CRYPTO A.M.

Our series on AI, Blockchain, Cryptoassets, DLT and Tokenisation

E: CryptoInsider@cityam.com   @CityAm_Crypto   In association with CryptoCompare

PARTNER CONTENT

CITY A.M.'S CRYPTO INSIDER

JAMES BOWATER

Global uncertainty seems to be the theme dominating headlines and social media streams. The list is alarmingly long as the crisis in Iran continues with another tanker being seized; India has significantly ramped up tensions with Pakistan by revoking Kashmir's special autonomous status cutting off all communications and deploying 10,000 troops - let's not forget that Pakistan and India are both nuclear powers; the 30-year old Intermediate Range Nuclear Treaty between the US and Russia abandoned, the US-China trade war is escalating widening to include currency devaluation; Venezuelan inflation has exceeded one million percent and the Hong Kong protests are spooking investors with China almost certainly about to lose patience before a totalitarian crack down on the 'Special Administrative Region'.

What does any of this have to do with the Crypto Market? Since last week's Crypto AM and at the time of writing, Bitcoin (BTC) is up 24% at US\$11,727.50; Ethereum (ETH) is up 12% at US\$234.76; Ripple (XRP) is at US\$0.3283; Binance (BNB) is at US\$28.23 and Cardano (ADA) is at US\$0.05782. Overall Market Cap is up circa 18% at US\$310.35bn (data source: www.CryptoCompare.com)

Yesterday I spoke with my friend Naeem Aslam, Think Markets' Chief Analyst, to get his feel: "Bitcoin has soared over 200% year to date, outpacing all the top three coins by a huge margin and I think it is highly likely that Bitcoin could easily top this year's high of \$14,000. The bitcoin price had several battles with the 50-day moving average during the past few weeks, but finally the bulls have conquered this battle field."

On the new currency war. "The Chinese Yuan crossed the level of \$7 for the first time and this is only because China clearly wants to devalue its currency. Donald Trump will have no choice but to actually retaliate against this action and he will do everything in his power to not let Beijing to win this war. The escalation in the currency war means that the Fed will have to adopt ultra-dovish monetary policy, odds for another interest rate cut have jumped, and the only direction for the dollar index is to the downside. We all know what does this mean for Bitcoin: it is going to explode and continue to move higher."

As I mentioned last week the first official London meetup of Binance took place with Founder Changpeng 'CZ' Zhao taking centre stage reinforcing how approachable he is - I believe he met and shook hands individually with every single one of the 300 attendees - it was extremely impressive! For now Binance's only footprint in the U.K. is Jersey. There are no immediate plans for a London office although, post Brexit, who knows? What he made clear to me is that CZ is committed to spending much more of his time in Europe.

What was the biggest aha moment? A simple way to explain Blockchain without getting buried in cryptography and deep tech. The example is easy to understand and share - and it is an explanation that a lot of blockchain pros will absolutely hate!

A Blockchain is an Excel sheet with protected cells and potentially some macros. Lots of unrelated people have identical copies of the Excel sheet. Any single individual can update the Excel sheet, but only one at a time. And that's it.

So now let's take that apart.

"A Blockchain is an Excel sheet..."

You may have heard Blockchain referred to as a ledger. Ledger's contain information related to business transactions. In a Blockchain, you can record data related to verification, transfer and transformation of an asset. And you can query a blockchain to track and trace and asset. Each record in a blockchain will include a transaction ID, timestamp, source, destination and units of value transferred. You can put the same information into a single row in an Excel sheet. You can select several rows in the Excel sheet (several transactions) and agree that this group of rows be called a block.

"...with protected cells..."

An Excel sheet allows for cells to be protected using a password. This means that cells are still readable, but that you can no longer change, edit, delete or amend the contents of these cells. Blockchains work in much the same way in that once information has been written into the Blockchain you can no longer edit, delete or amend the information. In Blockchain core principles we refer to this as the data being immutable.

