

CRYPTO A.M.

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

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PARTNER CONTENT

CITY A.M.'S CRYPTO INSIDER

JAMES BOWATER



On Friday, I attended the silent ceremony investiture of Alderman William Russell as the 692nd Lord Mayor of London who is my fifth family member to hold that office in the last 110 years. It was especially poignant for William as his grandfather had held the office exactly 50-years ago. His theme for the year is Fintech 3.0 so I hope you don't mind me proudly saying "Congratulations Cousin!" in this column.

The crypto market has been trading somewhat sideways on a downward path this past week. At the time of writing Bitcoin (BTC) was trading at US\$8,732.06 / GB£6,796.47; Ethereum (ETH) is at US\$186.53 / GB£145.39; Ripple (XRP) is at US\$0.2742 / GB£0.2126; Binance (BNB) is at US\$20.16 / GB£15.67 and Cardano (ADA) is at US\$0.04329 / GB£0.03359 Overall Market Cap is at US\$239.6bn / GB£186.19 (data source: www.CryptoCompare.com)

I spent last week in the Blockchain Island of Malta where the British presence was in full force flying the flag for the UK with World Mobile, AmaZix and Electroneum taking part in several panels and roundtable discussions with Akon. Daniel Doll-Steinberg, co-Founder of Asymmetric Project, gave a particularly interesting keynote where he made the case that we are in the second revolution since the Industrial (Physical) Revolution, calling it the Cognitive (Intellectual) Revolution where AI, Blockchain and I.O.T. ('Internet of Things') come together. I shall be inviting to expand on this thesis as a Guest Main Feature. I also caught up with George Zarya, CEO of BEQUANT, a leading cryptocurrency exchange. He was pleased to announce that they are collaborating with Avelacom, the high-performance global connectivity and IT infrastructure provider, to provide crypto currency market participants with faster access to BEQUANT's market infrastructure via Avelacom's low latency network. The move will provide BEQUANT's professional trading clients, including investment banks, hedge funds and other proprietary traders using the most demanding algorithmic strategies with institutional grade connectivity options. In addition to that, clients will benefit from being able to receive real-time pricing data and place large volumes of orders across various crypto markets at consistent millisecond speed while using the industry benchmark protocol - FIX.

Looking East, Pavel Matveev, CEO of Wirex, shared with me from the Singapore FinTech Festival the exciting news that Wirex has just launched its next-generation Wirex Visa Travelcard in Asia-Pacific. Compatible with more than 150 currencies, the multi-currency card empowers customers to seamlessly spend both cryptocurrencies and traditional currencies, earn crypto rewards through the Cryptoback™ programme and avoid costly exchange fees. Wirex said its existing customers have already saved USD\$10m in exchange fees and charges thanks to its zero FX fees (versus 4-6% savings high street banks). Pavel explained, "The unparalleled functionality and versatility makes the Wirex Visa Travelcard the perfect travel companion, whether customers are travelling abroad for business or leisure." As a Wirex card user this myself this is excellent news!

