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MARCH 2019 | ISSUE 02

Blockchain explained

WHAT IT IS. WHY IT MATTERS.
THE CURRENT AND FUTURE STATE OF
THE EMERGING TECHNOLOGY.





WELCOME

Blockchain Australia is a publication produced by ADBITmedia and Lakeba to help educate and inspire the market about Blockchain technology developments and their relevance for Australian and global businesses. In the coming editions we will explore the ecosystem that can surround Blockchain like ICO's cryptocurrencies and coins.

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Blockchain Australia has one agenda, to become the central point of media, news and content for Blockchain and Blockchain related developments and events from Australia and around the world.

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Blockchain AS A TRANSFORMATIONAL CHANGE AGENT

DISTRIBUTED LEDGERS AND THEIR
IMPACT ON POLITICS AND BUSINESS.

Matthew Overington

Blockchain technology and its myriad applications enable businesses to do things that have never been done before. The technology enables two parties to establish trust independent of a central body. While previously individuals placed trust in institutions, the underlying technology of blockchain enables the anonymous disintermediation of trust that provides a platform for innovation.

"When you look at any industry in the business sphere, you will find there are aspects that, across any of those, are substantially important: trust, transparency, and the credibility of a business or a vertical itself," says Giuseppe Porcelli, Founder and CEO of the Lakeba Group.

"If we look, for example, at the financial services industry, it's immediately obvious that consumers and businesses are providing significant trust to a single entity. That single entity is today called a bank. At the end of the day, any bank systems have been constructed by humans, so it's possible for people to either deliberately or accidentally compromise the transparency of transactions," he continues.

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If you make information available in the public domain, it's impossible for anyone to make a decision to change it.



BLOCKCHAIN FOR POLITICAL TRANSPARENCY

Porcelli suggests that one application of blockchain is to ensure transparency and confidence in political decision-making.

“Any time that Australians – or indeed most constituents around the world – are called to vote in an election, ballots are collected on paper and placed in a box. The paper is subsequently removed from the box and tallied, but we have no transparency over who opens the box and records the votes.”

There's inherent trust in the political system currently, but it's misplaced, claims Porcelli.

“Voters put their trust – and in doing so the future of their kids – into the hands of an individual who should be acting with absolute integrity. However, there's insufficient oversight to ensure mistakes cannot be made with their vote-counting.”

Philosophically, society is built upon and should function on an underlying foundation of trust and transparency, suggests Porcelli. “Trust and the promise of transparency ensures we can all keep each other accountable, which ensures fairness and equality. “At Lakeba we believe the higher-level capabilities of technology that can solve very deep issues, by helping ensure trust is issued, decentralised, transparent and auditable. And Blockchain in its current form and the way it intended to function is exactly that.”

For Porcelli, the focus is not just on the decentralisation of trust, but more importantly, the immutability of

information. He considers a critical part of blockchain technology the fact that an item cannot be imitated or passed off as something it's not. “If my vote is for one thing, it's vital no one can change it,” he says. “If you make information available in the public domain, it's impossible for anyone to make a decision to change it. It's like open-sourcing trust. If trust is open-sourced, and the flow of true and false comments can be checked, reviewed, and validated by the global community, there's no chance for people to corrupt the system.”

Of the myriad benefits blockchain technology offers, the greatest impact that Porcelli sees is fundamentally around transparency, which will in turn lead to new opportunities, industries and ways of doing business. Continuing on his thoughts around the importance of open elections, he says, “Imagine in an open democracy, if people are unable to physically travel to a polling booth on the day of an election. They could be ill, or have a parent, spouse, child or friend they can't leave alone. This could render them unable to attend a polling station. If they were able to vote through a secure mobile app with a layer of transparency provided by blockchain, it'd be life-changing for a great many people.”

This is just a single example of the power of a distributed ledger, but Porcelli views the bigger picture and sees blockchain a transformative force for democratisation. “Power and leadership have traditionally been held via control. Control of government, of people, of resources, of institutions and of land. In political spheres,

Giuseppe Porcelli



Cryptocurrency was the first – and most hyped – use case for blockchain technology, but it’s the tip of the iceberg. From changing the way people think about property ownership, facilitating smart contracts that ensure open, honest and secure transactions between parties, to revolutionising a great many industries, the potential applications are manifest”

this is measured in the votes of people. In finance, it’s measured in the number of dollars, Euros or pounds in our accounts. In sporting or social media arenas, it’s the number of followers we have,” he explains. “Your enemy will be the person that yesterday had more followers, dollars, or votes than you – he had more leadership.” Blockchain flips that model on its head as it’s possible to “own” a small portion of anything, and in doing so ensures transparency and equality.

Porcelli is quick to point out that his philosophical approach to the empowerment and transparency inherent in the blockchain model is not based on ideology. It’s grounded in an ability to understand not only the technical aspects of the technology as well as business applications.

“When speaking about blockchain technology, the explanation of the benefits of disintermediated trust is very similar. For example, if you are a representative of a business or government body, it’s critical that blockchain offers transparency.” The same is true across all interactions: “The inherent ability for people to manipulate either votes, ownership, financial records, logistical operations or any other business-critical operation is avoidable,” he explains. “On top of that, as a business, blockchain has the capability to provide your investors with transparency and the confidence to invest. If your investors trust that you will return not just their initial investment but also the profit, they will be more inclined to provide funds. Likewise, if a government chooses to provide its electors

with transparency, it builds confidence that it’s entitled to run the country, and will similarly secure votes. Fundamentally, what Blockchain does is covers gaps in transparency and puts everyone on a level playing field.”

BLOCKCHAIN FOR ECONOMIC SUCCESS

For Porcelli, information is critical to the success of any economy. He points to the Australian property market and its significant impact on the Australian GDP, highlighting that it’s a combination of banks, lenders, insurance companies, legal professionals, real-estate agencies, architects, conveyancers and a myriad of other professionals that keep the industry buoyant.

