WEISS CRYPTOCURRENCY OUTLOOK, MARCH 2019

DARK SHADOWS WITH A BRIGHT FUTURE

Weiss Crypto Ratings

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SUMMARY

With cryptocurrencies down sharply in price, many observers seem to assume there's been an industry-wide decline in usage and practical applications. Nothing could be further from the truth.

Leading cryptocurrencies now enjoy three times more volume in user (on-chain) transactions than they did in early 2018. The industry's network capacity and security have improved dramatically. And the underlying technology has evolved with new, more efficient ways to create digital assets.

This combination of lower prices and improved fundamentals offers new opportunities for investors, provided they can afford the risk, avoid the worst and invest in the best.

Weiss seeks to help achieve that goal by rating 122 cryptocurrencies, based on four models – technology, adoption, risk and reward. Focusing strictly on technology and adoption, the top ten coins are as follows:

Bitcoin has been upgraded with the roll-out of its Lightning Network and is the best positioned to become a popular store of value for savers and investors.

Tech/Adoption Grade: A

XRP is the most likely to compete with SWIFT, the global network for money transfers among the world's financial institutions.

Tech/Adoption Grade: A

EOS is the leading coin challenging Ethereum to become the backbone of the new internet.

Tech/Adoption Grade: A

Ethereum is the most widely used smart-contract platform, but is currently facing difficulties with scaling.

Tech/Adoption Grade: A-

Cardano aims to provide the most advanced smart-contract capabilities, monetary policy and governance.

Tech/Adoption Grade: B+

Steem, NEO, Zcash, Litecoin and **Stellar** also merit

Tech/Adoption Grades of B+

Among virtually all cryptocurrencies, however, investor experience has been poor for more than a year. Accordingly, when risk and reward are factored into the overall Weiss Crypto Ratings, none get an **A**; four coins – EOS, Ripple, Bitcoin and Binance – currently get a **B-** (good); and the balance are Cs (fair), Ds (weak) or Es (very weak).

Investors are advised to focus on cryptocurrencies that provide a good balance of strong technology and adoption, while carefully weighing the risk of loss.

Diversification beyond Bitcoin is also important: Looking back, a hypothetical investor who bought $100 in Bitcoin at the beginning of 2017 – and then rode out the recent boom-bust cycle – would have about $400 today. During that same period, the Weiss 50 Crypto Index, which tracks the broader market, rose from 100 to 620; the Weiss Mid-Cap Crypto Index rose from 100 to 2,742; and the Weiss Non-PoW Crypto Index, representing cryptocurrencies that use new technologies, rose from 100 to 4,425.

Looking to the future, a critical factor driving mainstream usage is likely to be what's called "killer DApps" – decentralized applications that transform the world as we know it. These include user-controlled social media platforms, peer-to-peer lending, secure elections, and many more.

INTRODUCTION: INTERNET SUPERBOOM ON STEROIDS

Sweeping declines in market prices have cast dark shadows on the world of cryptocurrencies, but major improvements in the industry's adoption and technology point to a bright future.

We saw a similar pattern in the Internet boom of the late 1990s. Prescient investors foresaw a new cyber age, rushed to buy dot-com companies, and rejoiced as their stocks soared; only to watch in horror as the tech-heavy Nasdaq 100 Index fell 83 percent in the ensuing dot-com bust.

But they weren't wrong. They were just premature.

Even during the bust, the technology never stopped evolving. Internet speeds improved dramatically. Mainstream usage soon followed. Within 15 years, the entire world was transformed: One billion websites. Four billion users online. A single online shopping platform larger than all U.S. chain stores combined. The world's first trillion-dollar company.

Similarly, the blockchain superboom began when far-sighted investors predicted a new era of cyber money, rushed to buy cryptocurrencies, and exulted as their investments skyrocketed; only to watch in shock as the average cryptocurrency plunged 89.7 percent in 2018 (Chart 1).

Again, they weren't wrong; just premature.

Even as crypto markets fell in 2018, development of the underlying technology continued. New cryptocurrencies were launched with far faster processing speeds. Greater adoption soon followed.

Since February 2018, the volume of user (on-chain) transactions among the ten most widely used cryptocurrencies has grown by 245 percent. Our metrics of network security, network capacity and developer participation have risen 115 percent, 170 percent and 28 percent, respectively.

Moreover, evolving technology has helped drive these improvements: Bitcoin's speed and scalability have benefited from the roll-out of its Lighting Network. Cryptocurrencies like EOS, WAX, BitShares, Tron and others have enjoyed rapid

growth thanks, in large measure, to their innovative approach to creating and securing their digital assets. Non-blockchain cryptocurrencies are experimenting with technologies that promise even better performance.

Naturally, it will take time for this new technology to become mainstream. But based on what's already known, we can paint a scenario of the not-too-distant future that's both remarkable and plausible: Money and banking, transformed. Behemoths like Facebook, Amazon and Google, disrupted. Social media platforms, secured. All with a new kind of internet that empowers individuals to directly control their property and their destiny.

In history books of the future, it will likely be described as "the internet superboom on steroids," one of the most disruptive technological revolutions of the 21st century; and in this report, we deploy the Weiss Crypto Ratings and price indexes to uncover this powerful trend, while measuring it with precision.