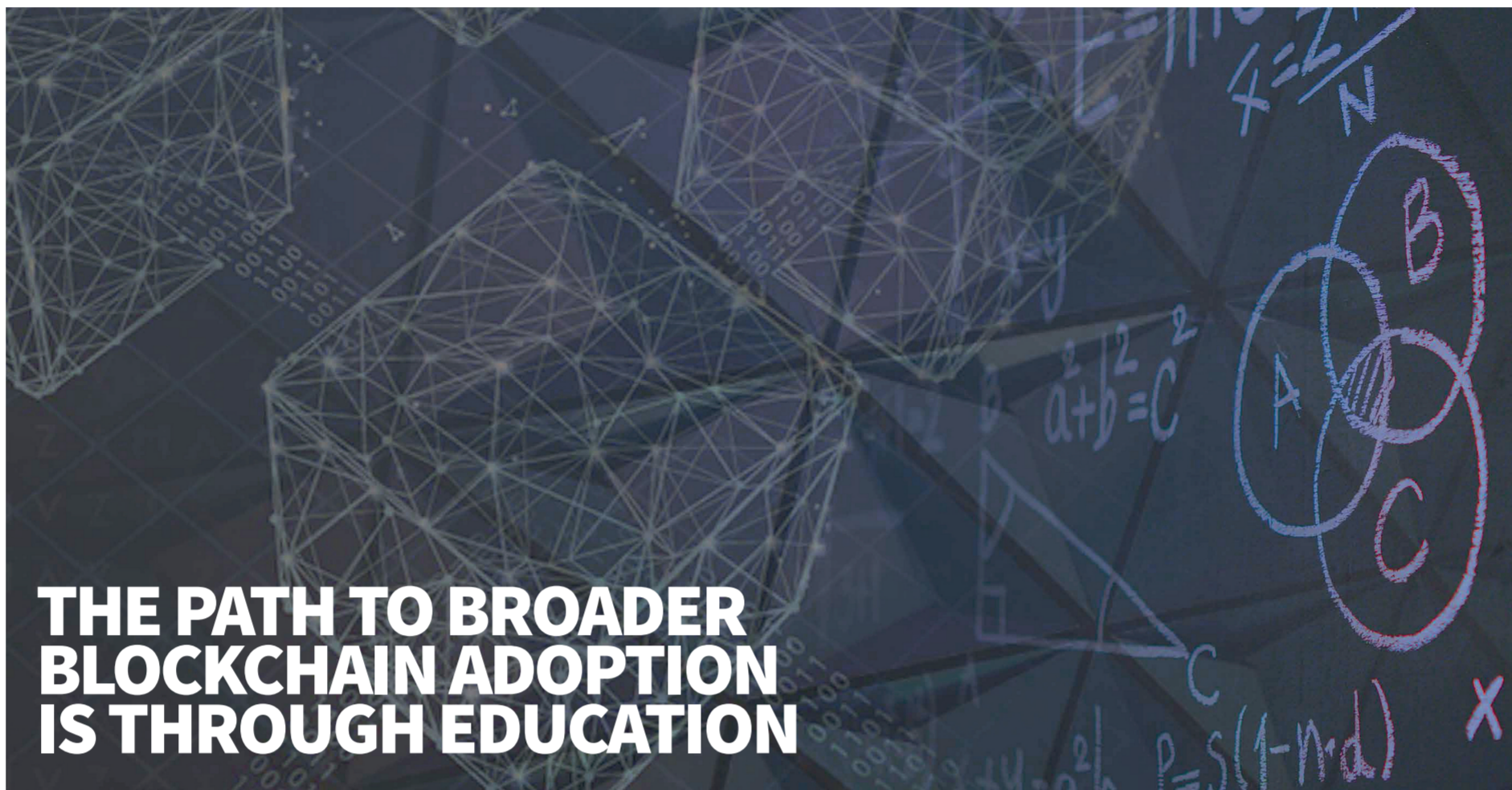
Innovations in blockchain, cryptocurrencies and related technologies hold immeasurable potential to transform our future. They provide us with new ways to coordinate as human beings. From a range of peer-to-peer financial services to streamlining supply chains to creating provability of asset ownership, these technologies are being applied in a variety of novel ways to almost every facet of modern life. As the cryptosphere continues to grow we are seeing the emergence of increasingly sophisticated blockchain-based solutions to the world's most pressing issues.

THE KNOWLEDGE GAP

While the technology and ecosystem is quickly maturing, the general understanding of blockchain is lagging way behind. It is over 11 years since the publication of the Bitcoin whitepaper yet very few people have an in-depth understanding of how these technologies work and the myriad of ways that they can be applied to drive efficiencies and resolve long-standing problems.

In the U.K., for example, over 70% of Britons surveyed by the Financial Conduct Authority (FCA) in March 2019 hadn't heard of cryptocurrencies or didn't know how to define them. While a Coinbase report found that 58% of Americans say they've heard of Bitcoin, it is likely only a fraction of this number that truly understands blockchain at a deep level. This knowledge gap has some serious consequences on the progression of blockchain.