“In Australia, there is a big issue with the lending industry. Over the last five years, more than seven billion dollars have been lost in mortgage applications that were unfit to exist. This is because investors attempted to acquire their dream home using fake or false documentation. They were using various tools to fake documents and then providing them to banks, which went on to lend money; therefore, defrauding investors.”

Lakeba’s suggestion is to make documents transparently – but securely – available to detail the incomes and tax returns of Australians in a safe, secure and encrypted model. Blockchain technology would be able to secure and disintermediate the information, yet banks and mortgage providers would be able to access it via a public ledger to ensure no investor is capable of securing loans if they’re not in the financial position to do so.

Today, the only opportunity that banks have to validate a customer’s pay slip is cross data or giving a call to the employer, asking if this person is one of the employees on their payroll. This is not sufficient and open to human error and fraud. Lakeba’s BAF solution, developed on the blockchain, offers the potential to improve the validation process. The solution for the financial industry is timely given the recently completed report by the Hayne Royal Commission for the banking industry.

BAF focuses amongst other use cases on the real time verification of specific financial documents, such as pay slips or tax returns, via banks. The solution focuses on the right documents being issued by the right source and with the numbers presented by the borrower. This single ledger, decentralised way of capturing information offers significant benefits and is a powerfully transparent way of delivering the much-needed single source of truth.

A major pilot in one of Australia’s leading banks has been completed with BAF, which saw the bank use 100,000 existing pay slips and more than 1000 historical car and home loans, with 100% of validation proved.

All told, Porcelli sees tremendous opportunity in the capacity of blockchain to change the way the world operates and thinks about trust and ownership.

“Cryptocurrency was the first – and most hyped – use case for blockchain technology, but it’s the tip of the iceberg. From changing the way people think about property ownership, facilitating smart contracts that ensure open, honest and secure transactions between parties, to revolutionising a great many industries, the potential applications are manifest,” he concludes.

Betting ON BLOCKCHAIN

HOW BLOCKCHAIN IS CHANGING SPORT
Editorial Contribution

How and why blockchain technology has positioned a Sydney start up into becoming a global powerhouse

Those with little more than just a passing interest in blockchain may not know it yet, but open-ledger technology is poised to penetrate nearly every industry imaginable.

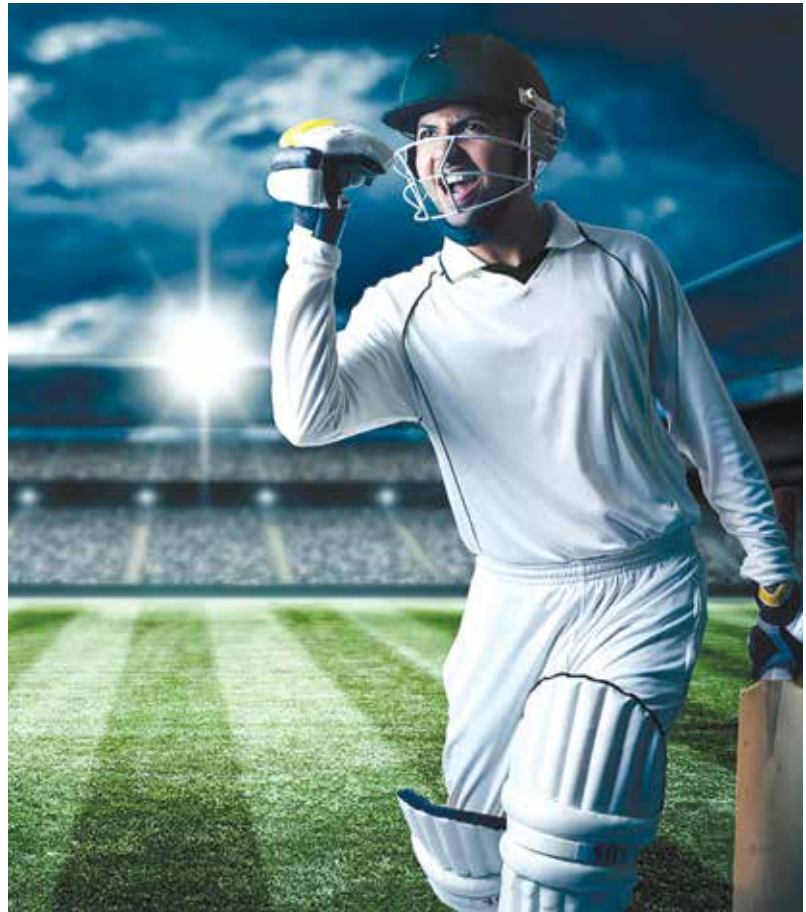
In 2020 it wouldn't be unfair to forecast the sum of your car will be viewable on the blockchain, with the history of each part available to trace. Punters online will connect, compete and collect without the need for a bank or 'trusted third party', and immigration queues will be processed in the blink of an eye. Imagine tokenising part of the equity on your home without the need for banks, lawyers, or accountants.

The PlayChip Foundation is one of the country's early adopters of the blockchain and recently integrated gaming token PlayChip into its fantasy sports platform. The company plans to integrate the token, and its backend dubbed the PlayChain, into at least three more of its wagering platforms within its online gaming ecosystem, boasting over a million users, by the end of 2019.

The PlayChip Foundation are amongst the few Australian companies to conclude a successful crowd sale. Over 250,000 platform users now hold PlayChips, with the token now listed on four international cryptocurrency exchanges. The Foundation is now engaging with credible gaming platforms in which to integrate their token, granting greater utility to the token and its thousands of KYC and AML verified users.

PlayChip believe that the impact of the blockchain on online gaming has the potential to mirror the rise of the internet era. Online gaming was one of the first industries to embrace the global connectivity and instant rewards the introduction of the internet provided. Online gaming is believed to have helped make the internet more accessible by providing a familiar medium to people otherwise unfamiliar with the technology. Looking at how it is used today, it's not difficult to make a similar comparison with what can be introduced by the blockchain.

