



# Lotan Chain

W H I T E P A P E R

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# ABSTRACT

LotanChain is a new proficient blockchain network which uses an amalgam of Bitcoin core integrated with Ethereum Virtual Machine (VM). With decentralized consensus, this network implements the Proof-of-Stake algorithm to execute the smart contracts. It implements Account Abstraction Layer (AAL) to ensure the network runs effectively and efficiently in a scalable environment on Bitcoin Unspent Transaction Output (UTXO) based blockchain. It integrates the best features of the Bitcoin ecosystem with Ethereum VM to offer the developers only the best. This platform uses double SHA-256 with real time chekpointing has a function to protect the network from collisions which makes it a secure network. One of the major goals of this emerging platform is to encourage the developers to build applications within its DApp ecosystem using the Turing-complete programming language (DAPPs and smartcontracts developed on Ethereum can be ported over with ease). Another primary purpose of this network is to support and elevate the benefits of various industries ranging from government, banking, education, the internet of things to gaming and music. The potential of it vast.



## 1. INTRODUCTION

The blockchain came into the mainstream spotlight with the emergence of Bitcoin in 2008 when Satoshi Nakamoto released the first white paper about the technology. Though very little is known about Satoshi Nakamoto, the ripple effect which was created by the Bitcoin resulted in its rise from a white paper idea to the evolution of the technology. The second phase of blockchain evolution led to the development of Ethereum to cover up for the limitations of the Bitcoin. The evolution saw it becoming more than just a peer-to-peer electronic network, a pliable blockchain to perform various functions. With Ethereum development, the technology went from being merely a cryptocurrency to being a platform for developers to create decentralized applications just as well.

Despite the limitations of the ancestors of this technology, it is ever revolutionizing. Lotan Chain plans to establish itself among the leaders of the blockchain community with its extensive features, developed and supported by its committed team to enhance the usability and benefits of the blockchain technology beyond the cryptocurrency.

## 1.1. VISION

Our vision is to revolutionize this technology, to see it rise on the horizon to its fullest where the people and their businesses not only benefit but flourish from the use of it. To overcome the limitations of the technology and promote it among the masses, to make it accessible to everyone regardless of the geographic boundaries. We believe in innovation and evolution; through this platform we plan to encourage the developers to help the world embrace this revolutionary technology and to educate the people about it. For all of this to happen, Lotan Chain commits to provide its platform where the blockchain is made easy and accessible for everyone.

One of the major goals of this emerging platform is to encourage the developers to build applications within its DApp ecosystem using the Turing-complete programming language (DAPPs and smartcontracts developed on Ethereum can be ported over with ease). Another primary purpose of this network is to support and elevate the benefits of various industries ranging from government, banking, education, the internet of things to gaming and music. The potential of it vast.

## 1.2.BACKGROUND

Bitcoin overcame surfaced as an ingenious technology on the face of the Earth and sent the technology world into a frenzy. It was such a novel idea that it was regarded as something as big as the internet itself. Many other cryptocurrencies saw the potential and went on revolutionizing the technology beyond the mere coin. Ethereum, another big boy emerged with its exceptional features and changed the future of blockchain technology. The technology itself is in an infant stage right now despite numerous companies and organizations coming up with innovations to take it beyond. It still faces many challenges and limitations technically and socially.

The founder of LotanChain saw the potential in this technology and sought to contribute his futuristic ideas. He believes the future belongs to blockchain technology and it will revolutionize the world in a better way. His belief inspired the development of LotanChain because he believes in empowering and serving people.

The idea was to create a coin which will be more secure and provide more security and privacy the people. But there was more to it, he wanted to take it ahead of just being a coin and not just serve as payment. He envisioned to change the lives of people with it, to take the full advantage of blockchain technology which will elevate the businesses and aid them in everyday tasks. His arduous efforts led to the creation of LotanChain and a resonant community which shares his cause to serve the people and create ripple effects across the various industries.

# LOTAN CHAIN OVERVIEW

- 2.1. Introduction
- 2.2. Purpose of Lotan Chain Design
- 2.3. Lotan Design Principle

A formidable open source blockchain network for everyone which is easily accessible and easy to use. Lotan Chain is developed and supported by a committed team, who believes in uplifting the people in general. While developing the blockchain, the limitations met by other blockchains were considered which resulted in this establishment of this easily accessible and easy to use blockchain.

## 2.1. Introduction

Lotan Chain utilizes the best of Bitcoin and Ethereum, as it is a hybrid of both. It integrates the Bitcoin-based UTXO blockchain model with Ethereum VM. Lotan Chain gives carte blanche of creating meaningful decentralized applications within its DApps ecosystem with the implementation of decentralized consensus and smart contracts, which are executed by the Proof-of-Stake algorithm to maintain fairness in the selection of the next valid node. It focuses on providing the developers with the best experience of creating decentralized applications with Turing-complete programming language.

During its development, the compatibility with existing models and workflows of Bitcoin and Ethereum were carefully considered. Lotan Chain inherits the positive attributes of the other significant blockchain such as Qtum which also cropped the best features of Bitcoin and Ethereum while implementing the various custom modules. As a result, this platform aspires to provide the best experience for developers and the general public.