CHART 1: WEISS 50 CRYPTO INDEX vs. BITCOIN

(VALUES AT 12/31/16 = 100)

The Weiss 50 Crypto Index includes strictly cryptocurrencies that pass minimum standards of technology and adoption, based on the Weiss Crypto Ratings. From a value set to 100 at the beginning of 2017, the index rose to a high of 4,515 on Jan. 7, 2018 and then fell 89.7 percent to 466 on Dec. 15, 2018. Despite this extreme price volatility, on March 12, 2019, it still traded 54% higher than Bitcoin. Real-time market updates of this index plus six others are available at www.weisscrypto.com/en/indexes

ULTIMATELY, ONLY CRYPTOCURRENCIES BOASTING THE BEST COMBINATION OF ADOPTION AND TECHNOLOGY WILL SUCCEED

Many people think cryptocurrencies are just digital money, but they're much more than that.

First, cryptocurrencies are more advanced technologically than the money in your bank account, which is also digital. Banks store the digits in a single, central location, controlled by a single, central institution, reporting to a single, central government. Everything is centralized.
In contrast, the defining principle of cryptocurrencies is to be *decentralized.* They're stored in an open, public database that's replicated and shared by countless computers across the internet. They're not controlled by any one person or organization.

The shared database is a distributed ledger, and the software behind it is Distributed Ledger Technology, or DLT.

Second, in recent years, this technology has branched out beyond digital money. With the advent of Ethereum and its smart contracts, it gained the ability to become the new backbone of the internet, powering online shopping, social media, instant messaging, and virtually everything that can be done on the Web today – but more securely, privately, efficiently and fairly.

Right now, the technology is still experimental. It's used strictly by a small percentage of the world's population. It's still unknown to the vast majority. And, as we saw with the internet, it's likely that only a select group of large winners will emerge.

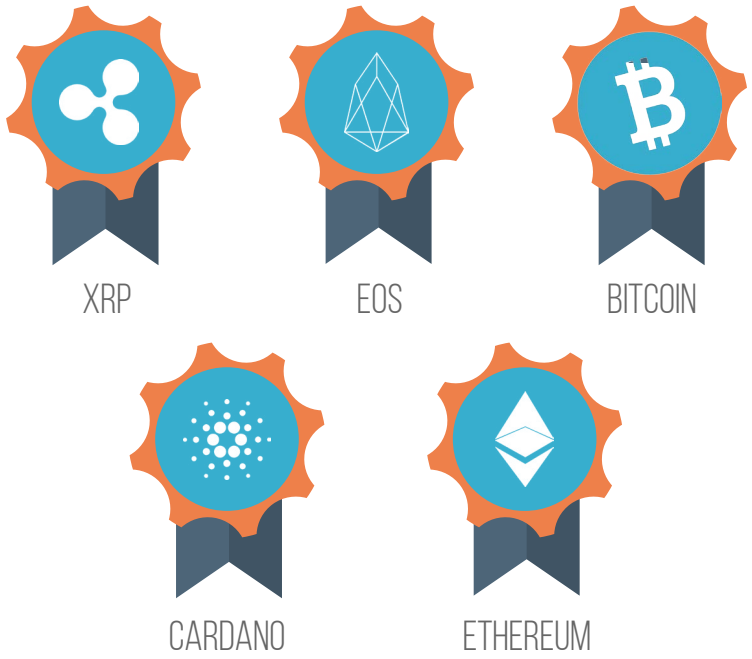
The Weiss Crypto Ratings model is designed to identify them. It uses four sub-models – one each for technology, adoption, risk and reward.[1] The first two models generate a separate Tech/Adoption Grade to help evaluate the long-term outlook of each cryptocurrency. The latter two generate a Risk/Reward Grade to help support short-term investing.

Based strictly on the Tech/Adoption grades, the top ten coins are as follows:

TABLE 1. TEN CRYPTOCURRENCIES WITH THE BEST COMBINATION OF TECHNOLOGY AND ADOPTION

(without regard to investor risk and reward)

Rank	Name	Tech/ Adoption Grade
1	XRP	A
2	EOS	A
3	Bitcoin	A
4	Ethereum	A-
5	Cardano	B+
6	Steem	B+
7	NEO	B+
8	Zcash	B+
9	Litecoin	B+
10	Stellar	B+



The grades shown here are based exclusively on the Weiss technology and adoption models without considering the output of the Weiss models that evaluate investor risk and reward. Ratings scale: A = excellent; B = good; C = fair; D = weak; E = very weak; plus sign = upper third of grade range; minus sign = lower third. Data date: March 12, 2019. Current evaluations on more than 120 coins, including their Tech/Adoption Grade, Risk/Reward Grade and overall Weiss Crypto Rating are available at https://weisscrypto.com/en/coins

Among these, it's too soon to declare a sure winner – let alone predict which new cryptocurrencies might rise from obscurity. With this caveat, however, we can identify a select few that are currently leading the race to the top:

XRP, managed by the Ripple company, is leading the charge to compete with SWIFT, the global network for money transfers among the world's financial institutions. Looking further into the future, XRP may contribute to a banking system grounded in Distributed Ledger Technology that helps provide consumers higher returns, enhanced protection against risk and lower borrowing costs.

Tech/Adoption Grade: A

EOS, launched in June 2018, is currently the leading cryptocurrency challenging Ethereum to become the backbone of the new internet, thanks to advanced smart-contract capabilities and innovative governance features.

