced that it would <u>close</u> <u>services for Japanese residents</u> starting May 1. BitMex — at the time headed by Arthur Hayes, its charismatic former CEO — was one of the most popular exchanges for Japanese traders. Now, traders are turning to other derivatives exchanges such as FTX and Bybit.

In October, Binance, another exchange not registered with the Financial Services Agency, <u>ended its strategic partnership with TaoTao</u>, a registered exchange in Japan.

Industry reorganization in 2021?

Meanwhile, industry reorganization is becoming one of the crypto hot topics in Japan. There are more than 25 exchanges registered with the FSA. For some companies, struggling businesses are attractive takeover targets. Tsuneyasu Takeda, CEO of Exchangers — which aims to become the Amazon of the crypto industry — <u>told Cointelegraph Japan</u> that he was negotiating with some of the licensed crypto exchanges for potential partnerships or mergers and acquisitions.

Moreover, global crypto exchanges are entering the Japanese market. <u>Kraken reentered</u> Japan in September for the first time since 2018, and Coinbase is <u>actively recruiting</u> <u>locals</u>. With global crypto exchange giants coming into an already competitive market, the selection process may be further intensified in 2021.

Is Ripple coming to Japan?

Despite their strictness, the clarity of Japan's crypto laws appears to be an attractive element for some companies outside of the nation. Brad Garlinghouse, CEO of Ripple, <u>mentioned Japan as one of the candidates</u> for relocating Ripple's headquarters.

Garlinghouse <u>criticized</u> the lack of regulatory clarity in the U.S., saying there are too many definitions of cryptocurrency:

"Crypto is property, crypto is a commodity, crypto is a virtual currency, crypto is a security, etc. Regulation shouldn't be a guessing game."

He further <u>summarized</u> the reason that the company is considering moving outside the United States:

"The lack of a single national regulatory framework is putting US innovation and US companies at a significant disadvantage. All we're asking for is a level playing field — if we need to move to another country to get that, then that's the path we will have to take."

Lack of new service

When the crypto industry saw the decentralized finance boom in the summer, Japan was left behind. There were no crypto exchanges in Japan that launched DeFi-related services nor that listed DeFi tokens in 2020.

It is not just DeFi — Japanese crypto exchanges struggled with expanding their services in general, with just <u>Coincheck launching a staking service</u> with Lisk in January. Many exchanges started listing new coins in 2020, such as Basic Attention Token (BAT), but the choices are still limited. "I feel like the Japanese crypto exchanges have done nothing for the past few years," a Japanese crypto lawyer told *Cointelegraph Japan*.

Retail investors

As Bitcoin broke through its previous all-time high in November, Japanese retail investors gradually started returning to the market. Japanese retail investors are known for being the driving force behind the crypto bubble in 2017. Around the time, Japanese crypto exchanges aggressively advertised themselves on national television commercials.

For example, Coincheck <u>collaborated</u> with Tetsuro Degawa, a popular Japanese comedian, on a commercial to reach those who were unfamiliar with cryptocurrencies. The commercial went viral, and those who started trading Bitcoin after watching it were called *Degawa-gumi*, or "the Degawa group." Moreover, Kasoutsuka Shojo, a crypto-themed idol group whose name translates to "Virtual Currency Girsl," was <u>formed</u> in January 2018. The level of enthusiasm was at its peak.

The bull market of 2020 hasn't seen as much enthusiasm from the Japanese as in the previous one, yet crypto exchanges <u>revealed to</u> *Cointelegraph Japan* that they were surely coming back to the market to some extent.

For example, crypto exchange Zaif said its customer service department had received many inquiries since October from users saying: "I tried to log in for the first time for a while but don't remember my password." According to Bitbank, the number of customers who opened new accounts quadrupled from the beginning of November to the end of the month. BitFlyer saw its weekly number of newly opened accounts increase threefold in the third week of November compared with the average of September to the middle of October.

Unlike the United States, the Japanese crypto market isn't yet seeing the inflow of institutional players. It will eventually be seen in 2021 if the maturity of the crypto industry will start finally attracting them.