A lack of knowledge leads to a lack of specialist developers and innovators and a weak supply side. The greater the number of people that understand the technology at a deep level, the greater the number of experts in the field, the greater the rate of innovation and the greater the chance of "killer" applications with the potential to trigger mass adoption emerging. The knowledge gap also negatively impacts the demand side. As humans, we are naturally inclined to distrust and steer away from things that we don't understand. This is one of the reasons that many investors are still reluctant to pursue



THE PATH TO BROADER BLOCKCHAIN ADOPTION IS THROUGH EDUCATION

Image supplied by AmaZix

crypto assets and that the general public is unlikely to use blockchain-based applications.

THE CATALYST FOR BROADER BLOCKCHAIN ADOPTION IS EDUCATION

In the developed world, it is quickly becoming easier to access a high-grade blockchain education. According to Coinbase, over 50% of the world's top 50 universities now offer at least one course on crypto or blockchain (up from 42% in 2018). Many universities

also offer remote courses that allow students to learn from home. Blockchain clubs, meet-ups, societies and public lectures by experts and industry leaders are commonplace in the major cities of Europe, North America, and Asia. There are international summits and conferences featuring pioneers and thought leaders in the space that anyone can attend. As a result of this flourishing learning environment, we can expect to see significant year-on-year growth in the general understanding of these technologies.

EMERGING MARKETS

The story in many emerging economies is markedly different. Emerging economies stand to benefit the most from independent, borderless blockchain applications. The potential of blockchain to transform the lives of the people living in these nations in a whole host of ways - removing untrustworthy middlemen, providing access to semi-formal banking services, providing proof of identity and ownership of assets, streamlining remittances, improving

healthcare - has been a key topic of discussion since the early days of Bitcoin. As Passport Capital has illustrated, adoption of Bitcoin in emerging markets is actually outpacing that of the developed world by a significant margin.

Emerging markets are, however, far behind the developed world in terms of projects launched and funds raised. One of the reasons for this is that it is incredibly difficult for people living in emerging economies to become experts in the field due to a lack of oppor-

tunities to access an advanced crypto education. Few universities in these regions offer blockchain focused courses. While many international universities offer online courses in crypto, these courses usually cost thousands of dollars which the average person living in an emerging market does not have. Further, there is no guarantee that this investment will actually yield positive returns.

Though there is no shortage of online publicly accessible educational content across distributed contributor platforms such as Medium, Reddit and Steemit, it is a daunting task for a novice to tackle all of this information uncurated and difficult to distinguish that which is valuable from that which is not. Until access to a robust, structured, curated crypto education becomes available, the potential for innovation held by these nations with a great enthusiasm for blockchain cannot be fully realised.

Though emerging markets currently lag behind in terms of global blockchain innovation, the embrace of crypto assets in these economies suggests that it will not be long before similar developments in crypto education to those that are currently spreading across more mature economies will flood in and allow this burgeoning corner of the cryptosphere to bloom. As global access to education on crypto matures, we will likely see innovation in the space multiply leading to new and increasingly sophisticated applications and solutions that will radically increase the value of the technology, its practical uses and that will drive broader blockchain adoption.

© Luke Wilding, Senior Analyst at AmaZix in conversation with James Bowater. For further information visit <https://www.amazix.com>

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CRYPTOCOMPARE MARKET VIEW

Central Banks warming to digital assets

Last week saw bitcoin drop below the \$9,000 mark, rallying over the weekend before dropping to trade at the time of writing at \$8,703. Most altcoins followed bitcoin's pattern towards the end of the week - with Ethereum (ETH) falling from a weekly high of \$192, to trade at the time of writing at \$186. With many looking for a significant movement in either direction, next week may prove more volatile for bitcoin and leading altcoins. Despite the relatively uninspiring period for crypto prices, last week saw several important developments for the space.