Tech/Adoption Grade: A

Bitcoin, the original cryptocurrency, is still the proven leader in adoption. It's also the best positioned to become a popular store of value for savers and investors, reminiscent of the function of gold. Like gold bullion, its value is not controlled by monetary authorities, and it can be a safe haven in times of turmoil. Unlike the yellow metal, it costs virtually nothing to store or transport.

Tech/Adoption Grade: A

Ethereum is the most widely used smart-contract platform in the world. But due to difficulties in scaling, it has fallen behind EOS in terms of technology.

Tech/Adoption Grade: A-

Cardano, in an earlier stage of development than EOS, aims to provide the most advanced smart-contract capability, governance, monetary policy, and other key features.

Tech/Adoption Grade: B+

Steem, NEO, Zcash, Litecoin and **Stellar** also make the top ten list based on their technology and adoption.

Tech/Adoption Grades: B+

However, the technology and adoption models used as the criteria for this list do not consider actual investor experience in the crypto markets, which leads us to the next topic.

AT LEAST FOR THE NEAR TERM, INVESTOR RISK REMAINS HIGH, AND ONLY FOUR COINS GET GOOD WEISS CRYPTO RATINGS OVERALL

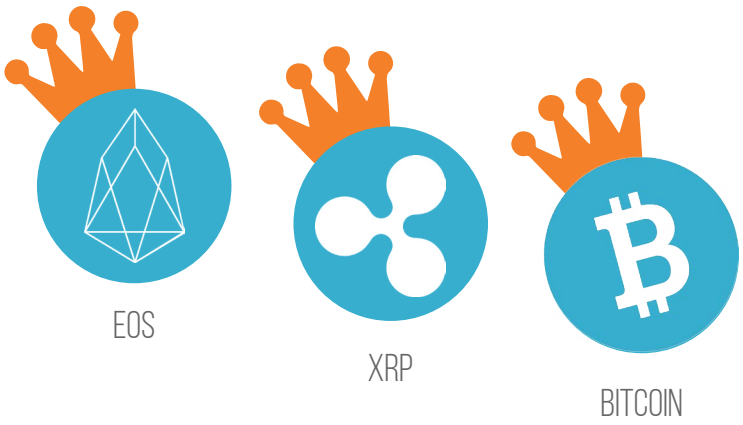
For investors who cannot afford to lose money, the recent market declines and doldrums imply high risk and uncertain rewards. Crypto market liquidity is very thin. Trading comes in spurts. Relatively small infusions of new buying cause sudden price rallies. Equally small bouts of selling cause unexpected market crashes.

This is why the Weiss Crypto Ratings are based not only on each coin's achievements in technology and adoption, but also on the risk and reward that investors can expect in the near term (Table 2).

TABLE 2. TEN CRYPTOCURRENCIES WITH HIGHEST OVERALL WEISS CRYPTO RATING

(based on technology and adoption plus risk and reward)

Rank	Name	Overall Weiss Rating
1	EOS	B-
2	XRP	B-
3	Bitcoin	B-
4	Binance	B-
5	Litecoin	C+
6	Ethereum	C+
7	Cardano	C+
8	Stellar	C+
9	NEO	C+
10	TRON	C+



The overall Weiss Crypto Ratings above are based on all four models – technology, adoption, risk and reward. Ratings scale: A = excellent; B = good; C = fair; D = weak; E = very weak. Data date: March 12, 2019. Current evaluations on more than 120 coins, including their Tech/Adoption Grade, Risk/Reward Grade and overall Weiss Crypto Rating are available at www.weisscrypto.com/en/coins

Considering all four factors, the 122 cryptocurrencies currently covered break down as follows.

1. None merit an overall Weiss Crypto Rating in the **A** range (excellent). This is primarily because crypto price trends have been consistently unfavorable in recent months, generating low scores for risk and reward among nearly all cryptocurrencies.
2. Four merit an overall Weiss Crypto Rating of **B-** (good), as follows:
   - Bitcoin, formerly a **C+**, has been upgraded to **B-**, thanks to various improvements, including the roll-out of its Lighting Network.
   - EOS and XRP merit a **B-** due primarily to high scores in technology and adoption.
   - Binance also merits a **B-**, but its grade is currently influenced by a recent surge in its market price, which may not be sustainable.
3. 27 cryptocurrencies get overall ratings in the **C** range (fair).
4. 75 coins are in the **D** range (weak).
5. 16 are rated in the **E** range (very weak).

