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BLOCK SHOW

In the world of lies – we stay true!

The Blockchain industry has become an essential part of the everyday business world. However, our industry is still full of distrust and uncertainty. BlockShow Americas 2018 is a perfect opportunity to make that leap forward into the light to see the truth, create a better history, and make our industry even stronger. Let's build the future. Together. With no lies. Let's be open and honest with each other. Let's take off the masks!



ADDY CREZEE

CEO at BlockShow

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BLOCKSHOW EDITION



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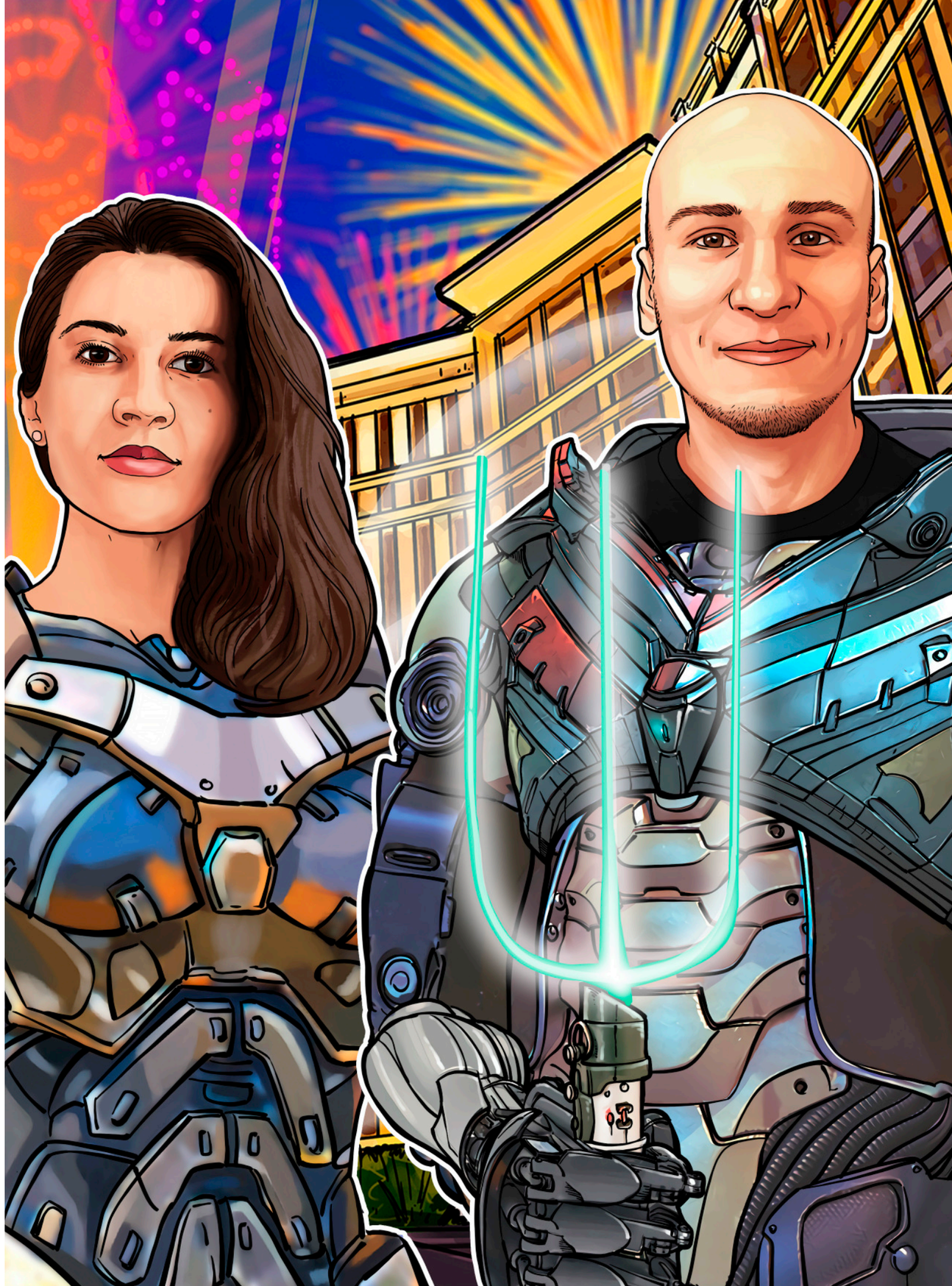
BLOCKSHOW

ON THE WAY TO MASS ADOPTION

HOW THE BLOCKSHOW CONFERENCE GETS BLOCKCHAIN EVERYWHERE

Today, it seems like you have be really lazy to miss out on any mentions of the technology called blockchain. It's even gotten to the point where tech and business outlets are no longer the only ones writing about it — some regular lifestyle publications have also jumped on this hype train. Besides, the numbers speak for themselves: according to IDC (International Data Corporation), $2.1 million are being spent on blockchain solutions in 2018 — more than double what was spent in 2017. Every year, the global blockchain space expands by 42.8% CAGR, states Netscribes, and the tendency will keep up to 2022.

What do these figures actually demonstrate? While blockchain has obviously achieved quite a lot and "changed the game" for numerous sectors of global economy — from finance to e-commerce — the major part of the worldwide community still finds it hard to wrap their heads around this technology. Thus, according to a survey held by Gardner Research among the BiTA (Blockchain in Transport Alliance) members, roughly 60% found blockchain technology "interesting, but unclear of its usefulness"





First and foremost, these perspectives mean that the mass adoption of blockchain is yet to come. On the other hand, this fact itself is one of the major pressing issues of today's blockchain community that many experts strive to address in their own ways. While some found non–profit organizations working with governments to advocate the technology, others launch blockchain–focused educational initiatives. And there is one more group of professionals no less important — we're talking about those who bring together huge blockchain communities by organizing numerous events around the globe.

There is a specific conference we'd like to talk about — BlockShow powered by Cointelegraph.

Perhaps all of us are familiar with this conference and its team led by Addy Crezee. Over the course of four main events and dozens of smaller meetups across major blockchain centers worldwide, the BlockShow team not only educates people about the technology but also tries to shed some light on the most promising projects and latest sensations of the ecosystem. Bringing in top experts from around the globe, the program full of trending topics — this all is here to accomplish the goal of bringing blockchain to the world and showing how it transforms our current reality.

BlockShow, in turn, uses its own methods to contribute to these changes and push the global blockchain scene forward. This can be seen in every detail — for instance, one can simply recollect all the locations of BlockShow conferences been held to be sure that each one of them matches the major centers for fintech and blockchain development. This, of course, is not all: apart from providing high–quality content from recognized experts, BlockShow is widely known for creating an ideal environment for business networking. From the very first event, the organizing team relies on the major principle of providing a whole variety of tools and opportunities for blockchain ecosystem representatives to find each other. This is how the evolution of any industry develops — by communication, interaction, exchange of ideas, and, of course, attracting some investments. With every new event it also becomes more obvious that the organizers are increasing the social inclusiveness for the audience — just think about the "Blockchain 4 Good: Making Every Voice Heard" panel being held at BlockShow Americas 2018!

Does it really work? We can safely answer "yes." It's important not to forget about the fact that blockchain is still a very new technology, as well as the ecosystem around it. In our previous issue, we mentioned that the conference currently known as BlockShow was held for the first time in August 2016, roughly two years ago. Two years quite a long time for the industry like this, and so the organizing team has had the unique perspective of witnessing the blockchain revolution develop this whole time.

> *"When we first began back in 2016, no one really knew anything about this industry," says Addy Crezee, CEO of BlockShow. "Everyone attended our first event in Helsinki specifically to learn about what blockchain is and what this technology can bring to the world. Later on, in 2017, everything was focused around ICOs and fundraising; in 2018, finally, all projects created throughout these years have gone into development. There are now way more people with real expertise and proficiency who are doing something truly useful. I think this all leads us to the maturity of the industry. The hype around blockchain is disappearing, and some real professionals are finding their place — all of them just needed more time to create something worthwhile.*
>
> *I bet that 2019 will be entirely about some interesting projects. We really will see where blockchain industry is going"*

Will BlockShow keep up with its recognizable concept and format? To answer this question we need to understand what direction will the blockchain ecosystem head in the short term. Addy Crezee shares his observations:

> *"The blockchain, in my opinion, has already started merging with some other technologies and moving closer to fintech — this is because all the businesses around the globe start utilizing it. I think that soon all blockchain conferences will be focused on connecting blockchain practitioners and their projects with partners and investors, and this will keep up for the next 1–2 years. Some big conferences, such as BlockShow, will be all about it, and since this niche will narrow down and the hype will be reduced, there will be only around 3–5 big events to be visited by blockchain community each year. BlockShow, of course, will be one of those — we've existed long enough, we are big enough, and we are one of the major events on the global blockchain scene."*
>
> ***– Addy Crezee, CEO BlockShow***



STABLE COINS ANALYSIS:

IS THERE A VIABLE SOLUTION FOR THE FUTURE?



In a 2013 paper published by David Yernack, the professor of finance at New York University stated that, for any currency to be useful to society, it should be able to function as a medium of exchange, a store of value and a unit of account. At the time, he was using these three criteria to discredit Bitcoin as a feasible currency for everyday use. And there is some merit to this.

Although popular cryptocurrencies can be used as a medium of exchange on a small scale and in certain ecosystems, it struggles as a store of value or a unit of account. The reason for this is the inherent instability of cryptocurrencies. Possible price fluctuations of 20% or more on any given day make it unsuited to comply with the latter two functions of a usable currency.

To address this price volatility, a certain subset of cryptocurrencies started to emerge, i.e. stable coins. Being defined by Brigitte Luginbühl, CEO of SwissRealCoin:

> ***"Unlike cryptocurrencies such as Bitcoin, which are highly volatile, stable coins provide people with the pragmatic, helpful benefits of a cryptocurrency, without having to worry about distressing price changes since they are grounded in the real world."***

A stable coin is designed to have a stable price or value over a period of time, therefore, less volatile.

These coins aim to mimic the relative price stability of fiat currencies on one hand, but still keep the core values of cryptocurrencies such as decentralization and security, on the other hand.

Why do we need stable coins?

Without price stability, cryptocurrencies may struggle to achieve mass adoption, widespread circulation and, ultimately, everyday use.

While volatility is fine for speculation, it's not great for everyday payments. Nobody wants to be exposed to that sort of risk on a daily basis. Imagine your salary is paid exclusively in crypto. If the price of said crypto drops overnight by 20%, everything will have effectively become a fifth more expensive by the time you wake up the next morning.

As Rafael Cosman, CEO of TrustToken puts it:

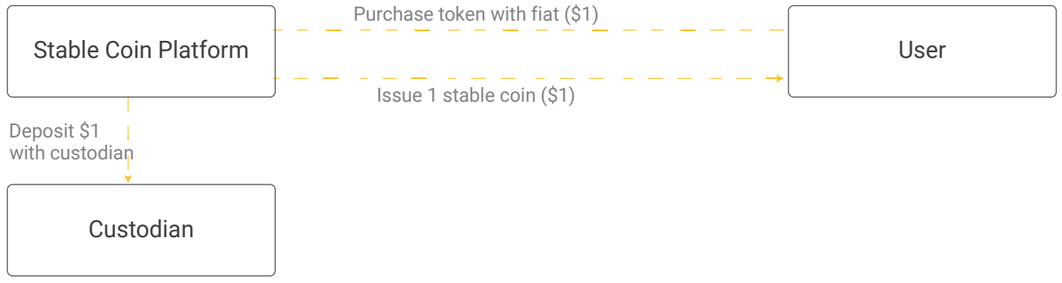
> ***"Stable coins are one of the keys to bringing the benefits of cryptocurrencies to everyday people, both in terms of price stability and decentralization of capital."***

It's not just for payments. Price stability is a fundamental requirement if you want to bring traditional financial products, such as loans and reliable savings options, onto the blockchain. So an ultimate goal of a functioning stable coin, which does not compromise on the key characteristics of a cryptocurrency, is to ease widespread adoption among everyday users.

There are a number of so–called stable coins on the market trying to achieve this, with varying degrees of success. All of them will fall under one of three, broad categories:

- **Fiat collateralized**
- **Crypto collateralized**
- **Non–collateralized**

Fiat collateralized stable coins



This is perhaps the easiest to implement and functions like a basic IOU system. Each and every token is collateralized by an equal amount of fiat currency held by a central custodian (such as a bank). Holders are guaranteed to redeem their token at any point for the stable value denominated in fiat, say $1.

Tether is perhaps the most famous example. For every issued Tether token (USDT), an equal amount of US dollars is deposited with a custodian, meaning Tether should always trade 1:1 (1USDT = 1USD). Despite the stable value, Tether has come under a lot of scrutiny. Many believe the token is not sufficiently collateralized and its issuance of hundreds of millions of new tokens without having its reserves being officially audited is only casting more doubt on the token's validity.

TrueUSD – built on top of the tokenization platform TrustToken – is another fiat collateralized token (pegged to USD), similar to Tether. As such it was received with some skepticism by the crypto community.

However, in an effort to increase transparency, reserves are held in escrow accounts which offer daily auditing and legal protection for holders. The foundation platform, TrustToken, actually collaborated with different law firms (Cooley and WilmerHale) to develop a legal framework for TrueUSD.

A similar concept but backed by a different asset is Digix. In an effort to create a stable coin, the token is collateralized by gold. Every DGX token is equal to 1 gram of 99.99% LBMA approved gold. It's therefore stable in respect to 1 gram of gold, but as the value of gold can still fluctuate, the

price of with respect to USD or any other fiat currency is not necessarily stable.

Also, the gold standard is an outdated monetary system that was foregone in the US in the early 1970's as the government realized that the production of gold could not keep up with the pace of growth of economies.

There is also the first ever national, oil–backed token, Petro, launched by the Venezuelan government. Each Petro is backed by a barrel of Venezuelan crude oil, to a total issuing cost of $6 billion.

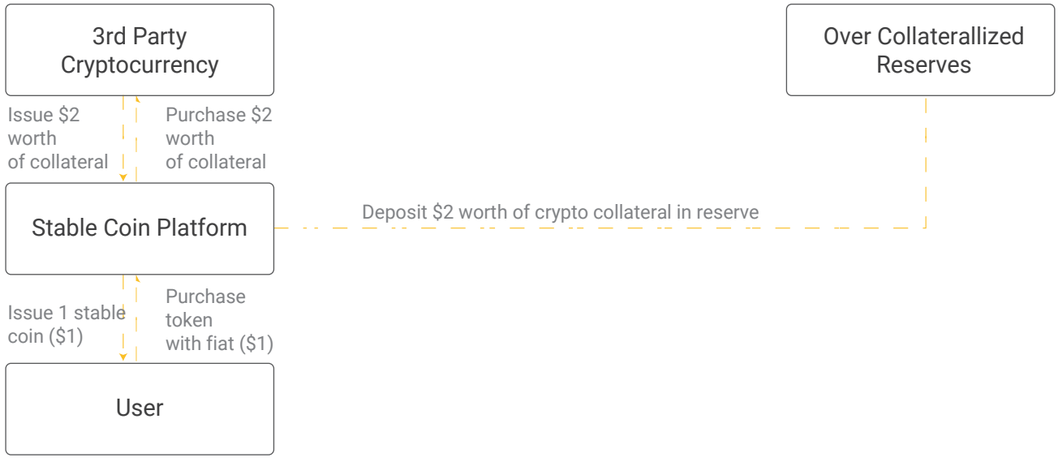
However, many believe this to be an outright scam. Even Venezuela's own congress declared the Petro token illegal with one legislature, Jorge Millan, commenting "This is not a cryptocurrency; this is a forward sale of Venezuelan oil. It is tailor–made for corruption."

Although fiat collateralized tokens (or commodity backed tokens for that matter) do bring a degree of stability, it's unlikely to become an everyday token of choice for two main reasons.

One, it's not scalable – you will need fasts amounts of capital to serve as collateral if you want to mint enough tokens to have the ability of mass adoption (for example, the value of all the money on earth is around $90 trillion).

And two, a central authority or custodian will have to be trusted with keeping the collateral (e.g. banks). This is counterintuitive as the possibility of a central influence is exactly what cryptocurrencies want to safeguard against.

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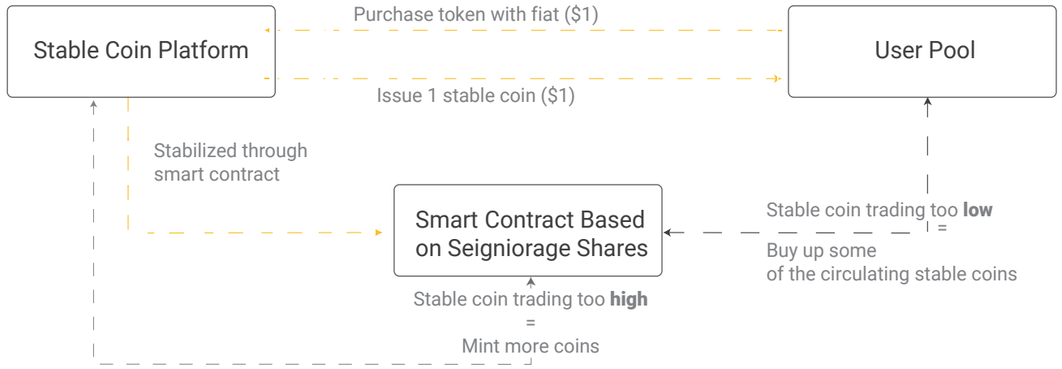
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Non–collateralized stable coins



Non–collateralized stable coins aim to closely mimic fiat currencies by not having any asset–backed collateral. Instead, price stability is achieved through an approach called seigniorage shares, a processed that was conceived by Robert Sams, founder and CEO of Clearmatics Technologies LTD.

Through this approach, smart contracts can be programmed to resemble a reserve bank, enabling it to increase and decrease the supply of money in order for the value to remain as close as possible to the value of a pegged asset, such as USD.

It works on a foundational economic principle called supply and demand. If the coin is trading too high, the smart contract will mint more tokens to increase supply and therefore reduce the value of the coin. The excess profits now lying in the smart contract is called the seigniorage. If the coins are trading below its market pegged asset, it will buy up some of the circulating supply with the excess profits, therefore decreasing supply and increasing the value through excess demand.

But if the seigniorage is too low to buy enough tokens to increase the value to an adequate level, shares can be issued which gives the holder rights to future seigniorage (excess profits in the smart contract).

The biggest problem here is that if the token platform does not continue growing with new users, it will be impossible to maintain its market peg. There's also only a specific limit of downward pressure such a system can take before investors lose faith in the coin's ability to pay out future seigniorage shares.

There are a number of stable coins using this concept with the most noteworthy being Basis (formerly known as Basecoin) and Saga.

Basis will peg to the US dollar in the short term but eventually aims to peg to a consumer price index (CPI) as

holders use the coin to purchase goods and services.

Saga, on the other hand, will be backed by variable fractional reserves pegged to the International Monetary Fund's SDR (special drawing rights).

Non–collateralized stable coins will be the most viable option as an "everyday–token", purely because it mimics the stability mechanisms used by traditional reserve banks with fiat currencies, while still staying completely decentralized and independent.

It's not perfect though as it requires continual growth from the platform for the stability mechanisms to work. This, in turn, makes it particularly vulnerable to a crash in the overall market or decline in interest from investors. Achieving stability can also be a complex process and safety parameters for upward and downward pressure is difficult to determine with reasonable certainty.

How would stable coins work in the perfect future?

As Fran Strajnar, head of analysis firm, Brave New Coin, puts it:

> ***"Stable coins are set to climb the ladder as some of the most in–demand crypto assets as the industry matures and more institutional participants enter the marketplace."***

We mentioned in the beginning that price stability is necessary to achieve cryptocurrency mass adoption and everyday use. So stable coins are deemed to be the future of cryptocurrencies and the perfect stable coin will use some variation of non–collateralized tokens.

But in order to achieve this, platforms need to develop tokens with the potential to scale to global proportions while still being able to guarantee privacy. A completely transparent Blockchain ledger is not ideal to keep business interests and relationships safe.

For truly decentralized stable coins to work, there must also be a system in place that can reliably obtain the exchange rate between the stable coin and the pegged asset, without leaning on third–party institutions that can be manipulated.

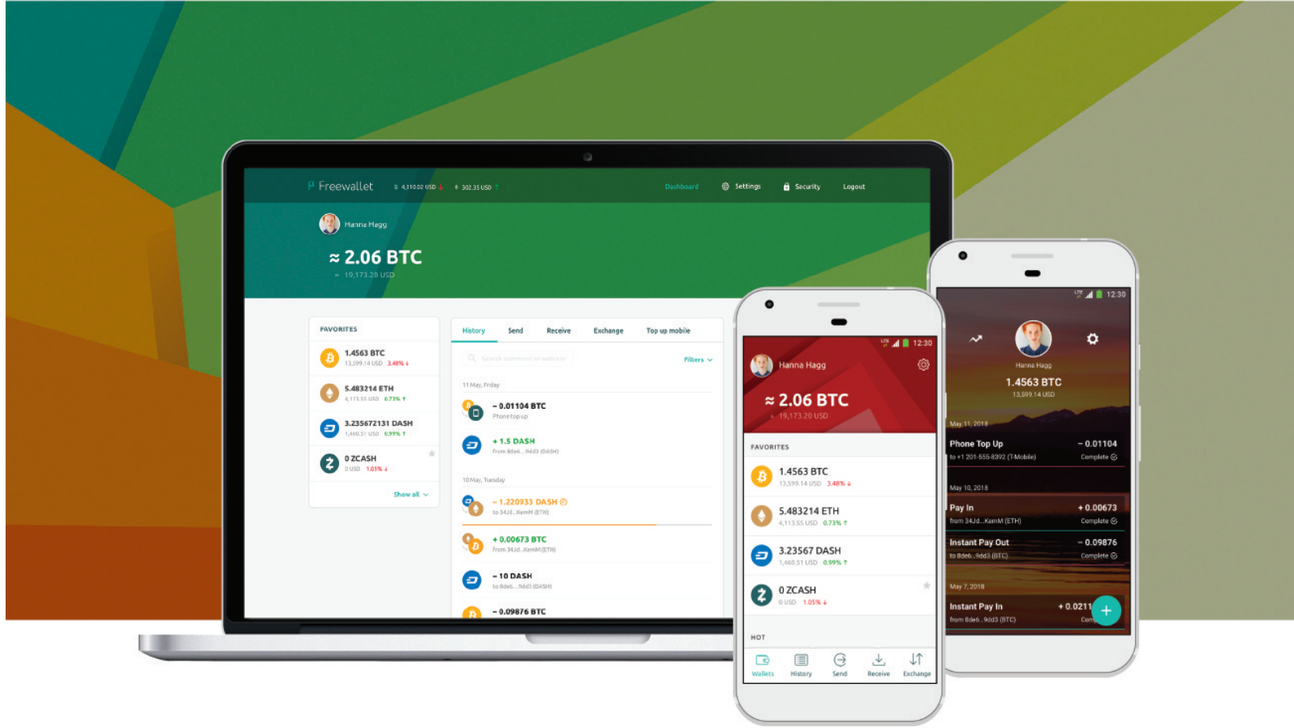
At the moment, stable coins are seen as highly ambitious and highly experimental. As such, there is not one perfect stable coin out there with 100% successful implementation.

But if we are to see the displacement of fiat currencies that contain damaging monetary policies, stable coins will be the way to get there. The ideal stable coin with robust stability mechanisms that can effectively deal with any price fluctuation and run on par with traditional fiat currencies, will undoubtedly signal the beginning of the end to hyperinflation, central government interference, fraud and mismanagement that most economies suffer from to some degree.

> ***"Are stable–value assets necessary? Given the high level of interest in "blockchain technology" coupled with disinterest in "Bitcoin the currency" that we see among so many in the mainstream world, perhaps the time is ripe for stable–currency or multi–currency systems to take over."***

These are the words of Vitalik Buterin, Ethereum founder.