### 2.1. Introduction

#### 2.2. Purpose of Lotan Chain Design

#### 2.3. Lotan Design Principle

After the emergence of Bitcoin in 2008, a number of alternatives surfaced on the horizon and applied the capabilities of the blockchain technology. Notably, the Ethereum project surfaced as groundbreaking and evolved the blockchain with its implementation of smart contracts.

These projects sought to overcome the deficiencies faced by Bitcoin. Some relevant alternatives have emerged out as seeking the embrace of the advocates of the blockchain community and the world as a general for further overcome the limitations of Bitcoin and Ethereum. Some of these that are worth mentioning are NEO, the first open source and decentralized blockchain platform. IOTA, which emerged as a platform in the world of the Internet of Things which benefited from the fact of cryptocurrency having no transaction fee and swift unique verification processes. In addition to these, Ripple, Stellar, HyperLedger and Dash caused the ripple effect in this sector. Despite the emergence of these various alternatives, the technology is still facing numerous challenges in different dimensions technically and financially. These challenges are in the form of scalability, interoperability, sustainability, etc.

Lotan Chain adopted for Proof-of-Stake (PoS) instead of Proof-of-Work (PoW) as the smart contracts executed by PoS are relatively more business oriented. More specifically, Masternodes are used to maintain the integrity of the selection process of the nodes. With the implementation of Bitcoin UTOX model and Ethereum VM, Lotan Chain addressed and overcame the challenge of interoperability. Lotan Chain provides flexible decentralized consensus, real-time checkpoint computing with the implementation of AAL for effective working of the blockchain.

## 2.3. Lotan Design Principle

### 2.3.1. Compatibility Design

Lotan Chain is compatible with Bitcoin and Ethereum as it extends the attributes of both of these largely followed blockchain communities. It implements a Bitcoin-based UTXO model for consistently maintaining the integrity of the transactions and keeping the records of the tokens.

For the generation and execution of the smart contracts, it is vital to be compatible with Ethereum as it is the only tested VM which serves this purpose. Lotan Chain is developed to be compatible with it, allowing the smart contracts created on Ethereum to function properly on this platform as well. Its architecture leads to the existence of both Bitcoin and Ethereum simultaneously on its platform.

### **2.3.2. Module Design Approach**

A modular design approach can help developers better maintain the system. We have created the following modules:

- LotanChain Tech Module includes LotanChain VM, LotanChain Storage, LotanChain core, etc.
- LotanChain UI Module consists of LotanChain IDE, LotanChain Mobile, and Web, LotanChain Node.
- LotanChain Business Module: LotanChain Financial and Industry.

### **2.3.3. Security Principle**

Lotan Chain platform opted for highly secure and tested UTXO, which is a Bitcoin-based smart contracts model. It encourages the developers of the Bitcoin community to use our extensive range of tools.

Lotan Chain opted for Proof-of-Stake instead of PoW used by Bitcoin which includes mining, a process which involves computationally solving intensive mathematical problems in order to create new nodes and validation of transaction. The new consensus model of PoS picks the next node on the basis of wealth/stake saving the high computing and extensive power usage. It implements the Masternodes which is basically a service of PoS itself. The Masternodes are servers that host the full copies of Lotan Chain blockchains. They enable the services like InstantSend(instant transaction), PrivateSend and InstandSend(anonymity feature).

In return, Masternodes are paid by PoS in crypto coins for their service. For a smart contract, virtual machine supported by Lotan Chain is EVM which is the only tested VM in this regard.

Lotan Chain leads the way by implementing this protocol and plans to opt for an incentive mechanism and Atomic Swaps in the upcoming future. The platform has gone rigorous tests such as potential attack tests, coding and security auditing, P2P network performance testing and software functionality testing, etc.

#### **2.3.4. Usability Strategy**

To meet the varying needs of different end users, Lotan Chain will provide different forms of wallets. For basic user, the general wallet will suffice with no debugging feature while the experts and developers will be offered a version with debugging features. Like Bitcoin Core, the platform has the standard JSON-RPC based API service. The platform provides an integrated environment and the DApps developed on it can be accessed through the web browser such as Firefox or Chrome, etc.

Lotan Chain is built atop the UTXO model that uses PoS consensus model, which makes all the tools of Bitcoin compatible with this platform. It enhances the application of decentralization and traceability of tokens. Lotan Chain supports EVMS and provides an integrated environment for developers to work easily within the premises of both the Bitcoin ecosystem and Ethereum. This interoperability distinguishes Lotan Chain from the rest of the blockchain to emerge on the top globally.

# LOTANCHAIN ARCHITECTURE

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# UTXO Model

In the UTXO model, used by Bitcoin, every transaction takes UTXOs of previously done transactions and then uses them to generate new UTXOs. In this model, the changes in the UTXO set are represented by the transactions. The coin(s) are transferred by signing the hash/private key of the previous transaction with the public key of the recipient in order to unlock the UTXO of a Bitcoin.

It follows a mechanism where inputs and outputs are continually transferred, and the recipients own the outputs of the tokens which are then signed and transmitted to a new owner who can control the new outputs. In Bitcoin, the transactions are executed by the scripting language and the data is processed in stacks by a scripting system which resembles with LIFO (Last In; First Out).

