



Abstract

TwinToken is set to revolutionise the way blockchain technology and artificial intelligence (A.I.) disrupts, inter-alia, two key aspects of healthcare:

- 1) the pharmaceutical logistics value chain, and
- 2) the fragmented universal patient history record.

TwinToken envisages a healthcare ecosystem where these new-age technologies collaborate, through mobile applications, that translates the upload of a medical script into a seamless, efficient delivery of medicines to your home. A.I. means that scripts are authenticated and patient reaction to medication monitored, whilst blockchain technology writes to your patient history, and makes the repeat script process easier and more responsive. These technologies are also the key to unlocking a universal patient record system where medical history is accessed in a decentralised environment, with your permission, by any healthcare provider, from a single true data lake. This reduces time spent filling out a patient's medical history, and allows the healthcare provider a chance of a better, speedier diagnosis. And once the healthcare provider prescribes the right medication, the pharma-logistics cycle repeats itself once again.

Thus, the **TwinToken** ecosystem will consist of:

- a) Participants – investors who purchase TwinToken in the ICO phase. TwinTokens will be stored in an ethereum networked e-wallet, that in time will eventually be replaced by a unique TwinToken wallet with cold-storage facility,
- b) The token – users earn tokens through the use of the healthcare pharma application and through the successful upload of their medical history and visits to healthcare providers,
- c) Strategic vendors – pharma distribution agents and network-enabled healthcare providers that accept payment via, inter-alia, TwinTokens.
- d) Operating Company – owned and managed by the founders to govern the collection and distribution of ICO proceeds, and developing the TwinToken ecosystem through strategic vendor engagement, and the development of A.I. and blockchain technologies in pharma logistics and medical history applications.

TwinToken will function as an ERC-20 token standardised on the Ethereum blockchain, and will be complimented by a complete unique e-wallet solution.

TwinToken is denoted by the symbol **XTW**.

XTW's Initial Coin Offering (ICO) will launch in March 2018 as follows:

- 4 billion tokens: via ETH where 0.1ETH = 5,000 XTW in phase 1 (1-31 March) and 0.1 ETH = 4,000 XTW in phase 2 (1 April – 31 May).
- 1 billion tokens: for a cash consideration of US\$0,02 (2 US cents) per token.



The total number of **XTW** tokens held by participants will represent 50% of the total tokens issued with the balance split between Team and Advisory (20%), Strategic Partners (20%), and reserves (10%).

It is the intention to deploy ~50% of ICO proceeds to develop the blockchain protocols and A.I. applications necessary to make it universally available to both users, token holders and strategic vendors. The application framework for the roll-out of a blockchain- and A.I.-enhanced virtual pharmaceutical distribution platform has already been created. ~25% of ICO proceeds will go towards marketing and strategic vendor onboarding, whilst 10% will be allocated towards the running costs, regulatory, tax and compliance costs of the Operating Company. Finally, ~15% will be set aside as reserves.

TwinToken will be managed through exacting standards of governance with a full Board of Directors, Investment Committee, Ethics Committee, and will present annual audited financial statements and an annual report.

XTW is expected to list on an approved exchange on 15 June 2018.

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1. The disruptive nature of blockchain technology

1.1 What is blockchain?

The term “Blockchain” refers to a shared, immutable (permanent) record (or ledger) of transactions between all parties in a network. But what does this really mean?

It means that smart, tech-savvy people have finally created a technology that:

- a) Shares information: directly between authenticated parties, meaning that there is no control over this information by a central entity which effectively has removed intermediaries in an authenticated transaction.
- b) Creates an immutable (permanent) record: removing the disputable nature of a transaction, thereby once again, eliminating the need for a validation agent/intermediary in a transaction.

Often, the word “Bitcoin” is used interchangeably with “Blockchain.” These two are most certainly not the same thing. Bitcoin is a cryptocurrency, and was created as a means of facilitating peer-to-peer cash transactions without the need for authentication by a third-party intermediary (such as a bank). But Blockchain is the technology, the real “engine” as it were, that makes Bitcoin actually work. Bitcoin payments use blockchain technology, but blockchain can be used for other applications, including share transfers and different types of commercial contracts.

1.2 How does it disrupt the status quo?

Blockchain brings a number of benefits to commercial and private uses into the public domain:

a) Open Access coupled with anonymity

Blockchain creates an open network where anyone can add data/transactions to the network chain, and review the chain in its entirety. Records of who accesses the information and who changes it, is also monitored and perpetually stored so that this can be tracked in perpetuity. Yet, this immutable ledger is only accessible and information exchanged amongst people and entities who hold the common crypto keys that keeps the information secure.

b) Integrity preservation

Blockchains are difficult to hack, because they require several networks spread across the world to be hacked at the same time as opposed to a single (hackable) entry point like a centralised server. Data is encrypted and guarded against loss since it is constantly being distributed and verified to preserve its integrity. There is built-in redundancy as the ledger is replicated on servers across the world, with no single point of failure.

1.3 Why blockchain will disrupt healthcare?

The use of blockchain technology in the healthcare sector is still in its infancy, and is only starting to gain traction as more wide-spread use in other industries (such as financial services) starts to yield positive results.

Patient data management

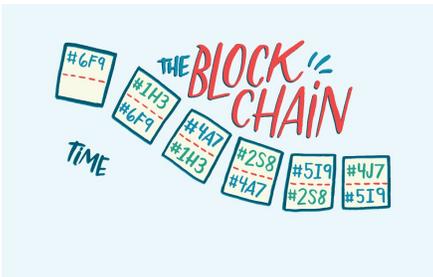
Booz Allen Hamilton in a recent research note identified the access to complete patient medical records as well as the sharing of such information among the medical community as a major challenge. Medical records are often kept in different locations, and there is no common database.