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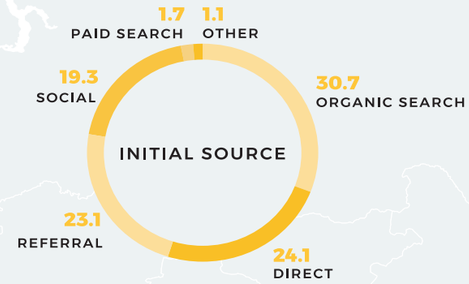
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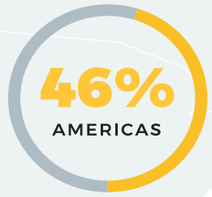
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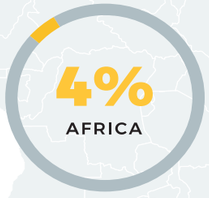














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COINTELEGRAPH
The Future of Money

TECHNOLOGY

ETHEREUM COMMUNITY CONSIDERS

HARD FORK TO FIGHT ASIC MINERS

Ethereum developer Piper Merriam opened the Ethereum Improvement Proposal (EIP) #958 on Github on March 30, presenting the idea of a possible hard fork in the Ethereum (ETH) protocol to invalidate ETH ASICs.

Vlad Zamfir, another developer at the Ethereum Foundation, posed the same question on Twitter on March 28. 57 percent of respondents voted yes to the idea of a hard fork.

Both developers' polls emerge amid rumors that the Chinese ASIC manufacturer Bitmain is on the brink of shipping its first Ethash compatible ASIC miners. Ethash is the Proof–of–Work (PoW) hashing algorithm used by Ethereum and a variety of other altcoins.

Buterin's Ethereum white paper suggests the protocol already has a twofold resistance to mining centralization.

Firstly, the algorithm requires miners to return the hash for data that has been "randomly selected" from transactions in the preceding block. Since "Ethereum contracts can include any kind of computation," "an Ethereum ASIC would essentially be an ASIC for general computation – i.e. a better CPU."

The second means of defense is to "poison the well," which Vitalik characterizes as "ultimately an adaptive human solution rather than a technical one." If a certain type of computation becomes prevalent, then conventional miners can introduce "a large number of contracts into the blockchain specifically designed to stymie certain ASICs".

As Cointelegraph reported in February 2018, Bitmain's profits outstripped the US GPU giant Nvidia in 2017. Research by Bernstein analysts estimated Bitmain's profits to be between $3–4 bln for 2017, holding 70–80 percent of the market for Bitcoin miners and ASICs.

Ethereum's informal poll regarding a possible hard fork follows Monero's rejection of centralized hashpower last month. Monero's lead developer Riccardo Spagni warned that the coin's protocol would be changed every six months to stymie ASIC monopolies. Rumors regarding possible deployment of Ethash compatible ASIC miners impacted Ethereum markets, according to some commentators.



> ***Ethereum contracts can include any kind of computation.***

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ICONIQ LAB SHARES NEWS AND FUTURE PLANS

FLASHBACK TO BLOCKSHOW EUROPE 2018



Last time we met Patrick Lowry, CEO of Iconiq Lab, Cointelegraph had an interview with him just after the performance on the stage during BlockShow Europe 2018 in Berlin, May 28–29. By that time Iconiq Lab, a global decentralized venture capital group and initial coin offering (ICO) accelerator program based in Germany, had already announced the launch of two new branches in the US and Asia. BlockShow is now coming to Las Vegas, and we had a chance to receive an update on the achievements and growth Iconiq has had during these 3 months. But first, let's take a step back and take a quick look at what Iconic Lab company is about.

ICONIC LAB IS A DECENTRALIZED VC CLUB AND ICO ACCELERATOR FOR BLOCKCHAIN STARTUPS. HOW DID YOU GET THE IDEA TO CREATE IT? WHAT BECAME THE INSPIRATION?

When I was working for the Deutsche Börse venture capital team we looked at placing investments into early–stage blockchain companies that presented strategic value for us as a stock exchange operator. In late 2016, the strangest thing happened ... companies we were looking to invest in rather opted to do an ICO instead. After conducting some thorough research, I was able to convince myself of the potential of tokenization for some, not all, startups as an alternative means of financing. This was the inspiration to launch Iconiq Lab. We have successfully onboarded 9 projects from around the world and are now preparing their upcoming token sales.

PREVIOUSLY COINTELEGRAPH.COM WAS PUBLISHING AN ARTICLE RELATING TO A FEW EXCITING ANNOUNCEMENTS FROM ICONIC LAB: THE LAUNCH OF BRANCHES IN ASIA AND THE US, AS WELL AS NEW PROMINENT STRATEGIC PARTNERSHIPS AND COLLABORATIONS. PLEASE SHARE WITH US YOUR EXPECTATIONS VERSUS REALITY ON THE US BRANCH. ARE YOU GOING AS PLANNED WITH THE ASIAN ONE?

We have successfully launched the US program which is headed by Dominic Ward, with Matthew Nacier serving as the Investment Director. The team is currently busy sourcing and performing due diligence on companies that have applied to the program to find the best use cases of blockchain and tokens from applicants. We are excited to begin onboarding these projects this fall and launch their tokens this winter.

We have made some wonderful connections to investors and other collaborators in Asia, most notably in South Korea, China, Hong Kong, Japan and Singapore. There is a strong thirst for token sales in these countries, and some of the tech being developed there is second to none. We cannot wait to formally launch the Asia branch this fall once we hire a managing director for the team.

TELL US MORE ABOUT THE ICONIQ FUNDS LAUNCH, WHICH WAS PRESENTED TO THE BLOCKSHOW AUDIENCE DURING THE LAST EVENT IN BERLIN. WHAT IS THE KEY AIM YOU WANT TO ACHIEVE WITH ICONIQ FUNDS?

After having brought professionalism in a venture capital capacity to the early stage eco system here in crypto, through leveraging our backgrounds as venture capitalists and conducting due diligence, we wanted to scale that to bring professionalism to the asset management sector within crypto. That is why we were very proud to announce the launch of Iconiq Funds at BlockShow Europe 2018. Iconiq Funds issues professionally managed digital asset index funds. We have developed a partnership with BITA, who have created the world's first enterprise grade index engine to properly price and weight all crypto assets. Iconiq's index funds will track these indexes, offering investors an opportunity to diversify their digital asset holdings in a regulated, structured manner.

Our aim for the near future is for Iconiq to be seen as the premier digital asset manager in the crypto space. We will be integrating the ICNQ token into the Iconiq Funds platform with compliant, exciting, and new functionalities for ICNQ, which we will be announcing mid–August.

DO YOU HAVE MORE STRATEGIC PARTNERSHIPS ON THE LIST FOR THE NEXT YEAR? HOW THE COLLABORATION WITH EOS AND FINLAB WILL BE DEVELOPED? PLEASE, SHARE YOUR INSIGHTS WITH US.

The FinLab and EOS fund is now live and ready to invest with €75 million committed by EOS publisher, block.one. FinLab, a strategic investor and partner of Iconiq Lab, has collaborated with us to source the deals for the fund. Companies the fund invests into receive preference to enter the Iconiq Lab ICO accelerator program if and when they are ready to launch their token sale after the investment from the fund.

We have many exciting partnerships we have already announced, such as with the Gibraltar Blockchange Exchange ("GBX"), where Iconiq Lab is a Sponsor Firm, and many more. We are also excited to recently partner with BITA, an enterprise–grade crypto index provider whose partnership allows us to launch a series of Digital Asset Index Funds through our new platform, Iconiq Funds.

There are even more exciting things happening at Iconiq! We look forward to providing our next update in a few short months. We have also launched new website funds.iconiqlab.com and this is where you can find any information related to the funds, powered by BITA as well as learn more about the index token and the upcoming token sale that will allow management to fill in subscriptions to our funds.

Since the establishment of the Iconiq Lab, we have always been the bridge between the traditional and the crypto space. The first step was to really make ICO's and token investments accessible to traditional investors, traditional VCs, to family offices, to corporate VC's and so on. Now we want to do the same in asset management with our index funds, because we are trusted partners, for traditional, big, institutional investors, and I think one of our targets is to also bring more traditional money to the blockchain space and help the ecosystem to grow.

READ ME

ESSENTIAL KNOWLEDGE ABOUT SMART CONTRACTS



SMART–CONTRACTS: WHAT ARE THEY AND WHY SHOULD WE CARE?

Nobody likes a middleman. They take our time and our money to do things that we could probably do ourselves, and we never know if they really have our best interests at heart. In the 21st century, the age of technological enlightenment, do we really even need them anymore? Smart–contracts not only remove the cost and conflict of interests of an intermediary, but ensure that the transaction of our assets over the Blockchain is secure and transparent by defining and automatically enforcing the terms of a deal. The agreements are converted into code and, just like any other decentralized system, they are monitored by the network of computers that operate the Blockchain. It is a dependable system but, as with most things, real trust comes from a place of understanding.

Here, we will help you to understand the code behind smart–contracts.

Let us analyze the example of Zero Ex to better understand the essence of smart–contracts .

Zero Ex Intl provides a platform for the decentralized exchange of ERC20 tokens. It is worth noting that most crypto–asset exchange platforms are still centralized. Zero Ex protocol allows participants to transfer ERC20 tokens between themselves in a secure and transparent way through an Ethereum smart–contract. The project has already raised $24 million through ICOs.

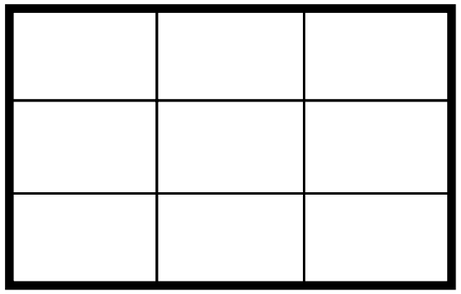
There are some symbols, the meaning of which you need to know. “///” at the beginning of a line signifies a developer’s comment, which ends at the end of the line. All smart–contracts consist of special functions. A smart–contract begins with a brief function description, and said functions are usually explained by the smart–contract writer. He or she can outline a function’s parameters and detail its elements; “@” precedes the name of an element. E.g. “@flowers – the number of flowers that could be used”. The “@” symbol also signifies a developer’s comment. There are further examples below.

THE STRUCTURE OF GENERAL TOKEN SMART CONTRACTS

A simple smart contract is usually comprised of several contracts arranged in a hierarchy. At the top of this pyramid is the contract token, in which all of the smart contract's functions are detailed. Every subordinate smart contract provides more information about the functions and can even introduce new functions. All functions should be covered in the smaller contracts.

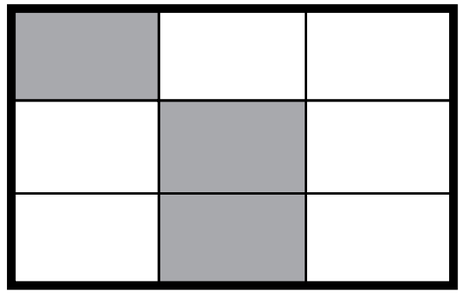
The structure of an ordinary smart contract can be represented as a table. The whole table would be a contract token, and the table cells are functions. Subsequent contracts are represented by filling cells.

1



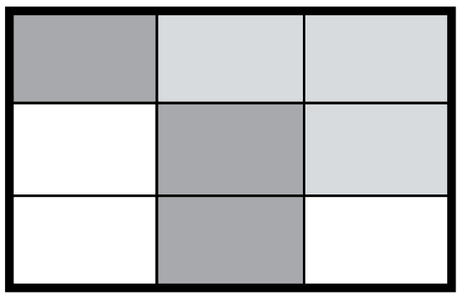
CONTRACT TOKEN (EVERY CELL IS A FUNCTION)

2



CONTRACT STANDARD TOKEN BUILT ON A CONTRACT TOKEN COVERS A FEW FUNCTIONS AS SHOWN IN THE TABLE ABOVE

3



SMALLER CONTRACTS BUILT ON A CONTRACT STANDARD TOKEN COVER ADDITIONAL FUNCTIONS AS SHOWN IN THE TABLE ABOVE

4



THE LAST CONTRACT IN THE HIERARCHY COVERS LAST UNCOVERED FUNCTIONS.

Most token smart contracts are built the same way. As you can see above, the ordinary contract token alone is not a real working program, as it does not work without smaller contracts built on it. In addition, smaller smart contracts could not exist without the contract token.

If any function is not represented in one of the contracts, the whole smart contract will not work. Therefore it is very important that every function mentioned in the contract token is covered by the smaller contracts.

By reading the first part of any smart contract, you gain a general understanding of the smart contract in its entirety.

ADDITIONAL COMMENT	SMART CONTRACT	EXPLANATION
contract token is a "table" as mentioned below	contract Token {	
N.B. "param" means indication of some parameter. @param_fl could be	// @return total amount of tokens	
First cell	function totalSupply() constant returns (uint supply) {}	General function of supplying tokens. It is quite widespread.
N.B. "param" indicates a parameter, some number which would be indicated in real case. Every "param_" has the same meaning below.	/// @param _owner The address from which the balance will be retrieved	Explanation of term which could be used in more detailed and technical description of function.
Second cell	/// @return The balance	Explanation of what the word "return" refers to.
	function balanceOf(address _owner) constant returns (uint balance) {}	This phrase should be understood like so: we specify an "address_owner" and the function outputs the "unit balance"
	/// @notice send `_value` token to `_to` from `msg.sender`	Explanation of the relationships between "_value", "_to" and "msg. sender"
	/// @param _to The address of the recipient	Explanation of "param _to"
	/// @param _value The amount of token to be transferred	Explanation of "param _value

	/// @return Whether the transfer was successful or not	What will be returned to the participant after doing the function
Third cell. Bool success is a logical function which has two possible outputs: “true” or “false”, here and below.	function transfer(address _to, uint _value) returns (bool success) {}	The function sends some units and informs us whether it is successful or not
	/// @notice send `_value` token to `_to` from `_from` on the condition it is approved by `_from`	We can see that the comment is very similar to the first comment of function transfer. The difference is a new condition “approved by sth”. Functions "transfer" and "transfer from" look very similar. However we can see the difference in new detail "approved by '_from' "
	/// @param _from The address of the sender	Explanation of “param _from”
	/// @param _to The address of the recipient	Explanation of “param _to”
	/// @param _value The amount of token to be transferred	Explanation of “param _value”
	/// @return Whether the transfer was successful or not	What will be returned to the participant after performing the function
Fourth cell	function transferFrom(address _from, address _to, uint _value) returns (bool success) {}	As mentioned below, the function “transfer from” is very similar to the function “transfer”.
	/// @notice `msg.sender` approves `_addr` to spend `_value` tokens	Passing of the right of transfer from one participant to another
	/// @param _spender The address of the account able to transfer the tokens	Requirement for being “param _sender”

	/// @param _value The amount of wei to be approved for transfer	It is quite obvious: how many tokens could be transferred
	/// @return Whether the approval was successful or not	What will be returned to the participant after performing the function
Fourth cell	function approve(address _spender, uint _value) returns (bool success) {}	Function “approve” makes a participant able to transfer tokens (unit value) from another participant’s count
	/// @param _owner The address of the account owning tokens	Explanation of “param_owner”
	/// @param _spender The address of the account able to transfer the tokens	Explanation of “param_spender”
	/// @return Amount of remaining tokens allowed to spent	How many tokens the spender allows to transfer from their account.
Sixth cell. We will check that all functions have been implemented	function allowance(address _owner, address _spender) constant returns (uint remaining) {}	There is slight difference between “function allowance” and “function approve”. “Function approve” implies that the active participant is someone who consents to the transfer of their tokens. “Function allowance” implies that the active participant is someone who receives the permission. Actually, the function is an opportunity to find out how many tokens are approved for the asking participant.
We should see the event like a part of an observable pattern. A smart–contract can show an "event". All those who follow the update of the smart–contract’s general Blockchain will see this event.	event Transfer(address indexed _from, address indexed _to, uint _value);	There are no comments for the event “Transfer” from the SmartContract author. So we need to guess what does the event does. The event is based on “address indexed_from” “address indexed_to”, uint_value. Obviously, the event will inform how many tokens were transferred from “address indexed_from” to “address indexed_to”

```
event Approval(address indexed _owner, address indexed _spender, uint _value);
```

There are no comments for the event "Approval" from the SmartContract author either.

```
}
```

```
contract StandardToken is Token {
```

A beginning of detailed procedure description

Presented third "cell". There are 1st, 2nd, 4th, 5th, 6th cells which should be represented.

```
function transfer(address _to, uint _value) returns (bool) {
//Default assumes totalSupply can't be over max (2^256 – 1)
if (balances[msg.sender] >= _value && balances[_to] + _value >= balances[_to]) {
balances[msg.sender] –= _value;
balances[_to] += _value;
Transfer(msg.sender, _to, _value);
return true;
} else { return false; }
}
```

The essence of the function Transfer is revealed. Firstly, the author mentions the maximum total supply. The function is a simple conditional statement. If all conditions (balance of message sender is high enough for spending, the value is not negative) are met, the function will give the output "true". If they are not met, function will give the output "false".

```
/* A contract attempts to get the coins */
function transferFrom(address _from, address _to, uint256 _value) returns (bool success) {
    if (balanceOf[_from] < _value) throw;                 // Check if the sender has enough
    if (balanceOf[_to] + _value < balanceOf[_to]) throw;  // Check for overflows
    if (_value > allowance[_from][msg.sender]) throw;   // Check allowance
    balanceOf[_from] -= _value;                           // Subtract from the sender
    balanceOf[_to] += _value;                             // Add the same to the recipient
    allowance[_from][msg.sender] -= _value;
    Transfer( from,  to,  value);
```

Presented fourth "cell". There are 1st, 2nd, 5th, 6th cells which should be represented.

```
function transferFrom(address _from, address _to, uint _value) returns (bool) {
if (balances[_from] >= _value && allowed[_from][msg.sender] >= _value && balances[_to] + _value >= balances[_to]) {
balances[_to] += _value;
balances[_from] –= _value;
allowed[_from][msg.sender] –= _value;
Transfer(_from, _to, _value);
return true;
} else { return false; }
}
```

The function "transferFrom" is a simple conditional statement too. The content of the function is similar to the function "transfer" as we have already noted above. The function "transferFrom" compares the transferred value with the allowed value.

Presented sixth "cell". There is 1nd cell, which should be represented.

```
function allowance(address _owner, address _spender) constant returns (uint) {
return allowed[_owner][_spender];
}
```

the opportunity for "address _spender" to find out how many tokens are approved for him

```
mapping (address => uint) balances;
mapping (address => mapping (address => uint)) allowed;
uint public totalSupply;
}
```

linking two data sets: addresses and amounts of tokens

```
contract UnlimitedAllowanceToken is StandardToken {

uint constant MAX_UINT = 2**256 – 1;

/// @dev ERC20 transferFrom, modified such that an allowance of MAX_UINT represents an unlimited allowance.

/// @param _from Address to transfer from.

/// @param _to Address to transfer to.

/// @param _value Amount to transfer.

/// @return Success of transfer.

function transferFrom(address _from, address _to, uint _value)

public

returns (bool)

{

uint allowance = allowed[_from][msg.sender];

if (balances[_from] >= _value

&& allowance >= _value

&& balances[_to] + _value >= balances[_to]
```

Comments to the “param_s” are already mentioned above. The function “transferFrom” is a conditional statement with several initial data, like “unit_allowance”, “value” and “balance_to”. It is completed if the “Balance from” value is not negative.
This function considers allowing the transfer of more tokens than were initially issued. It looks strange, but the developer does it to give you the opportunity to share your account forever. If you allow the transfer of a larger sum of tokens than was issued to participant 1, the amount of tokens permitted for participant 1 will never decrease.

N.B. “cell” 4 occurs for a second time. It means that the function “transferFrom” operates under the new rules from now.

N.B. “cell” 4 occurs for a second time. It means that the function “transferFrom” operates under the new rules from now.

```
) {

balances[_from] –= _value;

if (allowance < MAX_UINT) {

allowed[_from][msg.sender] –= _value;

}

Transfer(_from, _to, _value);

return true;

} else {

return false;

}}}
```

It easy to confuse “function transfer” with “Transfer”. “Function transfer” is a “cell”, “Transfer” is an event, the type of code part is mentioned in the first part of the smart–contract

The last contract in the hierarchy. It is very important to read it scrupulously. It should not consist of fraudulent function changes, like changing the function body to transfer all tokens to a third–party address.

```
contract ZRXToken is UnlimitedAllowanceToken {

uint8 constant public decimals = 18;

uint public totalSupply = 10**27; // 1 billion tokens, 18 decimal places

string constant public name = "0x Protocol Token";

string constant public symbol = "ZRX";

}}}
```

The last contract tells you how many symbols are available. It generally includes the token name and an indication of the total token amount.

Any questions that arise while reading through the details should be put to a smart contract writer through any direct channel, for example on BitCoinTalk. If the author ignores the question or provides a vague, general answer, this should be a red flag to the prospective investor.

LIFE

MATHEMATICAL

JIMMY WALES

‘Jimmy Wales is good at failure.’ Who would think that? Apparently, Jimmy would, as this is the message he was spreading during his speech at the biggest crypto conference in Europe, BlockShow, calling failure ‘an essential part of innovation.’ But the importance of not giving up is also clear from his speech, as the co–founder of multilingual online encyclopedia shared that Wikipedia was not his first project, but the most successful one so far.

Speaking in Berlin, the headliner of the event, announced his new project that everybody was waiting (I mean, not a single spot in the audience!) – WikiTribune, that Jimmy described as ”all about bringing high–quality neutral journalism to the world.”



Blockchain as a technology is not something that needs regulation.



DURING YOUR SPEECH, YOU'VE CALLED CRYPTO A BUBBLE, AND YOU'VE ALSO EXPRESSED THIS OPINION IN DIFFERENT INTERVIEWS. WHY DO YOU THINK SO?

I'm old now, and I was in the internet world during the dot–com bubble, so when I say something is a bubble, it doesn't mean that I think there's nothing of value there. It means there's a lot of noise and there's a lot of investment money flowing in, and a lot of things are being invested into what does not actually make sense. A lot of projects are going to fail, but we additionally have a lot of scams, a lot of theft, a lot of crazy things happening. So, I just ask people to be careful.

WELL, THAT'S FAIR. ARE YOU A CRYPTO INVESTOR YOURSELF?

No, I'm not. I have had some crypto here and there, but I'm not an investor at all, so that's the other thing to know about me. I have my own projects and beyond, that I don't really invest.

IF YOU EVER DECIDE TO LAUNCH A BLOCKCHAIN–RELATED PROJECT, WHAT KIND OF PROJECT WILL IT BE?

I'm not planning to do anything directly in the blockchain space. I am very intrigued by the idea. A lot of people have pitched me on their ideas in the journalism space, I just don't see it makes a lot of sense. I'll continue to reflect and think. At this stage of my career, I'm not just trying to get money from people for something I don't personally believe in. Until I figure it out, I'm not going to be doing anything.

I GET IT. THERE IS A POSSIBILITY, BUT THE PROJECT HAS TO BE OF VALUE.

It has to resonate. It has to be something as meaningful to me.

I'M SURE YOU'VE HEARD ABOUT THE FACEBOOK AND CAMBRIDGE ANALYTICA SCANDAL.

Of course.

THE ISSUE OF PRIVACY IS REALLY TOPICAL HERE [IN THE CRYPTO WORLD]. DO YOU BELIEVE CRYPTOCURRENCY OR THE BLOCKCHAIN TECHNOLOGY CAN OFFER A SOLUTION?

I don't know. I suspect not. I think that the issue is much broader and a lot of the ideas in this area failed to understand the real risk points and solve problems that people don't actually have. I think that the biggest thing that is happening is that consumers are beginning to wake up to the idea that sharing all of your data has consequences that you might not have thought about. There are good consequences. One of the good consequences is that advertising is more relevant, and I think consumers appreciate that. I like the fact that I get ads for things that I'm interested in. There's nothing wrong with that.

LIKE BOATS?