"Lots of unrelated people have identical copies of the Excel sheet."

This is not the same a Google Drive where many people have access to the same information. Instead, we are talking about multiple people having identical copies of the Excel sheet. In the same way, multiple people have a copy of the data in the blockchain. In Blockchain principles we describe this as being distributed. Unlike a classic database run by a single entity, like a bank, multiple people have a complete copy of all of the transactions in the blockchain.

The more people who have a copy of the blockchain, the more secure the blockchain. Why? Because it becomes increasingly difficult for the data to be corrupted either unintentionally or intentionally by a bad actor. Everyone can see everyone else's copy of the blockchain and then come to a consensus as to the current state of the blockchain as well as the validity of any future transactions.

"Any single individual can update the Excel sheet, but only one at a time"

Anyone in the network has the right to add a new block of transactions to the Excel sheet. In blockchain principles, we refer to this as being decentralised. In a blockchain, there is no central authority with the exclusive right to update the information in the blockchain.

In order to prevent conflicts, only one individual is able to update the blockchain at a time and once they complete the process, they send an update to everyone who holds a copy of the Excel sheet so that they can update their own copy. The same is true in blockchain, anyone can add a new block of transactions and then advertise the update to the rest of the network.

"...and potentially with some macros."

Some Excel sheets include macros. These are small pieces of software code. Macros operate on the contents of the Excel sheet. They have to be triggered to run and they may connect to various services in the outside world. Some Blockchains, not all, have the ability to support smart contracts. Smart contracts are small pieces of code which operate on the contents of the blockchain. They must be called explicitly and they may have connections to services in the real world. As many of the transactions on the blockchain are underpinned by business agreements, the code may reflect the terms, obligations and commitments written in a real-world contract and they may operate in an automated fashion - hence the name smart contracts.

So a blockchain is just a shared Excel sheet with protected cells which might

BLOCKCHAIN EXPLAINED 101

Designed by
Phill Snelling,
Bowater Media

> A Blockchain is an Excel sheet with protected cells and potentially some macros.

have some macros.

You can even use this example to evaluate opportunities or projects within your enterprise. All you need to do is ask the question:

"Would I do that in an Excel sheet which I had to share with lots of people?"

It really focuses your attention on what data, how much data, and the value of sharing that data between multiple distrusting parties. With this in mind, many more productive conversations are possible within your enterprise.

James Bowater in conversation with Troy Norcross, Co-Founder of Blockchain Rookies and Crypto AM regular contributor. Get in touch with him through info@blockchainrookies.com / Twitter @igetblockchain

IMPORTANT INFORMATION: THE VIEWS AND OPINIONS PROVIDED BY CITY A.M.'S CRYPTO INSIDER AND IN THE CRYPTO A.M. SECTION SHOULD NOT BE TAKEN AS INVESTMENT OR FINANCIAL ADVICE. ALWAYS CONSULT WITH YOUR FINANCIAL ADVISOR.

CRYPTOCOMPARE MARKET VIEW

New FCA Guidelines Welcomed by UK Crypto Industry

The UK's aspiration to be a world-leading crypto hub received a boost this week as the Financial Conduct Authority (FCA) published revised guidelines on its treatment of cryptoassets.

The guidance, which followed on from a 90-day consultation period with crypto-related businesses and associations, signalled the FCA's intention to avoid heavy-handed regulation on the trading of cryptoassets such as bitcoin and ether (ETH). The pragmatic approach was welcomed by industry body CryptoUK.

In the markets, Bitcoin (BTC) has continued to defy bearish expectations. A rally to \$9500 ahead of the weekly open provided strong momentum for the asset to rise more than 23% over the week, surging past \$11,000 to trade at the time of writing at \$11,719. Ether (ETH) also benefited from the wave of bullish momentum. After slipping back below \$200 ahead of the weekly open, ether's value grew 10% over the week to trade at the time of writing at \$229. Despite some strong individual performances, with Tezos (XTZ) for example surging more than 44%, the altcoin market has continued to consolidate, hovering around a combined market cap of \$90 billion. BTC dominance has increased over the week, currently sitting at 68%.