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RACHEL WOLFSON

DEC 29, 2020

Bringing carbon emissions reporting into the new age via blockchain

Blockchain can bring transparency and traceability to mining and metal supply chains, although data challenges may hamper successful use cases.

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ANALYSIS

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Blockchain for supply chain management is one of the most practical business applications for large, multi-party sectors seeking trust and transparency across daily operations. As such, the mining and metals sector has now started to leverage blockchain technology to effectively track carbon emissions across complex, global supply chains.

This month, the World Economic Forum <u>launched a proof-of-concept to trace carbon</u> <u>emissions</u> across the supply chains of seven mining and metals firms. Known as the Mining and Metals Blockchain Initiative, or MMBI, this is a collaboration between the WEF and industry companies including Anglo American, Antofagasta Minerals, Eurasian Resources Group, Glencore, Klöckner & Co., Minsur, and Tata Steel. Jörgen Sandström, head of the WEF's Mining and Metals Industry, told Cointelegraph that the distributed nature of blockchain technology makes it the perfect solution for companies within the sector looking to trace carbon emissions:

"Forward-thinking organizations in the mining and metals space are starting to understand the disruptive potential of blockchain to solve pain points, while also recognizing that the industry-wide collaboration around blockchain is necessary."

According to Sandström, many blockchain projects intended to support responsible sourcing have been bilateral, resulting in a fractured system. However, this new initiative from the WEF is driven entirely by the mining and metals industry and aims to demonstrate blockchain's full potential to track carbon emissions across the entire value chain.

While vast, the current proof-of-concept is focused on tracing carbon emissions in the copper value chain, Sandström shared. He also explained that a private blockchain network powered by Dutch blockchain development company Kryha is being leveraged to track greenhouse gas emissions from the mine to the smelter and all the way to the original equipment manufacturer. Sandström mentioned that the platform's vision is to create a carbon emissions blueprint for all essential metals, demonstrating mine-to-market-and-back via recycling.

To put things in perspective, according to a recent report from McKinsey & Company, mining is currently <u>responsible</u> for 4% to 7% of greenhouse gas emissions globally. The document states that Scope 1 and Scope 2 CO2 emissions from the sector (those incurred through mining operations and power consumption) amount to 1%, while fugitive-methane emissions from coal mining are estimated at 3% to 6%. Additionally, 28% of global emissions is considered Scope 3, or indirect emissions, including the combustion of coal.

Unfortunately, the mining industry has been slow to meet emission-reduction goals. The document notes that current targets published by mining companies range from 0% to 30% by 2030 — well below the goals laid out in the Paris Agreement. Moreover, the COVID-19 crisis has exacerbated the sector's unwillingness to change. A blog post from Big Four firm Ernest & Young <u>shows</u> that decarbonization and a green agenda will be one of the biggest business opportunities for mining and metals companies in 2021, as these have become prominent issues in the wake of the pandemic. Sandström added:

"The industry needs to respond to the increasing demands of minerals and materials while responding to increasing demands by consumers, shareholders and regulators for a higher degree of sustainability and traceability of the products."

Why blockchain?

While it's clear that the mining and metals industry needs to reduce carbon emissions to meet sustainability standards and other goals, blockchain is arguably a solution that can deliver just that in comparison to other technologies.

This concept was outlined in detail in an NS Energy op-ed written by Joan Collell, a business strategy leader and the chief commercial officer at FlexiDAO, an energy technology software provider. He <u>explained</u> that Scope 1, 2 and 3 emission supply chains must all be measured accurately, requiring a high level of integration and coordination between multiple supply chain networks. He added:

"Different entities have to share the necessary data for the sustainability certification of products and to guarantee their traceability. This is an essential step, since everything that can be quantified is no longer a risk, but it becomes a management problem."

According to Collel, data sharing has two main purposes: to provide transparency and traceability. Meanwhile, the main feature of a blockchain network is to provide transparency and traceability across multiple participants. On this, Collel noted: "The distributed ledger of blockchain can register in real time the consumption data of different entities across different locations and calculate the carbon intensity of that consumption."

Collel also noted that a digital certificate outlining the amount of energy transferred can then be produced, showing exactly where and when emissions were produced. Ultimately, blockchain can provide trust, traceability and auditability across mining and metals supply chains, thus helping reduce carbon emissions.