Like boats, for example, yes, exactly. I get ads for boats because I like boats, I'm interested in boats and I might buy a boat, and so on. It's a perfectly sensible thing. On the other hand, if political actors are using this to create disruption and hatred and, sowing divisions in society for a political game –that's super problematic and that's something I think people should be concerned about. I'm also concerned about the incredible pressure that's been put on the industry of journalism for quite some time. That's been a big problem. The number of excellent journalists, who are out of the job simply because the world has shifted in a way that's not good for journalism, is a problem. I think we need to work ways through that and find new ways of supporting journalism.

At the stage, Jimmy stressed out the importance of fair journalism in all its aspects. He pointed out that media has been not performing to their best abilities. 'Over the past 15 to 20 years we've seen an enormous decline in the funding of journalism leading us to the state of the world that I think unfortunate.'

That is one of the reasons he started WikiTribune, 'an evidence–based journalism' news platform where 'professionally paid journalists working side by side with community members as equals.'

SPEAKING OF JOURNALISM, HAVE YOU HEARD ABOUT SOCIAL MEDIA BAN ON CRYPTOCURRENCY ADVERTISING AND GOOGLE BAN ON CRYPTOCURRENCY ADVERTISING?

Yes, a little bit.

ISN'T IT THE FIRST AMENDMENT RIGHT VIOLATION? DO YOU THINK IT'S FAIR?

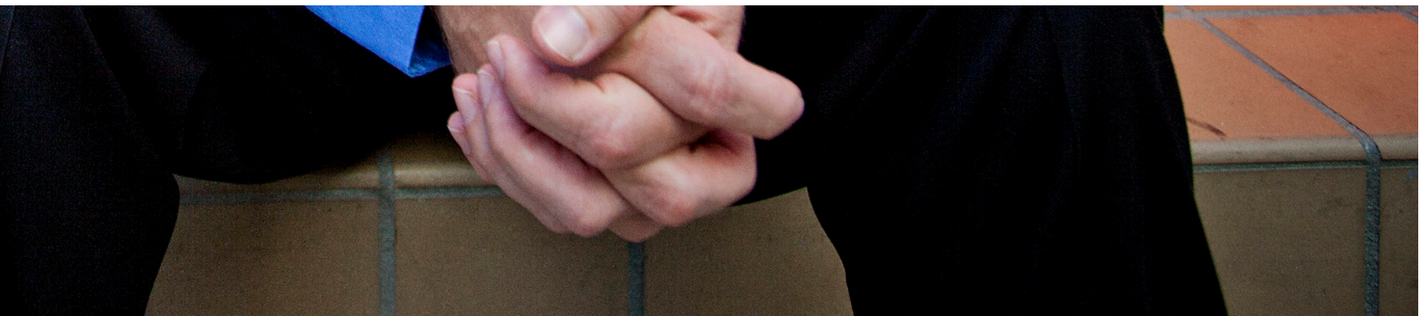
It's really complicated. The first thing I'll say it certainly doesn't violate the First Amendment. The First Amendment is the restriction on Congress. Private platforms are not bound by the First Amendment. In terms of the fairness, I think the issue right now is that there have been quite clearly scams put forward that are not just technical violations of some securities rules, but actually scams where people have had their money taken. That's a huge problem, so platforms like Facebook and Google have to be sensitive to that. Now, have they overreacted? Possibly. It's a very complicated thing. It's certainly something that I think needs to be seriously looked at by all the relevant parties, relevant players. But if people are advertising securities for sale that are in violation of the securities laws, that's a real problem. I don't blame these people who say, "We don't want any part of that."

> ***Consumers are beginning to wake up to the idea that sharing all of your data has consequences that you might not have thought about.***



THE [CRYPTO] INDUSTRY SAW ITS BIGGEST RISE IN 2017. DID IT REFLECT SOMEHOW ON WIKIPEDIA SEARCHES? ANY INCREASED ACTIVITY ON CRYPTO–RELATED PAGES??

Yes, I'm sure. I haven't actually looked at that data, but what we see at Wikipedia is that the search query, the search volumes for everything do tend to follow the news cycle. Things that suddenly become very interesting because they're in the news all the time, we'll see a lot more searches at Wikipedia. Because, you know, if you simply read in the mainstream media about Bitcoin and cryptocurrencies, it's going to be very rare to get any kind of in–depth explanation of how it works and what it is, and Wikipedia is a pretty good place to go for that kind of broad background information. Even the story of Satoshi Nakamoto is a romantic story, it's got a huge amount of press, it's very intriguing. A lot of people read the article on Satoshi Nakamoto, I'm sure, millions of people.



YOU HAVE A PHD IN FINANCE, IF I'M NOT MISTAKEN.

I did a course on PhD, but I never finished the dissertation.

WAS IT ON PURPOSE OR DID YOU JUST GET BORED?

I just couldn't take it anymore.

I UNDERSTAND THAT. THERE'VE BEEN A LOT OF DISCUSSIONS ABOUT HOW TO REGULATE THE [CRYPTO] SPACE. AND YOU PERSONALLY, DO YOU CONSIDER CRYPTOCURRENCY A COMMODITY OR UTILITY?

There're many, many different aspects. There's blockchain as a technology. Blockchain as a technology is not something that needs regulation. You'll occasionally hear a politician saying, "We need to ban cryptography," but that's stupid and crazy and you're never going to do it with math. You can't ban math. You can't ban blockchain. It's math. At the same time, we see a lot of things going on that it's very difficult to say they're anything other than just scams. People are making millions of dollars of other people's money with no accountability and that deserves law enforcement for investigation. We see a lot of the hacks and Bitcoin or other coins being stolen because somebody hacked the server and got the keys. That's what the police are for, right? Ideally. I feel like there's been far too little response. You know, if you walked into Citibank and walked out with 56 million dollars' worth of gold…

> *If people are advertising securities for sale that are in violation of the securities laws, that's a real problem.*

NOT YOUR MONEY?

Yeah, not yours. You went, and you picked a lock and you stole the actual gold [and put it in] the back of a truck, then there'd be an army of FBI agents investigating this. I feel like a lot of the cryptocurrency thefts have gone [unsolved]. The police are like, "We don't know what to do," so they do very little. That's not to criticize them, that's just the fact that we don't see the right kind of law enforcement response. People don't think about it as regulation, but of course it's against the law to steal things. I also think that for the consumers and for the brand image of the whole cryptocurrency space there is a feeling that 'G, it's very speculative, I might invest $100 to make $1000, or I might just get my money stolen. That's not a good start for a revolution and the way that we transact. I think that we should welcome the rule of law. I would even say, the rule of law is the first step, never mind regulation. And of course, we run a risk, as we always do in technology, that legislators who have almost no understanding of what's going on will pass regulations that don't make any sense. We've had that in the internet space forever. We have it, in my opinion, now with GDPR which I think is just bonkers. It's an attempt to solve our problem, but it's not going to solve the problem. It's just burdensome.

IT SEEMS LIKE AN ATTEMPT TO SIMPLY 'DO SOMETHING.'

Exactly. What I've said about GDPR, actually I'm not the first who originally said this, but I've seen people saying, "If you're going to design a regulation that is intended to entrench Facebook and Google in their privileged positions, you could hardly do better that GDPR because it's just really burdensome for startups, and it's not much a burden for them." I mean, it is a burden for them, but it's a small price to pay to maintain a monopoly. So anyway, I think those are the kinds of things I think we should be worried about.

OKAY, AND GOVERNMENTS? SHOULD THEY EMBRACE CRYPTOCURRENCIES AND BLOCKCHAIN? CAN THEY BENEFIT FROM THAT?

It depends. I would say, there're a lot of interesting potential applications. I think that right now, one of the things that's going on is that there are a lot of vendors or hawking products that don't work, that are vapourware, and governments can, like any other buyer, be duped. They need to be very cautious and very careful. I think particularly when they're dealing with taxpayer money, there's a very good reason to be extremely cautious about new technologies, not to reject it entirely but, you know, the first person who comes by and [tells you]"We're going to put all of your health records on the blockchain," [you need to ask them] "Really? What does that mean exactly? How exactly is that going to help? What exactly does that entail?" Because you're going to pay millions for consultants to do something that doesn't actually work. It doesn't mean that we won't necessarily move in that direction, but I want to see governments moving very cautiously in this space.

THE SABER CASE:

HOW COMPLEMENTARY CURRENCIES CAN GO CRYPTO AND CHANGE THE WORLD

In the past few years we've been witnessing the massive waves of cryptocurrency adoption – you can now pay in Bitcoin for almost anything from coffee to real estate. However, the ideas were always above money in community and there is still so much untapped potential from decentralized digital coins.

A history of Saber – a Brazilian complementary currency project, developed in the early 2000s to promote the educational system, is an important example of the social potential we tend to forget by keeping up with the rates of exchange.

A brief history of complementary currencies

Complementary currencies (CCs), also known as community currencies, are basically an alternative, or indeed a compliment, to conventional money. Their purpose is usually to strengthen the local economy at times of recession by stimulating additional transactions and therefore keeping the economic cycle in motion or to achieve certain social, environmental, or political goals.

In most cases CCs are not legal tender – i.e. they are not accepted at a national level and you can't buy whatever you want using it – they only function as a quasi–monetary exchange medium for certain purposes within a restricted area. In theory, CCs should stimulate the local economy and encourage people to act collectively. Although replacing conventional money and undermining national currency is not usually the goal of a CC, the state often appears to be reluctant to the idea, and the model has developed the reputation of an experiment and not a proven method.

The first CCs can be traced back to ancient Egypt, where local people used otrakas – pieces of pottery – to issue receipts for the amount of harvest farmers would put into storage. Those pieces, in turn, were traded for local services. Similarly, in medieval Europe people would regularly turn in bracteates – pieces of jewelry – for new coins, although always with a deduction. The system was designed to prevent people from hoarding coins and keeping them out of the financial ecosystem. That, in turn, would increase the velocity of regular money.

In recent history, CCs started to appear in the first half of the 20th century. One of the most notable example is the Wära free economy experiment held in Germany. The Wära was a currency introduced by Hans Timm and Helmut Rödiger, followers of Silvio Gesell, a German merchant, theoretical economist and anarchist. During the course of the experiment, Wära banknotes were printed and were made available in denominations of 1/2, 1, 2, 5, and 10 Wära. One Wära would be equal to one Reichsmark, and the aim of the Wära was to support the economy of a mining town Schwanenkirchen, which had been hit with massive unemployment. Like otrakas in Ancient Egypt and bracteates in medieval Europe, the Wära was a demurrage–charged currency, which means that each banknote had a monthly cost fee of one percent of its nominal value. This prevented the people of Schwanenkirchen from storing the currency and putting it out of active circulation. It had its benefits for users too: for example, people who bought coal – the local economy's staple – using Wära received a discount.



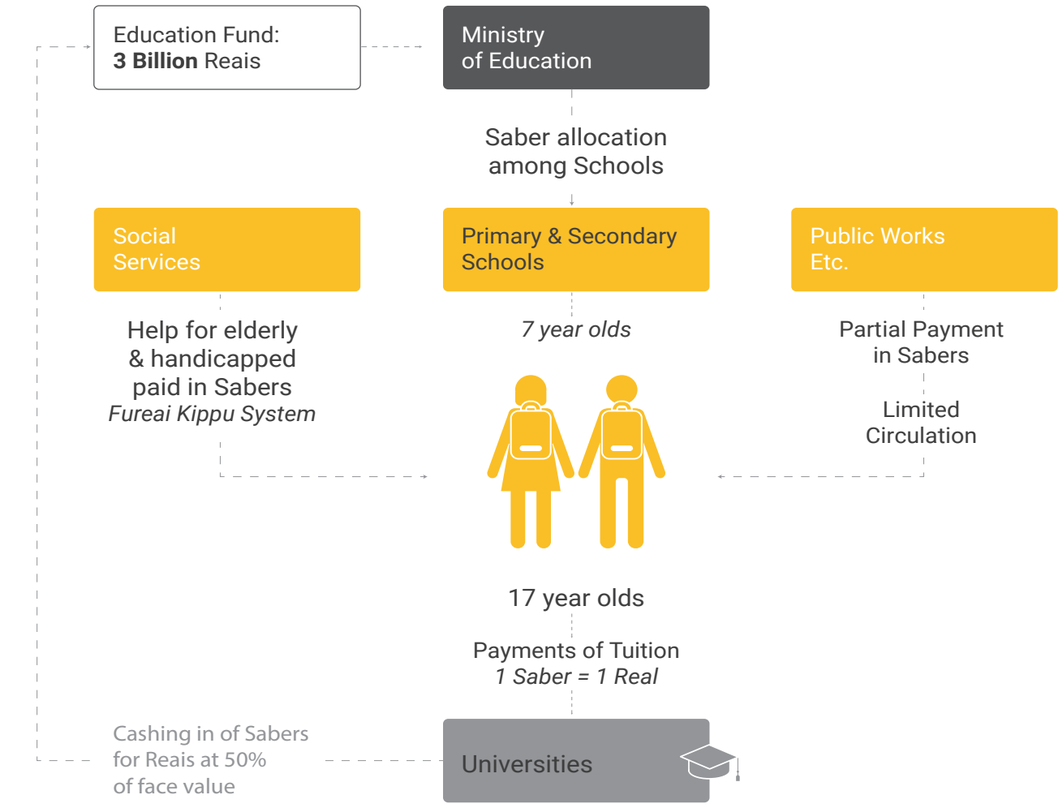
During the course of the experiment, the Wära allowed local services to continue despite the fact that the national currency was scarce. As a result, new jobs were created and taxes were paid. However, the scheme ended abruptly: the finance ministry of the Reich forbade the currency, and the town returned to its previous decadent state.

Similar experiments were held in other countries around that time: local currencies were used in Wörgl, Australia (1932 – 1934), Alberta, Canada (1936) and in the US during times of the Great Depression.

The Saber Experiment

In 2003 Belgian economist Bernard Lietaer collaborated with Brazilian professor Gillian Schwartz of São Paulo University –who has previously worked as an economist at various public and private financial institutions including BankBoston – to submit a proposal for a complementary currency called the Saber to the government of Brazil.

Saber was aimed to help Brazilian schools provide greater educational opportunities "without creating any new financial pressure on the economy". The educational vouchers were designed to launch a substantial "learning multiplier" so that a given amount of money can produce more learning for a bigger number of students. In other words, the Brazilian Ministry of Education would allocate Sabers among schools in economic areas where normally there is no funding for higher education. Local students at the age of 7 were to receive a certain amount of Sabers on the condition that they must choose a mentor among older students. They can later earn more Sabers by giving those lessons at the rate of 5 Sabers per hour. At the end of the program, when they turn 17 and graduate from school, they could spend the gathered Sabers to pay – whether fully or partly depending on the available amount – university tuition fees.



The mere idea of an alternative to the national currency sounded rather controversial. As Schwartz remembers over a Skype call with Cointelegraph:

> *"Pioneers are doomed to see the other side of Jordan river, but never make it there. Maybe I was researching [the concept of CCs] too early, but anyway it's not about anyone's idea, it's more about the zeitgeist".*

The Brazilian government declined the project at the review stage. However, 18 years since Schwartz's team first started doing research on CCs, things have changed considerably. Now, the rise of Bitcoin allows more room for experiments in the financial area. Schwartz noted:

> *"I think it's a learning process for everyone. Now the private banks, as well as some departments at a federal level are discussing blockchain technology here. São Paulo's stock exchange has also been one of the pioneering institutions [in that regard].*
>
> *Now it's becoming much easier to explain to my partners, local leaders or young people what a creative currency could be, because there's Bitcoin and all that discussion whereas 10 15 years ago that would be seen as completely out of the question – [the response would have been] how can you even dare to substitute the real currency?"*

What's next?

A global creative cryptocurrency to promote education, culture and arts worldwide

These days Schwartz is busy creating a CC that goes beyond the regional – the project was launched in Brazil in November 2017, although at its most initial stage. "We lack a monetization platform for creative processes which already exist [in our society]. [The world] should be more democratic rather than autocratic and technocratic" – he says, while stressing the popularity of state–reinforcing technologies like mass surveillance in modern society as well as fluid stability of global currencies over the past few decades.

The platform called DarVoz got inspiration from UNESCO's MIL CLICKS' (a project Schwartz joined in 2006) agenda, which is based on the idea that responsible consumption and production of online content worldwide could be rewarded with digital currency. As professor explains:

> *The platform, named DarVoz received inspiration from UNESCO's MIL CLICKS' – a project Schwartz joined in 2006 – which is based on the idea that responsible consumption and production of online content worldwide could be rewarded with digital currency. As professor explains:*

Why not issue a new coin straight away, when it seems so easy to do in a world where even memes almost accidentally become successful currencies? Well, according to Schwartz, it contradicts the whole idea. “It makes no sense to go for an initial coin offering (ICO) if you don’t have the other ICO, which is Initial Community Organization. You need [to establish an] organic connection between community and the currency first. The idea is not that we want hundreds of new ICOs, we’re aiming at a currency system with diversity being an important part of its dynamics. It’s really complementary, it’s not antagonistic to

the existing currencies and infrastructures. We’re not going backwards in terms of globalization – that’s for trade barriers advocates. Instead, we’re going forward, towards more interconnectivity but with a balance between the technological and the humanitarian”.

Acknowledging that conservative governments of the world would not be particularly happy about the idea that a regular, state–approved currency can be in any form substituted by decentralized ones, Schwartz seeks support among more open–minded institutes: universities, research groups and outreach projects.

“So far, we haven’t leveraged enough support… there’s a funding issue here” admits Schwartz. “In order to develop something like a running currency, confidence is required. To get that confidence, you have to be trustable as an institutional body or as an organization. We still haven’t been able to convince any policymaker." However, DarVoz has found an alternative solution: these days Schwartz and his team are discussing their concept with other universities all around the world: "That way, we should be able to have a global social currency that connects different cultural and educational projects”.

Crypto technologies and transparency

To run such currency, DarVoz needs a platform. Schwartz’s team is currently negotiating with Holochain, an open source framework for peer–to–peer applications. “We’re going to hold a meet up with their team to brainstorm at the end of March. [But the] political situation in Brazil is very unstable at this point. In the 21 years that I’ve been working with those projects at University of São Paulo, this is the worst time to start” the professor laughs. Some caution wouldn’t hurt, Schwartz believes:

> *“It’s important to hold an open dialogue with the central bank as to what kind of currency that is and what kind of sphere it’s connected to… all kinds of walls are being built these days. It’s kind of like going back to the middle ages in that sense”.*

The currency’s purpose is part of its value, as opposed to regular currency, which, according to Schwartz, “is useful for whatever – [with regular money] you can buy a gun, you can buy a glass of water”. His team is looking to achieve NGO levels of transparency – the activities circulating within the currency must be traceable and accountable for in order to be monetized. Such digital records are supposed to be stored within the blockchain–type backbone of the currency:

> *“It naturally evolves into the public sphere of shared audiovisual content… Say, you held a lesson with 15 kids in Bolivia and took care of the garden around the church. You connect to the global network and share the record of your activities… Basically, it’s about how you translate knowledge into acknowledgment on a democratic [platform]”.*

Despite the complexity of his concept and low interest among policy–makers and investors, Schwartz remains optimistic. “This is a learning process. The issue here is not about the currencies, it’s about all countries reaching a new level of understanding that can be at least comparable to the post–war welfare consensus. We’re now probably living through the last stages of the crisis. A new consensus is very likely, because we have much more tools to discuss, share and use. However, on the other hand, those very tools are very useful for control, censorship and oppression as well. You can use a knife to kill or to slice the bread and share.”

ETHER DALE

Ether Dale is known as the developer and publisher of Blockchain games, including the popular fantasy RPG, Ether Quest.

The company produces unique games, based on Etherium's Smart Contract technology.

The Ether Dale team follows an innovative approach to the game industry, encouraging the further development and popularization of crypto currencies.



/etherdale

WE TRY VERY HARD TO NOT BE NUMBER ONE ALL THE TIME

INTERVIEW WITH BINANCE CEO CHANGPENG ZHAO

In less than a year since its inception, cryptocurrency exchange Binance has become the biggest exchange by volume in the world.

In an industry driven by the brightest minds, competition is fierce as the world begins to warm to the existence of cryptocurrencies. Newcomers to the industry face an uphill battle playing catch–up to established exchanges with loyal user bases.

This is what makes Binance's emphatic rise in popularity so astounding, given the short amount of time in which it has overtaken its competitors.

At the helm of this exchange is a man who has gleaned knowledge from previous experiences and fast–tracked the development of the exchange. However, even Changpeng Zhao is still surprised by the astronomical speed in which his exchange has grown.

In July 2017, Zhao launched an initial coin offering (ICO) for Binance that raised $15 mln – enabling the development of the cryptocurrency exchange powered by its own Ethereum–based ERC20 BNB token.

While users cannot trade with traditional fiat currencies as of yet, they can deposit various cryptocurrencies into a Binance account and trade using Bitcoin, Ethereum and numerous other altcoins.

Fast forward to June 2018 and Binance is setting the pace for other cryptocurrency exchanges to follow. Currently the biggest exchange globally with $1.5 bln in trade volume according to Coinmarketcap data, Binance is making big moves to cement its place as an industry leader.

In an exclusive interview with Cointelegraph, Zhao revealed that Binance has officially opened up a bank account in Malta, paving the way for the eventual support of fiat currency deposits and withdrawals on the exchange.

The 41–year–old CEO spoke openly of the challenges brought about by the whirlwind rise in popularity of the exchange and how their ICO kick–started the existence of Binance. He weighed in on recent criticisms of exchanges producing over–inflated data on trade volumes, touched on some innovative ideas possible with blockchain, and gave insights into current projects being undertaken by the Binance team.

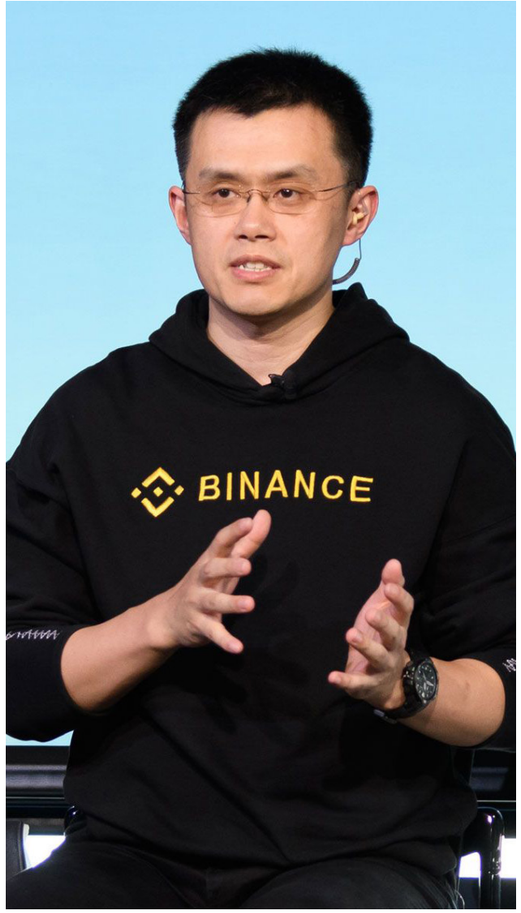
On background

HOW CHANGPENG ZHAO (CZ) ENTERED THE WORLD OF CRYPTOCURRENCIES

I've always worked in the financial and IT industry and I've been an entrepreneur for quite a while, one of BTC China's investors. BTC China is one of the oldest sites. One of the investors is a good friend of mine and he introduced me to Bitcoin and Ripple. That was back in 2013 – not too early, not too late. His name is Ron Cao, and he was the managing director of Lightspeed Ventures in China. In 2013 he said, "Hey, CZ, why don't you look at Bitcoin, it's kind of interesting." I took a look, I really liked it.

BORN IN CHINA AND HAVING LIVED IN CANADA, CZ SAYS THE MIXTURE OF CULTURES HAS SHAPED WHO HE IS AND HOW BINANCE OPERATES:

I think both experiences do have a fairly big impact on me as a person, how I think, how I operate and in terms of how Binance works. Because Binance inherits a lot of my personality as well. From the Chinese perspective, Chinese people work really, really hard. They don't stop. If you determine what kind of business relationship you have, you can call the vendor at 11 p.m. at night, any day of the week, they will respond – and that's fully accepted in Chinese culture. They just work non–stop. The Binance team retains that.



