

CRYPTO NEEDN'T BE CRYPTIC

THE ETORO GUIDE TO DIGITAL COINS



BITCOIN (BTC)

Bitcoin remains the big boy of blockchain technology, the undisputed king of cryptocurrencies. It is the forerunner and category-defining originator of all things blockchain – the groundbreaking new way of managing data and payment transfer, from which countless other exciting digital currency initiatives and start-up projects have since been born.

Blockchain essentially enables data to be distributed rather than copied. Bitcoin became the first real-life manifestation of the blockchain concept in 2009 when a group of programmers unveiled the open-source software under the name Satoshi Nakamoto. This quickly had the global tech community frothing with excitement. The many potential benefits for the future of digital transfers, particularly regarding payments, was now clear to see.

The very essence of Bitcoin – and indeed blockchain per se – is that transactions take place between users directly, without an intermediary. The transactions

are verified by network nodes and recorded in a public ledger, again available for all to see – and this is the 'blockchain'. Because of this, Bitcoin is also referred to as a decentralized digital currency – and is the first of many!

Nobody owns the Bitcoin network much like no one owns the technology behind email or the Internet. Bitcoin transactions are verified by Bitcoin miners. All users need to work to the same software and operational rules, making Bitcoin a true democracy.

Bitcoin is no longer a scientific, technological brainwave. Far from it. Bitcoin has genuine, transferable value. It can be exchanged for other currencies, products and services in legal markets. There are thousands of ATMs across the world. In some places you can use Bitcoin to pay for your groceries and even your university fees.

Bitcoin has also been arguably the investment sensation of the past decade. Available for just a few

cents in 2009 it has been trading for thousands of US dollars this year.

There's no doubt Bitcoin has earned some people a lot of money. It has become the centre of many an online trader's strategy in recent years. Its volatility as an investment asset and explosive growth as a technical innovation make it incredibly attractive to day-traders.



ETHEREUM (ETH)

While Bitcoin is still considered the king of cryptocurrencies – for now, at least – Ethereum is arguably the biggest challenger to its throne. Ethereum is the one that many believe has the best chance of matching, and even surpassing, the magical allure of Bitcoin.

Ethereum uses the same innovative blockchain technology as Bitcoin. But unlike Bitcoin, it's not just about creating a new network for online payments. The potential for Ethereum goes way beyond that. In addition to running its own digital currency – Ether – it also supports 'smart contracts', which are basically agreements written in computer code that sit on the platform and execute transactions automatically when certain conditions are met.

This makes Ethereum a very different beast. As some pundits like to describe it, you could say that while Bitcoin is a new, alternative online payment mechanism, Ethereum is laying the foundations for a whole new internet.

Ultimately developers using Ethereum blockchain can create apps and systems in this way that cut out the need for any central intermediary. Imagine, for example, a world where we don't need the banks to service loans, or estate agents for property, or insurance brokers, or even government departments.

With Ethereum apps, you cannot in theory have one person corrupt, tamper or destroy the data because it effectively exists across multiple places on the network. It can be more secure and there can be zero, or close to zero, downtime.

In its short history, Ethereum has already undergone a major transformation and there are in fact now two strands of Ethereum, known as Ethereum (ETH) and Ethereum Classic (ETC). The original Ethereum platform split into two in June 2016 when a technical loophole was exposed by a hacker. In the ensuing mess there were two trains of thought as to how to best evolve the Ethereum platform. This created the divergence, commonly known as a 'hard fork' in crypto

circles. Ethereum Classic, which reasons that the platform concept of complete democracy should prevail, despite risks of attack, has grown much slower than Ethereum, which argues the need to give greater control to a core group of developers.

Whichever broad church of Ethereum you belong to – and many people are happy to sit in both camps – the potential for Ethereum to transform our lives is mind-boggling. No wonder it's caught the imagination. But remember, the excitement is still firmly focused on its future potential – the realisation of which is a long way off. This makes it incredibly appealing to some investors who may see it as an opportunity to get on board now while it's still relatively early days and therefore can be purchased at what might be seen as a very low price in five years' time.



ETHEREUM CLASSIC (ETC)

Despite its formative years, there has already been a conflict in the Ethereum community and a divergence in the technical development of the Ethereum blockchain platform – more commonly known as a ‘hard fork’.

Ethereum Classic (ETC) was born out of the original Ethereum platform and its philosophy that the technology should operate in a way that was entirely democratic across the user-base. Following an attack on the platform in 2016, when vast amounts of money were syphoned off by a hacker exposing a technical loophole, the Ethereum community were at loggerheads as to how they should react.