The model follows some fundamental rules to maintain integrity and ensure secure transactions. It follows the PoW consensus model of Bitcoin which provides better scalability and security. However, the model finds its drawbacks when applied to complex Turing complete platform.

It allows Simple Payment Verification (SPV) on the network, the UTXO model enables the parallel processing across multiple addresses which enhances the scalability. The history of the transactions could be traced back through the public ledger which makes it completely transparent. Keeping in view, the innovative advantages it brings, LotanChain has implemented the UTXO model to implement smart contracts.

# Account Model

The much familiar of the two models is the account-based model implemented by Ethereum, it works in a way similar to the traditional banking world. The state of Ethereum is made up of “accounts” which are classified into two types; contract-code controlled accounts i.e. smart contracts and private key controlled user accounts.

Ethereum uses a Turing complete programming language and every account has its own storage, code-space, and balance. A transaction is valid if the account has enough balance to pay for it. Since the balance management in Ethereum is similar to the real banking world, the increment and decrement in the balance are demonstrated in a similar fashion. Every newly generated block can possibly affect the status of other accounts due to the fact that valid code when running successfully, can change the internal storage with new messages which might cause the changes in the balance of the other accounts.

In Ethereum, one output is produced by making only one reference and signature which in turn saves space. However, the tracking of internal transactions is complex over the public ledger because these transactions are performed using client remote procedure calls (client/rpc).

Even though the account-based model brings in familiarity, space saving, and simplicity but it falls behind in providing consistency and relatively simpler traceability of transactions. For this purpose, the UTXO model was preferred and chosen to implement smart contracts in LotanChain.

# Account Abstraction Layer (AAL)

LotanChain is a hybrid blockchain network which is designed on UTXO-based model and integrates EVM to implement smart contracts. This was made possible by implementing AAL. LotanChain opted for AAL to facilitate the developers. AAL provides the mechanism to convert UTXO to the account-based interface. So, the developers don't have to care about the transformation details of UTXO which are related to smart contract operations and can treat them as account-based Ethereum smart contracts.

## Consensus

In LotanChain, the distributed consensus is achieved by implementing the Proof-of-Stake (PoS) algorithm. The selection process in PoS is random just as PoW but instead of the selecting the next block on the process of mining, the creator of the next block is picked on the basis of wealth/stake. To keep it fair, LotanChain uses different selection methods such as Coin age-based selection and Delegated Proof-of-Stake. The Masternodes serve the purpose of a server with full copies and provide performance-enhancing functionalities. PoS was preferred over PoW due to the fact that the later consumes more electricity and waste more time due to intensive computations.

## 3.1. Introduction

LotanChain is designed on the Bitcoin UTXO-based contract model and integrated with Ethereum VM, it implements AAL to translate the unspent transaction output to account-based model interface with the features of EVM for development purposes. Consequently, it becomes compatible with Ethereum and can be treated in the same manner.

## 3.2. Masternodes

As the name suggests, the masternodes are different from the normal nodes in a sense that they host full copies or in simple terms, they are servers on a decentralized network. These nodes are capable of performing unique actions which normal nodes cannot. These different and unique functions can vary from one cryptocurrency to another but more or less, they are the same. The user masternodes in LotanChain are service of Proof-of-Stake, which host full copies of real-time Dash blockchain. Their implementation guarantees some special features such as InstantSend, PrivateSend, and InstantSend with anonymity feature. They increase the security of the transactions. They have entry barriers associated with them in order to maintain fairness. They are paid by PoS for their services.

### 3.3.Atomic Swaps

A revolutionary new technology which seeks to evolve the blockchain technology. The atomic swaps or atomic cross-chain trading is the exchange of one cryptocurrency for another, without the presence of a mediator/third-party. They are essentially a smart contract in which two involved parties can swap cryptocurrencies without the need of having a third party.

These peer-to-peer “swaps” can occur between two exclusive parties across blockchains of different cryptocurrencies. Atomic swaps are made possible by the use of Hash Time look Contracts (HTLC) which is essentially a time-bound smart contract in which the involved parties have to meet the deadline of the exchange by providing a cryptographic receipt of the payment. It ensures that both parties acknowledge the agreement and failure in meeting the deadline can make the entire transaction void.

Despite the several challenges still involved in it, such as not all cryptocurrencies allowing the atomic swaps, LotanChain plans to lead the revolution in this technology and thus provides the hot service of peer-to-peer exchange of cryptocurrencies in the absence of middleman.

### 3.4.DEx

The idea of taking out the third party and no longer relying on them is catching up. Since the Bitcoin emerged on the face of Earth, it was nothing short of a revelation. However, the third-party involvement to hold the customer's funds is still present in the shape of centralized exchanges. Though they provide advanced trading functionalities and are easy to use they are prone to hacking attempts.

There were incidents that led the community to derive an idea where the funds can be exchanged directly peer-to-peer without exposing the anonymity.