Blockchain can provide a structure for sharing data as well as ensuring its security. Here's how:



The healthcare providers collect information from the patient such as name, date of birth, procedures performed and prescriptions.

The data is stored in the organisation's existing databases or in the cloud.



A hash is created from each source of data and is written to the blockchain along with the patient's ID. Smart contracts are used to manage the patient's data access. Through an API, healthcare providers can query the blockchain that provides the location where the data can be found without revealing the patient's identity.

Drug supply chain integrity

In a recent research note, *Forbes* quoted an estimated annual loss of \$200 billion to the global pharmaceutical industry as a result of counterfeit drugs, with a staggering 30% of drugs sold in developing countries considered as fake.

It goes on to describe how a blockchain-based system could ensure:

- a log evidencing the chain of custody, tracking each step of the supply chain at the individual drug level,
- additional functionalities such as smart contracts which could build in proof of ownership of the drug source at any point in the supply chain as well as manage contracts between different parties.

Collaboration amongst clinic researchers across the globe

Forbes also estimated that ~50% of clinical trials do not get formally reported and that clinical investigators often do not share the results on such trials, thereby creating major issues such as patient safety issues, knowledge gaps for healthcare providers and policymakers.

It describes how a blockchain-based system could ensure:

- time-stamped immutable records of clinical trials,
- reducing the likelihood of adverse data outcome switching, data manipulation and selective reporting, and
- thereby reducing the incidence of fraud and error in clinical trial records.

Blockchain-based systems could help drive global collaboration between participants and researchers in the areas of medical research innovation, precision medicine and population health management.

Claims processing

It is estimated in the US, that ~5-10% of healthcare costs are fraudulent, resulting from excessive invoicing or billing for non-performed services.

Blockchain-based systems can:

- automate the claims and payment processing activities,
- and eliminate the need for intermediaries, reduce the administrative costs and time for medical providers to make payment to patients.

Adoption of global healthcare standards

Tierion, a US-based blockchain technology firm identified that anchoring patient data to a public blockchain could:

- verify the integrity of patient health data shared between organizations,
- create immutable audit trails for health care business processes,
- prove the integrity of data collected in clinical trials, and
- reduce the cost of audits and regulatory compliance.

In addition, they also raised the prospect of creating global standards for managing health care records, medical health and insurance claims, and patient data.

1.4 How Artificial Intelligence (A.I.) will take blockchain a step further

Once blockchain technology becomes more pervasive in creating decentralised immutable patient healthcare records, Artificial Intelligence (through machine e-learning) is likely to be able to perform simple health detect the effectiveness of pharmaceuticals in treating conditions, and promote preventative medicine.

Blockchain technology will ensure patient healthcare record security and enhance data integrity, and afford the patient data more control over who accesses their data and how it is shared.

A.I. then starts to take over by:

- running algorithms that can identify fraud or incorrect invoicing in the patient payment processes, and simplify the health insurance claims adjudication cycle.
- assisting healthcare providers to analyse big data pools that inherently contain more trustworthy and consolidated patient information than was previously possible,
- extract actionable insights from big data that is fundamentally more trustworthy than before.
- algorithms that classify and categorise patient risks, suggest basic diagnoses, or identify gaps in patient healthcare that may be more efficient

Frost & Sullivan, in a recent report, speaks about how blockchain and A.I. can collaborate to eradicate drug supply chain issues, enhance the outcome of clinical trials, and allow the integration of "Internet of Things (IoT)" data into the healthcare care environment. By 2025, it expects the healthcare industry to be integrated in both technologies, and deliver value add in the following areas:

- e-healthcare record analysis
- population health management
- clinical decision support
- treatment regime designing
- predictive care guidance
- medical image processing
- virtual personal assistants
- precision medicine
- hospital error reduction
- predictive patient behaviour modelling

2. Ethereum as the preferred blockchain

2.1 The pitfalls of Bitcoin

Whilst Bitcoin remains hyped as the most touted cryptocurrency and application of blockchain technology, 2017 showed up some major flaws in its practical application:

- Processing times increased to longer than ten minutes for authentication making payments cumbersome and impractical,
- Processing fees increased significantly, and
- Electricity usage to authenticate transactions spiked considerably, causing consternation amongst both users and governments as to the sustainable protocols behind Bitcoin's application.

2.2 The rise of smart contracts

2018 is likely to see the emergence and adoption of blockchain technologies that use smart contracts, like ethereum, that actually function as an application operating system, and promote decentralisation to enable e-commerce.

Most mainstream developers have adopted ethereum as their preferred method for blockchain innovation and most crypto-currencies have adopted the ERC-20 standard.