THE GOOD NEWS: FALLING PRICES HAVE BEEN ACCOMPANIED BY IMPROVING FUNDAMENTALS

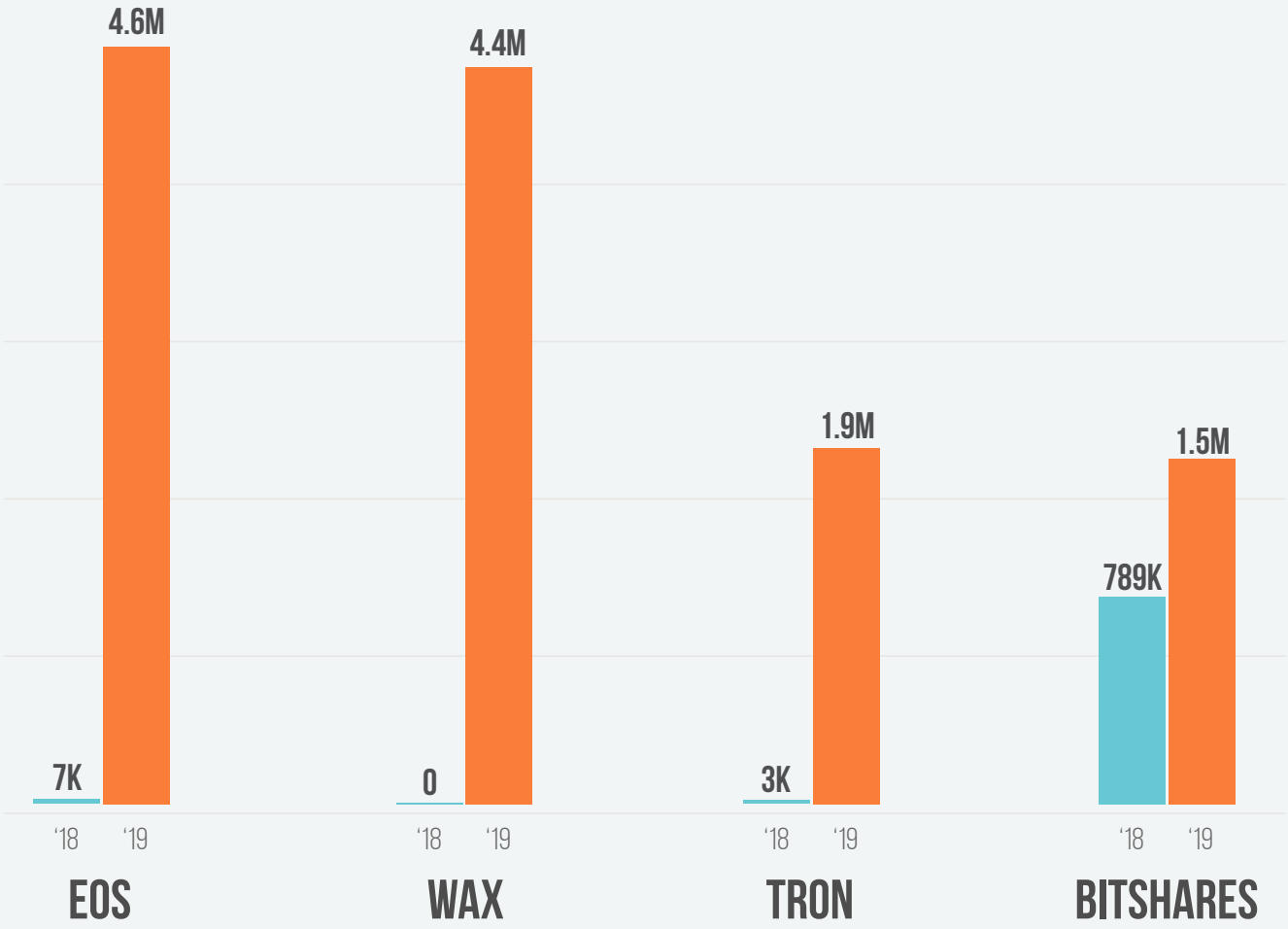
Since prices have fallen so dramatically, most observers seem to believe that real-world adoption of cryptocurrencies must have done the same.

Nothing could be further from the truth. In fact, among leading cryptocurrencies, actual user transactions, an important aspect of adoption, has grown dramatically:

Between February 2018 and March 2019, EOS saw its volume of transactions grow from fewer than 7,000 per day to nearly 4.6 million. That's 14 times more volume than Bitcoin's and eight times more than Ethereum's.

TRANSACTION VOLUME: EOS vs THE BIG TWO

ONE YEAR GROWTH IN USER TRANSACTIONS PER DAY - TOP 4 IN VOLUME



At EOS, daily on-chain transaction volume grew from 7,000 in February 2018 to nearly 4.6 million in March 2019. During the same period, WAX saw its volume grow from practically zero to 4.4 million. Tron grew from 3,000 to 1.9 million; and Bitshares, from 789,000 to 1.5 million.

All told, these four alone grew their volume from 433,000 transactions per day in February 2018 to 12.4 million by March 2019. In addition, newer cryptocurrencies rose to the top. So, in order to capture this growth, we compare the top ten in user transactions in February 2018 to the top ten in March 2019 (Table 3). We find that …

TABLE 3. LEADING CRYPTOCURRENCIES ENJOY SURGE IN ADOPTION

Top Ten Cryptcurrencies by Transaction Volume

FEBRUARY 2018

Cryptocurrency	Transactions per day
Steem	1,563,569
XRP	937,003
Ethereum	813,603
Bitshares	789,020
Bitcoin	191,984
NEO	51,097
Ethereum Classic	46,140
Litecoin	43,757
Dogecoin	25,783
Bitcoin Cash	19,013
Average	**448,097**