A lot of money was now at stake and for a large swathe of the Ethereum community, which forced the issue and changed the fundamental belief-system around how Ethereum could successfully grow.

One group in the community initiated a plan that was largely intended to refund the money that had been taken by introducing a certain ‘smart contract’ and integrate security measures so as to avoid similar attacks in the future. The proposal

caused a lot of controversy and there was a split. Those against the proposal refused to move to the new blockchain and decided to remain in the old blockchain, changing its name to Ethereum Classic, or ETC.

Most people switched to the new blockchain, including many of the big players in the community and indeed founders Vitalik Buterin and Gavin Wood. Those that stayed with the original platform see the argument as a largely philosophical one, believing in Ethereum’s conceptual power to stand up against financial corruption and corporate greed. They are often labelled ‘Crypto-idealists’. Whether you consider the name to be negative or positive may indicate which of the two flavours of Ethereum you prefer the taste of.

While Ethereum Classic may lack the forward momentum of Ethereum, both in terms of increasing value and pace of technical advancement, it remains an area of interest for traders and investors, as well as developers. There are reportedly many scammers in the Ethereum Classic platform which has put a lot of people off but it still garners considerable attention purely because of its unique potential.

Will Ethereum Classic now fade away as Ethereum marches onwards, breaking new ground? Or will the champions of a true blockchain democracy find a way to revitalise Ethereum Classic, give it new life and prove the doubters wrong?



DASH (DASH)

Dash is a digital currency based on the Bitcoin software that focuses on privacy and scalability as its main distinguishing features. You can make instant, private payments online or in-store using its secure open-source platform hosted by thousands of users. And the technology is expanding incredibly quickly.

In that sense, Dash has solved many of the problems inherent in Bitcoin, which have centred around slow transaction speeds and inability to scale quickly and become a genuine mass-market mainstream offering. By comparison, Dash has been designed from the very start as a scalable and user-friendly currency platform for mass adoption.

In addition to the traditional rewards for mining Dash, users are also rewarded for running and maintaining special servers called 'masternodes'. In brief, these masternodes provide a good deal of the network infrastructure on which Dash operates.

Bitcoin runs on a single-tier network with an average blocktime of ten minutes. They require six of these to fully confirm a transaction, which

means a Bitcoin transaction can take up to an hour to complete.

Dash works on a two-tier network. The first tier operates in much the same way as the Bitcoin network but the second tier, comprised of these special servers known as masternodes, allow for additional operating features such as instant transactions (InstantX), private transactions (Darksend), and decentralized governance and budgeting. It's this second tier that gives Dash a competitive edge.

Anyone can run a masternode - hosted on virtual private servers run by companies such as Amazon Web Services. They just need to first have evidence that they own 1000 DASH. If the owner spends their 1000 DASH then their masternode gets turned off.

Dash users running a masternode are further incentivized by virtue of receiving a portion of the reward when miners find new blocks, with 45% of that reward going to the network of masternodes. That in itself may make Dash an interesting and very different kind of investment opportunity.

Dash clearly means business. It has created a new team based in Hong Kong called Dash Labs to focus on developing custom hardware. Meanwhile, the core team aims to increase speed, size and scope with each development stage, doubling the number of developers with each release. They are also committed to publishing a large amount of private documentation to ensure complete transparency and trust in the evolution of the platform.

Dash has certainly been one of the fastest growing cryptocurrencies in 2017 and has attracted a lot of interest among cryptocurrency traders and investors.



RIPPLE (XRP)

Ripple, also known as the Ripple Transaction Protocol (RTXP) or Ripple protocol, is a real-time payments and settlements system. It also operates as a currency exchange with its native currency known as XRP, and boldly claims to enable 'secure, instant and nearly free global financial transactions of any size with no chargebacks.'

Much like the Bitcoin software and other blockchain technologies, Ripple is built on a distributed open-source protocol and consensus ledger where users in the system agree and confirm transactions. And like a number of competitors to Bitcoin, Ripple has arguably done a better job of creating a platform that works much faster than Bitcoin and executes transactions at very low cost.

If it works as well as they claim, the benefits to companies who adopt Ripple are clear. They can generate new revenue opportunities, enjoy lower processing costs and ultimately deliver better overall customer experiences through their payment processes.

The beginnings of Ripple actually pre-date Bitcoin and blockchain in many respects. Back in 2004,

developer Ryan Fugger had the vision that he wanted to create a decentralized monetary system, one that relied solely on individual users and communities and cut out the middle-men and governmental authoritarians.

He created RipplePay, a financial service that intended to provide secure payment options in an online community. It was the nucleus of Ripple. Over the years Fugger continually refined and expanded his concept, working with a range of other digital payment entrepreneurs and developers.