3. The role of TwinToken

3.1 In the pharma-logistics value chain

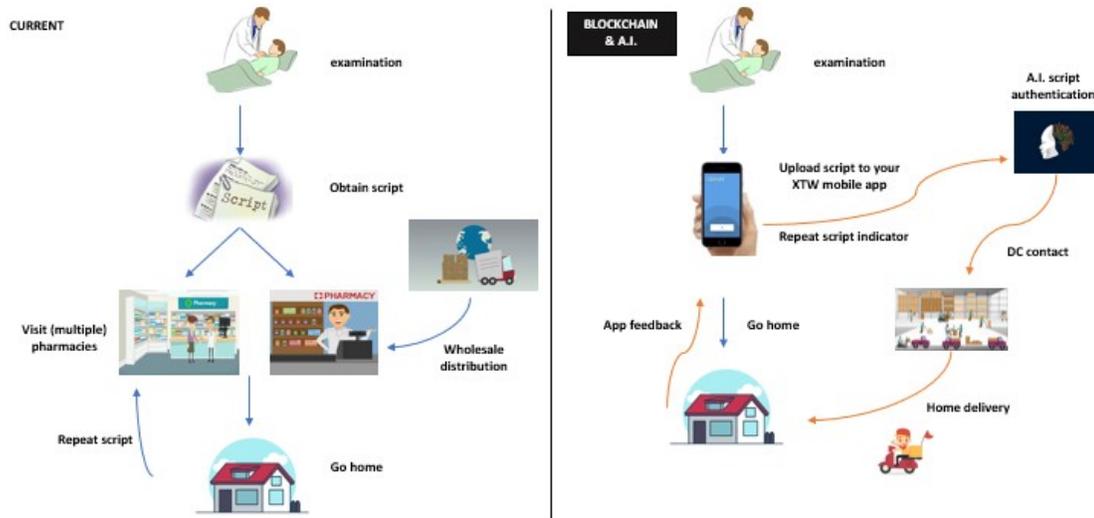


Figure 1: Blockchain and A.I. in disruption of the pharma-logistics value chain

In the **current** environment (Figure 1), a patient visits a medical health provider, obtains a script, and then physically goes to a pharmacy to procure meds. The pharmacy is in turn supplied by a wholesale distributor based on expected demand. The patient returns home amid frustration at the time-consuming wait at the pharmacy, a possible visit to multiple pharmacies, illegible or incorrectly filled scripts, and the inevitable traffic nightmare to multiple locations.

In the **Blockchain/A.I. environment**, the process will look fundamentally different:

- The patient will upload his/her script to a mobile application,
- Artificial intelligence then intervenes to validate the script by interpreting and analysing the script itself (handwriting and third-party authentication),
- Post-authentication, this despatches encrypted messages to the distribution centre (that act as a digital pharmaceutical outlets),
- Home delivery takes place to the patient without causing the inconvenience to the patient of the current process,
- In-app monitoring of patient's consumption then riggers further A.I. intervention and patient-learning algorithms that then pre-empt repeat ordering that kicks-start the virtual pharma-cycle again.

3.2 In patient history records

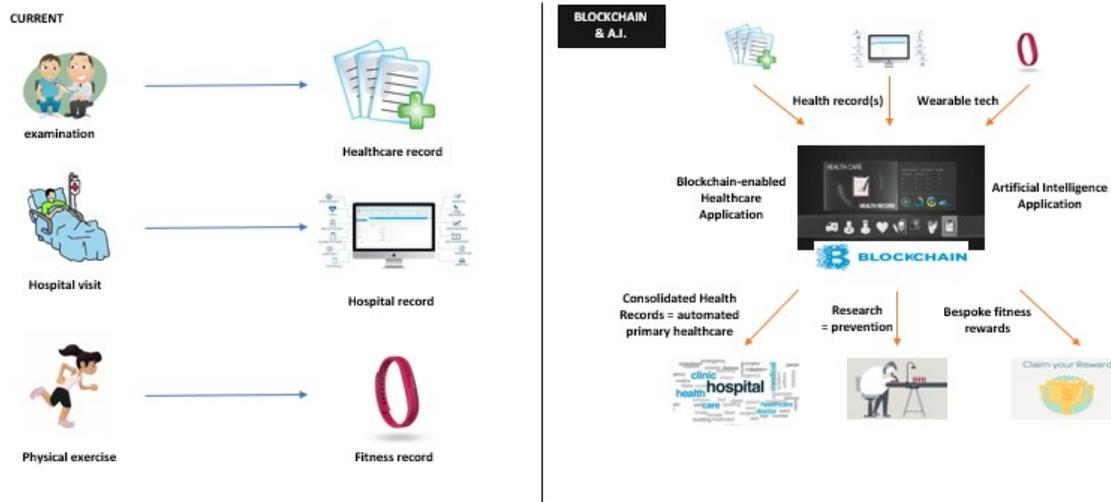


Figure 2: Blockchain and A.I. in disruption of fragmented healthcare records

In the **current** environment (Figure 2), a patient visits a medical health provider and generates health record, then visits a local hospital and generates another independent health record, and uses wearable tech which generates millions of bits of data about the patient in yet another health application record.

All these records are fragmented, not shared amongst any of the healthcare or vitality providers, and there is no common understanding of the wholistic healthcare status of the patient since there is no common accessible health record. How would an unconscious patient be treated in a medical room without knowledge of his/her medical history?

In the **Blockchain/A.I. environment**, the patient's entire healthcare biography now takes centre stage:

- All patient health data is pointed to a blockchain-enabled healthcare application that serves as a common distributed ledger, including data generated by healthcare devices such as wearable tech (Fitbit, Garmin etc.)
- Through the use of smart contracts, patients can enable access to any healthcare provider who then obtains a wholistic medical record of the patient,
- Artificial intelligence then makes use of data analysis tools to perform basic diagnosis, and raise symptom alerts, resulting in early intervention,
- Healthcare research is better able to respond to authentic data about population health stats, which medication shows better success rates than others, etc, and
- Medical insurance providers can better incentivise patients according to bespoke wellness rewards that targets specific health conditions, instead of a “one-size fits all” approach.

3.3 The practical application of TwinToken

The burgeoning growth in crypto-currencies is superseded only by the frantic appetite of the global public to cash-in on the next ICO. **TwinToken's** primary objective is to entrench itself into the blockchain/A.I. healthcare ecosystem as both a funding and a utility mechanism to (inevitably) function as a medium of exchange between patients and:

- Both private and public healthcare providers,
- Digital pharmaceutical distribution agents,
- Healthcare data collection agents,
- Fitness and other wearable tech vendors, etc.