Data challenges may hamper productivity

While blockchain may appear as the ideal solution for tracing carbon emissions across mining and metals supply chains, <u>data challenges must be taken into consideration</u>.

Sal Ternullo, co-lead for U.S. Cryptoasset Services at KPMG, told Cointelegraph that capturing data cryptographically across the entire value chain will indeed transform the ability to accurately measure the carbon intensity of different metals. "It's all about the accuracy of source, the resulting data and the intrinsic value that can be verified end to end," he said. However, Ternullo pointed out that data capture and validation are the hardest parts of this equation:

"Where, when, how (source-cadence-process) are issues that organizations are still grappling with. There are a number of blockchain protocols and solutions that can be configured to meet this use case but the challenge of data capture and validation is often not considered to the extent that it should be."

According to Ternullo, the sector's lack of clear standards on how emissions should be tracked further compounds these challenges. He mentioned that while some organizations have doubled down on the Sustainability Accounting Standards Board's <u>capture</u> and reporting standard, there are several other standards that must be evaluated before an organization can proceed with automation, technology and analytical components that would make these processes transparent to both shareholders and consumers.

To his point, Sandström mentioned that the current proof-of-concept focused on tracing carbon emissions in the copper value chain demonstrates that participants can collaborate and test practical solutions to sustainability issues that cannot be resolved by individual companies. At the same time, Sandström stated that the WEF is sensitive to how data is treated and shared: "Having an industry approach enables us to focus on practical and finding viable ways to deliver on our vision."

An industry approach is also helpful, with Ternullo explaining that an organization's operating models for culture and technology must be aligned to ensure success. This is the case with all enterprise blockchain projects that require data sharing and new ways of collaboration, which may very well be easier to overcome when performed from an industry perspective.

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DEC 28, 2020

XRP price faces a rocky road to recovery ahead of SEC's Ripple lawsuit

Though Ripple CEO Brad Garlinghouse is prepared to challenge the SEC over its lawsuit, the knock may be hard to come back from.

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Just over a month ago on Nov. 24, <u>XRP's</u> value <u>surged to above the \$0.90 mark</u> on U.S. cryptocurrency exchange Coinbase, albeit momentarily, leading many backers to believe that the digital currency was all set to skyrocket once again, possibly even retesting its January 2018 all-time high of over \$3.

However, in the wake of the recent lawsuit laid out by the United States Securities and Exchange Commission against Ripple, not only does a future value hike look increasingly improbable for XRP but the project's future as a whole could be in jeopardy. The SEC's core <u>argument</u> against the digital currency created by Ripple is that from the very beginning, it has been a "security" and, as such, should have been registered with the governmental body before being made available for purchase for American citizens.

Furthermore, the SEC has claimed that Ripple, CEO Brad Garlinghouse and executive chairman Chris Larsen are in the wrong because they were able to acquire over \$1.38 billion from the sales of the XRP token. In the wake of these allegations, the now fourth-largest crypto by market capitalization <u>crashed by 24% in just 24 hours</u>.

And while XRP <u>did experience a small window of relief on Dec 25</u>, rising by around 40%, the SEC's announcement has led to many major crypto exchanges delisting or freezing the token. Initially, it was only platforms such as OSL, Beaxy and CrossTower that temporarily stopped trading or removed XRP from their platforms, but more recently, the U.S.-based trading platform BitStamp <u>announced</u> via Twitter that it was going to prohibit customers from trading and depositing XRP starting January 2021. Ben Zhou, CEO of cryptocurrency exchange ByBit, told Cointelegraph:

"SEC and Ripple will have their day in court with due process of law, so we shall not prejudge the case in the court of public opinion. It is of course likely that the case will take up much of Ripple's attention and resources. [...] We hope a clear precedent and framework emerge from these proceedings."

The nitty-gritty of the case

In its complaint, the SEC has laid out a fairly straightforward argument stating that XRP was never registered with the body and that Ripple's executive brass did not make any attempts to pursue an exemption from registration. Thus, from the commission's point of view, this amounts to a sustained practice of illegal sales of unregistered, nonexempt securities under Section 5 of the <u>Securities Act of 1933</u>.