Ripple itself, and as we know it today, first came to light in 2012. The effect ever since has very much been true to its name with a rapidly increasing number of technology enthusiasts and crypto traders keen to understand its potential implementations and unique benefits over other digital currency platforms and operating structures.

It is now undoubtedly one of the biggest cryptocurrencies in the world and is actively used by a range of well-known financial businesses, including the likes of UniCredit, UBS and Santander. The Ripple

protocol has excited the major banks and payment networks with its settlement infrastructure and advanced technology, especially the low cost and security it offers, all on a major scale.

That said, we must remember that this is still very early days in the grand scheme of things. Yes, there are household brand names actively using Ripple but they are doing so in a controlled manner. And there are plenty more big financial houses and commerce giants yet to fully commit, still assessing their options from the touchlines.



LITECOIN (LTC)

The open-source Litecoin is often billed as a companion to Bitcoin, although many now regard it as a direct competitor. It is effectively a peer-to-peer online currency that you can use to make instant payments at near-zero cost to anyone in the world.

Litecoin was created in October 2011 by former Google engineer Charles Lee. The idea behind Lee's project was to create a digital currency that fixed many of Bitcoin's issues or improved in areas where Bitcoin was perceived to be weak.

Transactions are super-fast with block transactions typically around 2-3 minutes compared to Bitcoin's 10 minutes. Because of this, it has created a lot of industry support, has a decent trading volume and for those looking to buy and sell Litecoin, it has very good liquidity.

The fundamental and technical difference between the two – Litecoin and Bitcoin – is centred around their respective mining capabilities. When users mine Litecoin they do so using a different kind of algorithm, known as the scrypt algorithm. It incorporates Bitcoin's SHA-256 hashing algorithm, but improves upon it by running calculations that

can be greatly accelerated in parallel processing.

As a result, Litecoin can handle a higher volume of transactions, thanks to its considerably faster block generation process. The one slight disadvantage of this higher volume of blocks is that the Litecoin blockchain will be proportionately larger than Bitcoin's, which means it will have more orphaned blocks.

However, Litecoin boasts greater efficiency and more supply for the market while still being inflation proof due to limiting the number of coins that are in circulation, with potentially 84 million coins rather than the 21 million that Bitcoin has as its upper limit. Consequently, it could be argued that Litecoin has the upper hand for general day-to-day buying and selling as there's a larger amount in supply.

For cryptocurrency traders and investors, Litecoin has many attractive qualities. Because it is years behind Bitcoin in its integration into global systems and adoption by commercial enterprises, it is currently a lot cheaper to invest in. Bitcoin is further down the track and Litecoin may never catch it up,

of course, but it clearly has some compelling features and advantages over Bitcoin that could make it a more attractive proposition to retailers and banks in the long run.

If Bitcoin trips over a few major obstacles, such as the ongoing and much-debated scalability challenges it needs to overcome, then major commercial brands may become frustrated and, in a bid to accelerate their own corporate growth and expansion plans, particularly overseas, turn to Litecoin as a viable alternative.



JARGON BUSTER

51% attack

This occurs when more than half the computing power on a digital currency network is run by a single miner, which theoretically makes them the main controller and authority of that network.

Altcoin

The alternatives and rivals to Bitcoin are collectively known as Altcoins.

Bitcoin Whitepaper

Written by Satoshi Nakamoto in 2008, the famous document explains the Bitcoin concept and protocol. The Bitcoin code was released the following year.

Block reward

The recompense a miner receives when they have successfully hashed a transaction block. It can be a mixture of coins and transaction fees.

Faucet

This is where a number of coins are given away for free to generate interest and build initial momentum in a cryptocurrency mining community.

Fiat currency

Currency that a government has declared to be legal tender, but it is not backed by a physical commodity.

Fork

The emergence or creation of a new version of a particular blockchain. It typically happens when one set of miners begins hashing a different set of transaction blocks from another.

Genesis block

If you know your biblical readings you'll get to know why this is the term for the very first block in the block chain.

Mining

Basically, this is where new Bitcoins are generated, which happens as crypto problems are solved.

Satoshi Nakamoto

The inventor of the Bitcoin concept and protocol. Some believe it is a group of people rather than one individual. The term 'Satoshi' refers to the smallest subdivision of a Bitcoin currently available (0.00000001 BTC).

Silk Road

The controversial underground online marketplace, which has been often linked to cryptocurrencies in the past, was shut down by the FBI in 2013.

Virgin Bitcoin

Bitcoins purchased as a reward for mining a block. These have not yet been spent anywhere.