The experience in Canada is very, very helpful from an international perspective. Canada is an immigrant country with all different races, different people from different origins. Canada is also very friendly, very internationally friendly. I've lived in a few additional places when I was younger, so I've always felt Earth as one entity. I've never really had a strong one–country concept. So that's why the Binance team is truly international. Our users are international.

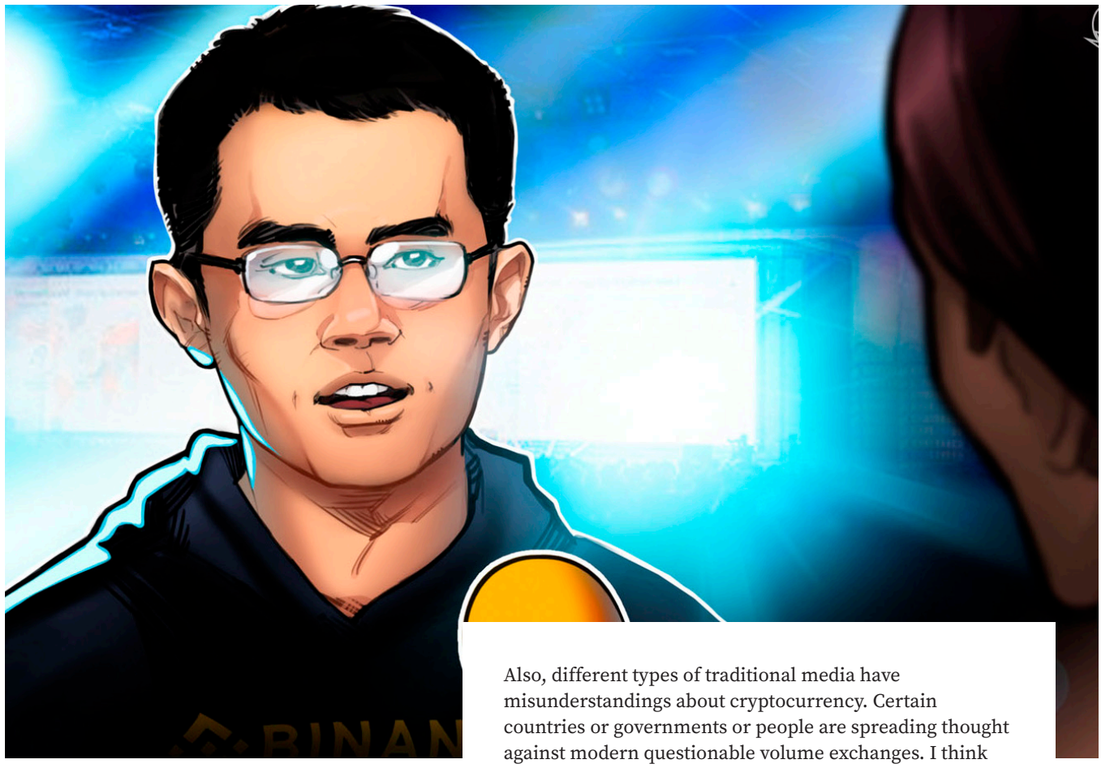
Also, on the first day I learned of Bitcoin, I thought, "Wow, this is going to be very good internationally," because I have personally experienced a lot of trouble transferring money from one country to another. For example, if I moved to Hong Kong, I would be wanting to transfer money from Canada to Hong Kong – it is a pain. I understood the impact of that. China, Canada, the US, Hong Kong, Japan – I've lived in all of those places and that experience helps a lot.

CZ GAINED EXPERIENCE IN THE WORLD OF CRYPTOCURRENCY EXCHANGES WITH OKCOIN, WHICH HELPED IMMENSELY WHEN STARTING UP BINANCE:

I think the OKcoin experience also helped a lot. There're a few different things. I think having firsthand experience helps a lot. When I joined OKcoin, I think there were about 20 to 30 people, and they'd started for a few months – not very big. We took that exchange from nothing into one of the largest trading volumes, although some of the volumes are questionable.

Having that firsthand experience of growing an exchange, I was one of the three co–founders and I was the chief technical officer (CTO), so having that kind of experience is extremely valuable. Binance avoided a lot of mistakes we had to figure out by trial and error back then. There's another important factor. Having that experience also taught me that there's a lot to improve. That's the industry of exchange and even today Binance has a lot of room to improve.

A lot of people, when I started Binance, said, "Look, there are thousands of exchanges in the world already. It's a very competitive space. Why do you want to do another one? It's not going to work." Those kinds of comments did not deter me because, given the experience and the knowledge that I had, that helped a lot.



On criticism

CZ WEIGHS IN ON HOW HE DEALS WITH NEGATIVE PUBLICITY:

There are two different types of negative comments. Firstly, they can be constructive feedback that our users are giving us, how we can improve and what we're doing wrong or what we're doing not necessarily wrong, but not in the best way. Those things we read and we reflect on and we improve. Those things we take very seriously. The second type of negative comments are either smear campaigns or competitors who, instead of focusing on their own core business, spend time spreading negative news about us.small, but those really helped us to grow.

Also, different types of traditional media have misunderstandings about cryptocurrency. Certain countries or governments or people are spreading thought against modern questionable volume exchanges. I think fear, uncertainty and doubt accounts for about 90 percent of the news we see. Those we generally ignore, and we just carry on with our stuff, those are very easy. At the end of the day, I think you value what you bring to your people, to your users. That's the most important thing.

We focus on creating value on helping people achieving value. Many, many people have told me that they'd achieved financial freedom through Binance, either through our ICO or investing some of the coins that we listed. Those things will keep us going and those are very solid things. We help people's lives. Those are very strong motivations for us to continue going. We know we're doing the right thing.

We can very comfortably ignore anything that's negative. To be honest, a lot of the negative news actually help us, because it creates debate, contention which, to a lot of observers, are more interesting stories.

If it's just "Binance is great, Binance is great," people get tired of it very quickly and we have less awareness spread from a marketing perspective. So, a lot of the negative news actually help us, because in a story you've got to have ups and downs. To be honest, even in early days, we were aware that some of our competitors were deliberately spreading negative news about us. We were not number #1, we were quite small, but those really helped us to grow.

Inflated trade volumes – CZ responds to claims

A NUMBER OF MEDIA OUTLETS RECENTLY REPORTED THAT SOME CRYPTOCURRENCY EXCHANGES WERE INFLATING TRADE VOLUME DATA TO BOOST THEIR STANDINGS. CZ ADDRESSES THESE CLAIMS:

They are definitely questionable volumes if you look at a lot of the candlestick charts from many different exchanges when the price is moving very significantly. Basically, if you look at the top 10 exchanges, I think Binance, you don't see this at all and we are very honest with our volume. We actually want ways to report lower volumes so that we're not number one always. That's the problem we actually face. There's a practice, I can share with you, where some crypto exchanges report volume twice. We only do it once. Basically, we'll leave 50 percent of volume other people report if we use the same standards that they do. When you buy and sell, when this is one trade, there's a buy side and there's a sell side. Basically, if I buy one Bitcoin from you, some of the exchange count this trading volume as two Bitcoin, because there's one sell, one buy. We always report it as one. In a lot of ways, we actually report only 50 percent of the volume.

I think some of the exchanges recently became more honest. Then there are other things like wash trading, there are other things which are very obvious. If you look at the candlestick chart, when the price is moving very significantly, that's a low volume. When the price is stable, this very high volume is wash trading and that's wrong. That's a very clear indication of wash trading. Many exchanges have put requirements on the listing on the coin project team that you have to guarantee a certain trading volume. What happens is that listing team will hire some guy, who they call a market maker, who will just generate tons of volume. And they basically create 2 accounts who just trade against each other. In this way the exchange is not doing, but the project team is. As part of the listing requirement, they ask the project team to guarantee the trading volume, which we do not do. As for us, we try very hard to not be number one all the time, because being number one creates other problems sometimes, especially with regulators. The regulators like to talk to number one guy. We try very hard to not be number one all the time, but other people are trying very hard to boost their volumes to be number one.

Also, if you look at the traffic analysis, if you look at the mono–traffic different websites scale, it'll give a very clear idea. If you look at the top 10 trading volumes exchanges, many of them have the similar trading volume or, sometimes, even higher trading volumes than us, and only 10 percent of the web traffic.

Building an empire in under a year

CZ ADMITS THAT THE SPEED AT WHICH BINANCE BECAME THE WORLD'S BIGGEST CRYPTOCURRENCY EXCHANGE BY VOLUME TOOK HIM BY SURPRISE. HE ALSO DELVES INTO THE CHALLENGES BROUGHT ABOUT BY THE EXPLOSION OF BINANCE USERS:

To be very honest, I didn't expect it to happen so quickly. I thought it would take us solid 2–3 years to climb up there. We had many, many different plans to do that, but it happened so quickly that I was actually surprised.

I think our system is literally faster than our competitors' systems, which also helped. When you build a really fast system, when you build a really modern road, people drive on it very quickly. I think that contributed to our high volume. And because we can sustain a high volume, people came to us. It's like a passive cycle. Our system was quite fine, because we built a very fast and high–capacity system from the ground up, but we had many other departments to help the growth. Especially in customer support.

When you grow from zero to a few million users very quickly, a few million ask questions and need help. From a customer support perspective, we don't have an AI system, so it's all human based. We only hired people so quickly – that put a lot of strain initially, but now we're finally catching up. Today, I'm pretty sure, we provide one of the best support in the industry, but I think there's still a lot of room to grow. Our support is not good enough, not even near good enough, I would say. We're still struggling on that part a little bit, but we're aiming at being there.





The power of an ICO

BINANCE GOT OFF THE GROUND THROUGH AN ICO AND ALSO OFFERS USERS A 50 PERCENT DISCOUNT ON FEES IF THEY USE THE NATIVE BNB BINANCE TOKENS. CZ SAYS ICOS ARE AN INCREDIBLY POWERFUL WAY FOR COMPANIES TO RAISE CAPITAL:

Yes, when people have BNB in their account and use them to pay for their fees, they get a 50 percent discount today and since the beginning. The ICO definitely helped us a lot. I cannot stress how much it has helped us. I think it's probably helped us on the order of 10 to 200x . First of all, raising money through the ICO was literally more than 100 times easier than going through traditional venture capital (VC) rounds. We were able to raise money much quicker and much easier.

I always imagine in a parallel universe another version of myself or somebody with exact background, exact appearance, exact capabilities raising money through the VC round, they will be two years slower than us. And to be honest, they would not be just two years slower, they would not exist because we're here now and any company that's going to do this two years later will not exist.

The ICO helped us in so many ways as well; it gave us the initial user base. Even before we started, even before we launched our platform, we had about 25,000 registered users at just the ICO phase. It gave us a lot of popularity and initial user base which is extremely valuable. Also, having the token economics, now people who participated in our ICO, they are now investors, coin–holders, and users at the same time. This is an economic that's never existed before. Before, there were users paying for paying or adding value to the system, but the shareholders realizing value were usually a separate bunch of people, but now they're the same.

Having done ICO myself and having seen many people doing ICOs, I personally think that ICO is a magnificent tool to have and it will not go away. There are many people using it for bad purposes, but that's just bad people, not a bad tool.

THIS IS PART OF THE REASON WHY BINANCE LISTS A NUMBER OF ICO, IDENTIFYING THE MOST PROMISING PROJECTS AS POSSIBLE:

We are here to promote more adoption for ICOs. I'm very pro–ICO. We are helping other projects who do ICOs. Of course, not all projects, we're helping the good projects. There're always bad players, that's just bad people.

Dreams of a blockchain–powered state

WHILE THE IDEA OF BLOCKCHAIN–POWERED STATE SOUNDS ENTICING, CZ SAYS THE LOGISTICS OF SUCH AN ENDEAVOR IS FAR MORE COMPLICATED THAN IT SOUNDS:

I think it is definitely possible, but it's not easy. Establishing a country is not an easy feat. Establishing a company is among the last. Making a new country, and having all the foreign affairs is a lot of work. Establishing legal systems, establishing community service, public service systems, education, hospital, roads – that's just a lot of stuff. I think most people, when they think about the concept, they think about a very symbolistic, idealistic view of it. When that rumor was circulating that Binance or I have already bought an island, even Justin Sun from Tron asked me, "Hey, is that real?" A lot of other very famous people asked me. That also shows that people are seriously interested and thinking about it. But currently I have no plan to do so, it's too much work.

A new home in Malta

BINANCE RECENTLY SET UP A NEW BASE IN MALTA AND REVEALED TO CT THAT THEY'VE INCORPORATED IN MALTA AND SET UP A BANK ACCOUNT.

We are incorporating in Malta and we have a bank account already, which is very significant. Things are going very well there. We are also in talks with the Malta stock exchange, which is the traditional equity stock exchange, for some collaboration. I can't release details yet, but I believe certain co–operation will result from that. Things are going very well there.

ALSO BELIEVES THAT MALTA IS FAST–BECOMING A HUB FOR CRYPTOCURRENCY ADOPTION AND BLOCKCHAIN DEVELOPMENT:

I think since March 23, which is the day I actually announced that we were going to Malta, Malta has already become the blockchain island. It's become the leading place for work, at least one of the leading places for blockchain companies to go. There's literally a few dozen companies already establishing there. The government and the regulators are very welcoming, very reasonable, so I think it is already one of the best places to establish.

What's next for Binance?

THE BINANCE FOUNDER CEO GIVES US A GLIMPSE OF WHAT IS COMING UP FOR THE CRYPTOCURRENCY EXCHANGE:

Right now, we are working on a decentralized exchange, our Binance Chain. That's a very high priority for us. It's a big project and the work is progressing. We are setting up a fiat–to–crypto exchange in Malta and also in Uganda and, hopefully, in Asia as well. We are setting up fiat exchanges. That's in progress now. I don't know exactly when they'll be up and running, but hopefully, this year.

Other than that, we're just wrapping up all of our services, improving our service helpdesk, improving our system and listing more coins. We slowed listing of coins deliberately for a while, mainly, for other people to catch up, for other exchanges to catch up. But now I think we'll go and push again.

Thoughts on Bitcoin and crypto in 2018

WHILE HE WOULDN'T MAKE ANY PRICE PREDICTIONS, CZ BELIEVES THAT CRYPTOCURRENCY MARKETS WILL BEGIN TO BECOME MORE STABLE IN THE MONTHS AND YEARS TO COME:

I usually don't make predictions because any prediction I make will be wrong. But looking historically we have spent 99 percent of the time slightly below a historic high. If you look at Bitcoin, so far, the maximum high was $20,000. But if you look at 2 or 3 years before that, it was like $1,000. It went up and came down a little bit, and then it stays there.

Reaching a peak and dropping down is a totally normal market behavior. The market always overreacts. I don't think we should take too much care in campaign to the peak. But if you look at what is stabilized right now, it's still times more than the price of Bitcoin a year ago, right?

If you look at a year time span, instead of always comparing to the peak – it's not going to create a new height every single day. The price of Bitcoin is not going to be linearly straight up. That's not how markets work. Markets always overreact. I'm very comfortable with Bitcoin's price. If I was making any predictions, I would say it will continue to increase by a few hundred percent yearly for the next few years.

LUMI

We at Lumi Technologies have a vast experience in creating and customizing crypto wallets

Token listing

We add your token card to our wallet. The token will be available for all users and token holders to send & receive. The price graph is included in the card.

White label wallet

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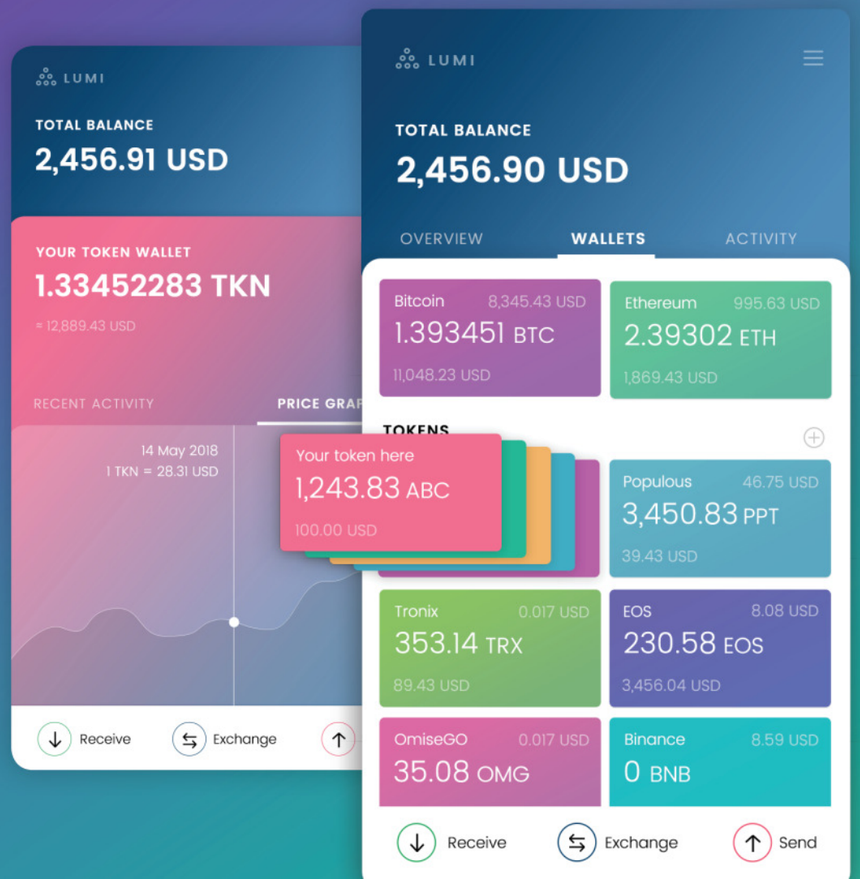
Bitcoin
Bitcoin Cash
Ethereum
tokens ERC 20
tokens ERC 721
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PEOPLE SAID ETHEREUM COULD NOT BE DONE, BUT IT IS A REMARKABLE SUCCESS

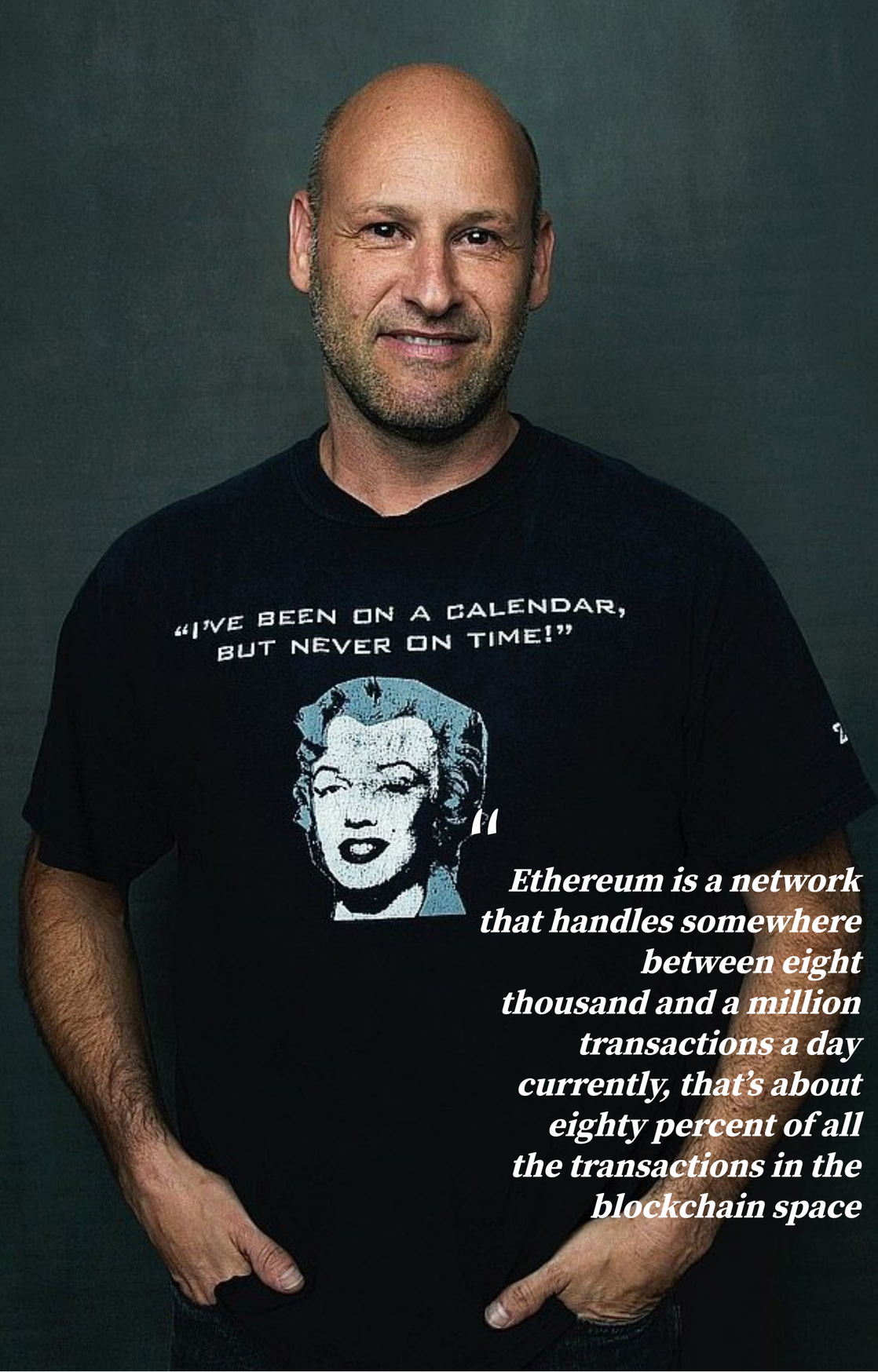
JOSEPH LUBIN

"[..] I met Joe. Joe is the CEO of ConsenSys, and he has something about him; he is an inspirational figure, he has this ability to excite people about this future"

This is how Ajit Tripathi, a partner at ConsenSys, described Joseph Lubin during the recent interview to Cointelegraph in response to a question about why he joined ConsenSys.

A 53–year old Canadian–born entrepreneur is one of the most prominent figures in the blockchain space. He co–founded Ethereum, a decentralized platform for applications and later founded ConsenSys, a Brooklyn–based blockchain software development company.

Besides managing dozens of projects at the same time, Joseph seems to be now living on a plane, as he has tight schedule visiting events all over the world and spreading the word about crypto to different audiences. How does he manage that? "Don't sleep."



"Ethereum is a network that handles somewhere between eight thousand and a million transactions a day currently, that's about eighty percent of all the transactions in the blockchain space

> *Lots of people in 2012 thought "We should be using these [trust layers] for all of our software systems," so different things were tried — colored coins, meta–protocols, other blockchain systems.*



THE STORY BEHIND ETHEREUM

"Bitcoin happened, and in around 2012 things were gaining momentum. People around the world in the Bitcoin space started thinking: "This is an amazing database technology breakthrough, not only does it enable people to be incentivized to share their resources, to validate transactions in a secure network, but it provides these trust layers that we've never had before — so radically decentralized trust layers, so that people could interact with one another, transact with one another."

If they were competing, or if they did not even know one another, they would still have full trust in those transactions. So, Bitcoin contemplated that sort of thing only for money, basically, cryptocurrency."

> ***Lots of people in 2012 thought "We should be using these [trust layers] for all of our software systems," so different things were tried — colored coins, meta–protocols, other blockchain systems***

"Vitalik Buterin was working on a few different [things]; they were called Bitcoin 2.0 projects, they later evolved to be called the blockchain projects, but he was working on Bitcoin 2.0 and came up with the description for the Ethereum platforms. It was essentially the most elegant, the most powerful description of a blockchain platform up to that point.

It contemplated having a complete virtual machine at every node of the peer–to–peer network, separating the protocol layer from the application layer.

In Bitcoin up to that point, there was no separation of an application protocol. If you wanted to build some new app into Bitcoin or another blockchain system, you had to do it at a protocol level. You needed a protocol to figure out how to fiddle bits into architect things and to create new application code in there. Then you had to create some user interface for it.