DEx - Decentralized Exchange surfaced as a relatively new idea to this challenge, a market where an exchange is “trustless” and doesn't rely on the third party involvement. This is in contrast to the Centralized Exchange where the funds are held by an exchange. This could be achieved by the creation of proxy tokens among many other solutions. There are various advantages associated with this approach, such as the anonymity is retained as there is no need to disclose the personal details. Another major advantage is the security of the funds, as there is no third party involved and the funds are basically owned and held by you in your own personal wallet.

LotanChain provides the users to have access to their funds all the time and plans to become the front runner of this innovative step.

### 3.5.Governance

Governance is the act of governing a state or an organization etc. Governance in any institution, be it public or private has been a complicated and fascinating topic. While the blockchain governance gives a clear idea about itself, but the technology as malleable as this with many moving parts, no matter how fascinating it needs a real sustainable governance mechanism.

Governance in blockchains have been categorized into two primary types;

## Off-Chain Governance

This category of governance resembles more with the traditional governing structures in which the decisional power is in the hands of the major stakeholders and the major contributors. The giants of the blockchain such as Bitcoin and Ethereum have opted for this form of governing structure. Bitcoin's sustainability for more than a decade speaks of its dedication towards gradual progress, all thanks to off-chain governance. While with Ethereum, The DAO incident changed it all.

Off-chain governance is democratic but in a sense which only considers the major players excluding the mainstream users making it somewhat centralized. The consensus in such a governing structure is achieved by the leaders of the blockchain. An update in the blockchain is called “fork” in the blockchain community. The blockchains opting for this structure come up with “hard forks”, a term used for drastic changes in the newer version which is incompatible with the older version. This structure provides users who are unhappy with the hard fork to develop their own system from the original protocol. The distribution of incentives in this structure is still questionable and often controversial.

## On-Chain Governance

A recent addition to the governance of blockchains, on-chain governance boasts of democracy through on-voting making itself. The consensus in this governing structure is achieved by direct voting through the protocol where even the mainstream users of the blockchain have a say. This makes it enhanced democratic structure with optimizations. The voting is automated, and the results are directly rolled in the protocol algorithmically.

While the incentives in on-chain are as questionable and variable as off-chain's, in a sense that mainstream users might slide in the issues of raising the incentives despite having less knowledge or stakes. On-chain differs in a sense that it is more decentralized because it goes on-chain, through direct voting.

LotanChain opts for the governing structure where each stakeholder gets to have a say but values the opinions of the token holders the most. The token holders will steer the destiny of our blockchain and have the major say regarding the updates of the platform. While the developers have the rights to make suggestions regarding the enhancement of the platform, but they are free in their rights to implement the protocol and governing structure they find better on the sidechains. This gives them the opportunity to use the consensus model which they consider the best for the functionality of the sidechains.

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LotanChain is built atop the Bitcoin UTXO model with the integration of Ethereum VM. In order to merge these models and achieve the compatibility of both the ecosystems, LotanChain implemented Account Abstraction Layer (AAL). The AAL provides the effective execution of the smart contracts by converting the UTXOs to accounts so the developers don't have to worry about developing smart contracts. It further allows the DAPPs and smart contracts developed on Ethereum to be ported with ease on LotanChain's platform. Further extending the innovative steps, LotanChain uses an x86 Virtual Machine which supports the programming languages such as C, C++, Java and other programming languages in order to develop smart contracts.

The dedicated team which researched and developed this platform believe in the notion of allowing parties to directly agree without the need of centralized authority, hence the reason why the idea of decentralized consensus is implemented where no central entity has the authority to lead the entire the network. LotanChain uses PoS for the nodes selection to overcome the limitations faced by PoW in terms of intensive electrical energy consumption and wasteful blocks.

In order to minimize the collisions and for the protection of the network, the double SHA-256 used by Bitcoin is implemented on LotanChain. Real-Time Checkpoint Computing enhances the security of the platform and provides protection from changes through 51% attacks.