3.4 The natural extension of TwinToken in Healthcare

As TwinToken becomes increasingly synonymous with various blockchain/A.I.-enabled applications, it invariably becomes a means in itself of funding:

- Medical research through its immutable healthcare data-lake,
- Clinical research and co-ordinating test results of the same drug in various jurisdictions across the globe, and
- Could form the basis for standardisation of healthcare protocols on a global scale.

3.5 The natural extension of TwinToken in other spheres

Whilst TwinToken may initially be cutting its teeth on healthcare applications, the TwinToken team has already identified how scalable and transferable blockchain and A.I. can collaborate in other areas such as:

- **Fintech** – the disintermediation of brokers, exchanges and legacy, paper-based intermediaries,
- **EduTech** – the authentication of online education programmes and degrees/diplomas to create a far better quality of student rather than mere “certification”,
- **Govtech** – tax records written to an immutable distributed ledger that eliminates fraudulent claims and speeds up refunds to vendors.

3.6 TwinToken governance

The TwinToken operating company is responsible for all aspects of rolling out the TwinToken blockchain/A.I. strategy, and will invoke certain minimum corporate governance principles lacking in modern-day ICO's, such as:

- A Board of Directors,
- A **TwinToken** annual report with audited financial statements,
- An ethics committee consisting of independent participants, and
- Strict limitations on the ability of Founders to exit their holdings.



4. The TwinToken Initial Coin Offering (ICO)

4.1 Twintoken ICO features

TwinToken is an ERC-20 token, standardised on the Ethereum blockchain, and is compatible with all applications that uses the same standard. **TwinToken** will be complimented by a complete e-wallet solution, and is denoted by the symbol "**XTW**".

Description	Detail
Symbol	XTW
Token standard	ERC-20
Hard cap:	10 billion tokens
ICO:	5 billion tokens
Founders/partners/reserve	5 billion tokens
Payout:	Purchased tokens will be released into investor wallets no later than 14 days post-closing date of each phase.

TwinToken will sell 5,000,000,000 (5 billion) XTW to participants through the ICO phase 1 and 2, which is 50% of the total supply of 10,000,000,000 (10 billion) XTW.

4.2 Twintoken ICO twin sale

The **TwinToken** ICO will launch on 1 March 2018 through a twin sale of 5,000,000,000 (5 billion) tokens:

- Sale of 4 billion tokens for Ethereum (Phase 1 and Phase 2)
- Sale of 1 billion tokens for fiat currency

4.2.1 TwinToken ethereum sale – Phase 1

Description	Detail
Hard cap:	4 billion tokens
Price:	0.1 ETH = 5,000 XTW
Opening date:	1 March 2018
Closing date:	30 March 2018
Minimum purchase:	5,000 XTW

- The ethereum token sale (Phase 1) runs from 1 March to 31 March 2018, and will allow participants to buy a minimum of 5,000 XTW for 0.1 ETH.



- There is no limit to the amount raised in Phase 1, and should all 4 billion tokens be sold before the closing date, the ICO will close automatically.

4.2.2 TwinToken ethereum sale – Phase 2

Description	Detail
Hard cap:	4 billion tokens less: tokens sold in Phase 1
Price:	0.1 ETH = 4,000 XTW
Opening date:	1 April 2018
Closing date:	31 May 2018
Minimum purchase:	4,000 XTW

- The ethereum token sale (Phase 2) runs from 1 April to 31 May 2018, and will allow participants to buy 4,000 XTW for 0.1 ETH.
- Should all 4 billion tokens (inclusive of those sold in Phase 1) be sold before the closing date, the ICO will close automatically.

4.2.2 TwinToken cash sale

Description	Detail
Hard cap:	1 billion tokens
Price:	US\$ 0.02 (2 US cent) per token
Opening date:	1 March 2018
Closing date:	31 May 2018
Minimum purchase:	\$100, i.e. 5,000 XTW

- A cash consideration sale will run from 1 March to 31 May 2018 and will allow participants to buy a minimum of \$100 of XTW at US\$ 0.02 (2 US cent) per token.
- The cash sale will run until 1 billion tokens have been sold, which may result in the ICO closing automatically should this happen prior to the closing date.

4.3 Subscription, payment and handover

- Subscription for XTW will be managed via the website – <http://twintoken.io/>.
- A pre-registration process will guide you through the application.
- Payment can be done either via:
 - Transfer from an existing ethereum wallet held by a recognised exchange, or
 - EFT or cash deposit into a designated bank account
- Handover of XTW will be managed via transfer into an Ethereum-networked wallet no later than 14 days post-closing date of each phase.
- XTW purchased will be unlocked prior to the listing.

4.4 Unsold tokens

Unsold tokens during the ICO phase will not be burned, but rather these will be returned to the Operating Company as reserve tokens.

4.5 XTW Listing

XTW will commence trading on a recognised exchange on 15 June 2018 or after registration and full trading and transfer functionality is achieved on a recognised exchange platform, whichever is the later.