Separating protocol layer from the application layer enabled, essentially, billions of software engineers to not worry too much about what is going on the protocol layer and just build with tools similar to what they are used to using, when building web applications and mobile applications, and identify their own problem, and build their own solution.

It ended up working out pretty well, because the Ethereum application layer developer base is about 40 times larger currently, according to Gartner."

In December 2013, Joseph met Vitalik Buterin in Toronto, hometown for both of them, a month after Vitalik had written the white paper describing Ethereum.

A few weeks later, Vitalik delivered the Ethereum paper at the North American Bitcoin conference in Miami, and the first phase of the project was structured there as well.



MOST CHALLENGING TIME FOR THE ETHEREUM NETWORK

"There are lots of challenging times for a project."

> ***It was unprecedented, many people said that it [Ethereum] could not be done; many people said that it was stupid to do it, because the attack service would be so big and fuzzy. And it turned out to be a remarkable success, in my opinion.***

"And it is still very immature, still very young.

We are just moving Ethereum into phase two, where we keep that not very scalable, radically decentralized trust layer, and we add a layer two for scaling on the top of that. And we can have twenty transactions per second in this trust layer with hundreds of thousands of transactions per second state channels or sidechains at layer two. And that's available now.

If there have been difficult times for the Ethereum project, let's say technically difficult times, it is absolutely necessary — the internet protocols involved, the web protocols evolved, because software developers were pushing on them."

> ***For decades we had scalability concerns in information technology and we need to keep throwing too much at the network so that we know exactly where the weak spots are, where the bottlenecks are, and we need an architect to handle bigger and better applications.***

SEC DECISION ON ETHEREUM

On June 14, the SEC official said that Ethereum would not be regulated as a security, stating that the token is now "sufficiently decentralized to disqualify it from a securities classification."

"We were extremely confident that it would never be seen to be a security. We did a huge amount of legal work back in 2014, even before we launched the Ether token. The sale did not constitute the sale of the unregistered security to American citizens.

We understood the ramifications if they have declared it [a security], there would be some issues around where the token could trade, but the ecosystems are already so enormous, established decentralized, that it cannot really stop that sort of thing or we had to introduce some adjustments."

> ***What's even more exciting <...> is that they [the SEC] consider Ether to be in a new class of tokens — consumer utility tokens***

THEN CONSENSUS HAPPENED

"Consensus was started about 3,5 years ago. One year into the Ethereum project, we were getting to the point of releasing version one of the platform. But there weren't a lot of people building applications, so we started [doing] it. We started building a few applications <...> and realized it was hard [to do] with no developer tools for a platform that wasn't really yet released and the ecosystem that did not exist

We started building those developer tools, infrastructure to support applications, things like MetaMask and Infura, which currently handles about eight billion queries per day from the public Ethereum and IPFS [InterPlanetary File] systems. Ethereum is a network that handles somewhere between eight thousand and a million transactions a day currently, that's about eighty percent of all the transactions in the blockchain space.

We've built other products like uPort, self–sovereign identity, the reputation systems, governments tools, and many of protocol–based open platforms. They're not all running with the token right now, but they are all moving towards defining a protocol and turning it into an open platform, so lots of businesses can operate on these platforms.

> ***We also do enterprise and government consulting, it's nearly all on Ethereum, so we do a huge amount of Ethereum–focused work for the public blockchain ecosystem. We use the exact same technology in work with corporations. There's also work done in energy, banking, insurance, healthcare, supply chain and education, and lots of things with government as well.***

[We've] worked in Dubai — Dubai Smart City Project and land registry work. We are a manager of the European Union Blockchain observatory, where we interact with lots of member nations, and help drive thought leadership there.

[We also have] our education groups, Consensus academy — a hundred and twenty blockchain engineers have graduated already. Lawyers are continuing our legal education courses, [there are] other kinds of learners from different institutions.

ABOUT THE 'FEUD' WITH JIMMY SONG

In May 2018, at the Consensus event in New York, Joseph and Jimmy Song, a partner at Blockchain Capital, entered a bet, the terms are yet to be figured out, on "any amount of Bitcoins."

"He believed that nothing significant would be built on the blockchain systems except Bitcoin [in five years]."

"So, you are pretty sure that you will win?"

"I'm pretty sure that everybody will win because of the better systems build on blockchain."

ON CRYPTO TRADING

When asked whether he is a crypto trader, Joseph said no, explaining that he "works for a living."

"I work from 16 to 20 hours a day, and I have no time to day trade. But I do know how to move tokens around; I've done that before."

ART

Looks like a meow-stery!

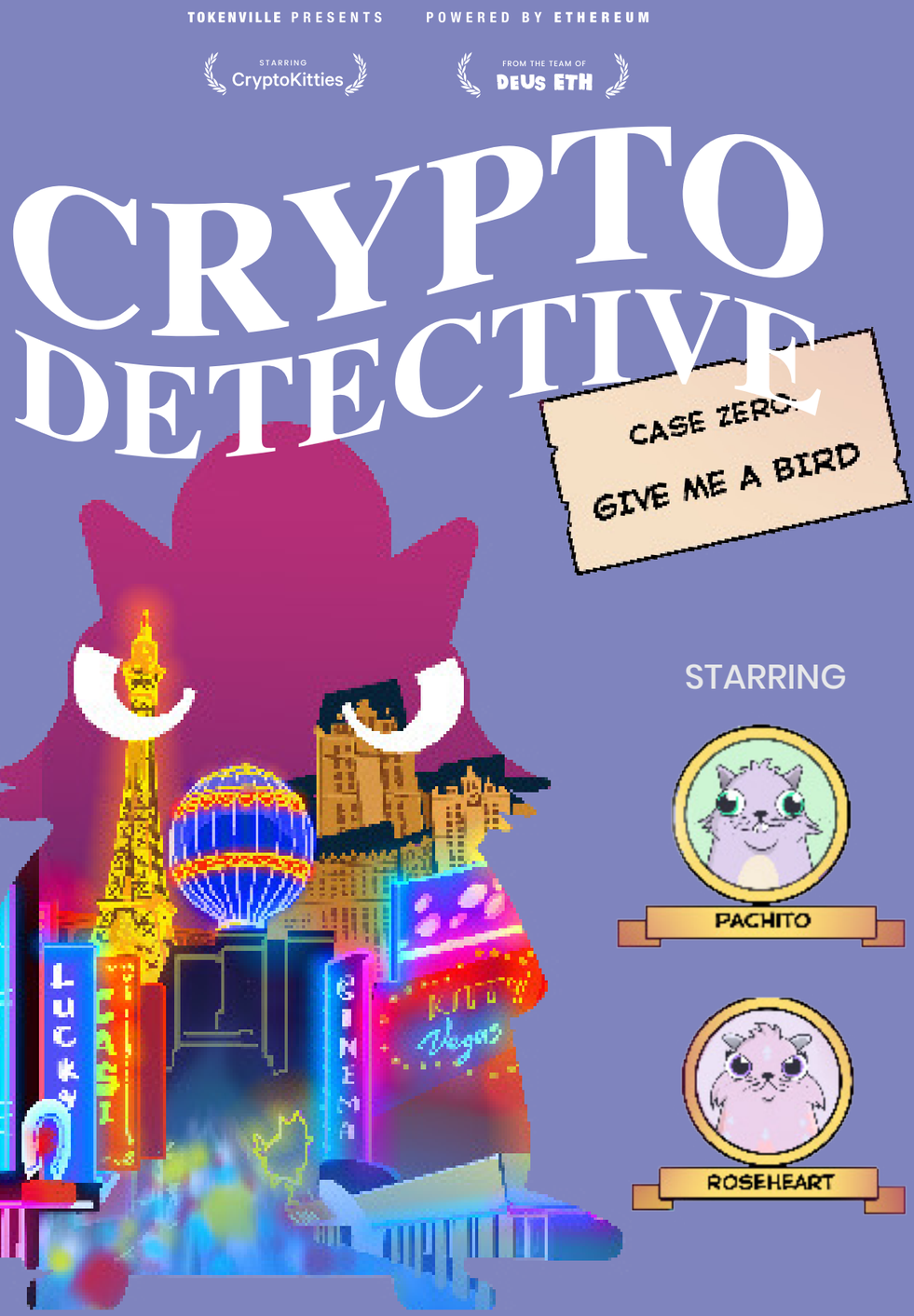
CRYPTO DETECTIVE

CRYPTOKITTIES, BLOCKCHAIN MYSTERIES & SMART CONTRACTS

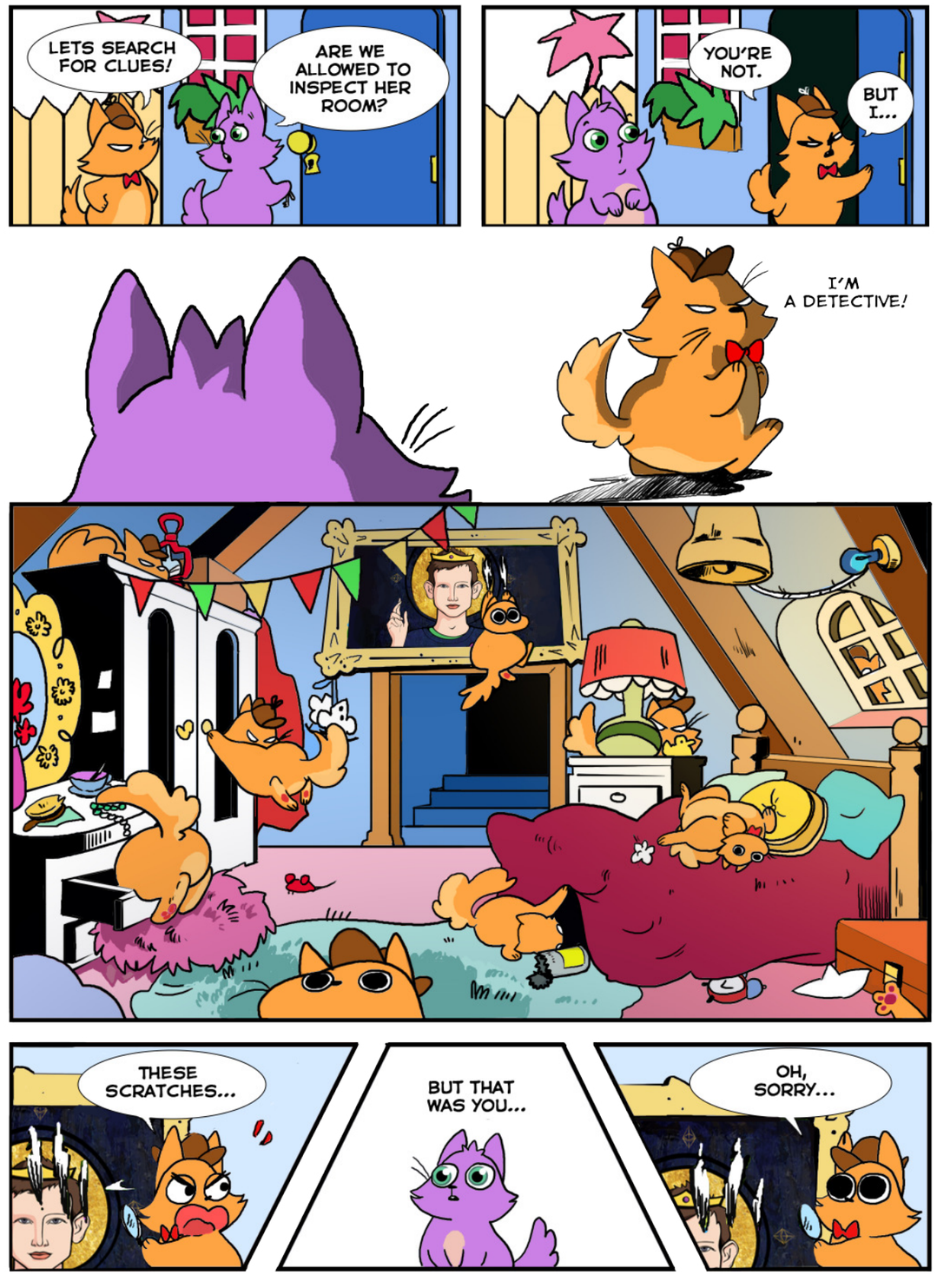
The team behind Deus ETH sets up a new show. Grab your CryptoKitties and make them a part of the show. Now turn the page to see the details.

The comics you're about to enjoy are previews of an upcoming web show produced by Tokenville. Here are 10 things you need to know to understand what's going on:

1. This is the third show produced by the Deus ETH franchise, created especially for the KittyVerse.
2. All CryptoKitties in this show are submitted by real users.
3. In Crypto Detective, you have to collect clues to get rewards.
4. There are 100 unique clues that will be sold in packs during the presale.
5. All the clues are ERC721 tokens that can be purchased, traded and transferred.
6. In every episode, some case-defining clues will be randomly selected by the smart contract.
7. Authors adjust the storyline to the clues that were selected by the smart contract.
8. 90% of the money raised during the presale will be distributed among the participants.
9. Like all the Tokenville shows, this show uses a utility token (ERC20) called TV.
10. TV Tokens can be purchased and traded on the HitBTC exchange.




OUR STORY BEGINS IN FABULOUS LAS VEGAS, AND EVEN HERE...
KNOCK-KNOCK
...THERE'S ROOM FOR A MEOWSTERY.
COME IN!
MR. DETECTIVE ?
PLEASE HELP! I THINK MY WIFE HAS CHEATED ON ME!
WHY DO YOU THINK SO?
ONE OF MY KIDS IS... A BIRD.
A BIRD?! INTERESTING...
I'M IN!


LETS SEARCH FOR CLUES!
ARE WE ALLOWED TO INSPECT HER ROOM?
YOU'RE NOT.
BUT I...
I'M A DETECTIVE!
THESE SCRATCHES...
BUT THAT WAS YOU...
OH, SORRY...

THE INTERLUDE

(NOW YOU CAN SEE HOW CLUES HAVE BEEN CHOSEN)

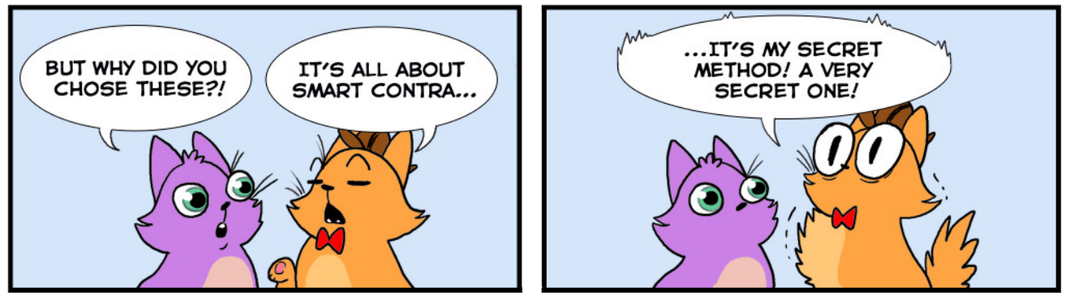


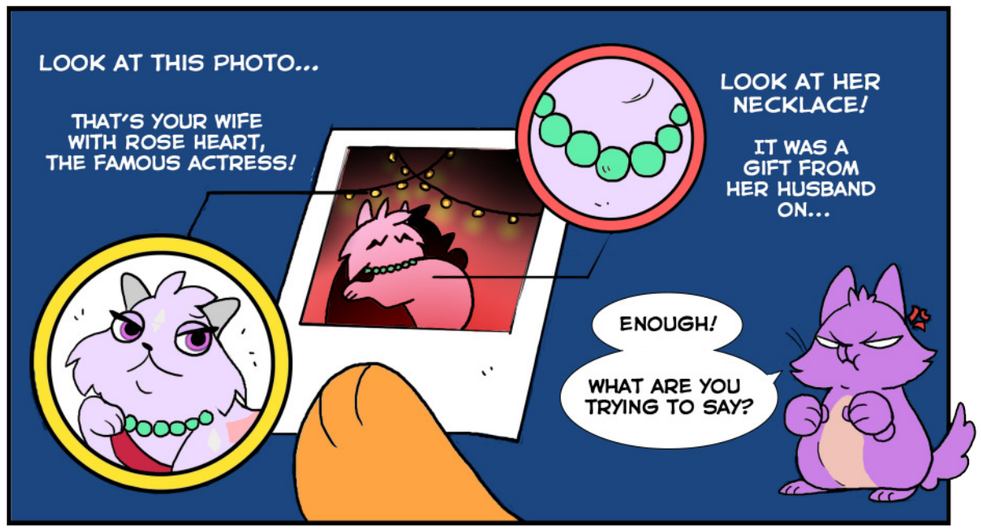
THEN 3 RANDOM CLUES RE SELECTED BY SMART CONTRACT (EMULATION HERE)

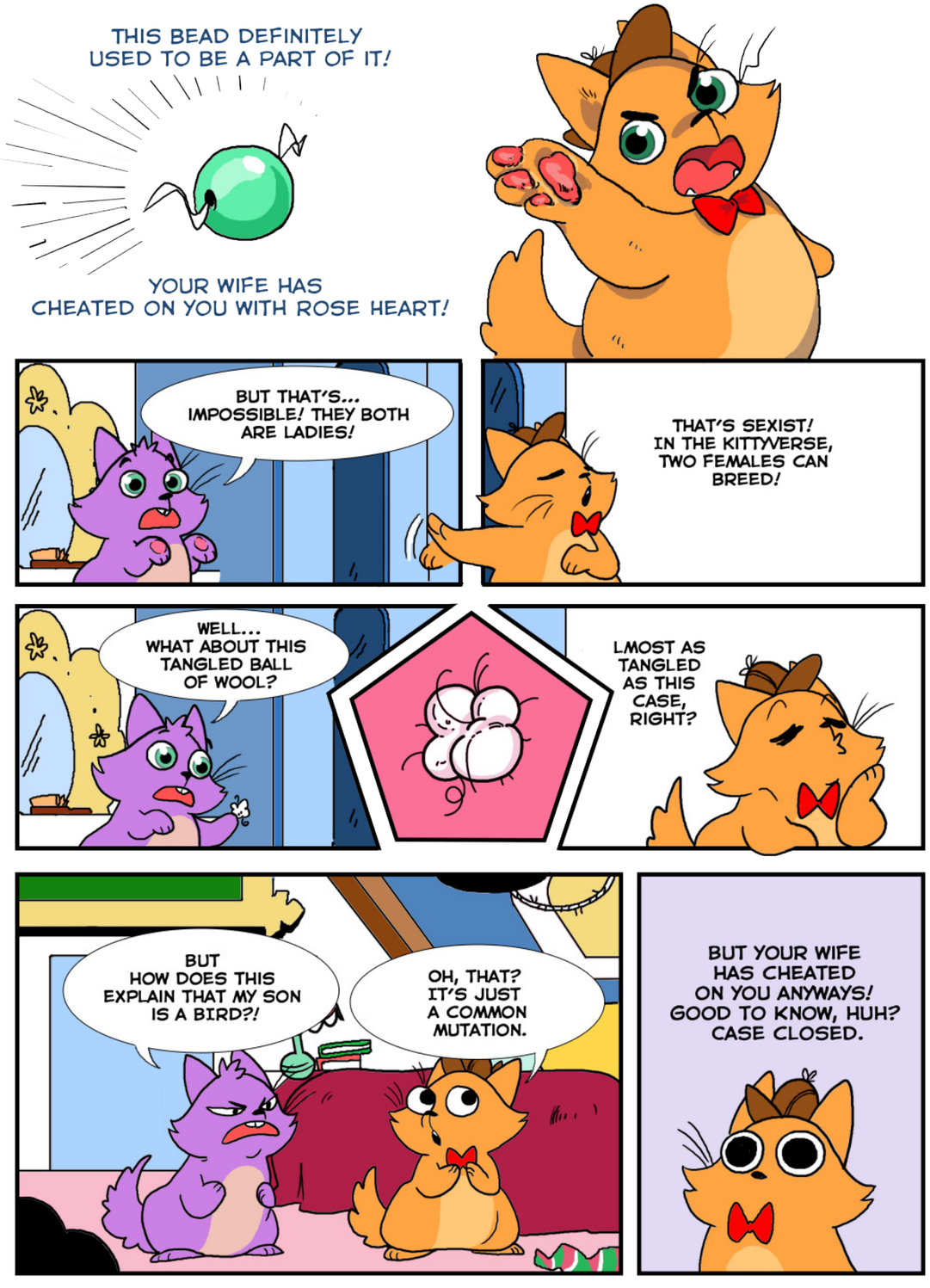


THE END OF THE INTERLUDE









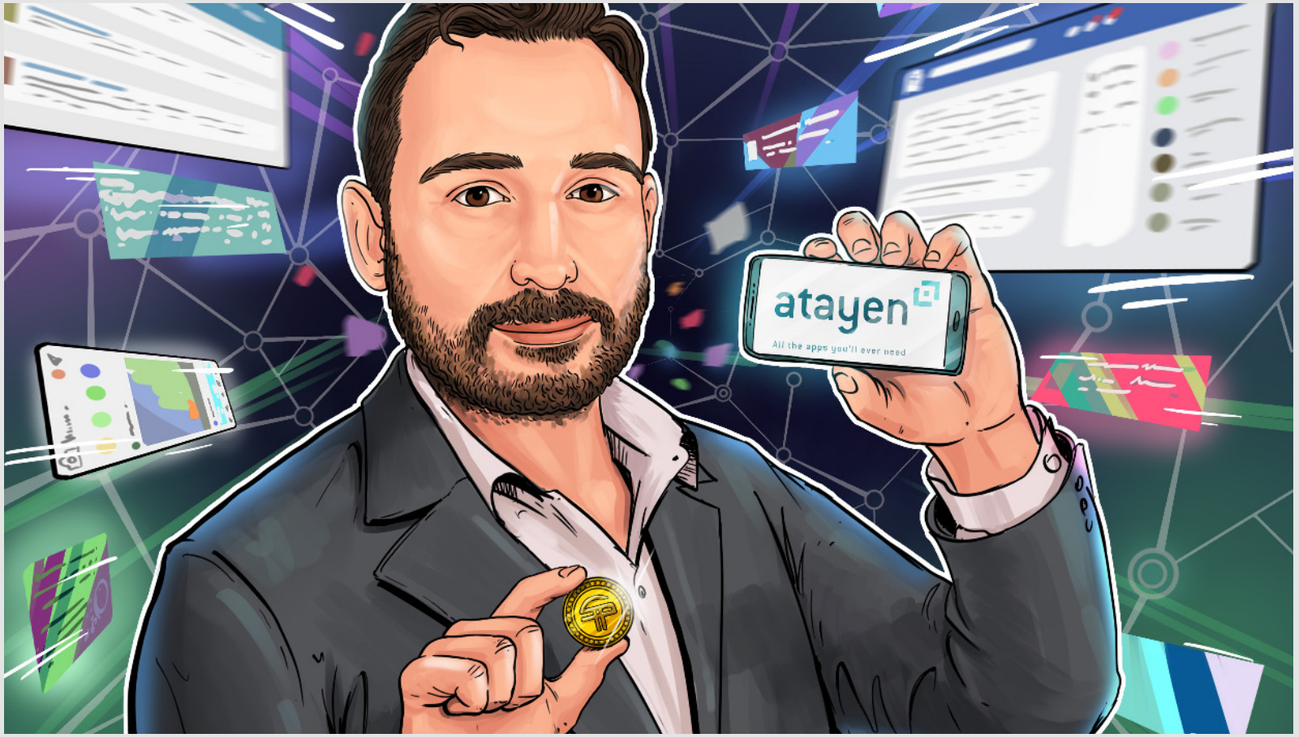


TOKENVILLE
entertainment of value

SOCIAL MEDIA MARKETING REVOLUTION: BRINGING BLOCKCHAIN TO THE WORLD

During the latest BlockShow event in Berlin, Cointelegraph had an exclusive interview with Gauthier Bros, Founder and CEO of Atayen, a Facebook tools provider for 4+ million brands. Gauthier shared his view on the advertising revolution, broadening business opportunities with blockchain, Atayen's future and his own success formula.