However, what seems unusual to some is that the case has been brought forward in a New York federal court even though Ripple's headquarters are in California. The simple reason for this is that Ripple has one of its offices situated in the Southern District of New York and some of the statements issued publicly by Garlinghouse regarding XRP were made within the state. Not only that, a substantial number of XRP tokens were sold to New York residents, which in legal terms makes it absolutely fine for the lawsuit to be tried in a New York court of law.

Also, the lawsuit names Larsen and Garlinghouse personally — so as to recover any money obtained by them via their various fundraising efforts — even though the initial XRP was sold by Ripple's wholly owned subsidiary XRP II LLC. In this regard, the SEC claims that both individuals sold significant volumes of XRP illegally — 1.7 billion XRP by Larsen and 321 million XRP by Garlinghouse — even contending that they "aided and abetted" Ripple in its unethical sales practices.

Providing his thoughts on the matter, Todd Crosland, CEO of cryptocurrency exchange CoinZoom, stated that the lawsuit casts a large shadow over the price of XRP, claiming that it will be interesting to see how things play out as "Lack of institutional support will hurt liquidity," adding: "Institutions will not bet against the SEC, and will be unloading their positions and will avoid taking new positions in XRP until the lawsuit is resolved."

What are the implications of the lawsuit?

If the SEC succeeds in its prosecution efforts, Ripple will be framed as the primary violator, with both Larsen and Garlinghouse facing serious legal implications, as both are alleged to have participated in the pattern of XRP sales.

Technically speaking, the SEC's issues with XRP stem from the fact that the digital currency satisfies key elements of the <u>Howey test</u> under federal securities laws, thus leading to the question of how exactly Garlinghouse and Larsen were able to take part in the token's various sales efforts.

The commission is now seeking to not only obtain all of Ripple's ill-gotten gains but is also looking to permanently ban the named defendants from ever selling unregistered XRP or participating in the sale of unregistered, nonexempt securities. Not only that, but the SEC is also seeking an unspecified civil monetary penalty, the exact amount of which has not been made public.

A twist in the tale?

The ongoing XRP saga comes at a time when SEC Chairman Jay Clayton has submitted his resignation, with his <u>duties being taken over by Elad Roisman</u>, who has been appointed acting chairman of the U.S. financial regulator. Also, in a recent letter sent to Clayton, Joseph Grundfest — a former SEC commissioner — was allegedly <u>quoted</u> as saying that while the Ripple lawsuit is an "unprecedented" event, "no pressing reason compels immediate enforcement action." He added: "Simply initiating the action will impose substantial harm on innocent holders of XRP, regardless of the ultimate resolution."

Related: SEC vs. Ripple: A predictable but undesirable development

In the midst of all the aforementioned events, Garlinghouse has continuously <u>reiterated</u> <u>that he will "aggressively fight"</u> in court the SEC's allegedly unwarranted actions against Ripple and will rest only after the case has been proven to be entirely untrue. Furthermore, he also emphasized that even though he had the option of settling with the SEC, he has decided to not take the easy way out.

It now remains to be seen what fate, or the American judicial system, has in store for Ripple. As of publication, XRP is trading at \$0.29, with the asset showcasing a seven-day decline of nearly 50%.

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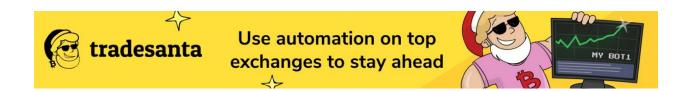
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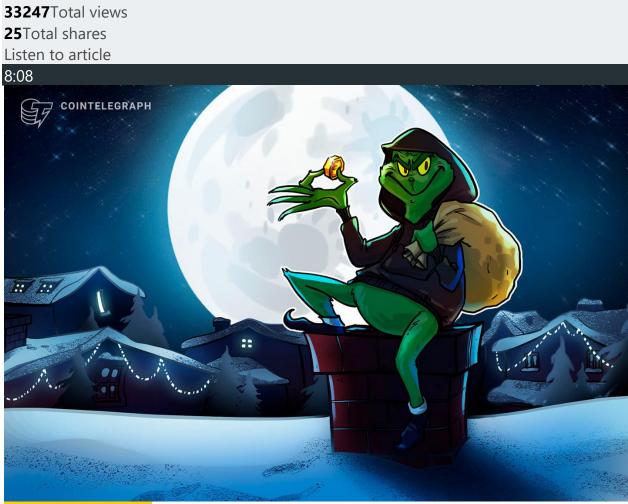