## 4.1. Use Cases

### Smart Contracts

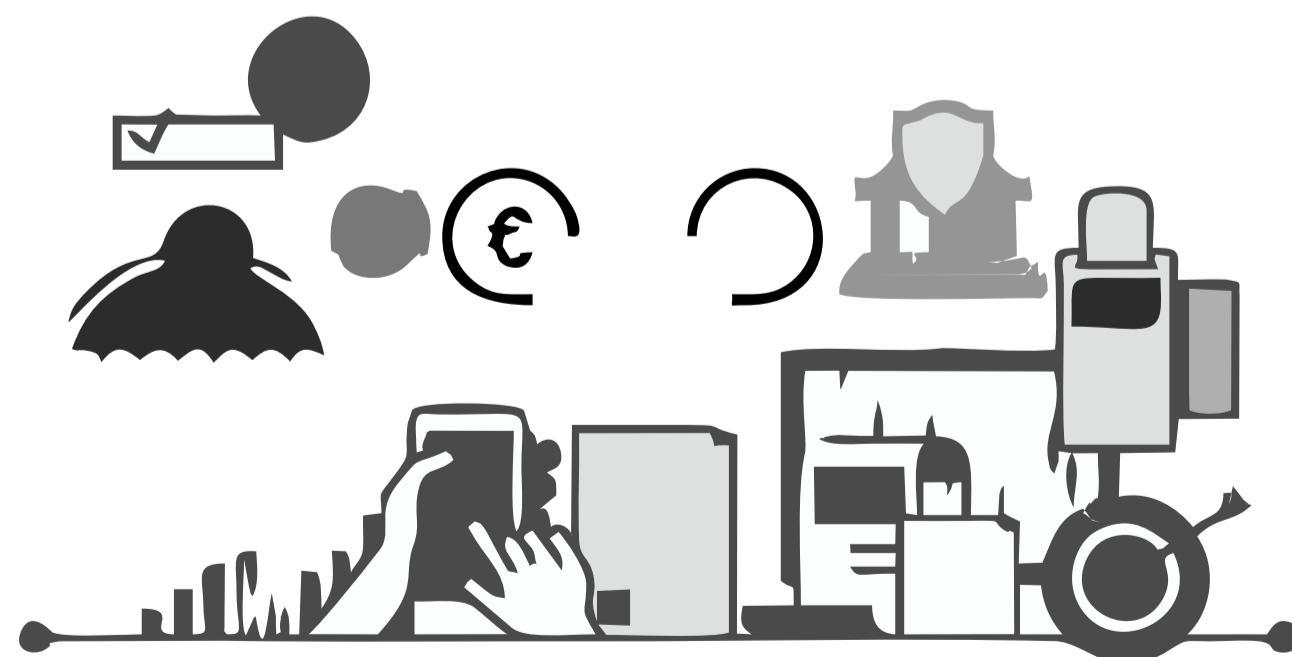
While the blockchain community owes a lot to Bitcoin, it has now grown beyond the mere concept of virtual currency. The community is evolving with thousands around the globe coming up with the innovative ideas every day. One such idea was the smart contracts, which are essentially an agreement between the two or more parties involved in the transaction without the presence of a centralized authority. Smart contracts are little programs which are self-executing agreement, controlled by nobody and thus trusted by everyone. They enable the trusted transactions to be carried out between involved parties while maintaining the anonymity and without the need to disclose the information without the involvement of a third party. Thus, they can be entrusted with value units such as money or the tokens. The transactions carried out by these contracts become traceable and irreversible.

The smart contracts at LotanChain are developed and adopted by the implementation of x86 Virtual Machine which supports the major programming languages, thus making the development of them rather simple. These smart contracts permit the trusted transactions to take place between the disparate parties with terms of their own, which are embedded in the agreement to facilitate the peer-to-peer transaction. One of the major goals of this emerging platform is to encourage the developers to build applications within its DApp ecosystem using the Turing-complete programming language (DAPPs and smartcontracts developed on Ethereum can be ported over with ease). Another primary purpose of this network is to support and elevate the benefits of various industries ranging from government, banking, education, the internet of things to gaming and music. The potential of it vast.

# Applications

At LotanChain, we treasure the innovation and appreciate the evolving technology of the blockchain. So, it is a matter of time since the world starts appreciating the revolution this technology is capable of bringing. We see ourselves finding the applications of this platform in several parts of the society which include, but are not limited to;

- Ø Philanthropy (Charitable donations and crowdfunding)
- Ø Insurance
- Ø Banking and Instant Payments
- Ø Taxing System
- Ø Capital Markets
- Ø E-voting
- Ø Education
- Ø Copyright Infringement
- Ø Gaming
- Ø Healthcare
- Ø Cybersecurity
- Ø Supply Chain
- Ø Internet of Things (IoT)
- Ø Identification
- Ø Social networks



# Internet of Things

Blockchain has been such a revolutionary technology that it has been called a bigger deal than the Internet itself. Similarly, another technology which has been gaining a lot of attention since its emergence is the Internet of Things (IoT). IoT is basically the network of physical devices which communicate through the internet without the need for human interaction. Now, the initiatives of merging these technologies are on the horizon. Blockchain, which is basically a distributed ledger is going to enhance the security in IoT devices because the blockchain technology offers a distributed scalable environment.

In a world, where the initiatives of automating daily life tasks are taking place every day, we find the devices around us equipped with digital sensors which are connected to the cloud. Therefore, it makes sense that combining these two forces is only going to make the systems effective and efficient.

We believe that LotanChain, an adept blockchain itself is going to find its applications in various industries which are seeking to combine these two technologies.

Blockchain + IoT; in various industries:

## Automotive industry

The automotive industry is looking to digitize the vehicles in order to provide the best experience to the customers. The vehicles are now being equipped with digital sensors which are connected in a decentralized network. This, in turn, produces the information which is valuable for both the companies and other stakeholders which are part of that network. Not only that, the combination of these technologies can explore various areas of this industry which can result in automated traffic control, fuel payment, automated car parking and much more.

## Home Security and Insurance

IoT devices have played a crucial role in home security with smart devices which enable the handling of home security through smartphones. The blockchain can only elevate the home security industry with its decentralized environment taking out the traditional centralized security system which risks security and transparency.

Similarly, insurance companies are seeking out the ways to opt for these technologies and many initiatives are on the way. IoT enabled smart devices blended with the scalable and decentralized environment is capable of enhancing the future of the insurance industry. The smart contracts with contractual agreement agreed by both parties ensure the peer-to-peer exchange without the implication of having a third party.