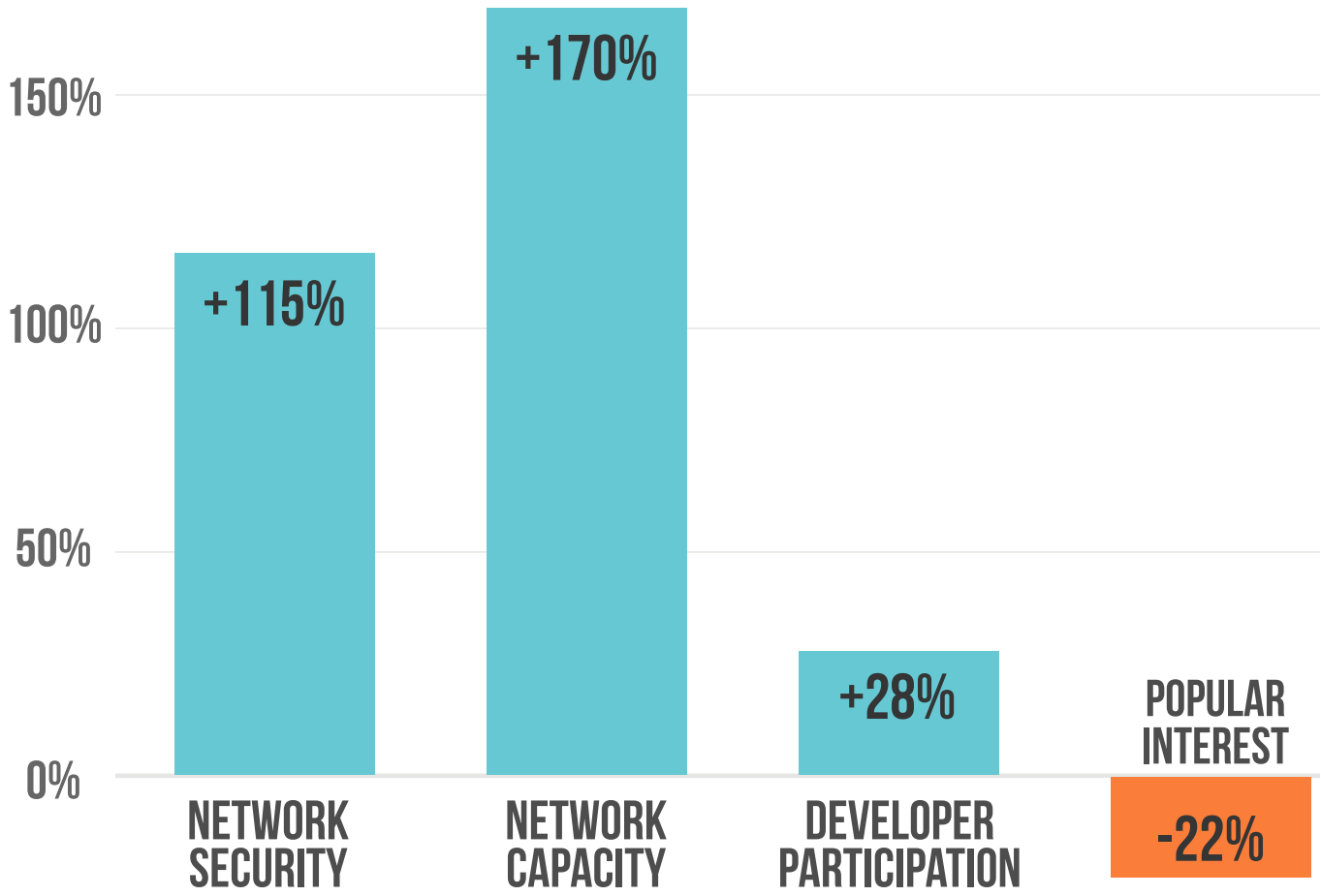
MARCH 2019

Cryptocurrency	Transactions per day
EOS	4,563,518
WAX	4,416,862
Tron	1,910,167
Bitshares	1,489,948
Steem	923,395
Kin	597,621
Ethereum	557,925
XRP	508,933
Bitcoin	332,153
Waves	147,287
Average	**1,544,781**

Among the ten cryptocurrencies with the highest on-chain (user) transaction volume in March 2019, the average daily volume was 245 percent greater than the average among the top ten of February 2018. Although transaction volume is an important facet of adoption, the Weiss Crypto Ratings adoption model also looks at network security, network capacity, speed, scalability, market penetration, decentralization, developer participation, public acceptance and other key factors. All figures cited are based on a seven-day moving average of daily figures. Data date: 3/7/2019.

- In February 2018, the No. 1 slot in terms of user transactions was occupied by Steem, with 1.56 million per day. In March 2019, it was replaced by EOS with 4.56 million.
- XRP, occupying second place in transaction volume in 2018 with 937,003 per day, was replaced by WAX with 4.42 million.
- In the third place slot, Ethereum (813,603) was replaced by Tron (1.91 million).
- On average, the top ten of February 2018 had daily transaction volume of 448,097. The top ten of March 2019 had 1,544,781, or 245 percent more.

CHART 2. MAJOR IMPROVEMENTS IN ADOPTION



Not all transactions are qualitatively the same. A $10-million Bitcoin transfer is obviously more important than a simple vote or "like" on EOS or Steem. Therefore, to fairly evaluate the adoption levels of each cryptocurrency, the Weiss Crypto Ratings model also deploys a wide range of other metrics, most of which also improved during the crypto bear market (Chart 2).