4.6 Prohibition from participation

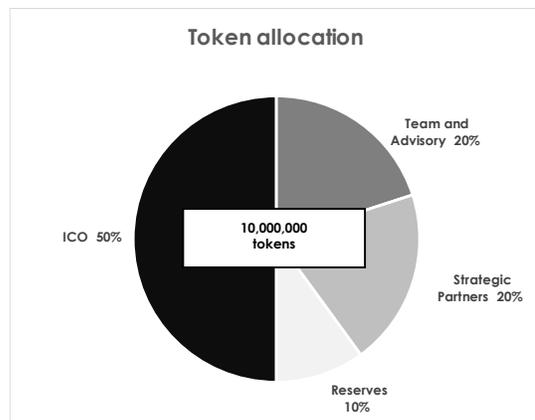
Any individual or organisation that is located in a jurisdiction where coin offerings have been outlawed will be prohibited from participating in the XTW ICO. It is incumbent upon any prospective purchaser to be aware of and comply with any laws or regulations governing your participation.

4.7 XTW allocation

It is the intention to build trust, transparency and greater governance within the XTW investor community by ensuring greater participation from all stakeholders.

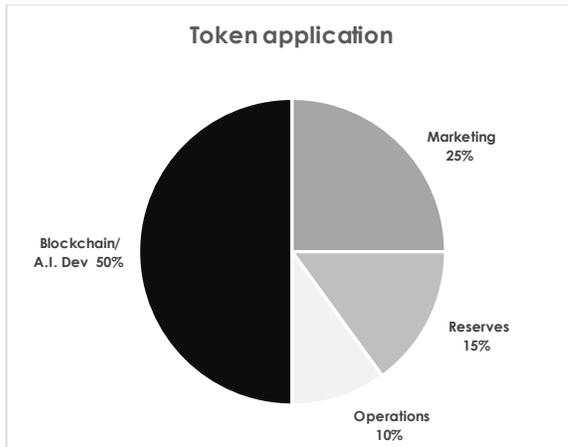
TwinToken recognises that there is a high demand for blockchain developers and A.I. specialists, and there will be a need to implement an incentive and retention policy.

Founders and advisors will subject to strict retention limits and lock-in periods.



- 50% (5 billion) XTW's will be made available to participants in the ICO phase 1 and 2.
- 20% (2 billion) XTW's will be held by the founding and advisory teams.
- 20% (2 billion) XTW's will be utilised amongst strategic vendors with the intent of gaining greater global acceptance for XTW as a medium of exchange currency.
- 10% (1 billion) XTW's will be held in company reserve.