## Supply Chain

In the world of the supply chain where there are numerous stakeholders involved which can take up to months with the shipment and delivery, the vehicles with GPS sensors can track up the movement and provide alternative routes to in case of traffic. Other sensors can be used to provide more details about the status of the shipment and the information can then be stored on the blockchain. The involved parties listed in smart contracts get access to this information in real-time and can make preparations accordingly.

These are some of the use cases of how LotanChain could prove to be vital in these industries when combined with the force of IoT.

# Digital Assets

The trading of digital assets via blockchain is certainly the future. The blockchain offers anonymity and exclusivity between the buyer and seller. The content being traded is only visible to the parties involved and the presence of the third party which can risk the transparency and can lead to the fraud is absent. The blockchain-based trading provides the decentralization which in turns skips the intermediate parties and facilitates the buyer and seller.

LotanChain provides the LotanChain wallet to manage digital assets. LotanChain offers the desktop wallet which is compatible with all major operating systems such as Windows, iOS, and Linux. The users must have easy access to their money and for this purpose, LotanChain offers a mobile wallet for both Android and iOS-based devices. The users can experience the transactions happening in real time, check, send and receive funds by installing the proficient mobile application of this platform. These wallets make sure the digital assets and their trading are both secure and private. LotanChain makes it happen by encrypting the transaction data with private keys.

# Social

Blockchain technology with its decentralized environment ensures security and transparency. In the recent wake of misuse of user data by Facebook, the users of social media have started questioning the integrity of these platforms. The social media has turned out to be in a way which was not expected where not only the identity of the user is unsafe, but it is being misused in an improper manner. There is a rise of 'bots' and fake content on the platforms as huge as Twitter and Facebook. Despite the arduous efforts by these organizations to put them down, such problems are ever rising. With the blockchain technology, these problems can be dealt with.

The blockchain technology makes a case for verification of identities, where the users who are identified with it can consider themselves safe from the bots and fraudulent ads. Similarly, an idea of verification of marketplace where companies and vendors can reach to each other in an environment of virtual marketplace. This virtual area would only be accessible by those who are listed in smart contracts and identified by the blockchain technology. LotanChain plans to be a part of this world where freedom of speech and the right to access genuine content is prioritized and where the identities of the users are valued.

## Other use cases

### Charity

LotanChain wants to steer the donations away from fraudulent activity with tamper-proof nature which will make the donations transparent.

Others include;

- ✓ Ability to deploy and migrate DAPPs with ease.
- ✓ Help businesses and individuals with flow optimization.
- ✓ Provide traceability and transparency of processes.

## 4.2.Challenges

LotanChain brings some exciting features which can drive to its growth across the globe. Like everything in the world, it can have complications and can face challenges that could hold it back from growing. Some of these challenges are to be pointed out here:

### Fierce Competition:

The blockchain technology is on the rise ever since Bitcoin was announced in 2008. Numerous foundations and organizations have developed blockchains to prepare for the future. The swift development in this technology gave birth to stiff competition. With Bitcoin and Ethereum still being the giants of the blockchain technology, there are several others that plan to dethrone them. There are many other platforms that provide the services of smart contracts, the biggest one being Ethereum. Apart from this, there are the likes of NEO, EOS, and UNIVERSA that are considered the direct competitors of LotanChain as they are working with smart contracts in pursuit to be recognized globally. So, taking on these well-established platforms is a real challenge.

### Under-development:

The competitors of LotanChain which it plans to take on are either well-established platforms or they are getting closer to becoming one. While this platform has plenty to offer, LotanChain is still yet to be launched. It is in its early days and there is a long road to success.

### Hybrid-nature:

LotanChain is a hybrid of both Bitcoin UTXO model and Ethereum Virtual Machine, while this combination promises plenty it could still face complications. Any problem faced by Bitcoin and/or Ethereum could ultimately carry over to LotanChain, but it offers brighter aspects than negative since these platforms are making drastic improvements in scalability of their networks.

## 4.3.Adoption

The business and technical communities have adopted for Ethereum long after it came out as a revelation to the blockchain community. The secret of success of LotanChain also lies in its adoption by these communities. The innovative features such as easy to use developers' portal, compatibility with EVM and Bitcoin along with easy development of smart contracts with x86 VM, LotanChain looks forward to offering the best to its users and consider the significance of these features which going to aid in the process of its adoption.

### Marketing

In the world of blockchain technology where the rise of aspiring startups is coming out in numbers, we plan to market LotanChain in the best way possible to encourage not only the developers but the community as a whole to adopt this platform.

We at LotanChain believes in empowering the people, as they are going to be the major driving force in the growth of this platform. In order to empower them, LotanChain will provide the educational resources about this platform in the form of the whitepaper and easy to follow tutorials to make them familiar with this network. The reach of the social media will not be neglected, LotanChain have set up communicating channels on Twitter, Discord, and Telegram where the inquiries of the community would be catered, and they will remain informed of the happenings at LotanChain. This is going to be people's network where they will have a sense of caring because we believe in the power of people and we care for the community. The words of LotanChain will reach out to the people through our Discord and Telegram discussion server. Our personal Telegram alert channel will also provide the official news and information from the LotanChain team.