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DEC 26, 2020

Roundup of crypto hacks, exploits and heists in 2020

2020 has been the year of DeFi, but not all has gone smoothly with the fledgling financial ecosystem.



NEW YEAR SPECIAL

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Unlike in previous years, crypto news in 2020 has not been dominated by major exchange hacks and million dollar Bitcoin thefts. However, there have still been quite a few and most of them have originated from the nascent decentralized finance sector.

DeFi has been one of the main drivers of crypto market momentum in 2020 and it stands to reason that the emerging financial landscape has been a magnet for scammers and hackers. Largely unaudited smart contracts coupled with cloned code have been a recipe for vulnerabilities and exploits, often resulting in millions of dollars in digital assets being pilfered.

A_CipherTrace <u>report</u> from November 2020 stated that during the first half of the year, DeFi took up 45% of all thefts and hacks resulting in over \$50 million lost. That figure rose to 50% of all thefts and hacks in the second half, according to the report. Speaking to Cointelegraph, CipherTrace CEO Dave Jevans warned of a potential regulatory crackdown: "DeFi hacks now make up more than half of all cryptocurrency hacks in 2020, a trend that is attracting attention from regulators."

He added that of greater concern to regulators is the lack of Anti-Money Laundering compliance: "Funds stolen in the largest hack of 2020 - the \$280 million KuCoin hack - were laundered using DeFi protocols." Jevans also believes that 2021 is likely to bring clarity from regulators in terms of what actions DeFi protocols are expected to take to avoid the consequences of a failure to comply with AML, Capture the Flag, and possible sanctions.

Exchange hacks in 2020

The KuCoin hack occurred in late September when exchange CEO, Johnny Lyu, confirmed that the incursion affected the firm's Bitcoin, Ethereum, and ERC-20 hot wallets, after private keys were leaked.

By early October KuCoin said it had <u>identified suspects and had officially involved law</u> <u>enforcement</u> in the investigation. By mid-November the Singapore based exchange <u>declared that it had recovered 84% of the stolen crypto</u> and resumed full services for the majority of its tradable assets.

There were other exchange hacks this year, but KuCoin was the largest. In February Italian exchange <u>Altsbit lost almost all of its funds</u> in a \$70,000 hack, and there have been a couple of other minor crypto exchange breaches. In October 2020, as many as <u>75</u> <u>centralized crypto exchanges had closed</u> due to various reasons, hacking being onem.

DeFi's 2020 hacks and exploits

With billions of dollars pouring into DeFi protocols and yield farms, the emerging landscape became a hotbed for hackers. The first major incursion of 2020 happened on DeFi lending platform bZx in February when two flash loan exploits resulted in the loss of nearly \$1 million in user funds. A flash loan is when crypto collateral is borrowed and repaid within the same transaction.

bZx froze operations to prevent further loss, but this generated a <u>wave of criticism</u> from industry observers claiming that it was ultimately a centralized platform after all and could be the "death of DeFi."

Markets crashed in March resulting in a lot of collateral liquidations, especially for Maker's MKR token, but these were not hacks. The next one of those came the following month when a wrapped version of Bitcoin called imBTC was attacked using something called an ERC-777 token standard reentrancy method. The attacker was able to siphon a Uniswap liquidity pool for all of its value, estimated to be \$300,000 at the time.

April also saw Chinese lending platform <u>dForce drained of all its liquidity</u> using the same exploit. The hacker repeatedly increased their ability to borrow other assets and made off with around \$25 million in funds.

In June, an exploit was discovered in Bancor's smart contracts that resulted in the <u>draining</u> of as much as \$460,000 in tokens. The DeFi automated market maker stated that they had deployed a new version of the smart contract that had fixed the vulnerability.