Most significantly, the U.S. Federal Reserve might have revealed plans to move into the digital asset arena. In a job listing posted on its site on Monday, the Fed said it is looking to hire a manager to oversee its traditional payments division, with the spec explaining that the role will involve research into integrating digital currencies, stablecoins and DLT

(Distributed Ledger Technology). Various headlines last week made it clear that a host of other central banks are also investigating digital assets, with China, Turkey, the EU, the Marshall Islands, and Tunisia all at least considering launching Central Bank Digital Currencies (CBDCs). China's state-run news outlet Xinhua even presented Bitcoin as the "first successful application of blockchain" in a lengthy first-page article.

Not all central banks however are sold on the idea of digital assets. Former European Central Bank president Jean-Claude Trichet last week explained that he is "strongly against bitcoin," insisting that the cryptocurrency "is not real."

In more positive news for Bitcoin investors, Jack Dorsey's payments company Square reported that in the third quarter of 2019 the number of first-time bitcoin buyers through its Cash app "approximately doubled," with revenue from bitcoin sales totalling \$148 million.

CRYPTO A.M. INDUSTRY VOICES

Blockchain can create jobs for Africa's 'youth boom'

If we were to ask the leaders of Africa's 54 countries "What three factors will drive your country's growth?", technology would be on every list. Sometimes more than once. Over the past year, IOHK has been talking to ministers in Ethiopia, Rwanda, Uganda and South Africa about using blockchain systems. They say that technology will transform the continent. But how?

The rapid decline in infant mortality combined with no subsequent reduction in fertility rates is setting a path for a population explosion. More than half of the world's population growth by 2050 is forecast to happen in Africa.

Every government knows the risk that having so many people under 30 entails. This "youth bulge" was one of the factors behind the uprisings of the Arab Spring that started nine years ago - and are still happening. So, job creation is a policy focus across the continent, but the link between jobs and technology is murky at best. Any San Francisco venture capitalist will tell you that the beauty of tech businesses is that very small teams can capture billions of dollars of value. Why should we expect technology to create lots of jobs in Africa?

The answer lies in the fact that many African economies are built on an informal sector, neither taxed nor monitored by government, but localised and based on personal relationships. Two out of every three jobs outside of agriculture happen in the informal economy. This massive sector lacks basic reputation management, credit and insurance, which are the lifeblood of trade. Without such infrastructure, we are left with a missing market - economic activity that would occur, if only these systems were in place. Even more basic is the ability to accurately identify an individual, without which reputation or insurance means little.

When eBay was founded in 1995, it, too, lacked such systems. Payments were made by sending cheques in the post or handing over cash, there was no reputa-

tion management and deliveries were not insured. The risk and difficulty involved in using the service hampered its mass adoption. These same issues constrain the informal sector in Africa today. It took eBay seven years to rectify the problems. Buyers and sellers could look at each other's feedback from previous transactions, and were insured against fraud and non-delivery if payment was made using PayPal. Sales took off. With these systems in place, it became easier to trust an auction and the seller, so more trades occurred.

If we can build such tools for the informal economy we will drive trade, job-creation and tax revenues across the continent, unlocking the value lying dormant in these informal markets. In the eBay example, it was the ease of digital payments that led to mass adoption. In Africa, the use of mobile money is more common than anywhere else - four in every 10 adults use these services. If we can build cheap and effective digital identities to support reputation, insurance and credit systems, adoption should be quick, and the results dramatic.

While many other measures must be taken to provide employment for this booming generation of African youth, the combination of mobile money and digital identities can contribute to the solution, creating jobs in a tech-enabled economy. These tools are being built on blockchain technology, offering highly scalable and low-cost solutions.

IOHK aims to contribute to this growth with our Atala enterprise framework and the Cardano blockchain. We're already on the ground training and recruiting programmers for a utilities payment pilot in Ethiopia next year - and then we'll be looking to roll out projects in more sectors and countries in this massive continent.

John O'Connor is IOHK's Director of African Operations. Keep up with our crypto innovations at www.iohk.io/blog

Crypto A.M. shines its Spotlight on Zero Carbon Project

Thiswick-based Zero Carbon Project is tackling climate change by rewarding consumers for switching to zero carbon energy. They have designed a clever market based economic solution to the climate change problem using Ethereum blockchain and smart contracts. Climate change scientists are concerned that human civilisation may pass the point of no return if no material action is taken within 11 years. The last UN Panel on Climate Change reported their risk assessments in their 2018 Special Report.