## Community

The blockchain is a technology that promises transparency and decentralization. At LotanChain, we offer the same to our community. LotanChain is about the community and in order to facilitate the participants from around the globe who share our similar cause, we intend to make an ever-lasting relationship with our people.

LotanChain will provide access to unlimited resources to its community in the shape of tutorials, hands-on challenges, and tools to shape the careers and businesses of the participants. The interactive sessions in the form of mentorship, advice, and support will help in the growth of the developers. LotanChain will expose its participants to new and diverse perspectives, ideas and outlooks to aid in their business or development career.

LotanChain is a network where people's resources, capital and time are invested, we see the significance of implementing professionalism and transparency. The reason why stable communicating channels have been built on Twitter, Medium, Discord, and Telegram. We believe in communicating and we encourage a human tone in the project's messaging.

The discussion groups on Discord and Telegram will provide the platforms for our community to interact with each other and the team of LotanChain.

LotanChain will have an open-source approach to development and for this particular purpose, Github has been chosen to maintain reliability. This platform will provide the community to scrutinize the code and will allow the third-party developers to follow the project as well as contribute to it.

## Partnerships

The blockchain technology has demonstrated its potential in various sectors. LotanChain plans to develop the businesses in various sectors by providing the services and expertise of the dedicated team behind its creation.

## Exchanges

Exchanges are the alternative platform to acquire our coins, they enable the customers to trade cryptocurrencies for fiat money or other digital currency. LotanChain sees both kinds of these exchanges as key partners.

## 4.4. Team

### David Marrow (Founder)

David is a Blockchain Consultant and Information Technology Systems Engineer with a strong background in Data Center Implementation and support. His extensive career portfolio also entails working as an Information Operations Specialist and Virtualization Infrastructure Engineer. Furthermore, he boasts a 19-year career delivering mission-critical systems.

A dynamic team player and leader, David is a Trusted senior consultative resource. He strives relentlessly to improve operational productivity and enhance customer experience and overall operations of any Information Technology Organization. David is passionate about surpassing organizational set goals.

### Thayne Swindell

(Strategy, Business Development)

Thayne is the founder of STEEK Crypto consultants and Co-Founder of Cypax Crypto, Crypto Advisor/strategic planning and marketing specialist. He has worked in Blockchain business extensively and understands major facets of the business that can yield bountifully. With a keen focus on Blockchain business development, Thayne believes that Blockchain can change the world's perception of online business and economy. An avid enthusiast of technology, it remains his earnest desire to implement recent technological advancements to change his environment. To achieve this, he keeps abreast with the latest tech innovations from across the globe. Thayne is a distinguished crypto professional and will contribute immensely to the growth of any team.

# Ibraheem Zulkifli

(Marketing, Social Media Relations)

Ibraheem Zulkifli is a Web Artisan and product developer with a keen interest in community building and advocacy. He co-founded Kwarabuild.com, sitemach.com, and is currently a product specialist at Membersdrive.com, Co-lead GDG Ilorin, and Forloop Ilorin. An individual of many innovative hats, Ibraheem is focused, enthusiastic, and skillfully utilizes his tech-savvy to provide lasting solutions to the most daunting challenges. He enjoys travelling, public speaking, teaching, and loves to stay abreast with the latest technologies.

# Dominica Morris

(Marketing, Social Media Relations)

Dominica Morris is a Nigerian blockchain enthusiast. A graduate of Computer science, she is currently into digital marketing and media but has a zest for cryptocurrency and blockchain technology. She has studied the cryptocurrency world actively and is excited to be a part of such a great technological revolution. For her, cryptocurrencies are not only an advancement for the present but leverage into a future of exponential business growth. Dominica is diligent, an avid researcher, and enjoys teamwork.

# Sheehan Zafar

(Marketing, Public Relations and Market Research Analyst)

With an exceptional technical knowledge of Computer Science, Sheehan aims to work at the front end of a company as its project manager, business analyst, or application consultant. Sheehan also brings outstanding professional experience, acquiring a diverse skill set that complements his work. When it comes to working, Sheehan's problem-solving skills and ability to go the extra mile is incredible. Furthermore, he understands all facets of his responsibilities, maximizing tremendous effort to accomplish any project.

He showcases and demonstrates a unique mastery of his profession. Sheehan has excellent communication and analytical skill, which he gained from his vast debating experience. In addition to his tech-savvy, Sheehan is a creative designer, with an excellent command of creative platforms of Adobe. He firmly believes that his technical knowledge, coupled with his creative and analytical skills, he will be a valuable asset to his workplace.

# Dotun Wilford

(Community Engagement , Community Manager)

Dotun is an ardent Cryptocurrency enthusiast and community influencer. Dotun's avidity for Blockchain coupled with his tech and entrepreneurial savvy paves the way for his continuous success in this path. With great considerable experience in the field, he is most passionate about using his knowledge and vastness in the field to spawn a change into the community. He firmly believes that Blockchain technology like the internet can leapfrog major stages of community development.