Balancer was the next DeFi protocol to get exploited to the tune of \$500,000 in wrapped Ether pilfered from its liquidity pools using a well-planned arbitrage attack. A series of flash loans and arbitraged token swaps were carried out in an attack on a vulnerability that the <u>Balancer team apparently already knew about</u>.

Not so much a hack as another exploit, but bZx was in the news again in July with a dubious token sale that was manipulated by bots placing buy orders in the same block that marked the start of the token generation event. Almost half a million dollars in price pump profits was captured by the attackers.

DeFi options protocol Opyn was the next victim in August when hackers <u>exploited its</u> <u>ETH Put contracts</u> making off with more than \$370,000. The exploit allowed attackers to "double exercise" Ethereum Put oTokens and steal the collateral. Opyn recovered around 440,000 in USDC from outstanding vaults using a white hat hack, effectively returning them to Put sellers. Again, not a direct hack but a code flaw in an unaudited Yam Finance smart contract <u>affected the rebasing of the governance token</u> resulting in a price collapse in mid-August. The protocol was forced to appeal to DeFi whales to save it by voting for a restart as version 2.

When the Sushi unrolls

The SushiSwap saga began at the end of August and the terms "vampire mining" and "rug pull" were coined. The anonymous protocol cloner and administrator known as "Chef Nomi" sold \$8 million worth of SUSHI tokens causing the token price to collapse. A few days later, the protocol was rescued by FTX exchange CEO Sam Bankman-Fried, who was handed control by a consortium of DeFi whales through a multi-signature smart contract. Eventually all the <u>funds were returned to the developer fund</u>.

The rug pulls, or "pump and dumps" as they were termed during the previous altcoin boom in 2017, continued with a number of DeFi clones such as Pizza and Hotdog. Token prices for these food farms <u>surged and collapsed within hours</u> and sometimes even minutes.

In mid-October, hordes of "degenerate farmers," or degens as they were termed, piled money into an unaudited and unreleased smart contract from DeFi protocol Yearn Finance founder Andre Cronje. The Eminence Finance contract lost \$15 million when it was hacked within hours of Cronje posting teasers about the new "gaming multiverse" on twitter. The hacker returned around \$8 million but kept the rest, which prompted the disgruntled traders to initiate legal action against the Yearn team over lost funds.

In late October, a sophisticated <u>flash loan arbitrage attack on the Harvest Finance</u> <u>protocol</u> resulted in the loss of \$24 million in stablecoins in around seven minutes. The attack sparked debate as to whether these exploitations of the design of the system can be considered as hacks.

November was a particularly <u>painful month for Akropolis</u> which had to "pause the protocol" as hackers made off with \$2 million in DAI stablecoin. The Value DeFi protocol lost \$6 million in an all too common flash loan exploit, yield generating stablecoin project <u>Origin Dollar was exploited for \$7 million</u>, and Pickle Finance suffered a \$20 million collateral loss in a <u>sophisticated "'evil jar" exploit</u>.

One that broke the mold of exploiting the system was a personal attack on an individual in mid-December. <u>Nexus Mutual DeFi protocol founder Hugh Karp lost \$8 million</u> from his MetaMask wallet when a hacker managed to infiltrate his computer, spoofing a

transaction. These types of attacks are generally less common as they involve some degree of social engineering.

The last reported flash loan attack of the year, so far, was an <u>\$8 million incursion on</u> <u>Warp Finance</u> on December 18.

Many retail traders and investors have also fallen foul to phishing attempts and <u>Ledger</u> <u>hardware wallet owners have also been targeted</u> in 2020 after the personal information of some 272,000 Ledger buyers was hacked.

Battle hardening DeFi

The majority of smart contract and flash loan exploits in 2020 will serve to battle-harden the emerging financial ecosystem as it develops. New and smarter DeFi protocols are likely to emerge next year, but, as always, scammers, hackers and cybercriminals will also up their game in an attempt to stay ahead.

A huge dose of vigilance and attention is needed to delve into the current world of DeFi, but it has come a very long way in such a short period of time, and the decentralized financial landscape of the future is constantly evolving.

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