Among all rated coins,

- Network security improved 115 percent.
- Network capacity gained by 170 percent.
- Developer participation grew 28 percent.
- Popular interest, as measured by social media activity, was the only area where a decline occurred, down 22 percent.

MORE GOOD NEWS: IMPROVING ADOPTION WAS POWERED PRIMARILY BY IMPROVING TECHNOLOGY

To evaluate the technology of an iPhone XS or Galaxy Note9, you'd compare their features side by side, test them out, even crack open the devices to see what's inside.

Likewise, we evaluate each cryptocurrency's Distributed Ledger Technology in terms of its potential to achieve important goals, such as high transactions speeds, decentralization, energy efficiency, and many others. These are then compiled into a numerical technology score for each.

TABLE 4. IMPROVED TECHNOLOGY WAS AN IMPORTANT FACTOR DRIVING ADOPTION

Top Ten Cryptcurrencies by Transaction Volume with their Weiss Technology Scores

FEBRUARY 2018

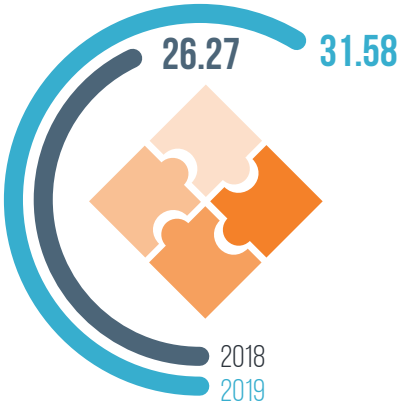
Cryptocurrency	Transactions per day	Tech Score	Type
Steem	1,563,569	36.67	DPoS
XRP	937,003	31.46	Other
Ethereum	813,603	27.21	PoW
Bitshares	789,020	34.50	DPoS
Bitcoin	191,984	22.33	PoW
NEO	51,097	37.92	DPoS
Ethereum Classic	46,140	24.71	PoW
Litecoin	43,757	21.08	PoW
Dogecoin	25,783	10.50	PoW
Bitcoin Cash	19,013	16.29	PoW
Average	**448,097**	**26.27**	

MARCH 2019

Cryptocurrency	Transactions per day	Tech Score	Type
EOS	4,563,518	40.35	DPoS
WAX	4,416,862	23.96	DPoS
Tron	1,910,167	33.96	DPoS
Bitshares	1,489,948	34.50	DPoS
Steem	923,395	36.67	DPoS
Kin	597,621	30.36	Other
Ethereum	557,925	27.21	PoW
XRP	508,933	31.46	DPoS
Bitcoin	332,153	22.33	PoW
Waves	147,287	34.99	PoS
Average	**1,544,781**	**31.58**	

Returning to the cryptocurrencies leading the growth in transaction volume in 2018-2019, we find that nearly all did so thanks to their high processing speeds and other technological improvements:

TOP 10 IN TRANSACTION VOLUME HAVE BETTER TECHNOLOGY



In early March 2019, the top ten in on-chain transactions were EOS, WAX, Tron, Bitshares, Steem, Kin, Ethereum, XRP, Bitcoin and Waves.

On average, they merit a significantly stronger Weiss Technology Score than the top ten in February 2018.

This demonstrates that the evolution of Distributed Ledger Technology has been an important factor in helping to drive up adoption.

This is a very significant improvement overall. It tells us that advances in Distributed Ledger Technology not only continued despite the bear market of 2018-2019, but they were also an important factor in the industry's growth during that period. This tech-powered growth was especially evident in two major trends.

TREND #1. THE WAY CRYPTOCURRENCIES ARE SECURED IS CHANGING AS THEY MOVE AWAY FROM PROOF OF WORK

A key aspect of Distributed Ledger Technology is how it secures and manages its digital assets.

Bitcoin, Ethereum and other earlier-generation coins rely exclusively on what's called Proof of Work (PoW). This entails exhaustive computer calculations that must be performed to solve a cryptographic puzzle and create a new batch of transactions, called a "block." It ensures that no one can spend the same cryptocurrency twice. It creates new coins to reward those doing the work. And during most of the first decade of cryptocurrencies, it was the standard. But in recent years, this approach has run into three serious challenges:

1. It consumes massive amounts of electric energy. Bitcoin alone currently uses up to 49 terawatts per hour globally, more than all of Singapore.
2. It's slow. Bitcoin is sometimes unable to support more than a dozen or so transactions per second on its entire global network. That's virtually nothing compared to the 24,000 transactions per second that can be processed by Visa. Ethereum has also encountered scaling challenges.
3. Except for Bitcoin, which is almost impossible to hack, Proof-of-Work networks are not nearly as secure as they're cracked up to be. In 2018 alone, smaller Proof-of-Work networks – Verge, Ethereum Classic, Horizen and a number of others – suffered what are called "51 percent attacks." [2]

To overcome these issues, some developer teams replaced Proof of Work with a new approach called "Proof of Stake" (PoS). Instead of solving a cryptographic puzzle, transactions are validated based on how many coins each participant

owns. The primary benefit is speed: Rather than just a handful of transactions per second, PoS can enable thousands per second. Another pay-off is that it saves tremendous amounts of electricity.