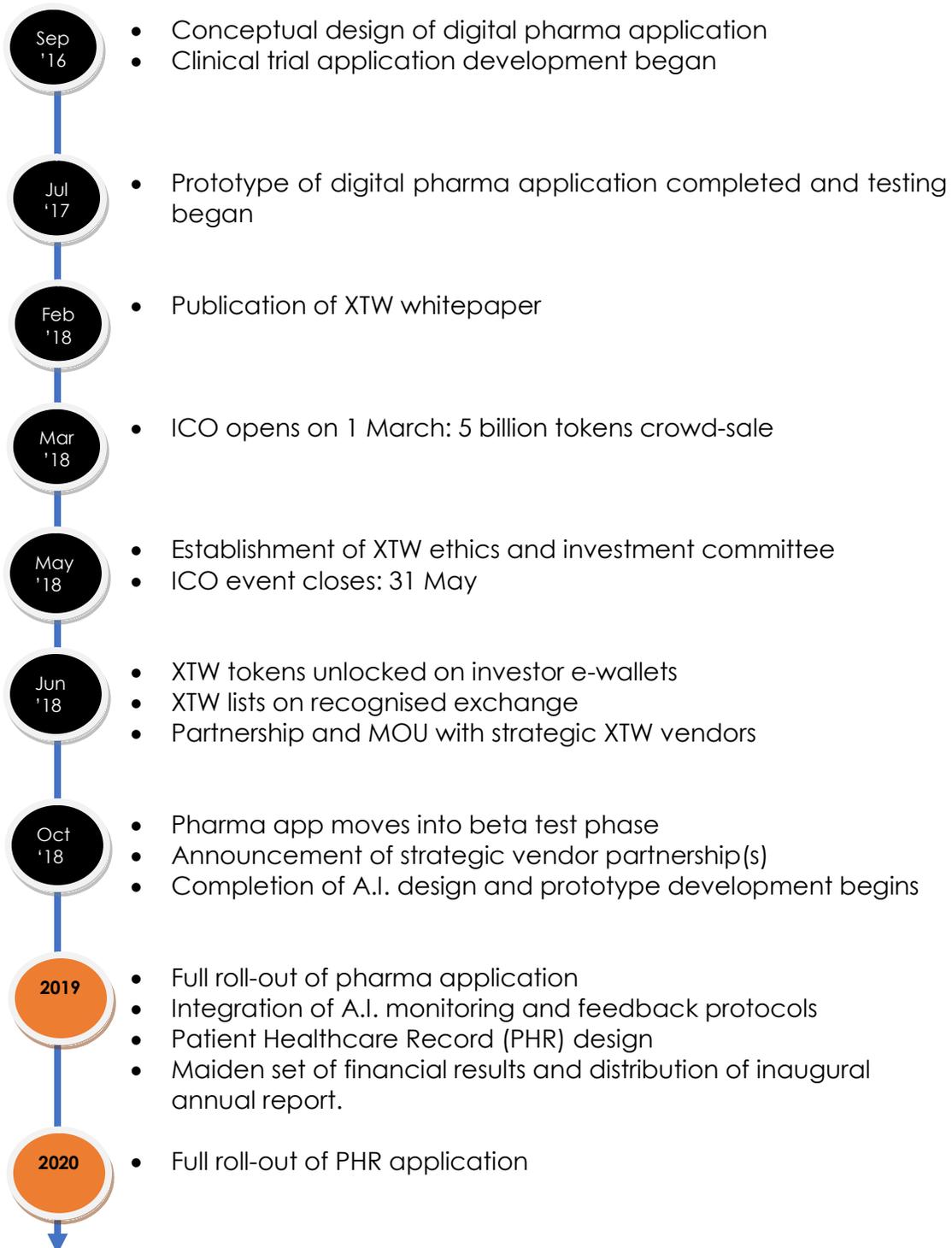
4.8 XTW application of proceeds



- ~50% of ICO proceeds will go towards further development blockchain and A.I. protocols to progress the current digital pharma prototype.
 - ~25% will be allocated towards marketing initiatives for early-stage acceptance of XTW into the ecosystem with strategic vendors.
-
- ~15% will be held as reserves for future research and development in other blockchain and A.I. applications as outlined in section 3.5.
 - ~10% will be used to fund the running costs, regulatory, tax and compliance costs of the Operating Company.

5. Roadmap

Below is the high-level overview of the Roadmap, Business Milestones and Deliverables that the **TwinToken** team has completed, and then outlined for the next three years, following the ICO.



6. Team

Zunaid Timm

Zunaid's career started in technology (Microsoft Server in Enterprise, Microsoft Core Technologies, Drupal content framework development, Drupal administration and content management, ITSM, Goldmine CRM Admin Networking, ISO 9000 Quality Systems and Auditing Principles) but quickly developed into an entrepreneurial flair in the form of several successful IT businesses focussing on B2B and B2C e-commerce, application and software business process development, apps for smartphones, exchange software, web design and related applications.

Zunaid founded **TwinToken** and is the brainchild behind the **TwinToken**, having successfully traded and understood the inner dimensions of the crypto-currency environment. Through the launch of the **TwinToken**, Zunaid wants to open a new world of opportunity for young technology and application-focussed entrepreneurs, and simplify the world of digital currencies to achieve its purpose of being a credible medium of exchange for transactions in the world of education and social upliftment.

Arif Ebrahim

BA (HONS), ACC, A.C.A., ICAEW (UK)

Arif has extensive knowledge in the property, investment, stock trading and global financial markets. Arif has held franchises of global brands through his 20-year involvement in the fuel industry. Arif has also held the Treasury position for numerous faith-based organisations and is heavily involved in educational and social upliftment projects throughout the globe.

Ebrahim Ally

B.Bus.Sc (HONS), SA (SA)

Ebrahim's experience in financial markets, global fund management, investment administration and financial market education has spanned the past 20 years. In his previous roles as CFO of a group of start-up technology, media and telecoms businesses, as well as his current role of CFO of a stock exchange, Ebrahim has a thorough understanding of the entrepreneurial nature of starting new businesses, financial discipline and asset management, financial reporting at the highest standards, and strong adherence to governance and ethics.

7. References

7.1 White paper references

- a) EBcoin, Feb 2018
- b) Farmatrust, Jan 2018
- c) Iris Ventures, Sep 2017
- d) LindaHealth, July 2017
- e) The Stellar Consensus protocol, Feb 2016

7.2 Web references

- a) Blockchain applications for Healthcare, Peter B. Nichol (Mar 2016)
<https://www.cio.com/article/3042603/innovation/blockchain-applications-for-healthcare.html>
- b) Does Blockchain have a place in Healthcare, Reenita Das (May 2017)
<https://www.forbes.com/sites/reenitadas/2017/05/08/does-blockchain-have-a-place-in-healthcare/#5c2c6d041c31>

7.3 Report references

- a) The H in Healthcare of 2025, Frost & Sullivan (Jan 2018)
- b) Unlocking critical Patient Data in Emergency Care, Booz Allen Hamilton (Mar 2017)
- c) Blockchain Healthcare 2016 Report – promises and Pitfalls, Tierion.com (Oct 2016)
- d) Blockchain – Opportunities for Healthcare, Deloitte.com (Aug 2016)

8. Legal and Disclaimer

8.1 Disclaimer of liability

To the maximum extent permitted by the applicable laws, regulations and rules, **TwinToken** shall not be liable for any consequential, indirect, special, incidental, or other losses of any kind, in tort, contract or otherwise (including but not limited to loss of revenue, income or profits, and loss of use or data), arising out of or in connection with any acceptance of or reliance on this Whitepaper or any part thereof by you.

8.2 Risks and uncertainties

Prospective purchasers of **TwinToken** (as referred to in this Whitepaper) should carefully consider and evaluate all risks and uncertainties associated with **TwinToken**, the Distributor and their respective businesses and operations, the initial coin offering (as referred to in the Whitepaper), all information set out in this Whitepaper and the T&Cs prior to any purchase of **TwinTokens**.

If any of such risks and uncertainties develops into actual events, the business, financial condition, results of operations and prospects of **TwinToken** could be materially and adversely affected. In such cases, you may lose all or part of the value of the **TwinToken**.

8.3 No representations and warranties

TwinToken does not make or purport to make, and hereby disclaims, any representation, warranty or undertaking in any form whatsoever to any entity or person, including any representation, warranty or undertaking in relation to the truth, accuracy and completeness of any of the information set out in this Whitepaper.

8.4 Terms used

To facilitate a better understanding of the **TwinToken** being offered for purchase by the Distributor, and the businesses and operations of **TwinToken**, certain technical terms and abbreviations, as well as, in certain instances, their descriptions, have been used in this Whitepaper. These descriptions and assigned meanings should not be treated as being definitive of their meanings and may not correspond to standard industry meanings or usage. Words importing the singular shall, where applicable, include the plural and vice versa and words importing the masculine gender shall, where applicable, include the feminine and neuter genders and vice versa. References to persons shall include corporations.