The new PlayChip integration grants users of the token a level of control and security over their funds that has rarely, if ever, been seen before in the strong wagering nation of Australia. Furthermore, the strict KYC/AML procedures implemented by the PlayChip Foundation,



which mirror the gaming verification requirements mandated by AUSTRAC, can be ratified by most overseas jurisdictions. This can give rise to a massive international gaming user base that would be the envy of most game companies.

The potential open-ledger technology can bring to such a business is near limitless. The longer-term goal of the PlayChip Foundation is to implement a gaming and wagering system that is administered, verified and transacted entirely upon blockchain technology. Given how the rate of technological adoption in the current day becomes exponentially more rapid with each generation, it is not difficult to envision an entirely immutable and transparent gaming ecosystem in the coming years.

The inclusion of the blockchain in online gaming appears inevitable. They are two industries aligned in their growth forecasts. Online gambling revenues accounted for over US\$55 billion in 2018, while the cryptocurrency market cap is tipped to hit \$1 trillion in 2020. The US Supreme Court overturned the controversial PASPA bill last year, allowing US states to set up legislation to regulate sports betting in one of the biggest sporting markets on the globe.

While the road to adoption may not always be smooth, the efficacy of the technology most certainly is. For projects like PlayChip, betting on the future of blockchain is no punt, it's a game.

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The potential open-ledger technology can bring to such a business is near limitless.



Women ON THE BLOCK

THE REVOLUTION OF BLOCKCHAIN GIVING
RISE TO WOMEN IN TECHNOLOGY

Editorial Contribution

Blockchain technology is revolutionising almost all industries, from supply-chain, to banking, to fundraising and property development and ownership. However one area where its impact is perhaps most evident is in the IT industry, where it has the potential to shift its trusted and permissioned approach to data verification and storage to a disintermediated model.

Priyanka Ashraf, ConsenSys Community Lead for Australia says, “If we think about blockchain as a technology that was designed to create efficiency gains and value, what’s really been innovative about this approach against any other operational tech, it that it’s been very innovative with the journey of experimentation.”

“Blockchain pulls in cross-functional expertise beyond just tech, which is a very male-dominated area – even today – but also expertise from areas like legal, consulting, marketing, project management, and a very important one is actually user interface (UI) and user experience (UX).”

It’s the combination of both soft and hard skills that power the emerging technology that gives blockchain its greatest opportunities to disrupt. Hard skills like software development, cryptography and network management underpin the infrastructure, but softer skills around understanding and articulating its applications are equally important.

Blockchain technology has applications across many industries, ranging from property to finance and

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The applications for [blockchain] technology is developing rapidly and it’s important for businesses to understand the both the legal implications and disruptive capability of the space.

banking, conveyancing, legal, logistics and myriad others that makes understanding its value critical to driving its adoption.

In terms of building skills and networking, Ashraf is quick to point to what she considers “the start-up community” as being one of the most empowering aspects for women and people of minorities to help embrace blockchain. “Regular meet-ups are conducted in many Australian cities, where people are free to mingle, listen to presentations and get to know each other, combined with the lack of a legacy culture is enabling the blockchain community to forge its own culture,” she says. “As a society, we have a new technology. We have the opportunity to get diversity and inclusion right, as opposed to retrofitting it to align with our strategy and goals”

Karen Cohen, CEO of Blockconsulting Group, points to history to help explain the role women can play in developing and building out the development of blockchain technologies. “History and research has revealed that men are more likely to get involved in risky and unstable investments, as men tend to be more impatient than women, however women tend to be more cautious, careful and rigorous.”

She points to investment in the recently volatile cryptocurrency market as an example. “Last year female cryptocurrency buyers accounted for only eight percent of the total market,” she claims before continuing to suggest that, “the number of women in crypto will increase gradually when we will realise that it’s by creating diversity that we will lead to better problem-solving. It’s vital that to emphasise for new and aspiring female entrants into the emerging tech industry, blockchain is an entirely new technology.”

Cohen agrees with Ashraf by pointing out that, “universities are starting to offer blockchain courses and certificates, but a lot of free materials are already available online.”

“Rosa Thompson, co-founder of Women in Blockchain Melbourne and Venture Architect at ConsenSys talks about why the movement started, “walking into a meet-up can be daunting, for both men and

women, it’s like speaking a whole new language, which is why we created Women in Blockchain (WIB) meet-ups. A place for women to learn about the technology and not feel afraid to ask questions.”

Cohen states, “as blockchain is a relatively new technology, it is challenging for women to take the risk of learning a new skill that we don’t know much about yet. Blockchain start-ups create new opportunities for more traditional jobs such as finance, operations, and marketing. But in general, male founders currently represent 77 percent of Australian start-ups.”

“As Blockchain is one of the fastest growing emerging technologies, it is imperative to even the playing field for women. We must focus on including women advisors at all levels from the board level and across the entire organisation,” she closes.



BLOCKCHAIN GIVING RISE TO NEW legal ground

BLOCKCHAIN TECHNOLOGY TO HELP RESOLVE
THE SMALL CLAIMS DISPUTES

Matthew Overington

As blockchain goes on to power innovation in many industries, the legal system is ripe for change. While smart contracts have been in use for several years, ensuring parties are kept up-to-date with any contractual issues between stakeholders, its potential is being tapped in a number of ways.

Dragan Gasic, Founder and CEO of Judgeit, is a litigation lawyer with 20 years of experience, and has served as a barrister for eight and a half of those years. He says, “while I was practising at the Sydney Bar, I encountered people such as business owners, managers, and accountants who were having trouble negotiating the court system when representing themselves.”