Key assets to watch this week include Litecoin (LTC) and Tron (TRX). Litecoin saw its much-anticipated halving event on 5 August, reducing miner rewards from 25 to 12.5 LTC per block. With the run up to halvings usually creating a price surge, litecoin is currently trading at \$95, having reached a high of \$146 in June. Tron meanwhile, maligned in recent weeks following reports of regulatory issues in China, is due to enhance the capacity of its content-sharing platform with the launch of the Sun Network on August 10th.

CRYPTO A.M. INDUSTRY VOICES

Blockchain could help scourge of doping in sport

As an avid believer in blockchain technologies, I'm constantly thinking of innovative ways to utilise this technology. As you'll know from the other pieces I have written for Crypto AM, I do not think blockchain is the solution for everything.

I play ice hockey at a semi-professional level, I'm actually in New Zealand playing for the Skycity Stampede right now. I also studied Sports Performance at the University of Bath before life led me to blockchain. Ever since then I have been hypothesising ways that I could draw together my two passions – sport and technology.

This led me to read about the utilisation of blockchain technology in doping within sports. This, of course, is not my original idea but it is certainly something that piqued my interest and having researched the subject I believe there are some serious legs in this.

WADA (World Anti Doping Authority) analysed over 300,000 athlete samples in 2016. This in itself is not a large number, and as a standalone data point would not lead me to believe that this needs to be put onto a blockchain. However, this is sport and there are vast variables that reach much farther than what is on the surface.

On the world stage there is a huge amount of equity in sentiment and how sports are perceived by the general public.

Cycling? Doping. Russian athletes? Drug cheats.

Only recently in Australia, there has been a scandal surrounding Olympic swimmer Shayna Jack and how she had tested positive, but it was kept under wraps until a decision had been made by WADA. This is due to an internal ASADA (Australian Sports Anti Doping Authority) process but the point remains. There needs to be more transparency around this.

Sticking with swimming, China's Sun Yang is at the heart of another doping scandal, having already served a ban 2014 he is set to appear in front of a court of arbitration accused of destroying his blood samples with a hammer. Yet he is still allowed to compete and, what's more, is that Brit Duncan Scott received a warning for his conduct when he refused to acknowledge him on the podium.

I firmly believe that you should be suspended from competition until you are proven innocent.

Where does blockchain fit into this? Many sports are in turmoil with athletes failing drug tests at an alarming rate. With modern technology, both in terms of testing and also in terms of spreading news of failure, I am amazed athletes still do it. But they do, and here we are. Sport as a whole is fighting an uphill battle to remain scrupulous in the eyes of the public, and blockchain can be used to create a globally shared inventory of all athletes and samples taken that can be shared securely and cannot be tampered with.

WADA goes to great lengths to ensure that they maintain their integrity, to the extent of making press releases about their tamper-proof sample containers, but that is not to say that on a state level these records could not be doctored by the local authorities. In 2016 the RUSADA was found to be tampering with their samples within a WADA approved facility.

This is where the tricky part comes though, any time there is a bridge between technology and the physical world there is an opportunity for tampering. We must trust the data going on to blockchain for it to be a valid point of reference. We can reduce the risk, not to believe it can be eliminated would be naïve. I haven't figured this one out yet, but I will be watching this space.

Alastair Band, defenceman for Skycity Stampede and Partner at Verum Ventures alastair@verum.ventures

Crypto A.M. shines its Spotlight on Mattereum

Mattereum is a London fintech startup that knows how to get physical assets on the blockchain, securely audited and correctly accounted for. They see blockchain is a tool for enabling trade: not just for decentralizing finance, but for managing supply chains and bringing digital methods to bear on the real world.