8.5 No further information or update

No person has been or is authorised to give any information or representation not contained in this Whitepaper in connection with **TwinToken**, and its respective businesses and operations, the **TwinToken**, (each as referred to in the Whitepaper) and, if given, such information or representation must not be relied upon as having been authorised by or on behalf of **TwinToken**. The **TwinToken** Initial Coin Offering (as referred to in the Whitepaper) shall not, under any circumstances, constitute a continuing representation or create any suggestion or implication that there has been no change, or development reasonably likely to involve a material change in the affairs, conditions and prospects of **TwinToken**, or in any statement of fact or information contained in this Whitepaper since the date hereof.

8.6 No offer of securities or registration

This Whitepaper does not constitute a prospectus or offer document of any sort and is not intended to constitute an offer of securities or a solicitation for investment in securities in any jurisdiction. No person is bound to enter into any contract or binding legal commitment and no cryptocurrency or other form of payment is to be accepted on the basis of this Whitepaper. Any agreement in relation to any sale and purchase of **TwinTokens** (as referred to in this Whitepaper) is to be governed by only the T&Cs of such agreement and no other document. In the event of any inconsistencies between the T&Cs and this Whitepaper, the former shall prevail.

You are not eligible to purchase any **TwinTokens** in the **TwinToken** Initial Coin Offering (as referred to in this Whitepaper) if you are a citizen, resident (tax or otherwise) or green card holder of the United States of America, a citizen or resident of the Republic of Singapore, citizen or resident of Republic of China or citizen or resident of South Korea. No regulatory authority has examined or approved of any of the information set out in this Whitepaper.

No such action has been or will be taken under the laws, regulatory requirements or rules of any jurisdiction. The publication, distribution or dissemination of this Whitepaper does not imply that the applicable laws, regulatory requirements or rules have been complied with.

8.7 No advice

No information in this Whitepaper should be considered to be business, legal, financial or tax advice regarding **TwinToken**, the Distributor, the **TwinToken**, the **TwinToken** Initial Coin Offering (each as referred to in the Whitepaper). You should consult your own legal, financial, tax or other professional adviser regarding **TwinToken** and its respective businesses and operations, the **TwinToken**, and the **TwinToken** Initial Coin Offering (each as referred to in the Whitepaper). You should be aware that you may be required to bear the financial risk of any purchase of **TwinTokens** for an indefinite period of time.

8.8 Representations and warranties by you

By accessing and/or accepting possession of any information in this Whitepaper or such part thereof (as the case may be), you represent and warrant to **TwinToken** as follows:

- you agree and acknowledge that the **TwinTokens** do not constitute securities in any form in any jurisdiction;
- you agree and acknowledge that no regulatory authority has examined or approved of the information set out in this Whitepaper, no action has been or will be taken under the laws, regulatory requirements or rules of any jurisdiction and the publication, distribution or dissemination of this Whitepaper to you does not imply that the applicable laws, regulatory requirements or rules have been complied with;
- you agree and acknowledge that this Whitepaper, the undertaking and/or the completion of the **TwinToken** Initial Coin Offering, or future trading of the **TwinTokens** on any cryptocurrency exchange, shall not be construed, interpreted or deemed by you as an indication of the merits of the Blockchain, the **TwinTokens**, the **TwinToken** Initial Coin Offering (each as referred to in this Whitepaper);
- the distribution or dissemination of this Whitepaper, any part thereof or any copy thereof, or acceptance of the same by you, is not prohibited or restricted by the applicable laws, regulations or rules in your jurisdiction, and where any restrictions in relation to possession are applicable, you have observed and complied with all such restrictions at your own expense and without liability to Blockchain;
- you agree and acknowledge that this Whitepaper does not constitute a prospectus or offer document of any sort and is not intended to constitute an offer of securities in any jurisdiction or a solicitation for investment in securities and you are not bound to enter into any contract or binding legal commitment and no cryptocurrency or other form of payment is to be accepted on the basis of this Whitepaper;
- you agree and acknowledge that in the case where you wish to purchase any **TwinTokens**, the **TwinTokens** are not to be construed, interpreted, classified or treated as:

- 1) any kind of currency other than cryptocurrency;
- 2) debentures, stocks or shares issued by any person or entity (Blockchain)
- 3) units in a business trust;
- 4) derivatives of units in a business trust;
- 5) units in a collective investment scheme;
- 6) rights, options or derivatives in respect of such debentures, stocks or shares;
- 7) rights under a contract for differences or under any other contract the purpose or pretended purpose of which is to secure a profit or avoid a loss;
- 8) any other security or class of securities.
- 9) you are fully aware of and understand that you are not eligible to purchase any **TwinTokens** if you are a citizen, resident (tax or otherwise) or green card holder of the United States of America, a citizen or resident of the Republic of Singapore, a citizen or resident of South Korea or a citizen or resident of China;
- 10) you have a basic degree of understanding of the operation, functionality, usage, storage, transmission mechanisms and other material characteristics of cryptocurrencies, Blockchain-based software systems, cryptocurrency wallets or other related token storage mechanisms, Blockchain technology and smart contract technology;
- 11) you are fully aware and understand that in the case where you wish to purchase any **TwinTokens**, there are risks associated with Blockchain and its respective business and operations, the **TwinTokens**, the **TwinToken** Initial Coin Offering (each as referred to in the Whitepaper);
- 12) you agree and acknowledge that Blockchain is not liable for any indirect, special, incidental, consequential or other losses of any kind, in tort, contract or otherwise (including but not limited to loss of revenue, income or profits, and loss of use or data), arising out of or in connection with any acceptance of or reliance on this Whitepaper or any part thereof by you;
- 13) all of the above representations and warranties are true, complete, accurate and non-misleading from the time of your access to and/or acceptance of possession this Whitepaper or such part thereof.