He continues: “in the Small Claims Division of the NSW Local Court there is a limit on the amount of lawyer’s costs a person can recover. If someone owes you \$1000 or under, the amount of legal costs you can recover is currently fixed at \$589.60. If you’re owed money and you want to commence proceedings to recover a \$1000 debt, you will have to pay a current filing fee of \$202, if a company owes you the money, or \$101 if it is an individual. Then you need to find and pay someone to serve the court documents for you, knocking on doors and locating individuals or company directors. So you might part with as much as \$900 if not more to obtain judgement on your \$1000 outstanding debt.”

Gasic goes on to say that while the filing fees, some service fees and fixed legal costs are recoverable against a defendant eventually, people don’t want to engage with lawyers because of the costs, which in turn leads courts to receive and adjudicate on inadequately prepared documents that in his words, “clog up the system”. “The cost of engaging with a lawyer to navigate the system can easily overrun the owed money,” he continues.

In December of 2018, Attorney General Mark Speakman created a \$1 million Access to Justice Innovation Fund, designed to “encourage inventive ideas to increase access to justice for those who need it most.”

According to Gasic, across Australia, around 80 percent of claims filed in the NSW Local Court are small claims.

Currently about 90 percent of those are undefended, meaning a claim was filed, but no defence was recorded, and default judgment entered.

Gasic has built a system that automatically converts PDF invoices into statements of claim. “Other than being integrated with Xero, if you are owed some money, all you would need to do is drag and drop the relevant PDF invoices into the Judgeit platform, and for less than the cost of an average Sydney parking fine, Judgeit converts that data into a fully pleaded Statement of Claim., which a person can use in one of two ways: as a final demand, which is more likely to get the attention of the debtor because it’s a formal court document. Or secondly, to file the claim and commence legal proceedings to recover the debt”

Gasic sees enormous opportunity for blockchain technology to make a significant impact on the Australian justice system. “Blockchain could provide a platform for the courts to communicate with users. A good way to think of the model is that it’s akin to a smart contract between the court and the user. Every step of that relationship can be coded to self-resolve where there are difficulties and self-execute if certain conditions are not met; particularly where directions are not complied with or a compliance date has passed”.

“Together with Lakeba as our blockchain partner, Judgeit is looking at the challenges in resolution from a blockchain perspective, to provide a platform where small claims in undefended matters, and others, would be able to be determined online from end to end without the need for anyone going to court. One of the biggest issues currently for people seeking to recover debts at the lower end of scale are the filing fees, which arguably can be significantly reduced or eliminated totally by developing a platform built on blockchain that could be broadly adopted. Given that this is such a significant problem across the nation, it’s an area ripe for reform. I know the Department of Justice is also looking at making broader reforms into the future as well, which is a terrific thing,” he concluded.



Blockchain could provide a platform for the courts to deal with complaints and communicate with users.



Above: Michael Bacina; Partner, Piper Alderman

BLOCKCHAIN AND LEGAL compliance

DECENTRALISED TRUST HELPS STRENGTHEN COMPLIANCE

Matthew Overington

At its heart, blockchain's role as a decentralised transaction registration system where each of the parties involved have access to the same information at the same time offers transparency and aids the establishment of trust. This removes the need to delegate responsibility to intermediaries or implement complex reconciliation processes between groups.

Michael Bacina, a Partner at legal firm Piper Alderman based in Sydney, provides legal advice to businesses navigating the emerging blockchain and cryptocurrency sphere and sees clear benefits for organisations deploying the technology.

Smart contracts enable signatories to manage agreements in real-time. Blockchain, if deployed correctly has the capacity to prevent fraud and track contracts like never before, he explains. "Blockchain should probably be referred to as a trusted system where you trust the system itself".

Bacina points to commercially available blockchain solutions being able to help smaller businesses navigate compliance and risk and the emergence of smart contracts supported by blockchain as a driver for innovation.

"Smaller businesses are unlikely to see great levels of challenges around blockchain compliance because they're more inclined to rely on an out-of-the-box solution or platform built by another company with compliance baked in. Smaller businesses can therefore adopt more quickly in the short term, as they will engage with those ready-made platforms.

For example, there are a number sovereign ID projects which will provide a platform that a business can simply use, and in turn rely upon the compliance of that platform to meet their obligations. This is permitted as long as one of the parties is a reporting entity."

Bacina goes on to suggest that mid-sized and larger enterprises will need to have a greater understanding of the challenges and pitfalls of the legal implications of using blockchain, but also mentions that larger organisations are often equipped with legal resources to put towards navigating the space.

"If they're implementing something which is mission

critical or is going to become a significant part of their business – even if it's an outside piece of software – it's important to really understand how it's going to work and integrate with their business."

While adoption of blockchain technology has been eagerly anticipated and embraced, some businesses and lending institutions still treat it with a level of trepidation because of the complexity of the technology and legacy perceptions around the use of cryptocurrency.

"Impediments to adoption at the moment are twofold," explains Bacina. "One is around the difficulty of understanding the technology in circumstances where we don't have a lot of out-of-the-box solutions that are up and running. Secondly, the nature of early Bitcoin use was heavily skewed towards illicit markets. Though that use has dropped off to be an extraordinarily small percentage now, cryptocurrency still suffers to an extent from these outdated perceptions."

Bacina is quick to point out the adoption of blockchain technology by trusted companies including IBM is legitimising the space and helping ensure business decision makers are comfortable with implementation. "Technology like IBM Hyperledger enables things like more efficient supply chain management that can have a direct, visible and measurable impact on business operations. It helps to ensure businesses are comfortable as they are able to understand the legality of the product itself."

Increased blockchain adoption has the capacity to revolutionise contractual relationships across a wide range of industry sectors. One clear example is in the peer-to-peer power market, where agreements could be reached between two individuals or entities to sell electricity collected via solar panels or wind turbines. A 2017 paper published by PricewaterhouseCoopers in Germany indicates that 93 percent of senior executives in the space consider that blockchain holds the capacity to disrupt the power industry.

"The applications for [blockchain] technology is developing rapidly and it's important for businesses to understand the both the legal implications and disruptive capability of the space," closes Bacina.