Atayen now seeks to hop on the blockchain speed train by introducing a distributed database of all ads while at the same time managing payments through Ethereum smart contracts. The platform's SATT coin was created in order to govern advertising transactions between advertisers & publishers in a faster and easier way. Additionally, the company is introducing a simple–to–use wallet to allow for seamless transfer of funds to email addresses as opposed to public addresses, which aims to increase global acceptance.



EVERY BRIGHT SUCCESS HAS ITS BEGINNING BREAKTHROUGH

Atayen Inc. is an American–French company, founded in 2014 by Gauthier Bros and Stephanie Clement, who were Facebook application developers since 2008. Having started his first Facebook application in 2008, Gauthier now leads the company, specialized in developing applications for business pages on Facebook and other social networks, which sells ⅓ of all business–related Facebook Apps.

Gauthier is known as the founder & owner of Iframe Apps by Atayen, a web–based social media marketing platform which helps companies to engage fans by creating an effective communication hub and promote their brand efficiently via Facebook. This suite of apps allows customers to establish an effective communication hub using simple tools. The app enables users to add custom tabs to a Facebook page hence allowing marketers to incorporate contact forms, Iframe maps, store locations, coupon apps, and automatic newsletters to their posts.

BRINGING TRADITIONAL BUSINESS INTO THE BLOCKCHAIN WORLD: WHAT IS THE CHALLENGE?

"We have started our application on Facebook during its blossoming, so we got millions of users quite easily. The blockchain world is small, therefore it is quite difficult to penetrate it, since there are various blockchain superstars and successful companies already. When you come and say "We have made a success on Facebook and now we want to make a success on the blockchain", everybody says "Yeah, but what did you do for the blockchain in the past year?" – Gauthier has shared his view on reasons for Atayen to enter blockchain world.

He believes that blockchain offers more possibilities, so you can't achieve the same result in the centralized mode of action. With broader functionality thanks to Ethereum and smart contracts, the company aims to provide their consumers with faster payments and higher quality services.

BLOCKCHAIN REALITY: MAINSTREAM TO TALK ABOUT, BUT NOT TO USE

Gauthier noticed that when entering the blockchain world you can't have a buzz, because everyone speaks about blockchain, but there are only few people who really use it. In Gauthier's eyes, it will take up to 4 years for blockchain technology to become common for everybody, especially for all their customers. This is why Atayen decided to begin with an easy–to–use wallet, which they offer to all their customers. Company currently has 1 million users and 4 million pages. Gauthier explains: "with this wallet it's possible to begin to share cryptocurrency between company and customers. It's like early adoptions, so after the launch and first results Atayen will add more functionality to the wallet. Atayen company is going to bring cryptocurrency to the whole society."

> *"It's like a video game. When you look back and there's nobody, it's not a good direction. I think the revolution is to integrate a function into the currency to share it with the market. It can be insurance, it can be marketing, it can be a lot of businesses."*

THE EASIER THE BETTER

The best way to catch the success is to make the product popular, so widely used. Here the comparison with Facebook Connect might be applicable. Atayen's project Facebook Connect was used every day as it was the simplest way to enjoy other services or websites without additional registration or info required, so everyone who had a Facebook profile knew Facebook Connect. Atayen's project was just associated then with the biggest social network. Nobody wants to spend time on filling the gaps, so Atayen's Facebook Connect was made to eliminate the gaps. Gauthier believes that easier solutions guarantee a better result and broader usage.

Gauthier thinks, that project at the very first stage always looks like a little step forward or little impact, but those little steps might bring crypto to the world and make it widely used the same way as it was done with Facebook and Facebook Connect. According to his expert opinion, it is better to create things or apps which work easier to attract people's attention as nobody will switch to the more complicated.

Gauthier explains that bringing cryptocurrency to the masses might be achievable only if the mode of thinking is different. In Atayen, they believe that it's no longer acceptable to be on the top with apps using QR codes or any other procedure to pass, as the majority will not use it at all. Their simple–to–use wallet is designed to bring blockchain to everyday life making its usage open and clear for everyone.

CRYPTOCURRENCY: ASSET OR PAYMENT METHOD?

In Gauthier's view, it might be the same thing. Usually, when people decide to buy a dollar, what Gauthier calls "geocurrency", they usually think about its rates, checking out the Forex many times a day. When Gauthier buys a dollar the only reason to do so is his inspiration to go to the US and spend it. And if one day everyone switch from the geocurrency to the cryptocurrency connected with integrated functions, the same way of usage might be achievable. But there is a huge step before the cryptocurrency becomes a common way of payment, as everyone has to understand that it's better to share it, to buy things with crypto. Gauthier believes that such a different way of thinking will bring blockchain to the top. He explains that the current tendency for everybody is just to keep the currency, Bitcoin, Ethereum or SATT, so it's not used. From another side, something that is used has much more value, therefore it becomes an asset, not a currency. CEO of Atayen assumes that the currency fluctuation is completely related to the way people use this asset, therefore the prosperity and growth comes only when people share, not keep the currency. Since now the key aim of Atayen and its executives is to bring this knowledge to people and their currency to success.

> *"We did an application for Facebook to make a Facebook page growing up. We've made an application that can add custom tabs on a Facebook page. We have Iframe maps, contact form, the store, automatic newsletter and a coupon app that allow brands promote efficiently. It's like a hub of communication on a Facebook page and custom tabs. So, then we just came up with the idea, that blockchain can do the distribute database of all the add and run the payment with a smart contract."*

A GLIMPSE INTO THE FUTURE

WHAT HAPPENS WHEN THERE IS NO MORE BITCOIN TO MINE?

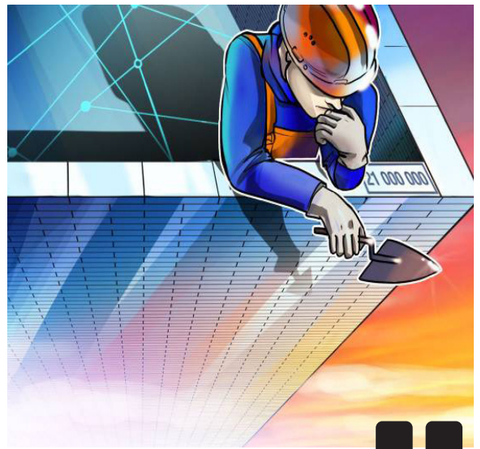
Bitcoin's (BTC) blockchain hit a unique milestone in April 2018 as the 17 millionth BTC was mined.

If you're wondering why this number is significant, it's because there are only four mln tokens left to mine before the 21 mln BTC cap is reached. However, the truth is that most people alive today are unlikely to see that happen.

Bitcoin's blockchain protocol makes mining more difficult as more miners join the pool, and the Bitcoin reward for mining a block also halves every 210,000 blocks. As it stands, miners receive a 12.5 BTC reward for unlocking a new block. According to BitcoinBlockHalf.com, the next reward halving will happen in May 2020 – reducing the reward to 6.25 BTC.

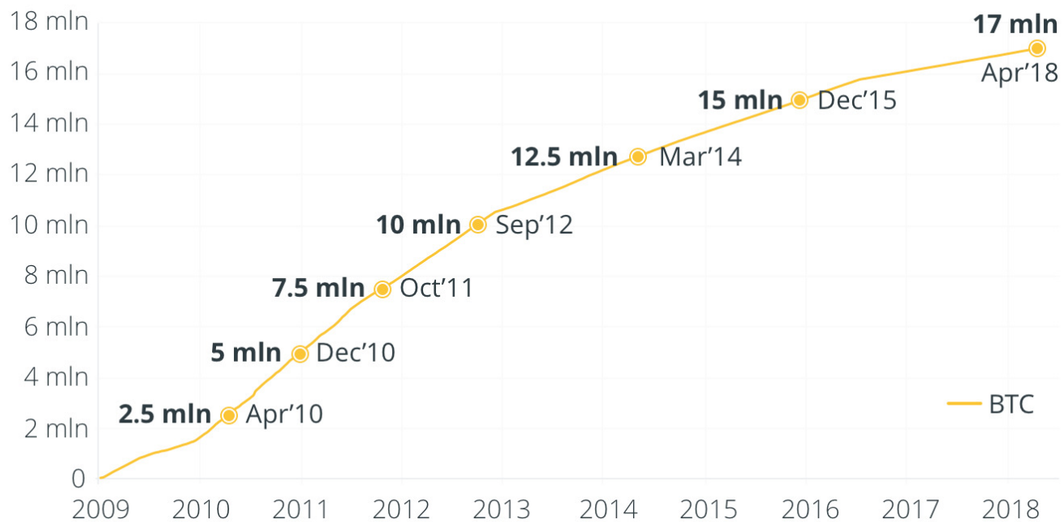
Assuming that there are no changes to the protocol, the Bitcoin cap will be reached by 2140, 122 years from now.

Nevertheless, it's taken just 9 years to mine 80 percent of the total Bitcoin that will ever be available – a little over 520,000 blocks, as shown in the graph on the following page.

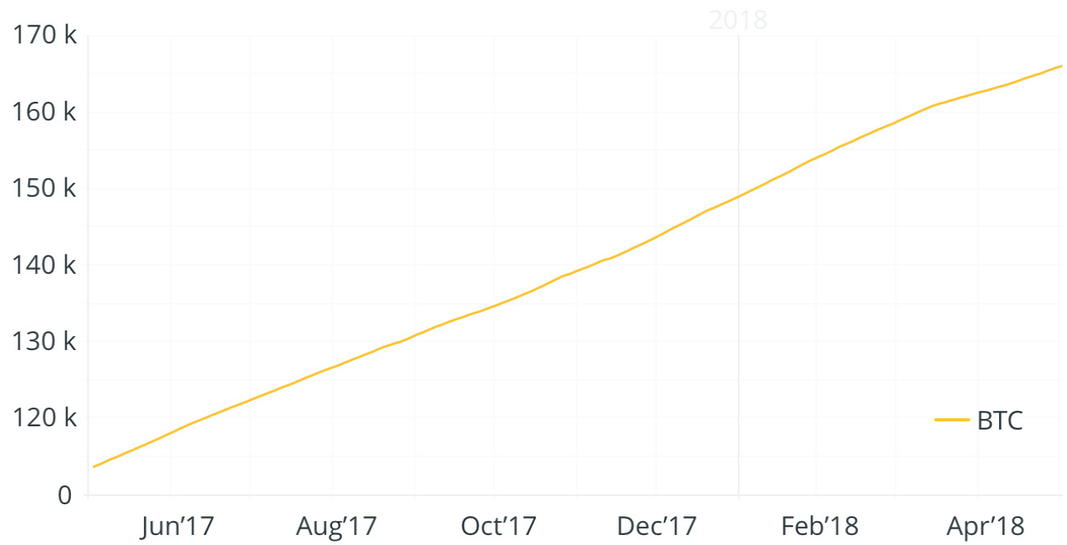


The next reward halving will happen in May 2020

BITCOINS IN CIRCULATION



BLOCKCHAIN SIZE



What happens when we mine the last Bitcoin?

Currently, miners are still heavily incentivized to mine in order to obtain increasingly more valuable Bitcoin tokens as a reward before the supply reaches its capacity.

However when the day comes that the 21 mln cap is hit, there will be no more BTC rewards for miners. However, transactions still need to be validated and stored on blocks in the blockchain – so miners will only benefit from transaction fees.

As it stands, Bitcoin transactions are processed by the network in order of the transaction fee associated to that specific transaction. The higher the fee, the more incentive there is for a miner to prioritize your to be included in a block.

This could essentially be the lifeblood of miners in the next century once there are no more BTC tokens to be unlocked. This is laid out in Satoshi Nakamoto's Bitcoin whitepaper:

> ***"Once a predetermined number of coins have entered circulation, the incentive can transition entirely to transaction fees and be completely inflation free."***

What could happen in between?

A major point to consider here is that there are more than 100 years to go before the last Bitcoin is created. Considering that it's just been short of 10 years since the Bitcoin's inception, a lot could happen during this time.

As Nakamoto envisaged, nodes are responsible for maintaining the Blockchain and verifying transactions. The move away from a trust–based system to a proof–of–work system that operates by consensus of the longest chain:

> ***"They [nodes] vote with their CPU power, expressing their acceptance of valid blocks by working on extending them and rejecting invalid blocks by refusing to work on them. Any needed rules and incentives can be enforced with this consensus mechanism."***

The last sentence of that statement is particularly telling, as miners and exchanges have had to operate in tandem at trying times in the last few years.

Segwit revisited

In 2017, the issue of scalability, block capacity and transaction costs came to a head. In 2010, Nakamoto implemented a 1MB size limit for blocks in order to stop miners from producing bigger blocks that were likely to be rejected by the network – which could have caused the Blockchain to split.

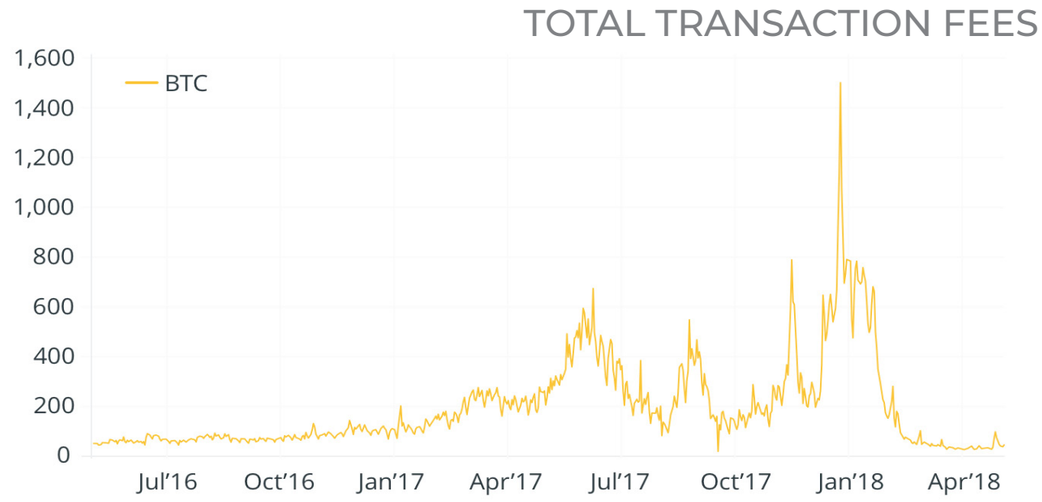
At the time, the limit was big enough due to the small amount of transactions and the fact that a change could be implemented at a later stage – if need be. Nevertheless, Bitcoin Core developers eventually came up with a solution known as Segregated Witness, also known as SegWit. In essence, SegWit separates non–signature data from signature data of each transaction, reducing transaction sizes stored on a block. Furthermore, it cancels out transaction malleability by removing signatures from transaction data – which paves the way for lightning network integration.

SegWit was implemented in Aug.2017, as major stakeholders and Bitcoin companies pushed for a solution to high transactions fees caused by a backlog due to the block size limit. Some called for bolder measures – an increase in the block size to 2MB called SegWit2X. There were a number of issues, namely the lack of replay protection and the fact that the move would require a hard fork. Ultimately the change was never implemented. The implementation of SegWit was possible due to the consensus of the Bitcoin community – just as Nakamoto pointed out in his white paper. Where there were greater concerns, the community was divided and the change was never implemented.

Changes to the protocol

Segwit's implementation has been slow across the overall network since August 2017. Big players like Coinbase and Bitfinex only introduced the change in February 2018.

The launch coincided with lowering transaction fees – a testament to the intended outcome of Segwit integration. As the following graph shows, transaction fees have dropped considerably in the past few months as Segwit continues to be implemented to nodes around the world.



Lightning network

SegWit's implementation also laid the foundation for second layer solutions to further improve Bitcoin's network.

The most anticipated is the Lightning Network, which will essentially do what SegWit has done but on a grander scale.

In layman's terms, the Lightning Network will allow users to open up multiple payment channels between themselves off the Bitcoin blockchain. The channel will be opened and recorded on the blockchain, but transactions will be done off chain until the payment channel is closed.

In essence, users deposit Bitcoin into this channel and make transactions by transferring promise of ownership to each other. When they decide to close the channel, the users take their proportion of the total sum and the ownership of those amounts is recorded on the Blockchain.

To get an in–depth explanation, you can read Cointelegraph's Lightning Network guide.

What matters here is that this second layer solution will greatly increase the speed of transactions and therefore the network as a whole.

However, this does pose some interesting questions for miners in the future. Once all 21 mln Bitcoin have been mined, transaction fees will be the only incentive for miners. If the Lightning Network is full integrated by this time, there could be far less transactions being recorded on a daily basis.This could potentially affect the amount of money miners will be making from transactions.

However, 100 years from now, it seems likely that all of these problems will have been answered by Bitcoin Core developers and the wider cryptocurrency community.

BUSINESS
INTERVIEW

EVERYBODY WANTS TO LEAVE CALIFORNIA

TIM DRAPER

Cointelegraph had a chance to talk to Tim Draper, American venture capital investor and businessman, founder of Draper University for entrepreneurs as well as Draper Associates, a VC firm that invested in Tesla, Skype, Baidu, and many other companies.

Tim Draper has been involved in different crypto projects, from the purchase of seized Bitcoins from the Silk Road marketplace website in 2014 to advocating Tezos in 2017.

He shared his thoughts with Cointelegraph on Blockchain adoption, regulations in the US and China, and why he wants to leave California.



> *Government is affecting the most people and it is providing the worst service at the highest cost.*



Who needs Blockchain integration the most?

Government needs it the most. No question. Worst service, biggest industry, highest cost. Government is clearly people. The size of an industry tends to be the number of people involved. Government is affecting the most people and it is providing the worst service at the highest cost. And the Blockchain can remedy that by creating a whole virtual layer of governance.

> *That could be the beginning of where governments have to compete for us so that their services increase, improve and the costs go down. Your taxes will go down, and your education, and your health care and whatever – it will go up, it will be better.*

But other industries that are going to benefit, anything that's tied to data or the individual, so identity will be very important because anybody who's affected by data is going to have a much improved situation because that data will be on the Blockchain, permanently there, tied to each individual. And once that's the case that can help with all sorts of other industries: whether it's healthcare, or commerce, or improve retail experience – it could be any number of different things that could be helped just because they will have better data on you.

How to push adoption further?

We, who are in the industry, are pushing as hard and fast as we possibly can. And it's just that there are all these uncertainties, created by the governments that are run by the grandparents of the people who are creating this new industry. And they don't get it. It is very frustrating for the people who are creating the industry.

So you have these regulators who are 70–80 years old and they are the ones telling these twenty–year olds what they should be doing. But they're the same people who have given them huge education debt, poor education, not appropriate for their work life. And now they're trying to tell them not to do something. That is actually creating a whole new economy.

I mean if I'm a millennial, I'm deeply in debt, I have an education that's not appropriate to the jobs that I have to go find – I'm kind of lost. But there's this big opportunity all of a sudden. There's Bitcoin, there's crypto, there's a whole new world out there. That hasn't been destroyed by the regulators. Now the regulators are coming in, they're making it very difficult on people.

> *But any country that gets highly regulated gets poorer, more poverty. And any country that's free – gets richer. And I think the US is trying to figure this out.*

How do different countries handle crypto regulations?

I know Japan has figured out. Make it free – make us rich. Japan thinks I have to control and regulate. I mean, China says I've got to control and regulate and they're going to create a bunch of poverty. And it usually takes twenty years by that time they have moved on. But they are ruining the lives of many people by putting in too many controls, or too many restrictions, or too many regulations.

So when you see the FDA or the SEC or FASB – any of these big institutional regulators come in heavy–handed. They are destroying the potential for growth and wealth in their country.

You ask the question about what is keeping this from happening. It's the uncertainty created

by all of these regulators. That is slowing down progress; it is not allowing enough of creativity to flourish. And they're in competition with all the other countries and regulators of the world. And so the lighter touch – the more likely you and I are to move to those countries, or to work with those countries, or to be a part of those countries.

On ICO regulation in the US

My advice to the SEC is go ahead – regulate them all. But make it a one–page document that anyone can fill out. Don't make it so that these two girls and a dog have to go hire a million dollars worth of legal work to just get approved. It makes no sense. Just have them go ahead and register, so you have the data that you need. But then let them go and then if they start affecting too many people they become a problem then go ahead and come in and say: “Okay, now you have to go our next level of regulation” or something else.

But ease in. Let's let these things flourish. Who knows, what creativity is going to come out of these ICOs.

When the Internet came along the governments were trying to shut it down. And all of a sudden think of what's happened with the Internet: all our lives are so much fuller and more interesting, and more dynamic. And I remember I'd spend hours waiting for somebody to come pick me up when my car broke down. Now if your car breaks down – you leave it on the side of the road. You go boom, I got an Uber – it all happens so quickly, that never would have happened if the Internet hadn't happened. So this is and if we hadn't let the Internet go, let it be free, the freer – the richer. Freedom equals prosperity, regulation equals poverty.



On businesses moving away from the US

Everybody wants to leave California. Anybody in business wants to leave California. Because even though the weather's awesome and their friends are probably here – all of the incentives are to leave.

That's why I want to flee California. I want a fresh start. And also to leave the US but that's different set of incentives.

The taxes are higher here, the services are worse, educations worse, the roads are poor. You go to Texas – they have no personal income tax, they have great roads, they have a free government encouraging innovation. You need that.

New York, they have the problem that California does. They are over regulated, they're on top of each other, they don't let anybody do anything without filling out forms to do it.

But it's a good thing about the States because they have to now compete for us, used to be pretty much all the states were competing and felt that way and they worked hard to provide good service to you. When was the last time, a bureaucrat said to you "What can I do to make your life better? How can I improve your business environment? How can I improve?"

They used to do that 25 years ago, I walked into a government office with my father and they said, "How do I improve your business environment? How do I make your home life better? How can I improve your child's education?" That was the attitude that government had and that's why my father has such great feelings about the government. And why and the reason I don't – is because I saw that switch. Like all of a sudden it went from 'what can I do' for you to 'what are you going to do for me'.

It was about 20 years ago. 20 years ago all of a sudden it was like – "Have you filled out form 12 CB? I'm sorry, oh, and I think you have to talk to this regulator too. Because I don't think we're going to allow you to have a party there!"

On Chinese policy of "yes" Blockchain, "no" crypto

China's old government under Deng Xiaoping was free. They said: a few of you will get rich first – let's create a harmonious environment, let's grow, let's have free markets. That was awesome and it created 40 years of prosperity. And China is like one of the most advanced countries in the world now.

Well now they have the opposite. They have a control freak government, or at least the guy at the top and that permeates the government. They're not letting money out, they're not letting people use crypto, they're not letting people use Bitcoin to pay.

And what that does is – it pushes out all the best entrepreneurs, pushes them to wherever. And it creates more poverty there because all of those people then are constrained. If you're constrained – you're poorer. If they say you can't move – you're going to starve. And that's pretty much what too much regulation will do for you. And so that's China.

Well, it makes no sense. I mean if you're going to run something on the Blockchain, you're going to need Bitcoin to do it. If you're going to do something in Bitcoin – it's using the Blockchain. These are intertwined.

Now, there are some other Blockchains being created, which is great. Competitive Blockchains. I'm a believer. And, you know, having competition because I as a consumer end up with the better service. But somehow trying to separate those and say oh we're gonna allow all the technology in, we're just not going to let you use it. What are they thinking? They're basically saying: yeah, go keep creating stuff – we're not going to let you use it and we're not going to let you have money leave our country.

So where's the benefit for an entrepreneur there? That's why they're all buying houses in Palo Alto. All the Chinese are saying: well, let's get out of there. Or they're moving to Japan where they're welcome. All the young people are moving to Japan. They're saying: "Well, wow, this government accepts Bitcoin as a national currency! I want to be a part of that!"

On projects in Kazakhstan

I talked to the Prime Minister of Kazakhstan. And I told him about Estonia and all of these interesting virtual governance thing that can happen. And I said that Kazakh means free. It should be free country. You want this to be free because you'll end up with a wealthier, more prosperous country.