Governments around the world have responded to the climate change threat with a centralised regulatory solution, which has relied on taxing, subsidising and passing through charges on electricity bills. However, this hasn't had the required impact, as most people are still unable to afford the price premium involved in switching to more expensive renewables.

Zero Carbon Project CEO, Derek Myers,

believes that there is a more effective solution to this penal regulatory solution, which uses the idea of rewarding people for switching to zero carbon energy. Rewarding contributors as part of a climate change solution is a new, unique and novel approach which hasn't been tried before due to the difficulty of funding rewards while reducing energy costs.

Derek claims that Zero Carbon Project's competitive online auction can deliver cost savings for switching consumers to

Climate change scientists are concerned that human civilisation may pass the point of no return.



zero carbon energy. Their Zero Carbon Market supports a full range of zero carbon energy sources with different prices, allowing the consumer to choose. Options include their greenest 'Green Moments' electricity, standard UK renewables, a range of 'carbon neutral' carbon offsets

and nuclear electricity for those concerned about climate change but less concerned about nuclear waste or risks.

In addition, the Zero Carbon Project rewards consumers with a stake in the upside potential of the Project, using a Zero Carbon Coin token. As with equity,

the value of the utility tokens increases in line with customer numbers. However, compared to equity, utility tokens are more efficient and effective when dealing with small reward volumes, many customers and across jurisdictions.

The Zero Carbon Coins are utility tokens because they are used by 32 energy suppliers that participate in the Zero Carbon Market. These energy suppliers need to buy these utility tokens in order to pay transaction fees for winning customers. Energy suppliers are willing to pay these fees to avoid higher sales and marketing costs to acquire customers.

Energy suppliers buy the Zero Carbon Coin tokens on a secondary market called IDEX which is a decentralized crypto exchange. These tokens can then be paid directly into one of the smart contracts that form our token economy.

The supply side of the Zero Carbon token economy is sourced by consumers that have earned rewards by switching to zero carbon energy across our Market. This limited and constrained supply creates a market equilibrium tension which may support a rising Zero Carbon Coin token price. A rising price may be required to attract more consumers to switch to zero carbon energy. And so on, to create a virtuous circle solving climate change.

For further information visit <https://www.zerocarbonproject.com/>



BLOCKCHAIN CLAIMS

Troy Norcross, Co-Founder Blockchain Rookies

Today, companies can claim a lot of things. They can claim that their coffee comes from organic beans and that their farmers do not use child labour. People can claim that they are certified to practice medicine or accounting. Governments can claim that they are spending according to their agreed budgets. But there is a problem. People don't trust as much as they used to.

Over the past decade, there has been an erosion in trust in business, governments and the media. So how can blockchain help?

Blockchain provides an immutable (tamper-proof) record which is transparent and accessible within a network. Anyone who is a member of

the network can submit claims which can then be validated or verified. A validated claim is then written to the network so that anyone who wants to can check it. A check might include a regular consumer wanting to check the ethical manufacturing of goods, or it might be a government auditor verifying that products were properly manufactured or if import duty had been paid.

But what if someone makes a false claim - or if a claim is wrongly verified? Unlike with traditional paper, or even digital records, with blockchain, the entire history of a claim is visible and traceable. With blockchain, every entry is signed and recorded such that during an audit, bad actors can be discovered.

Transparency helps to build trust.

Yes, erroneous claims written into the blockchain can later be invalidated. You can't go back and delete them, but you can make a new entry updating the claim as invalid, expired or revised.

With multiple parties keeping a copy of the information in a blockchain, there are numerous points of accountability. With the technical structure of blockchain, the data is tamper-proof. All of this makes blockchain a safe space to make claims and create trust.

Get in touch with us: info@blockchainrookies.com / [Twitter @getblockchain](https://twitter.com/getblockchain)



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