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The applications for [blockchain] technology is developing rapidly and it's important for businesses to understand the both the legal implications and disruptive capability of the space.



Evolving the music game

BLOCK BY BLOCK

BUILDING THE HOLY GRAIL OF MUSIC TECHNOLOGY
Olivia Pirie-Griffiths

Starting up a technology business is no small feat. Going it alone is practically out of the question. Having a business partner is better, but, teaming up with other professionals and industry legends is surely the dream.

This is the case with Emanate, and Vampr: two Australian teams creating an innovative partnership between the Blockchain world and the music industry – one that will enliven the way musicians collaborate, produce and distribute their art for good.

Catching up in LA: Jimi Frew, co-founder of Emanate with Vampr's Josh Simons.

Vampr is a Melbourne-born, LA-based social network for musicians. It was named in Apple's app-of-the-year list in 2017, and now has over 500,000 registered artists and music industry professionals connecting every day.

Josh Simons and Baz Palmer have spent three years building the application and community, one that has piqued the interest of music industry giants along the way. Josh is the lead singer of LA-based band Buchanan, while Baz has played the guitar for Hunters and Collectors for over two decades. Both have experienced the roadblocks that stifle the music industry's ability to be the dynamic and expansive creative playground it could (and should) be.

With this knowledge and a drive to create a shift in

“This is a ruthless industry, where trust is diminished and it is fairly normal to be paid every six months, or maybe never. Getting paid in 6-seconds is nothing short of revolutionary

the industry, they now work to bring the vision of Vampr to fruition. An essential part of this vision involves Emanate.

Emanate is a decentralised monetisation platform – an interface for creative collaboration that allows for instant, secure transactions to take place all over the world.

“When we met Josh we knew straight away that this partnership was something we needed to build,” said Sean Gardner, co-founder of Blockchain Music and Emanate CEO. “I’ve never seen two products that fit so well together.”

Sean described how this partnership works: “A music producer could meet a vocalist on Vampr after a few seconds of swiping. They could agree to a simple digital contract in minutes using Emanate’s public blockchain, their work could be sealed in a new release and published to the Emanate platform within hours. As soon as fans start listening, those two artists get paid directly, every 6 seconds.”

This is a ruthless industry, where trust is diminished and it is fairly normal to be paid every six months, or maybe never. Getting paid in 6-seconds is nothing short of revolutionary.

Trent Shaw, Emanate’s Chief Operating Officer, explained that micro-transactions and a global currency are critical to this system, and that the EOSIO ecosystem is developing so fast that an artist will soon be able to earn their revenue, then immediately tap a smartphone to buy a coffee, or even pay rent. It won’t matter whether they are in New York or Nigeria, they’ll have the same access to this online industry and instant global currency.

Emanate is the first product to be released by Sydney’s Blockchain Music team, building what they call ‘technology for the future of music’. After receiving recognition when the EOS creators invited them to showcase the Emanate platform in London, they quickly but surely solidified their place in this global technology revolution.

“EOSIO is an ideal foundation for applications like Emanate”, says Serg Metelin, Head of Developer Relations at Block.one, “The fast transaction speed and scalability of EOSIO enable Emanate to create a platform where different parties in the music industry can share and contribute directly.”

The combined Vampr-Emanate team exude an excitement that only comes when you know you’re building something special. The two start-ups have signed a joint venture already, but I get the feeling there is more to come.

“We are on a mission,” says Jimi Frew, Emanate’s music industry insider. “While there’s no doubt that the network we are building is capable of handling millions of dollars worth of music industry revenue, this is about much more.”

After spending time with the Vampr-Emanate team, this approach is compelling. One that includes both detail and an overview – it’s a way of re-shaping the meaning of collaboration and community, and a way of innovating that is unlike anything the world, let alone music industry, has done before.

Both Emanate and Vampr are in the process of maturing their own products and growing audiences whilst raising capital through various channels.

Through all of this, the message is simple and clear; do what you love, be creative and get paid for your passion.



SO, YOU WANT TO BUY BITCOIN Where do you start?

Fred Schebesta

There is a growing trend for cryptocurrency and its uses, and it won't be long before it will be mainstream as more companies develop and integrate blockchain technology. In fact, in five years' time I forecast many super funds will offer to invest a portion of our super into crypto assets, financial planners will help us invest in crypto, companies will use tokens to allow the public to invest in their business, many of us will hold crypto in a digital or hard wallet of sorts, and we could be using crypto by tapping our debit card to pay for our morning coffee. Some of these things are already happening and wouldn't exist without blockchain technology.

Despite the market dropping significantly in value since the end of 2017, innovation and interest hasn't slowed in the space. But because it's still widely unknown, the number question I get asked is, "How do I buy it?"

Fortunately, it's quite simple and there are different options available to suit your needs.

1. CHOOSE YOUR CRYPTO

There are many factors to consider when entering the space, and nothing will beat a deeper fundamental understanding of the technology when speculating on any potential future value. With over 2,000 different coins or tokens to choose from, it could be wise to stay clear of anything outside the top several coins by market capitalisation. The space is chock full of hopes and dreams, with Bitcoin retaining a dominance greater than 50% of all value in the asset class. For a full list of coins check out CoinMarketCap or here's a deep dive into over 100 top coins (finder.com.au/cryptocurrency/altcoins).



Despite the market dropping significantly in value since the end of 2017, innovation and interest hasn't slowed in the space. But because it's still widely unknown, the number question I get asked is, 'How do I buy it?'

2. NEXT, CHOOSE A WALLET

Cryptocurrency wallets store and secure your balance. Think of them as software programs that enable you to send and receive cryptocurrency. It's important to understand that securing access to your wallet is critical to protecting your investment. If you're starting out, most exchanges offer this as a part of their service, however it's a good idea to consider buying a hardware wallet, a physical device which includes additional security and is widely the preferred method for storing any significant amount of value.