And, why not have a certain number of Kazakhs, but then a billion virtual Kazakhs. And have them all be a part of your world and compete with all those virtual countries for them.

And he was all for it. So I thought that was going to happen. Now, some lower down regulator has now tried to heavily regulate crypto and that it's a proposal. It's not law. And hopefully he'll just be slapped down and, you know, sent on his merry way. He's like the old world regulator, who doesn't get that you've got to have a very light touch when you're regulating an ICO.

It should not be the equivalent of an IPO. An IPO affects hundreds of thousands of people. The companies are worth tens of billions of dollars. An ICO is usually, you know, two girls and a dog.

It's not like we have to protect everybody from themselves. It's just people getting going.

On Edward Snowden criticizing Bitcoin's Blockchain for being "devastatingly public"

Who is listening to him? This guy just opened up! He opened up all that information, he made it dangerous. So, wait, this is totally counter what I thought would be his philosophy, which is: we're open, transparent, this is the way the world should be, it's open, and transparent, and decentralized, and whatever... Bitcoins perfect for that. So he's, I don't know, why you even listening to that guy?

Do we listen to the guy who runs the biggest bank in the world? When he says, we shouldn't use Bitcoin – well why listen to that? Because the guy is realizing that people are taking pieces 1 percent, 2 percent, 5 percent of their money out of his bank and putting it into crypto. So he's totally disinterested, and he is very nervous that he's going to lose all those customers. And he will. Over time he will.

It just feels like crypto generally will replace all fiat. Because it's just better currency and all the best engineers in the world are working on that. They're not working on how to improve services for the dollar.

Crypto vs fiat

It is a hundred trillion dollar market. So that means, that we have a long way to go in a crypto market. We're now in the hundreds of billions, it's like it's got a thousand times on what it is now to go.

Bitcoin vs other cryptocurrencies

I like competition. I think it's great. I think Bitcoin is clearly the leader. And it will be the standard by which all the other currencies will have to compete. It'll be the equivalent of Microsoft. But it could end up being Yahoo for search, you know, where Google came in and got a bigger share. So things can happen! But, when you have that front position and whenever there's a new technology you add it to that currency.

It's very likely that Bitcoin will be the largest and biggest currency because they have a network effect. It grows as the network grows.



> ***It's very likely that Bitcoin will be the largest and biggest currency.***

On universal cryptocurrency and price volatility

I like the idea that they'll all have to compete with each other. And I like the idea that they'll all be tradable into each other. And, you know, and now they're tradable into fiat too. But I think that'll be less important over time, I think more important – more companies like you can get a Kentucky Fried Bitcoin bucket, which is only available to be paid for in Bitcoin in Canada. And then there are all these houses and yachts and whatever – that are all only available in Bitcoin,you can't pay dollars for them. I think more and more that'll happen. And we'll be in a position where people laugh at you if you try to pay fiat currency for your coffee.

Whenever I hear this volatility question, I think, one Bitcoin is still just worth one Bitcoin. It is very stable. All these other currencies, these fiat currencies, there are volatile against it. Falling away. Over time.

And so, when they say volatility, I think they are panicking: they go up, they go down. One Bitcoin is still one Bitcoin and it will continue to be. And so I think, I am not really thinking that it is volatilizing, I am thinking that it is Bitcoin and it should be spent, as you need to spend it.



Do you know what blockchain games do when you're not watching?



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Sorting through the chaos of blockchain games, so you don't have to!

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VLADIMIR TOMKO ON BLOCKCHAIN GAMING

The founding father of Blockchain Cuties, cutest blockchain collectable game with adventures, shares his visions on crypto gaming.

There are a lot of benefits and challenges that blockchain offers to gaming industry. First of all – transfer of ownership from developers to players. It will be harder to control the market and fix imbalanced assets, when you've already sold them to players. But at the same time it will bring pure open market relationships to the table. With game assets ownership in players' hands, they will be able to earn money by playing games, not just receive fun and emotions. Then, with tokenization of ingame assets there is a possibility to add value to ingame items by storing part of their history on blockchain. For example you have 1000 of identical in–game swords given to different players. When these swords are distributed to players, ownership entries are written to blockchain on all of them. One of the swords is given to Arnold Schwarzenegger or any other real world celebrity. This sword automatically becomes unique and increases in value, despite being the same as 999 others, only because it belonged to a celebrity and there is an objective proof record of that. Thirdly, game markets will become more immense and developers will have to take into account all the external "black markets" (like OpenSea) as well when designing the game, despite the fact that they have no control over those markets.

I've heard about Bitcoin in 2012 but started to dive into the world of cryptocurrencies only in late 2016. Because of the hype, 2017 was the most impactful and meaningful year in terms of my experience with cryptocurrencies – I've invested in some ICOs, participated in one and in late december decided to create my very own cryptogame – Blockchain Cuties.

Comparing to game industry, cryptocurrency industry is still a rather young and small one at the moment. Community means a lot here, both in investment and cryptogame segments. People value trust. If someone important in a small community shares his experience with your product as a pleasant one – other community members will most likely follow.

Blockchain Cuties

Cutest Cryptocollectible
Adventure Game Ever



Growing Open Market

Buy, breed, train and sell your collectables

Adventures

Challenge other players and get amazing prizes

Customisation

Get unique cuties or improve them as you go



Easy access with in-game wallet

Get your trial cutie in two clicks for **FREE**

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top.cointelegraph.com



Co-founder of Ethereum

Vitalik Buterin

@VitalikButerin

The genius behind the world's second most valuable cryptocurrency today – Ethereum – first learned about cryptocurrencies from his father. After co-founding Bitcoin Magazine in 2011, Buterin spent two years learning Blockchain technology, its potential, and the applications it had to offer. The Ethereum white paper was published in late 2013. Buterin currently serves as the Chief Scientist of the Ethereum Foundation and leads Ethereum's research team, which maintains the core technology of the cryptocurrency and works on future versions of the Ethereum protocol.



Bitcoin Evangelist & Author of 'Mastering Bitcoin'

Andreas M. Antonopoulos

@aantonop

One of the world's greatest advocates of Bitcoin, Blockchain technology, and the principles of decentralization, Antonopoulos is a security and distributed systems expert, a widely published author of books, articles, and blog posts on cryptocurrencies, a frequent speaker at technology and security conferences worldwide, a coder, and an entrepreneur. Antonopoulos offers strategic consulting to a small number of cryptocurrency companies, as well as offering expert witness testimony as an expert in the security, technical details and use of cryptocurrencies.



Creator of Litecoin

Charlie Lee

@SatoshiLite

Primarily known in the crypto world as the creator of Litecoin, Lee – like many early adopters of Bitcoin – entered the crypto sphere by getting into Bitcoin mining. Lee sees Litecoin as the cryptocurrency best suited for smaller, lightweight transactions like online retail shopping, while Bitcoin is the currency for more heavyweight transactions like international payments.



Creator & Designer of Bit Gold

Nick Szabo

@NickSzabo4

A major influencer in Bitcoin, Szabo's expertise with cryptocurrency started back in 1998 with the creation of the BitGold proposal, the predecessor of Bitcoin. People have speculated that Szabo is Satoshi Nakamoto, the anonymous creator of Bitcoin, although Szabo has repeatedly denied the claim. Szabo is still considered the 'father' of 'smart contracts,' a term usually associated with Ethereum, and he continues to contribute his technical knowledge and commentary in the crypto industry.



Co-founder of Blockchain Capital

Brock Pierce

@brockpierce

As an early investor in Bitcoin, Pierce is a venture capitalist and entrepreneur with an extensive track record of founding, advising and investing in disruptive businesses. He pioneered the market for digital currency in games, and was one of the largest investors in the Ethereum crowdsale. Pierce has invested in over 30 companies in the Blockchain ecosystem, participated in over 100 projects, and helped raise over $200 million US for companies he was involved in. Pierce has also been a guest lecturer at the Milken Global Conference, Singularity University, Stanford University, the University of Southern California, and the University of California, Los Angeles.



President & CEO of The Tapscott Group, Inc.

Don Tapscott

@dtapscott

Tapscott has become an increasingly well-known figure in the cryptocurrency industry, having been one of the foremost authorities on the impact of technology for decades. He is also one of the most influential living theorists about business and society. Tapscott was identified as the most influential management thinker in the world by Thinkers50 and Forbes. He is the author or co-author of 15 widely read books about new technologies and new media in business and society, including 'Wikinomics' (2006) and 'The Digital Economy' (1995). His book, 'Blockchain Revolution' (2014), has made him one of the most active Blockchain governance references and proponents.



Senior Editor at Forbes &
Co-lead Reporter of the Forbes Fintech

Laura Shin

@laurashin

Shin is best known for her work as senior editor of Forbes' cryptocurrency and Blockchain coverage. She is also the host of the publication's Blockchain-focused podcast – Unchained – and authored the Forbes e-book, "The Millennial Game Plan: Career And Money Secrets To Succeed In Today's World" (2014). Her active participation in the crypto industry and her expert knowledges in this sphere make her one of the most influential persons in the crypto world.



Co-founder & CEO of Coinbase

Brian Armstrong

@brian_armstrong

With his double major in Computer Sciences and Economics, Armstrong had spent the most part of his life actively pursuing a career in the tech industry. Being well equipped for a foray into the tech startup arena, Armstrong co-founded crypto wallet and exchange Coinbase in July 2011. Coinbase was envisioned as a Bitcoin marketplace that would enable people to purchase the cryptocurrency more easily. Throughout his life, Armstrong has maintained a strong interest in the technology market and has always participated actively in developing solutions for the industry, becoming the leading advocate of Bitcoin adoption, as well as regularly speaking at conferences, workshops, and seminars. He was named "The Rockstar" in the Bitcoin community.



Founder & CEO of Digital Currency Group

Barry E. Silbert

@barrysilbert

Known as a founder of The Digital Currency Group, Silbert is a serial crypto investor and a well-known proponent of the rival Ethereum chain, Ethereum Classic. He is a frequent speaker at conferences on the topic of trading illiquid assets and has appeared in many leading publications, including The Wall Street Journal, Financial Times, New York Times, USA Today, BusinessWeek, Forbes, Fortune, and many others. In 2013, he started as an angel investor in Bitcoin companies, and he currently is one of the most influential figures and newsmakers in the crypto world industries.



Founder & CEO of ShapeShift.io

Erik T. Voorhees

@ErikVoorhees

Before he became an entrepreneur, Voorhees was a blogger with libertarian ideas, authoring long thoughts about the nature of money and politics and the role of cryptocurrencies in this balance. His active online presence ensures his voice is heard throughout both the crypto industry and mainstream media. Active in the industry almost since it began, Voorhees's greatest claim to fame is arguably his most successful project – the crypto exchange platform ShapeShift – and his well-known Bitcoin gambling game SatoshiDice.



Co-founder & CEO of CivicKey

Vinny Lingham

@VinnyLingham

Lingham's journey in Blockchain began with his startup Gyft, a service offering Amazon purchases using Bitcoin. He is a prominent commentator on Bitcoin and Blockchain, and is the recipient of numerous awards, including Top Young ICT Entrepreneur in Africa (2006) and Top 500 CEO's in the World by Richtopia (2015). Lingham was previously a finalist for Men's Health Best Man (2009) and ICT Personality of the Year in South Africa (2008). He is also named as one the world's great advisors.



Co-founder &
CEO of the Blockchain Research Institute

Alex Tapscott

@alextapscott

Tapscott is a prominent writer, speaker, investor and advisor interested in emerging new technologies, such as Blockchain and cryptocurrencies, and their influence on business, society, and government. He is the co-author (with his father Don Tapscott) of the critically acclaimed #1 Globe and Mail non-fiction best-seller, "Blockchain Revolution: How the Technology Behind Bitcoin is Changing Money Business and the World" (2014), which has been translated into over 15 languages. Tapscott co-convened a meeting of Blockchain stakeholders to discuss the Blockchain ecosystem and he currently sits on the Advisory Board to Elections Canada. Tapscott has become a leading voice on cryptocurrency and Blockchain technologies.



Co-founder &
Director of Bitmain Technologies, Ltd.

Jihan Wu

@JihanWu

Wu is a Chinese entrepreneur, financial analyst, and Bitcoin evangelist. He is a major proponent of Bitcoin Cash, having previously supported Bitcoin network scaling solutions such as Bitcoin Unlimited. He believes that Bitcoin and Blockchain technologies are now significantly changing modern world and people's way of life. Wuis claimed to be one of the most controversial names in crypto industry meanwhile he is still one the most influential proponent of cryptocurrencies and Blockchain technologies worldwide.



Chief Scientist at Bitcoin Foundation &
Lead Developer of Bitcoin Core

Gavin Andresen

@gavinandresen

Andresen (formerly known as Gavin Bell) is a well-known figure in Bitcoin. A brilliant software engineer, he previously was a director and currently is Chief Scientist of the Bitcoin Foundation, as well as a Bitcoin Core developer. His technical involvement with Bitcoin stretches back to 2010, when he discovered Bitcoin, quickly recognising the benefits of its design. Andresen acts as arbiter and architect for the Bitcoin community and helps coordinate improvements to the core Bitcoin software used by the worldwide community.



Editor-in-chief at Adamant Research

Tuur Demeester

@TuurDemeester

Demeester is an independent investor, newsletter writer, and commentator. A globally-known entrepreneur and long-time cryptocurrency advocate, Demeester has maintained a heavy presence in Bitcoin and related debate online since 2013. Editor-in-chief at Adamant Research, he is well-known for his financial advice in the Blockchain industry. Before his career as an investment analyst, Demeester was actively involved in sudbury-type schools, a libertarian type of schools where students have complete responsibility for their own education, and Austrian economics.



Bitcoin Angel Investor & Bitcoin Evangelist

Roger K. Ver

@rogerkver

Ver is famous for being one of the first investors in the Blockchain industry, financing the growth of many of its biggest names. He runs popular news and wallet resource Bitcoin.com, and became a notable proponent of Bitcoin Cash in 2017. Ver is a legend in the Bitcoin community, named as the "Bitcoin Jesus" for his tireless evangelism of the virtual currency and for his investments in numerous Bitcoin startups. He called himself self-educated enthusiast who is spending his free time on studying economics and moral philosophy.



Co-founder of Netscape Communications &
Co-founder of LoudCloud

Marc L. Andreessen

@pmarca

Andreesen is a co-founder of Silicon Valley venture capital firm Andreessen Horowitz, contributing funding to multiple Blockchain industry startups since 2013. He has a background in revolutionary technology, co-creating Mosaic and Netscape, two of the Internet's first browsers. Andreesen is the recipient of numerous awards related to the Internet Industry, including Vanity Fair's 2011 New Establishment List, CNET's 2011 most influential investors list, the 2012 Forbes Midas List of Tech's Top Investors, and was one of five Internet and Web pioneers awarded the inaugural Queen Elizabeth Prize for Engineering in 2013. He was also named in the 2012 Time100, an annual list of the 100 most influential people in the world assembled by Time Magazine.



Co-founder & President of Blockstream

Adam Back

@adam3us

Back is a cryptographer and one of the founding fathers of 'Bitcoin-like' cryptocurrencies, developing Hashcash in 1997. He has become a major reference source in Bitcoin development, going on to co-found Blockchain tech company Blockstream in 2014. Back's work was one of the eight references Satoshi Nakamoto had in the original Bitcoin paper.

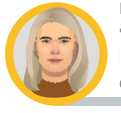


President of Crypto Valley Association &
Founder of Bussmann Advisory

Oliver T. Bussmann

@obussmann

Bussmann is a globally recognized technology thought leader and driver of large-scale transformation at multinational organizations. Bussmann is something of a banker-turned-Bitcoiner. He is the recipient of numerous awards, named COO/CTO of the year by Financial News/The Wall Street Journal, European CIO of the Year by INSEAD/CIONET, received the Elite 8 Award, which is given to the most innovative leaders in technology working in capital markets by Wall Street & Technology Magazine, and has twice been included on the Financial News "FinTech 40" list of innovators shaping the future of finance.



Director of Development
at Digital Currency Group

Meltem Demirors

@Melt_Dem

Demiros has a diverse background in management consulting, corporate treasury, commodities trading, and supply chain management. She calls herself a 'Blockchain believer'. As an experienced business leader, Demiros brings a wide range of international, multi-sector experience into building Digital Currency Group's global network. Her strategy is to focus on building and supporting Bitcoin and Blockchain companies by leveraging its insights, network, and access to capital.



Co-founder & CEO of Bloq

Jeff Garzik

@jgarzik

Garzik is one of the first Bitcoin Core developers. A futurist, entrepreneur and software engineer, he currently serves as the CEO of Blockchain-for-enterprise startup Bloq and remains a vocal commentator in the space on social media. He is also an advisor to several globally-known Blockchain industry companies, including Chain and BitFury.



Founder & Executive Chairman of Moven

Brett King

@BrettKing

King is a futurist, a bestselling author, an award winning speaker, and banking revolution advocate. He created the popular radio show Breaking Banks in 2013. After the show gained international acclaim, King launched smart banking app Moven, which has received almost $50 million US in venture funding. King's primarily interest is how modern technologies are disrupting business, changing behaviour, and influencing society.



Co-founder & CEO of Chain

Adam Ludwin

@adamludwin

Ludwin rose to fame in 2016 when his startup Chain secured deals with Visa and other major financial institutions, bringing 'true' Blockchain to an important area of the mainstream economy. Chain continues to expand, while Ludwin has become a vocal online presence on Blockchain and cryptocurrency.



Founder & CEO of ConsenSys

Joseph Lubin

@ethereumJoseph

Lubin is a worldwide famous distributed database entrepreneur. Before co-founding Ethereum, he worked as research staff in the Robotics Lab at Princeton, as well as at Vision Applications, Inc and various posts in field of technology.



Co-founder of Coinbase

Fred Ehrsam

@FEhrsam

A former Wall Street trader and writer at the Duke Journal of Economics, Ehrsam shifted his interests into the crypto industry in 2012 when he co-founded Coinbase, an online payment system with the stated mission of making Bitcoin easy to use. Ehrsam has been named in TIME Magazine's 30 Under 30 Who Are Changing the World (2013) and listed as one of Forbes 30 Under 30 (2014).



Co-founder of Ztudium

Dinis Guarda

@dinisguarda

Guarda is globally-recognized top influencer, digital and crypto economics driver, evangelist and leader in fintech and Blockchain industries. With over 20 years experience in international business and digital transformation, Dinis has worked with new tech, cryptocurrencies, drive ICOs, regulation, compliance, legal international processes, and has created and been involved in various top 100 digital currencies. He is ranked as one of the most influential people in Blockchain in the world by Right Relevance.



Founder & CEO of Galaxy Digital

Michael E. Novogratz

@novogratz

Novogratz was formerly a member of the board of directors of Fortress Investment Group LLC and Chief Investment Officer of the Fortress Macro Fund. Novogratz joined Fortress in 2002 after spending 11 years at Goldman Sachs, where he was elected partner in 1998. Novogratz has founded and serves as the Chairman of the Board for Beat the Streets, a non-profit organization which builds wrestling programs in New York City public schools, and is also the Honorary Chairman of USA Wrestling Foundation.



Owner, Editor & Publisher
of the Digital Banking Report

Jim Marous

@JimMarous

Marous is an internationally recognized financial industry strategist. He is named one of the most influential people in banking and a Top 5 Fintech Influencer. Apart from his writing and publishing, he advises on customer experience, portfolio growth, innovation, marketing strategies, channel shift and digital transformation within the financial services industry.

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REAL ESTATE FUTURE

NEW MAINSTREAMS,NEW DREAMS

According to the latest PwC predictions presented in “PwC Real Estate 2020: Building the future” real estate industry will change dramatically by 2020. This will turn an investment industry to the new era of rapid economic and social growth, building a new environment around it.

Right before BlockShow Americas 2018 Conference in Las Vegas Cointelegraph had a chance to meet with the real estate/ blockchain expert Ricky Ng, Chairman & Founder of I-House.com, the world's 1st real estate usage rights tokenization platform, which was supported with more than $35M from Draper Dragon, NEO Global Capital, DHVC and other strategic investors. In his exclusive interview with Cointelegraph Ng shared his view on the future of the real estate industry overall, its development, current industry mainstreams, blockchain technology’s impact on the industry and its best implementation decisions.

FUTURE IS NOW

PwC experts affirm that in the nearest future all real estate actors will have much broader opportunities, new values, and of course the different risks. Society needs will change while growing emerging markets will create a new demand and specifics of the real estate market. Research shows significant and continued interest in real estate which still attracts huge capital regardless of risks and undercurrent of caution.

How do you see the real estate market development?

The future of real estate industry is tokenization, in both forms of utility and security tokens. The key for real estate market is fundraising and liquidity. The technology is there now, blockchain allows for the tokenization of assets, the ability to assign rights and ownership in a way that wasn’t possible before. The goal of using blockchain technology is to provide speed, certainty, and accuracy of information and provide for flexibility in structuring and executing transactions. Eventually, you could use blockchain technology to buy, sell, and lease real property.

How did you get an inspiration to start your i-House.com project?

We launched a house sharing platform back in 2016, then we discovered the need for asset owners and operators to raise money and provide liquidity in an easier way. We were able to combine this need with the power of blockchain technology to come up with a solution, then in January of this year i-House.com ICO’d. Our unique platform was born ATO (Asset Tokenization Offering), which enables real estate owners and developers to raise funds through tokenizing their assets and provide liquidity.

REAL ESTATE INDUSTRY MEETING THE TRENDS

Latest research confirms that the real estate is still perceived as one of the safest and most stable assets among investments and attracts record amounts of capital. However, it is influenced by a gradual reversal of monetary policy, late-cycle property market and a fundamentally different demand environment. From all expert interviews made in the Global Emerging Trends in Real Estate 2018 report, is becomes apparent that challenging times are coming, and that may change the balance between risk management, innovation and entrepreneurship. Millennials, Gen Z, baby boomers and younger generations will greatly influence real estate trends and habits. We may see building styles adapt to the younger buyer such as smaller and more energy-efficient homes, townhouses, condos, and "affordable" starter homes. Yet the philosophy of 'build it and they will come' won't prove universally true.

Do you believe that blockchain technology will turn the real estate industry towards new horizons?

In the coming years, blockchain technology solutions will transcend to a greater level and will change real estate investing forever. Firstly, there are many smart housing solutions surfacing slowly, so trading property on the blockchain would not only simplify the transaction process but would also be beneficial in the overall development of blockchain. Secondly, due to the increasing volumes of cryptocurrency users, blockchain applications used for trading real estate as well as other kinds of trades would rapidly increase. Keeping these trends in mind, we have designed a platform that facilitates investing, fundraising, marketing, and business operations in real estate. By creating an integrated system, we can split the property and its usage rights amongst the buyers as per their investments.

How your project leverages blockchain technology to change the real estate industry?

Founded in 2017, i-House.com provides a real estate blockchain marketplace for investors and developers. Our project is changing the traditional real estate marketplace by combining the power of blockchain/emerging technologies to provide blockchain technology solutions to asset owners that connect them with financial institutions. By providing a fundraising and liquidity platform, like ICOs and cryptocurrency exchanges, i-House.com aims to apply both to the $217 trillion global real estate industry. Blockchain is a digital and decentralized ledger technology, and it suits the purpose of what we want to do substantially better than any traditional methods. Blockchain offers five distinct advantages that could make it a go-to technology: transparency, reduced transaction costs, faster transaction settlements, decentralization and user-controlled networks.