Their first product, the Mattereum Asset Passport, provides a legal and technical framework for pre-auditing physical assets, and putting those audited assets on the blockchain. An item - initially memorabilia, but in theory any asset class from art to industrial components from people in the know. Their assertions about the asset are tied to indemnifications or insurance policies in case of error. As the Mattereum team joke, "it's true or you can sue!"

The Asset Passport directly parallels the work done by Self Sovereign Digital Identity firms like Sovrin, uPort, or London's own IDChainz on identifying people for the blockchain ecosystem, but adds an aspect of "skin in the game" to get object verification experts like curators, assayers, valuation professionals and others to bring their expertise into the blockchain space. Asset tokenization companies, as well as supply chain finance firms like SweetBridge, rely on secure and correct physical asset records on chain too. Mattereum's huge

Vinay Gupta, Founder & CEO of Mattereum

> Gupta has quite a track record in the blockchain space: project managing the Ethereum launch

potential has generated a lively buzz among both blockchain and traditional VC firms on both sides of the atlantic.

Screen legend William Shatner's Third Millennia is a consumer goods and Hollywood memorabilia authentication startup - and the first live user of Mattereum's technology. In a recent interview with Forbes, Shatner said of the new partnership "we can authenticate anything and register it, and it then becomes unassailable." Shatner has bold ambitions for the blockchain space!

Vinay Gupta, CEO of Mattereum says "I want to create a world in which physical things tell us their own stories, can be searched like the web, bought, sold, optioned, composed - physical things which work like both data and financial instruments. Intelligent search for precise physical objects will revolutionise manufacturing, particularly in fields like aerospace and medical." Gupta has quite a track record in the blockchain space: he was the project manager for the Ethereum launch (and before that a refugee camp designer - his hexayurt shelter is all over the Burning Man festival.)

The booming market for tokenizing assets like real estate shows how big the appetite is for the blockchain to break into the real world. Mattereum's vision of a world in which all manufactured goods have a blockchain "digital twin" that works like any other blockchain financial asset is compelling. Gupta adds "one day every important purchase a person makes will have a blockchain register for guarantees, maintenance, resale, insurance, all built into the same digital twin. We will look back and wonder why we ever did it any other way."

Merging the digital and the physical world together has a big future. The trend can be found everywhere, from virtual reality to the fourth industrial revolution. The future is integrated.

BLOCKCHAIN ROOKIES

WHAT IS A CRYPTOCURRENCY ANYWAY?

Jon Walsh, Associate Partner Blockchain Rookies

With so many of these things available to buy or trade, how can anyone tell the difference from one "cryptocurrency" to another?

To the purists, a cryptocurrency must exist on a protocol which is fully decentralised, permission-less and publicly accessible. This is the case with bitcoin. The advantage of having these characteristics is that cryptocurrencies are inherently censorship-resistant, unable to have a 3rd party assert control over who uses it, and what they chose to do with it. Cryptocurrencies create a completely new paradigm for money.

As bitcoin's brand and value has grown, there have been many people who have wanted to create their own project taking advantage of this new technological advancement of Blockchain. Some are for cryptocurrencies and some for tokens to be used for other purposes.

There are now a multitude of different tokens and coins in different categories including privacy coins, dApp tokens, security tokens and network coins. Most recently Libra has been proposed in a white paper from Facebook. While to the purists, Libra cannot be viewed as a true cryptocurrency, as it is neither permissionless nor public, it quite clearly intends to be a digital currency to be used as a medium of exchange and value transfer with initial use within the Facebook family of applications.

All of these coins and tokens currently fall under the umbrella of cryptocurrency. In time, the title will likely change to the category of Digital Assets with each entity having a clear delineation for clarity of purpose.

There are clear ideas as to what makes a cryptocurrency over what is merely a token. Unfortunately, today there is not broad agreement in the community, by governments or by industry. The sooner we get to standard accepted definitions, the sooner the market can move forward.

Get in touch with us info@blockchainrookies.com / Twitter @igetblockchain