3. NOW YOU'RE READY TO BUY AND SELL

There are generally two types of exchange services to consider: a retail exchange and an OTC (over-the-counter) broker. The main difference between the two types is the amount of money you want to trade.

RETAIL EXCHANGES

Retail exchanges are generally used for smaller sized or everyday trades due to their limited liquidity. They are a very similar experience to buying stock where you log into a platform and set up an account. Transactions are generally instant but there are daily transaction limits, and these can vary between exchanges.

Not all exchanges offer all coins and there are also different levels of fees so make sure you compare. For instance, some exchanges show one price for each cryptocurrency, while others are more sophisticated and provide an order book, which is like a marketplace with lists of people buying and bidding on trades at different prices. In this instance, you're essentially using the exchange as the platform to buy or sell directly from someone else. If you were to buy a larger amount you may need to break it up into smaller trades with several people and this could mean the overall cost to make the trade is high, which is called slippage. This is when an OTC could be better value.

OVER-THE-COUNTER (OTC)

OTCs have access to much larger amounts of crypto because they either have partnerships with liquidity providers such as funds, mining companies, proprietary trading groups and similar, or they are one of these providers that offer OTC services themselves. There is no slippage when trading with OTCs because trades are agreed at a fixed total price.

Generally, OTCs cater to much larger trades than exchanges, for example, at HiveEx.com trades start at \$50,000. We use several liquidity providers and every time a customer requests a quote, we review the market offering and deliver the best value price to the client.

Once you take the time to understand the basics of cryptocurrency and blockchain technology, calculate the risk level that you're comfortable with and seek advice, the process to buy crypto is not as daunting as you might think. Like any new technology or innovation, it takes time to learn and adopt it into our lives and the good news is it will only get easier to take up and use.



WANT TO PAY FOR GROCERIES IN CRYPTO? NOW YOU CAN

THE 25YO BRINGING CRYPTO TO THE AUSTRALIAN MASSES

Jaryd Koenigsmann

Anyone should be able to buy a cup of coffee with cryptocurrency. That's the belief of myCryptoWallet founder Jaryd Koenigsmann. And he's just about to make it a reality.

At just 25, Koenigsmann has led the cryptocurrency wave in Australia after launching his cryptocurrency exchange in 2017. Now he's set his sights on the next evolution: making it easy to spend crypto in daily life.

Through the introduction of myCryptoWallet cryptocurrency debit cards, digital currencies can now be used anywhere in Australia that accepts EFTPOS. No different to a debit card from any major bank.

Koenigsmann, already a serial entrepreneur and runner up Melbourne Young Entrepreneur of the Year in 2018, sees this as another milestone for cryptocurrency adoption.

"Millions of people use cryptocurrency each day but it's almost entirely confined to online," Koenigsmann said.

"We want to take the next step to make cryptocurrency a bigger part of offline daily life. Whether it's a cup of coffee, groceries or new pair of jeans, it'll now be possible to pay for it in crypto with the myCryptoWallet debit card."

The debit cards are linked to a user's account on the myCryptoWallet exchange, which hold Bitcoin, Ethereum, Ripple, Litecoin and Power Ledger cryptocurrencies. Point of sale purchases in Australian dollars are simply converted based on cryptocurrency prices at the moment of sale.

The roll out of the new cards follows a recent move by myCryptoWallet to waive all trading fees, becoming the first zero-fee trading platform in Australia.

myCryptoWallet is giving away the first 3000 debit cards for free. For more information, visit mycryptowallet.com.au.



BLOCKCHAIN FOR SOCIAL JUSTICE ON A global scale

BLOCKCHAIN TECHNOLOGY SHRINKING THE WORLD, ENABLING GLOBAL FINANCE

Chris Perry

For young digital nomads stretching their wings on working holidays, or away from home on secondments, cryptocurrency and blockchain technology can work together to grant consumers greater power over their own finances.

In today's global economy, a blockchain-based transaction system enables individuals to send money across the world at a faster rate, devoid of intermediaries, and for a lower transaction fee than they would have if they had to rely on a typical fiat-based foreign exchange. This is a type of financial sovereignty that has never existed in human history, making ease of transacting remittances one key social impact of blockchain technology.

"If people switched to using cryptocurrency to transfer value, they could send money around the world in minutes at relatively little cost, which is something we could only dream about ten years ago," according to Quixxi Connect CEO and co-founder, Aatral Arasu.

Today, it's possible to transfer millions of dollars' worth



of cryptocurrency at a negligible fee; a feat unheard of via the use of traditional payment systems.

However, blockchain technology presents even more promise for social impact than just providing efficiencies in transmitting value across the internet. By reducing transactional friction and establishing trust between disparate entities, blockchain technology is already making profound, real world social impacts, especially for populations in turbulent, unstable countries throughout the developing world.

Blockchain has unique properties that can help address global problems that until recently were considered insurmountable due to technical limitations. While all the applications of distributed trust underpinned by strong cryptography and public ledgers are yet to be fully explored, some clear trends are emerging.

A blockchain can act as a disaster-proof decentralised database, or record keeper stored in multiple locations across the world, where a copy of records can be referenced anywhere people have downloaded that blockchain, not only stored in a single location that presents a single point of failure (for example, an institution responsible for maintaining records in a war zone could be destroyed, or a natural disaster like flooding or fire could destroy data stored on centralised servers). Blockchain represents a way to store data remotely and with integrity to solve issues like resiliency and persistency.

TRUST UNDERPINNING IDENTITY

One of the most challenging issues facing refugees and the agencies they interact with the world over is being able to establish identity. Often proper, government

backed credentials are required for individuals to access the most basic of services – ranging from opening a bank account to accessing food or accommodation from humanitarian agencies. The World Bank’s “Identification for Development” (ID4D) estimated that as of 2017, 1.1 billion people in the world exist without a formal identity. Currently this excludes them from being able to secure loans or financing to break the poverty cycle.