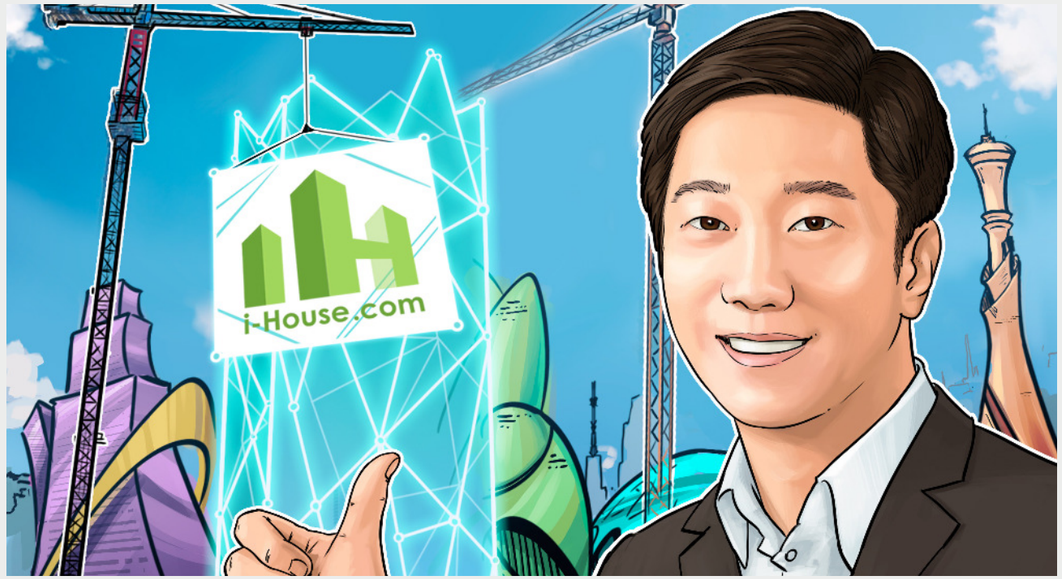
"ONE-OF-A-KIND" SOLUTION & "HAPPY CUSTOMER" STORY

PwC research shows that by 2020 all real estate owners, especially investors, will focus even more on the asset performance improvement, so this requirement to be situated on the top with the aim to not just to own, but to raise money on it. All that influencing factors change the way that real estate developers and the investment community operate. Experts estimate that by 2020, real estate investments will grow by more than 55% compared to 2012.

According to Ng's explanation i-House.com is designing a unique solution which is aimed to meet the new interest in investment effectiveness. The i-House ATO platform will primarily help real estate owners and developers, financial institutions, and buyers to save cost and time involved in real estate investing. Providing blockchain technology solutions to asset owners that connect them with financial institutions, this platform also helps asset owners to tokenize their assets and become listed on the i-House exchange. The goal is to have their own exchange that will have a designated area for "ATO tokens," thus providing higher liquidity for assets.

Have you ever tried your own products to address your needs?

It was the "happy customer" case when we sold a property in Japan to a buyer based out of Hong Kong using our payment platform IHTPay, which enables users to buy property seamlessly, without restrictions. If the buyer had chosen traditional banking systems for payment, it would have taken more than three days to reach the seller in Japan. But, by using the IHT cryptocurrency, the buyer could seamlessly transfer and secure the purchase the same day.



PLANS FOR DOWN THE LANE EXPANSION

Looking ahead, the i-House.com would like to establish itself and invest heavily in major markets such as the U.S. and Europe. In terms of technical advancements, Ng's plan is to launch a smart asset platform which mainly focuses on IoT and asset management. With deep interest toward new collaborations, i-House.com is currently looking for potential partners who are looking to tokenize their assets. Apart from that, they plan launch of ATO 2.0 solution in 2019, which will benefit real estate developers and financial institutions by giving them the ability to tokenize their assets via the ATO platform in a more secure way, seamlessly.

Urbanization growth does not stop, emerging economies are showing enormous migration, creating a bigger demand on urban real estate as well as supporting infrastructure and new real estate concept, which considers a rapid growth of real estate needed and its improved quality. Now it is evident that new technologies, demographics and environmental issues are becoming new value drivers for the industry. Projects based on blockchain technology will make a revolution of real estate trading, investing and profitability quicker and safer.

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PROOF–OF–WORK EXPLAINED

1. What is Proof-of-Work?
2. What do you mean a “mathematical puzzle?”
3. How come?
4. How is this algorithm implemented in Blockchain?
5. And where PoW is usually implemented?
6. Which trends should we expect in the future?
7. Any flaws in the PoW consensus algorithm?
8. 51% attack, what are you talking about?

What is Proof–of–Work? 1

Proof–of–Work, or PoW, is the original consensus algorithm in a blockchain network.

In blockchain, this algorithm is used to confirm transactions and produce new blocks to the chain. With PoW, miners compete against each other to complete transactions on the network and get rewarded.

In a blockchain network, users send each other digital tokens. A decentralized ledger gathers all the transactions into blocks. However, care should be taken to confirm the transactions and arrange blocks.

This responsibility bears on special nodes called miners, and a process is called mining.

The main working principles are a complicated mathematical puzzle and a possibility to easily prove the solution.

What do you mean a “mathematical puzzle?” 2

It’s an issue that requires a lot of computational power to solve.

There are a lot of them, for instance:

- a*hash function,* or how to find the input knowing the output.
- *integer factorization. In other words, how to present a number as a multiplication of two other numbers.*
- *guided tour puzzle protocol. If the server suspects a denial of service (DoS) attack, it requires a calculation of hash functions, for some nodes in a defined order. In this case, it’s a ‘how to find a chain of hash function values’ problem.*

The answer to the PoW problem or mathematical equation is called a hash.

As a network grows, it faces more and more difficulties. The algorithms need more and more hash power to solve. So, the complexity of the task is a sensitive issue.

How come? 3

Accurate work and the speed of the Blockchain system depend on it.

However, the problem shouldn’t be too complicated. If it is, the block generation takes a lot of time. The transactions are stuck without execution and as a result, the workflow hangs for some time. If the problem cannot be solved in a definite time frame, block generation will be kind of a miracle.

On the flip side, if the problem is too easy it is prone to vulnerabilities, DoS attacks and spam.

The solution needs to be easily checked. Otherwise, not all nodes are capable of analyzing if the calculations are correct.

Then you will have to trust other nodes and it violates one of the most important features of blockchain – transparency.

How is this algorithm implemented in Blockchain? 4

Miners solve the puzzle, form the new block and confirm the transactions.

How complex a puzzle is dependent on the number of users, the current power and the network load. The hash of each block contains the hash of the previous block, which increases security and prevents any block violation.

If a miner manages to solve the puzzle, the new block is formed. The transactions are placed in this block and considered confirmed.

Where is PoW usually implemented? 5

Proof–of–Work is used in a lot of cryptocurrencies.

The most famous application of PoW is Bitcoin. It was Bitcoin that laid the foundation for this type of consensus. The puzzle is Hashcash – this algorithm allows changing the complexity of a puzzle based on the total power of the network. The average time of block formation is 10 minutes. Bitcoin–based cryptocurrencies, such as Litecoin, have a similar system.

Another large project with PoW is Ethereum. Given that almost three of four projects are implemented on the Ethereum platform, it’s safe to say that the majority of blockchain applications use PoW consensus model.

Why use a PoW consensus algorithm in the first place? 6

The main benefits are the anti–DoS attacks defense and low impact of stake on mining possibilities.

Defense from DoS attacks. PoW imposes some limits on actions in the network. They need a lot of effort to be executed. Efficient attacks require a lot of computational power and a lot of time to perform the calculations. Therefore, the attack is possible but kind of useless since the costs of carrying out the attack are too high.

Mining possibilities. It doesn’t matter how much money you have in your wallet. What matters is to have large computational power to solve the puzzles and form new blocks. Therefore the holders of huge amounts of money are not in charge of making decisions for the entire network.

Any flaws in the PoW consensus algorithm? 7

The main disadvantages are huge expenditures, "uselessness" of computations and 51 percent attacks.

Huge expenditures. Mining requires highly specialized computer hardware in order to run the complicated algorithms. The costs are unmanageable – as a result, mining is becoming available only for special mining pools. These specialized machines consume large amounts of power to run that increase costs. Large costs threaten centralization of the system since it benefits only those who can afford it. It is easy to see in the case of Bitcoin.

Uselessness of computations. Miners do a lot of work to generate blocks and consume a lot of power. However, their calculations are not applicable anywhere else. They guarantee the security of the network but cannot be applied to business, science or any other field.

51 percent attack – what does this mean? 8

A 51 percent attack, or majority attack, is when a user or a group of users control the majority of mining power.

They can monopolize generating new blocks and receive rewards since they're able to prevent other miners from completing blocks. They can reverse transactions.

As an example, let's assume Alice sent Bob some money using blockchain. Alice is involved in the 51 percent attack case, Bob is not. This transaction is placed in the block. But the attackers don't let the money be transferred. There is a fork happening in the chain.

Further, miners join one of the branches. As they have the majority of the computational power, their chain contains more blocks.

In the network, a branch that lasts longer remains, and shorter one is rejected. So, the transaction between Alice and Bob does not take place. Bob doesn't receive the money.

Following these steps, the attackers can reverse transactions.

A 51 percent attack is not a profitable option. It requires an enormous amount of mining power. Once it gets public exposure, the network is considered compromised, which leads to the outflow of users. This will inevitably move the cryptocurrency price down. As a result, the funds lose their value.



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BLOCKCHAIN COLLECTIBLE GAMES EXPLAINED

1. What are crypto collectibles?
2. Can money be made from digital collectibles?
3. Where are collectibles stored?
4. Why is blockchain needed for these collectibles?
5. How do games involving crypto collectibles work?
6. How do I get a rare collectible?

What are crypto collectibles? 1

A crypto collectible is a digital asset.

Unlike common tokens, which are identical and easily exchanged, crypto collectibles are non–fungible toke
This is because their unique attributes mean no two are the same, and hence they are usually irreplaceable.

There are a plethora of things that can be collected – from cats to celebrities, and from politicians to planets. In gaming environments they can be swapped between players, and on other platforms, it's possible to buy someone's collectible without their permission – adding a competitive edge.

Can money be made from digital collectibles? 2

If you have a particularly rare or desirable collectible, potentially, yes.

Generally, collectibles are categorized. Some of them are quite common, while others have distinctive attributes which make them rare or even "legendary."

Some platforms have a price escalation feature. Let's say you paid 1 ETH for a coveted collectible. Here, someone could pay 2 ETH and buy it off you without your consent. You would end up receiving most of the profits, with the platform taking a fee. The next person would pay 4 ETH, the person after 8 ETH, and so on. After the collectible's value hits a certain amount – say 100 ETH, for example, the price may rise by 20 percent instead of doubling.

As you can see, there is potential to make money. However, there's a tricky dilemma to solve first. Often, the rarest collectibles go to those who join a platform early, as there are fewer people to compete with. But unless the platform becomes popular, and gains other users who would be interested in buying your collectibles, you run the risk of investing money in tokens that nobody wants. Because of this, it's worth doing your due diligence before getting involved.

Where are collectibles stored? 3

They are usually kept in a crypto wallet.

Once Ether has been purchased, it can be transferred into a digital wallet which is able to store ERC–721 complaint tokens – the most commonly used tokens when it comes to collectibles.

Why is blockchain needed for these collectibles? 4

Blockchain helps prevent counterfeiting and enables ownership to be tracked.

For people purchasing real–world collectibles, such as pieces of art, a lot of due diligence is required to ensure it's authentic.

Blockchain eliminates a lot of this work, as there is a tamperproof record of everyone who has owned a collectible in the past.

Although ERC–20 compliant tokens are commonly used, their divisibility is an issue. In theory, it would be possible to sell a quarter of your collectible cat if it was on an ERC–20 token. This is why ERC–721 compliant tokens, which are unique and non–divisible, are being increasingly used to ensure assets remain whole.

How do games involving crypto collectibles work? 5

The type of games often depends upon the collectibles involved.

For example, 0xUniverse enables players to buy a planet and use their resources to build a spaceship. They can then go and explore the virtual galaxy, conquering new planets along the way.

Meanwhile, Ether Quest offers a fantasy RPG (role–playing game) where unique fighters can be collected, trained and used in battles. New warriors are mined through something known as a "summoning ritual."

Another example is Blockchain Cuties. Here, adorable animals and fantasy creatures can be collected, bred, and also put to the test in battles. The more experience they gain, the more they "level up."

One of the pioneers of this genre was CryptoKitties, which offered collectible, digital kittens with their very own unique attributes. By December 2017, the decentralized platform had surpassed $12 million in sales – with one rare kitten being sold for an eye–watering $120,000.

How do I get a rare collectible? 6

This will depend on the platform you're using.

For example, in the 0xUniverse, rare planets are collected by building a powerful spaceship which is able to travel deeper into the galaxy where no one else has explored. To do this, players need to draw upon the expertise of the population and use the rich resources of the planets they have conquered so far.

Meanwhile, in Ether Quest, collectibles become stronger – and hence rarer – when they win fights in a virtual arena. The better their performance, the more valuable they are when being bought or sold.

ERC–20 TOKENS EXPLAINED

1. What are ERC–20 tokens?
2. What is Ethereum, in the first place?
3. Where do smart contracts fit into all this?
4. What happens after a smart contract creates a token?
5. Got the analogy, but how exactly would that work?
6. Now to the mandatory rules: what is [totalSupply]?
7. What about [transfer]?
8. What does the function [balanceOf] do?
9. How can I get ERC–20 tokens from other users?
10. Is there any way to make a counterfeit token?
11. Can I lie and say I have more tokens than I really do?
12. What are the benefits of ERC–20?
13. Are there any problems with ERC–20?
14. Enough hypotheticals, what's a real–world example?

What are ERC–20 tokens? 1

ERC–20 tokens are tokens designed and used solely on the Ethereum platform.

They follow a list of standards so that they can be shared, exchanged for other tokens, or transferred to a crypto–wallet. The Ethereum community created these standards with three optional rules, and six mandatory.

Optional

• Token Name
• Symbol
• Decimal (up to 18)

Mandatory

• totalSupply
• balanceOf
• transfer
• transferFrom
• approve
• allowance

Confused? Let's back up a little.

What is Ethereum, in the first place? 2

Ethereum is a decentralized network of computers with two basic functions.

They are: blockchain that can record transactions, and a virtual machine that can produce smart contracts.

Because of these two functions, Ethereum is able to support decentralized applications (DApps). These DApps are built on the existing Ethereum blockchain, piggybacking off of its underlying technology. In return, Ethereum charges developers for the computing power in their network, which can only be paid in Ether, the only inter–platform currency.

Depending on its purpose, DAPPs might create ERC–20 tokens to function as a currency, a share in the company, for points in a loyalty program, or even proof of ownership, say, of an amount of gold or the deed to a house.

Where do smart contracts fit into all this? 3

Smart contracts are used to create ERC–20 tokens.

They are also used to facilitate transactions of tokens, and record balances of tokens in an account.

Smart contracts are written in the programming language "Solidity" on the basis of If–This–Then–That (IFTTT) logic.

Think of this as a vending machine.

What happens after a smart contract creates a token? 4

This is where ERC–20 comes in.

After a token has been created, it can be traded, spent, or given to someone else.

ERC–20 is the universal language that all tokens on the Ethereum network use. It allows one token to be traded with another.

Let's imagine we wanted to make a crypto–casino. Just like in a brick–and–mortar casino, we want our players to use our chips, for simplicity's sake.

So, a player exchanges their fiat for our tokens and heads to a poker table.

Got the analogy, but how exactly would that work? 5

Let's look at each of the rules for ERC–20 in our 'crypto–casino' example.

They are very important for developers to follow.

Let's start with the optional rules:

Token Name: Blu Chip

Symbol: BLU

Decimal: 2*

**We want our tokens to be divisible so that a minimum players bet is .01 BLU. We could leave the decimal at 0 and make 1 BLU the minimum or raise the decimal to 18 resulting in .000000000000000001 BLU the lowest possible division, but let's keep it simple.*

Now to the mandatory rules: what is [totalSupply]? 6

[totalSupply] identifies the total number of ERC–20 tokens created.

The first thing our casino needs to have is a total of how many BLU tokens are in circulation. Let's say our poker table has a total of 10 BLU with ten players.

What about [transfer]? 7

[transfer] allows a certain number of tokens to be transferred from the total supply to a user account.

Before the game can start, the players must receive their BLU from the dealer.

Each player gets 1 BLU.

What does the function [balanceOf] do? 8

When the [balanceOf] function is carried out, it returns the number of tokens a given address has in its account.

In the first hand of our poker game, 5 of the players looked at their cards and decided not to play. Each of the remaining 5 decided to bet .5 BLU. Using [balanceOf], we see that five of the players have 1 BLU and five have .5 BLU.

How can I get ERC–20 tokens from other users? 9

[transferFrom] is the function that allows a user to transfer tokens to another user.

Good news! You won the first hand and gained 2.5 BLU from the other players.

But in order to take it from them, you need [transferFrom]. Without this, what is to stop someone else from stealing your BLU?

Is there any way to make a counterfeit token? 10

Not really, because [approve] checks a transaction against the total supply of tokens.

It makes sure that there are none missing or extra.

Another way to safeguard the integrity of our hypothetical poker game is to make sure no one brought extra BLU to the table. So, [approve] allows the exchange by checking that the total number of BLU on the table equals 10.

Can I lie and say I have more tokens than I really do? 11

Nope.

Before a transaction takes place, the [allowance] function checks the balance of the user's account and will cancel the transaction if there are insufficient tokens.

We don't allow credit in our 'crypto–casino', so we need to make sure that each player has enough BLU to make their bet. If they only have 1 BLU, then they can't bet 2 BLU.

What are the benefits of ERC–20? 12

Basically, it makes everything more simple

Before ERC–20 tokens, developers might use other terminology in the code – e.g.

one token uses [totalAmount] while another uses [totalNumber].

Exchanges and wallets needed to build their platforms to accommodate for each

one token's code.

With a universal standard, new tokens can be put on an exchange or transferred to

a wallet automatically, once it's been created.

ERC–20 also makes the creation of new tokens extremely easy, and that is why Ethereum has become the most popular platform for ICO's in 2017.

Are there any problems with ERC–20? 13

ERC–20 is not perfect.

There are some issues that the ERC–20 token standards do not address.

There are situations that tokens might be unintentionally destroyed when they are used as payment for a smart contract rather than using Ether. An estimated $3 million has been lost because of this.

To fix this bug, the Ethereum community is currently working on a new standard

named ERC–223. These standards are not compatible with ERC–20, however, so developers are encouraged to continue using ERC–20 until compatibility is realized.

In April 2018, a number of exchanges suspended token deposits and withdrawals of Ethereum–based tokens due to the batchOverflow bug. It is described as a 'classic integer overflow issue' and might potentially allow an attacker to 'possess a huge amount of tokens'.

It was noted, that there's no traditional security approach to fix these vulnerabilities at the moment.

Enough hypotheticals, what's a real-world example? 14

Every token on the Ethereum platform is an ERC–20 token.

It is numbering 82815 at press time, let's take a look at some of them.

EOS (EOS), currently the 5th biggest cryptocurrency with almost $12 billion in market cap, is attempting to build a network that can utilize inter–blockchain communication and is

TRON (TRX) is ranked 10th among all the cryptocurrencies at the time of writing, and is described as a 'open–source protocol for the digital entertainment industry.' It aims to launch a content platform with ecosystem connecting all people creating different kinds of content.

An 'enterprise level public blockchain platform' VeChain (VEN), the 15th cryptocurrency in terms of market cap, is planning to implement Internet of Things (IoT) technology to provide private keys for each product that make it possible to track them.

ANALYSING ICO EXPLAINED

1. Why compare ICO's?
2. How can I do it?
3. I've also heard about the MVP, what's that?
4. Should I pay attention to the social media?
5. Should I listen to experts' opinion?
6. Is it possible to automate the project's evaluation?

Why compare ICO's?

1

Comparing ICO's can be beneficial to both cryptocurrency investors as well as the ICO teams themselves.

Different parties will have different reasons for wanting to know how an ICO compares to the rest of the market.

For investors, it would be to establish if a particular product has the potential of delivering the expected return on investment in the long–run and which option would be the best to commit to when looking at similar projects.

For ICO teams themselves, it can be beneficial to look at other token sales that rate particularly well to determine which area of their project they need to work on or improve in order to achieve a similar level of success.

Then there's the general enthusiast who's interested to see what the rest of the market thinks about a particular ICO and to what extent the solution provided has the potential to be truly revolutionary.

The problem is there are multiple ICO's launched daily which equates to thousands every year. Some of the projects will be similar and there are bound to be a few not so great products in between.

With so many token sales flooding the market, it can be overwhelming and difficult to separate the good ones from the bad ones without having to do an in–depth and time–consuming analysis on individual ICO's and their target market.



How can I do it?

2

The most effective way is to create a rating system based on a number of crucial ICO success indicators.

This will include the team behind the project, information on the ICO itself, how the product is presented and how well it is marketed.

The team: It is important for profiles on team members to be easily accessible and a sufficient amount of information should be disclosed on each individual. Displaying photos and links to external professional sites such as LinkedIn will help to instil trust and credibility.

Furthermore, the number of team members involved can also be a decisive rating factor. If there are only two individuals working on the project, you know it's unlikely to be successful. However, multiple people are working on different aspects of the ICO, the chances of success are much bigger.

ICO information: Information on the actual ICO should be clearly visible and available. Start and end dates on pre–sales and the official ICO, how individuals can buy into the crowd sale and what currencies are accepted, a countdown towards the start and end of the sale, and the price of each token can all help to take out the guesswork for investors which will give them more confidence to commit.

How the product is presented: This will depend largely on the information available in the whitepaper. It should include what the product is – for example, the platform, service, etc., different milestones the company hopes to achieve and when they plan to achieve them, more detailed information on team members and the actual uses of the digital token. Having a professional video presentation with an overview of the product shows further quality and commitment from the ICO team.

I've also heard about the MVP, what's that?

3

MVP, or Minimum Viable Product, is a product with a minimum set of features enough to satisfy customers' needs.

Generally, it is a prototype, alpha or beta version of the future product. It is used to get feedback and make changes in the project. It's not yet a common thing in the crypto industry, but if it's available, it definitely increases investors' trust in the product.

An open code allows to see if the company has any groundwork. You can check the implementation of the concept described in whitepaper and the progress of work on the product: optimization, fixing bugs, functional extension, etc.

A non–programmer might not fully grasp the code but they can rely on the opinion of people in good standing.

Should I pay attention to social media?

4

You definitely should!

With so many ICO's being launched on to the market, it is essential for individual projects to attract a sufficient amount of attention to their product. The best way to judge this is by the marketing efforts of the company.

Are they active on different social media sites like Facebook, Twitter or Medium? Do they have a presence in relevant cryptocurrency forums like BitcoinTalk and GitHub? And what sort of information are they putting out there? These are all important questions to answer when comparing ICO's.

5 Should I listen to experts' opinion?

One of the most important factors to look at when rating ICO's is the opinions of the experts in the cryptocurrency world.

They would broadly look at the same criteria but from a different angle.

Team: Teams with relevant cryptocurrency experience are generally rated much stronger than complete industry novices.

This includes experience in development, coding, project management, community management and marketing. The presence of an advisory board will further improve the integrity of a particular project.

Product information: ICO's generally have two different aims. One is the funding of a completely new concept; the other is to fund the expansion of an existing project or to move it onto a blockchain–based network. The latter is more likely to see success as it's based on an already proven product or service. Therefore, experts will favor these projects.

A product or service that addresses an actual problem in the market can also enjoy a higher rating.

Business know–how: Projects with clearly defined long–term goals, a stated plan on how to achieve it, and the amount of investment needed to get there will be more likely to see success. Experts will also pay attention to whether or not there's an already existing user base and if a competitive analysis has been done to better understand the playing field.

Market robustness: The ICO industry is mostly unregulated. This can change at any minute and different legislature can be implemented in different regions. A project with the flexibility to adapt and overcome changing market conditions should receive a higher comparative rating.

6 Is it possible to automate the project's evaluation?

It is and it'll definitely speed up the process.

Cooperation of human and artificial intelligence (AI) can facilitate the assessment.

AI has taken significant steps forward in recent years, and its capacities have increased considerably. Nevertheless, it still should have some basis to work properly. People's opinions about different project may be used as a base. The program will analyze the behavior of the participant according to set parameters and be able to make its own decision about the projects. Further, the network and people work together. Next users' assessments will maintain the database of the program and improve its works. The network will grade the projects and help undecided people.

This process flow has been realized in practice by a project called DropDeck. The projects will be ranked by using AI for investors.

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