Other teams enhanced the potential for higher transaction speeds even further, introducing what's called "Delegated Proof of Stake" (DPoS), in which coin holders vote for delegates, who are authorized to validate transactions on the network.[3]

TABLE 5. DELEGATED PROOF OF STAKE (DPOS) HELPS DRIVE GROWTH

Total Daily Transactions by Tech Type among Top Ten by Transaction Volume

FEBRUARY 2018

Type	Total Transactions	Share of Top Ten (%)	Avg. Tech Score
DPoS	2,403,686	53.6%	36.36
PoS	-	-	-
PoW	1,140,280	25.4%	20.35
Other	937,003	20.9%	31.46
Total	**4,480,969**	**100%**	

MARCH 2019

Type	Total Transactions	Share of Top Ten (%)	Avg. Tech Score
DPoS	13,303,890	86.1%	33.89
PoS	147,287	1.0%	-
PoW	890,078	5.8%	24.77
Other	1,106,554	7.2%	30.91
Total	**15,447,809**	**100%**	

As you can see in Table 5, the results have been remarkable:

1. In February 2018, among the top ten coins in transaction volume, those using Delegated Proof of Stake (DPoS) processed a total of 2,403,686 transactions per day. By March 2019, it was 13,303,890, or 5.5 times more.
2. Similarly, in February 2018, coins using DPoS represented 53.6 percent of the total volume of the top ten. Although most of those transactions were on a social medial platform (Steem), it demonstrated that this approach had real potential. Sure enough, by March 2019, the share of transactions processed by DPoS coins had grown to 86.1 percent

3. Meanwhile, the percentage of transactions processed by Proof-of-Work (PoW) coins declined accordingly. In February 2018, PoW coins processed 25.4 percent of the transactions. In March 2019, they processed only 5.8 percent.
4. The Weiss technology scores reflect the importance of this shift from Proof of Work to Delegated Proof of Stake: Among the top ten by transaction volume in February 2018, the average Weiss technology score of DPoS coins was significantly higher than that of PoW coins (36.36 vs. only 20.35). And in March 2019, it continued to be significantly higher (33.89 vs. 24.77).
5. In February 2018, only one of the three coins leading the pack by transaction volume used DPoS. By March 2019, all three were DPoS coins. Furthermore, DPoS was the standard for all five of the top coins by this metric (Table 4).

TREND #2. SOME CRYPTOCURRENCIES ARE MOVING AWAY FROM BLOCKCHAIN ENTIRELY

Until recently, the terms "cryptocurrency" and "blockchain" were used interchangeably. Industry experts didn't object very much for the simple reason that blockchain was the only kind of Distributed Ledger Technology. Now, though, new kinds of Distributed Ledger Technology have emerged that do not use blockchain.

Holochain, although still in its early stages, is currently the leader among non-blockchain cryptocurrencies. It has the potential for processing speeds that are limited only by the speed of the internet itself. And it could challenge some of the world's largest Web services. Right now, for example, Facebook handles 13 million queries per second, and Amazon Web Services (AWS) peaks at 1.1 million requests per second. Holochain could conceivably match these speeds and more.

Hedera Hashgraph, still in development, aims to support financial applications and enterprise solutions on a scale never seen before. It reaches consensus (agreement on the state of the ledger) in mere seconds, at a far faster clip than any known blockchain. And it adds an exact timestamp to every transaction, which could be critical for global financial markets.[4]

FOR THOSE WILLING TO TAKE THE RISK, THE BEST TIME TO INVEST COULD BE NEAR

Select cryptocurrencies now offer a unique combination of sharply lower prices, improved usage and advanced technology. This, in turn, should soon open up attractive long-term opportunities for investors who can afford the risk, provided they follow three basic steps. They should …

1. Focus on cryptocurrencies that provide a good balance of strong technology and adoption.
2. Weigh carefully the risk of near-term loss against the potential rewards. Currently, nearly all cryptocurrencies have unfavorable risk/reward metrics. But as soon as they show signs of a sustainable price recovery, those metrics should improve.
3. Seriously consider diversification across broad segments of the industry.

For example, a hypothetical investor who put $100 in Bitcoin on Jan. 1, 2017 – and rode out the recent boom-bust cycle – would have about $400 by Mar. 12, 2019. However, during that same period,

- the Weiss 50 Crypto Index, representing a broad segment of the market, rose from 100 to 620 (Chart 1 on page xx);
- the Weiss Mid-Cap Crypto Index rose from 100 to 2,742 (Chart 3); and
- the Weiss Non-PoW Crypto Index, representing cryptocurrencies that use Delegated Proof of Stake and other new technologies, rose from 100 to 4,425 (Chart 4).

Although based on historical statistics, these results imply very positive returns. Moreover, the indexes include strictly cryptocurrencies that pass minimum standards of technology and adoption, based on the Weiss Crypto Ratings.

CHART 3. WEISS 50 CRYPTO INDEX EX-BITCOIN

CHART 4. WEISS MID-CAP CRYPTO INDEX

Despite an extreme boom-bust cycle, from the beginning of 2017 through March 12, 2019, the Weiss Mid-Cap Crypto Index outperformed Bitcoin by 6.8 to one, while the Weiss Non-PoW Crypto Index (mostly cryptocurrencies using Delegated Proof of Stake) outperformed Bitcoin by 11 to one. These indexes include strictly cryptocurrencies that pass minimum standards of technology and adoption, based on the Weiss Crypto Ratings. Real-time market updates of seven Weiss price indexes are available at www.weisscrypto.com/en/indexes

INVESTORS CAN LOOK FORWARD TO A FUTURE OF REVOLUTIONARY USE CASES

Many wonder what cryptocurrencies and their Distributed Ledger Technology (DLT) are actually good for. Others question how they will ever become mainstream. The answer is a new kind of killer app.