“Because the blockchain is immutable or largely incorruptible, identity on a globally backed blockchain could be trusted,” explains Arasu. “Blockchain start-ups the world over could finally enable the more than one billion unbanked to be financially included and access loans, start businesses and prosper.”

Current applications of the technology are manifest. For example, the World Food

Programme (WFP) in Jordan is today assisting refugees from Syria to shop by linking their shopping credits to personal biometric identification, all of which is stored on the WFP blockchain. This enables people to easily authenticate their identity via an iris scan and secure access to support quickly and easily.

One of the drivers for the use of blockchain-based technologies, particularly in areas experiencing volatility, is the prospect for financial integration.

While the nascent industry is gathering momentum, current blockchain technology is built on a strong foundation of research, incorporating advancements in cryptography from preceding decades.

“The user experience for cryptocurrency and blockchain is currently complex. Currently, sending money via a blockchain system is not user-friendly, but improving the user experience is another step forward to impacting the way we do commerce online in this new blockchain world,” continues Arasu.

“Projects like Sydney’s own Quixxi Connect email-based crypto payments system are driving the next wave of adoption by making it simple to send payments via email instead of relying on a complex cryptographic hash.”

In areas that rely on hyper-inflated fiat-based currencies, cryptocurrency can offer a more stable store of value, helping the economy to prosper.



Blockchain start-ups the world over could finally enable the more than one billion unbanked to be financially included and access loans, start businesses and prosper.



Banking ON THE BLOCKCHAIN

HOW DISTRIBUTED LEDGER TECHNOLOGY IS DRIVING INNOVATION AND COLLABORATION
Editorial Contribution

Cryptocurrency and media reports of its volatility over recent months could lead observers to believe the banking and finance sector would shy away from blockchain and distributed ledger technology. However, this assumption couldn't be further from the truth. While cryptocurrency is a single-use case for the tech, many banks and financial institutions keeping a close eye to the development of applications to capitalise on the emerging field.

In fact, the overwhelming majority of banks - nine out of ten - globally are exploring the use of blockchain technology according to a survey titled "How Blockchain Technology Can Revolutionize Banking" conducted by management consultancy, Accenture.

Sophie Gilder holds the position of Head of Experimentation for Blockchain, Embodied AI and Emerging Technology at the Commonwealth Bank (CBA)'s Innovation Labs, and has a wealth of experience in blockchain technology and its applications in the finance sector.

"CBA has a blockchain centre of excellence in our innovation lab that we set up three years ago," she explains. We recognised early on that blockchain was a technology that the bank needed to understand and assess; both in terms of opportunity and threat. We wanted to understand both sides of the equation, and to see where it could allow us to deliver or build better solutions than we could using existing or alternative technologies."

One of the most promising aspects of blockchain technology is its capacity to reduce friction and make it easier for parties to interact and engage with trust and transparency.

Gilder goes on to talk about the need to up-skill and collaborate in order to innovate effectively and rapidly. "With a very new technology, it's vital to build internal expertise in order to assess the offerings that are developed in the market. [CBA]'s way to build that expertise was to undertake experiments. There are a few areas we've been focusing on," she continues. "In the payment space

and also in the trading/supply chain space. There's also applications around digital identity and various other areas that can benefit from the use of blockchain technology, but those three areas we see as holding high potential for innovation and disruption."

As an example of one application came during an announcement made late in 2018, where the Commonwealth Bank, in conjunction with CSIRO's digital innovation arm, Data61, successfully trialled an app that could make blockchain-based programmable money come to fruition for National Disability Insurance Scheme (NDIS) payments. Participants and carers in the trial estimated that the use of the app could save them an average of three hours per week in processing time, potentially saving Australian taxpayers "hundreds of millions of dollars" annually.

Gilder is also quick to point out that the auditability of blockchain is another attractive element for business – and especially the financial sector that places a heavy emphasis on trust, saying, "the fact that there is that audit trail is extremely attractive." The majority of projects worked on by CBA have employed private permission or consortia permission blockchains, giving the participants control over who is able to access the data.

While blockchain or distributed ledger technology is clearly in its early days of adoption and testing, Gilder sees great potential for its future applications. She also points out that for businesses walking the path towards adoption, it's important to consider the design of legacy applications and the critical role they play in day-to-day business operations.

"The impact of this technology doesn't just extend to the external edges of a firm, but it also reaches within. Until these ledgers are accepted as the single source of truth – which I believe they will be in the future – you still need to make them backwards compatible as well as thinking about how they will enable future capabilities and business models," she concludes.

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One of the most promising aspects of blockchain technology is its capacity to reduce friction and make it easier for parties to interact and engage with trust and transparency.



BLOCKCHAIN FOR PROPERTY investment

NEW MODELS ARE EXPOSING
OPPORTUNITIES FOR ALL INVESTORS

Matthew Overington

While blockchain-based technology has long been hyped in finance and logistics arenas, one industry ripe for rejuvenation is property. Though the property market in Australia is currently cooling, blockchain-based businesses are providing a unique opportunity for investors to buy a slice of a physical piece of real estate.

“One of the main problems at the moment is around construction finances, where this technology can really make a difference to get projects up and running more quickly and with less friction. Traditionally, construction finance has been provided by banks and finance institutions. However, the way the market is at the moment, it's all getting tightened up; it's harder for developers to get construction funding. Even some developers that have funding are under pressure as well. As a result, the banks are tightening up, and lending less to the developers,” explains Darren Younger, Chief Growth Officer, Lakeba.

With fewer developers looking to fund an entire project and with less funds available, Younger explains that the market needs to open up to a larger number of investors.

“Thanks to blockchain technology, an investor has a greater range of options. It's no longer necessary to purchase a full apartment off the plan; I can buy small pieces of it. So it starts to open up the market. This means it's now

possible and easy to buy one thousand dollars' worth of property.” He continues, “there's significant opportunity as this rolls out, where the top-star investors may choose to invest in the majority of a property, while smaller, more inexperienced investors may choose to dip their toes in the water.”