8.9 Restrictions on distribution and circulation

The distribution or dissemination of this Whitepaper or any part thereof may be prohibited or restricted by the laws, regulatory requirements and rules of any jurisdiction. In the case where any restriction applies, you are to inform yourself about, and to observe, any restrictions which are applicable to your possession of this Whitepaper or such part thereof (as the case may be) at your own expense and without liability to **TwinToken**. Persons to whom a copy of this Whitepaper has been distributed or disseminated, provided access to or who otherwise have the Whitepaper in their possession shall not circulate it to any other persons, reproduce or otherwise distribute this Whitepaper or any

information contained herein for any purpose whatsoever nor permit or cause the same to occur.

8.10 Cautionary note on forward-looking statements

All statements contained in this Whitepaper, statements made in press releases or in any place accessible by the public and oral statements that may be made by **TwinToken** or its respective directors, executive officers or employees acting on behalf of **TwinToken** (as the case may be), that are not statements of historical fact, constitute “forward-looking statements”. Some of these statements can be identified by forward-looking terms such as “aim”, “target”, “anticipate”, “believe”, “could”, “estimate”, “expect”, “if”, “intend”, “may”, “plan”, “possible”, “probable”, “project”, “should”, “would”, “will” or other similar terms.

Neither **TwinToken**, the Distributor nor any other person represents, warrants and/or undertakes that the actual future results, performance or achievements of **TwinToken** will be as discussed in those forward-looking statements. The actual results, performance or achievements of **TwinToken** may differ materially from those anticipated in these forward-looking statements. Nothing contained in this Whitepaper is or may be relied upon as a promise, representation or undertaking as to the future performance or policies of **TwinToken**. Further, **TwinToken** disclaims any responsibility to update any of those forward-looking statements or publicly announce any revisions to those forward-looking statements to reflect future developments, events or circumstances, even if new information becomes available or other events occur in the future. However, these terms are not the exclusive means of identifying forward-looking statements.

All statements regarding **TwinToken's** financial position, business strategies, plans and prospects and the future prospects of the industry which **TwinToken** is in are forward-looking statements. These forward-looking statements, including but not limited to statements as to **TwinToken's** revenue and profitability, prospects, future plans, other expected industry trends and other matters discussed in this Whitepaper regarding **TwinToken** are matters that are not historic facts, but only predictions. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual future results, performance or achievements of **TwinToken** to be materially different from any future results, performance or achievements expected, expressed or implied by such forward-looking statements.

These factors include, amongst others:

- a) changes in political, social, economic and stock or cryptocurrency market conditions, and the regulatory environment in the countries in which **TwinToken** conducts its respective businesses and operations;

- b) the risk that **TwinToken** may be unable to execute or implement their respective business strategies and future plans;
- c) changes in interest rates and exchange rates of fiat currencies and cryptocurrencies;
- d) changes in the anticipated growth strategies and expected internal growth of **TwinToken**;
- e) changes in the availability and fees payable to **TwinToken** in connection with their respective businesses and operations;
- f) changes in the availability and salaries of employees who are required by **TwinToken** to operate their respective businesses and operations;
- g) changes in preferences of customers of **TwinToken**;
- h) changes in competitive conditions under which **TwinToken** operate, and the ability of **TwinToken** to compete under such conditions;
- i) changes in the future capital needs of **TwinToken** and the availability of financing and capital to fund such needs;
- j) war or acts of international or domestic terrorism;
- k) occurrences of catastrophic events, natural disasters and acts of God that affect the businesses and/or operations of **TwinToken**;
- l) other factors beyond the control of **TwinToken**; and
- m) any risk and uncertainties associated with **TwinToken** and their businesses and operations, the **TwinTokens**, the **TwinToken** Initial Coin Offering (each as referred to in the Whitepaper). All forward-looking statements made by or attributable to **TwinToken** or persons acting on behalf of **TwinToken** are expressly qualified in their entirety by such factors. Given that risks and uncertainties that may cause the actual future results, performance or achievements of **TwinToken** to be materially different from that expected, expressed or implied by the forward-looking statements in this Whitepaper, undue reliance must not be placed on these statements. These forward-looking statements are applicable only as of the date of this Whitepaper.

8.11 Market/Industry information and no consent of other persons

This Whitepaper includes market and industry information and forecasts that have been obtained from internal surveys, reports and studies, where appropriate, as well as market research, publicly available information and industry publications. Such surveys, reports, studies, market research, publicly available information and publications generally state that the information that they contain has been obtained from sources believed to be reliable, but there can be no assurance as to the accuracy or completeness of such included information. Save for **TwinToken**, the Distributor and their respective directors, executive officers and employees, no person has provided his or her consent to the inclusion of his or her name and/ or other information attributed or perceived to be attributed to such person in connection therewith in this Whitepaper and no representation, warranty or undertaking is or purported to be provided as to the accuracy or completeness of such information by such person and such persons shall not be obliged to provide any updates on the same.



While **TwinToken** have taken reasonable actions to ensure that the information is extracted accurately and in its proper context, **TwinToken** have not conducted any independent review of the information extracted from third party sources, verified the accuracy or completeness of such information or ascertained the underlying economic assumptions relied upon therein. Consequently, neither **TwinToken**, the Distributor, nor their respective directors, executive officers and employees acting on their behalf makes any representation or warranty as to the accuracy or completeness of such information and shall not be obliged to provide any updates on the same.

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