Looking at the internet today, Google Search, YouTube, Facebook and WhatsApp are among the dominant killer apps. They are wildly popular, used daily by billions. They have changed the way we work, live, relate – even the way we think. But their databases are stored in central locations and they are controlled by central entities, making them prone to abuse, vulnerable to theft, or worse.

Now, looking into the future, DLT developers are seeking to achieve similar success without centralized control and with greater security. Instead of killer apps, they aspire to create killer DApps (Decentralized Applications). And

for most cryptocurrencies, it's primarily the relative success or failure of killer DApps that will play the biggest role in determining their future adoption.

Below are just three of the many innovative killer DApp concepts.

Killer DApp concept #1
Decentralized Social Media

Platforms like Facebook, YouTube and Twitter are running into three issues that threaten to reduce their market share – poor security, weak privacy protection and censorship.

Yes, Facebook has recently announced the launch of its own "cryptocurrency." But that alone cannot solve the problem. The Facebook coin will almost inevitably be centralized and controlled by management. Moreover, the company is bound to continue harboring an inherent conflict of interest – between shareholders who prioritize profitability and users who seek enhanced privacy with greater freedom of expression.

Social media platforms built from the ground up with Distributed Ledger Technology aim to resolve these conflicts by handing control over to the user communities. In this decentralized model, users own their data, control their own content and get paid directly by users who want to view it. The middleman is largely replaced with smart contracts. Advertiser influence is removed or greatly reduced.

Early social media experiments based on Distributed Ledger Technology, such as Steem and Kin, have a long way to go in order to provide a fluid and friendly user experience. But they already stand as evidence that, all else being equal, many people will prefer social media sites they can control directly and benefit from financially.

Killer DApp concept #2
Peer-to-Peer Lending

Critics of the crypto space often argue that fiat money can't be replaced with cryptocurrencies because banks would still be needed as a primary source

of credit. It is true that capital formation and credit markets are fundamental to modern economies. But the idea that banks must play the pivotal role as intermediaries for all loans could soon be outdated.

Smart contracts, created with the likes of a Stellar or Hedera Hashgraph, could be far more efficient, especially when it comes to processing a large number of small consumer and business loans. Borrowers of all stripes will have access to funding. And with a few clicks of a mouse, lenders will be able to select the combination of return, risk level and term they're seeking. Ultimately, a new financial system will evolve in which individuals anywhere can act as a microbank, providing credit to businesses halfway across the world – all without intermediaries and in real time.

Killer DApp concept #3
Fair and Accurate Elections

Given how essential elections are for modern democracies, it's often surprising how vulnerable and inefficient they can be. Especially in emerging democracies, everything from voter eligibility to final vote counts are often controlled by corrupt officials behind closed doors. Teams of international observers are dispatched to the polls. Fortunes are spent on monitoring. Nevertheless, irregularities are frequent. Even in advanced countries, close elections are routinely challenged in the courts, which are often ill-equipped to handle public allegations of manipulation or cheating.

Distributed Ledger Technology, in conjunction with other technologies, has the potential to help resolve some of these problems most of the time, as illustrated by this possible future scenario: Voting occurs with a decentralized internet protocol where no actor is able to manipulate the vote tally. The results are accurate, transparent and known to everyone as soon as polls are closed. High-level mathematics are deployed to validate each vote and guarantee election results. Disputes are reduced to a small fraction of what's common today.

It's too soon to predict which cryptocurrencies will play dominant roles, but coins like Cardano could be among the best positioned for this kind of decentralized application.

RISING FROM THE DEAD

Through 2015, Bitcoin suffered four bear markets with declines of 70 percent or more. Each time, financial experts wrote its obituary. But each time, Bitcoin gained more adoption, recovered, and embarked on a new bull market.

More recently, cryptocurrency investors have suffered through a fifth major bear market, and, as before, experts have come out of the woodwork to declare that the industry is "dead."

The research underlying the Weiss crypto ratings and price indexes defies that notion. It provides strong evidence that the foundation is being laid for mainstream adoption and growth that could be sustained for decades to come.

Footnotes

[1] The Weiss technology model evaluates each cryptocurrency's potential to achieve a variety of goals, including high transaction speeds and other scaling solutions, decentralization, energy efficiency, sophistication of monetary policy, governance capabilities, flexibility to upgrade, and others. The adoption model evaluates real-world network security, network capacity, speed, scalability, market penetration, decentralization, developer participation, public acceptance, plus other key factors. The risk and reward models use price and volatility patterns to estimate the potential for investor losses or gains.

[2] These occur when a group of miners gains control of more than half of the network's computing power, empowering them to halt payments, reverse transactions and effectively double-spend coins.

[3] With Distributed Ledger Technology, improvements in one key aspect often require compromises in another. For example, coins based on DPoS often sacrifice some of the decentralization that's the hallmark of PoW coins like Bitcoin.

[4] A Weiss technology score and overall rating will be available for Hedera soon after it begins trading.