Younger goes on to explain the difficulties in educating the market to understand the benefits – and the complexities – of the notion of tokenising a property and enabling investors to purchase a slice of a physical asset.

“It is complex, but working through all those complexities ends up being a really powerful solution and one that is worth going through,” says Younger. He points to Australia's high cost of housing as a driver for the technology, stating, “on the plus side, this system can help address housing affordability. Everyone can own – and benefit from – a small piece of a property. It's secure, it's managed and it's theirs. One of the things with the millennials and the generations coming up behind them, a massive shift is occurring in that they're all in a user economy, and not a buy-and-own economy.”

He pauses before continuing his thought, “if you think about owning a property, perhaps a renter wanted to move into a property and didn't initially want to own it... Other than getting a mortgage, the renter would have to pay weekly or monthly rent. It's not hard in most capital cities to pay in excess of two-thousand dollars rent per month. Without any tokens or shares in the property, the consumer would be liable for the two-thousand dollars per month. However, in a tokenised model, if the renter was able to buy ten percent of the tokens of the property, they'd only have to pay ninety percent of the rent.”

The conclusion is obvious: if investors were to gradually buy more and more tokens to the point where they own one-hundred percent of the tokens, they would ultimately purchase all the tokens for the property.

“This model fundamentally changes the way that housing affordability works, as it gives investors the ability to invest in small, bite-sized pieces of a property or development until such a time they can trade – via a distributed ledger – to increase their investment and ultimately secure total ownership,” Younger concludes.

“When these new models are deployed at some point in the future, we will see a lot of changes in the market and benefits to owning small real estate assets. By having access to smaller real estate assets, the fundamentals of growing an investment portfolio totally change.

Even though property fractionization has been around for a number of years, we have not seen the concept applied in this way as the technology and regulation have been the major hurdles. Once these barriers are addressed in time, we will see a very different world for buying and selling real estate which will open up many new opportunities and business models in Australia.”

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Thanks to blockchain technology, an investor has a greater range of options. It's no longer necessary to purchase a full apartment off the plan.

Delivering smart power THROUGH BLOCKCHAIN

SPOT ENERGY ENABLING ACCESS TO POWER BY ELIMINATING MIDDLEMAN

Matthew Overington

In today's connected world, the demand for energy is ever-growing. However the ability for households and businesses to equip their properties with wind turbines or solar panels and sell energy back to the grid is opening new opportunities and revenue streams for entrepreneurs as well as families. By utilising smart contracts and facilitating an open marketplace where individuals and businesses can buy and sell energy underpinned by blockchain technology, SpotEnergy is rewriting the energy market.

The company, while still in its infancy, positions itself as, "an all-encompassing blockchain energy solution that delivers a digital currency, underpinned by a global necessity", highlighting energy as a critical need for the development of societies. SpotEnergy employs blockchain technology to create a peer-to-peer shared economy where electricity can be bought and sold within local networks, so providers of excess energy can trade with those that need it in real time.

SpotEnergy sees tremendous opportunity for energy consumers – and providers – to benefit from blockchain technology to buy and sell energy. By decentralising the energy marketplace, CEO and founder Matthew Roberts says that fundamentally, "SpotEnergy exists as a trading platform – the SpotExchange – that employs blockchain technologies and smart contracts to enable real-time trading of electricity at prices determined both by provider and consumer."

The company lists its objective as to, "rapidly move the world towards a more sustainable model of distributed and renewable electricity derived from multiple sources rather than a few isolated [large-scale] providers."

Roberts is quick to point to the issues surrounding climate change as a key driver of the technology, stating, "SpotEnergy offers a solution to the unanswered challenges of climate change and rising energy costs. The platform has been designed to enable energy providers – either commercial or private – to offer energy back to the grid and cut out the existing middlemen. It creates the ability for those within the community to either buy or sell energy, thereby delivering a self-perpetuating and ethical energy ecosystem driven by financial incentives for consumers, producers and investors."

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Today, energy is as critical as food and water; education, communication, access to information – it's all delivered via systems that rely on energy.



The business acknowledges that currently the most inexpensive power is derived from non-renewable sources, but is on a mission to transfer consumers towards more environmentally-friendly solutions. It offers consumers the opportunity to select where their energy is sourced and has been designed from the ground up to help transition the relationship between consumers and suppliers of energy.

According to research conducted by SpotEnergy, mark-up on the wholesale cost of electricity can be up to 300 percent. By creating an ecosystem where buyers can connect directly to sellers – regardless of how that energy is generated – they could potentially deliver significant savings to the consumer.

"SpotEnergy can outsource all clearing and settlement and marketing functions to our proprietary blockchain. We estimate that savings to consumers can exceed 30 percent in many instances," says Roberts.

However, it's not just cost-savings in first-world countries that Roberts is focused on. He estimates that as many as one billion people are disadvantaged by not having adequate access to energy, which he puts on par with water as a modern-day necessity for living.

"Today, energy is as critical as food and water; education, communication, access to information – it's all delivered via systems that rely on energy. By utilising the blockchain to establish a marketplace and reduce the cost of energy, SpotEnergy can empower people to source inexpensive and sustainable energy," concludes Roberts.

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Aaron Monks
ADBITmedia – CEO & Founder

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LAKEBA GROUP DRIVING CHANGE

“ BLOCKCHAIN INNOVATION DEPENDS ON STRONG PARTNERSHIPS

With the combined strength of Lakeba’s blockchain innovation expertise, and the insights and knowledge of our partners such as Microsoft, IBM, Macquarie University, Piper Alderman, Grant Thornton, and others, Lakeba’s Future Hub is a proven 360-degree partner to any business, in any sector, wanting to explore, invest and benefit from the transformative power of blockchain technology.

Giuseppe Porcelli
Lakeba Group – CEO and Founder

WWW.LAKEBA.COM