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## Delvin Fulbright

(Manger, Investor Relations)

Delvin Fulbright is not only a tech enthusiast but an innovator with a zest for growth. He delights in working with various sectors of the IT field, proffering lasting solutions that make life easier and saving the world at the same time. He partners with organizations like Pure ly-fy and Global Greenology. Delvin is one individual who loves to be a part of a team. And like every other team member, he is committed to seeing to the success of its endeavors.

## Deric Love

(I.T. Operations & Infrastructure, Blockchain Operations Support Manager)

Deric Love is a Project Specialist with over two decade's experience in the Information Technology field. A graduate of American Trades Institute and studied at the Eastfield Community College. In his career years, he has worked extensively in telecommunications, desktop support, and system administration for private and public sectors alike. With a tremendous affinity for tech and growth, Deric is enthused to be a part of LotanChain. He understands that this great innovation will be helpful to consumers and showcase infinite possibilities for the blockchain world at large. He is honored to be a part of this growing innovative environment.

# Nihal Patel4

(Consultant, Blockchain & UI Developer)

Nihal is a Blockchain consultant and works on the Ethereum platform to produce efficient smart contracts. Over the years, he has worked with many ICOs, actively participating in several development teams. Nihal's experience in Blockchain is incredible. He excels in using Blockchain technology in a way that is relevant to his immediate environment and also in a way that people can easily appreciate them. He also brings an excellent skill set which he has garnered from his years of working with several organizations. He is a keen developer and innovator.

# Sergey ilchenko

(Consultant, Blockchain Development Project Manager)

Sergey is also a tech enthusiast. Over the years, he excels in helping IT startups and other prominent companies launch or extend their products and teams. Sergey also manages an IT outsourcing company, with over 20 employees and 100 clients. Sergey is talented when it comes to training and impacting others. His skills encompass the fields of Startup Development, Marketing Strategy, and Business Analysis. Having such a wealth of skill and experience, Sergey is passionate about putting his abilities to work as a member of any team. He is dedicated to working the set goals of any team and also making brilliant contributions.

# Roadmap

- Blockchain Idea and Initial Research
- Q1 2019**
- Blockchain Core and coin specs
  - Whitepaper Development
  - Website Launched
  - Bitcoin Talk Announcement thread
  - Business Formation
  - Developed Community
  - Recruit & Hire Community Staff
  - Pre-Sale
- Q2 2019**
- Security Token Offering
  - Mainnet Launch
  - One-click Masternode setup development
  - Explorer Launch
  - Windows, Mac & Linux Wallet
  - Security Token Offering & Top 25 Exchange Listing
  - Masternodes online listing
  - Bitfolio Listing
  - Team Expansion
  - Hire Additional Developers
  - Coinmarket cap listing
  - D A P P D e v e l o p m e n t
  - Partnership Announcement



- Q4 2018**
- Blockchain and coin specs research
  - Various Blockchain's testing
- Q3 2019**
- Additional Exchange Listings
  - IOS and Android wallet release
  - Expand Business Development Team
  - Atomic swap/integration development
  - Masternodes Auto Update Development
- Q4 2019**
- Wallet Upgrades (Multi SIG, Budget Proposals)
  - Hardware Wallet Support
  - Research Business Acquisitions

# LTN TOKEN

5.1.Token Sale

5.2.Issuance

# 5.LTN Token

The ecosystem of LotanChain envisaged implementing smart contacts across the industries, government, and society. The LotanChain platform has implemented smart contracts for the purpose of transactions and in order to pay for the fees of these smart contracts, LTN tokens are going to be used. These smart contracts are going to be powered by Masternodes which provide special functionalities and their services will be paid in LTN tokens through PoSe.

## Coin Specs:

Algorithm	Hybrid
Block Time	60 Seconds
Max Coin Supply (PoS Phase)	3,725,000,000
Premine	524,000,000 LTN

## Reward Distribution:

Genesis Block		
Block Height	Reward Amount	Reward Amount
1	524,000,000 LTN	Initial Premine

# 5.1.Token Sale

## 5.1.1.Term Summary

1. **Seller:** LotanChain
2. **Token Name:** LotanChain Coin
3. **Token Ticker:** LTN
4. **Total Token Supply and Availability:** Refer to [1]
5. **Accepted methods of Payment:** Methods of payment which may be accepted at a later date which (if available) will be published on the website (<https://www.lotanchain.io/>). LotanChain will never publish any Token Sale address anywhere except on our Website.
6. **Sale Terms and Conditions Summary:**
  1. The total LTN in circulation will be limited to 3,725,000,000 with 14% (524,000,000), being made available during the Public Sale Period. Contributions may be made during a defined period of time (“Token Sale”). The participants will be notified about the commencement of Token Sale. Rest of the terms and conditions regarding it will be updated and provided to the participants soon.

## 5.1.2.Allocation [1]

<b>Max Coin Supply (PoSe Phase)</b>	3,725,000,000
Premine	524,000,000 LTN

## Use of Proceeds

### Premine Allocation:

- ✓ 0.19% - Bounty & Airdrops
- ✓ 1.52% - Presale Allocations
- ✓ 95.0% - Security Token Offering
- ✓ 2.86% - Masternode Deployments

#### Bounty & Airdrops:

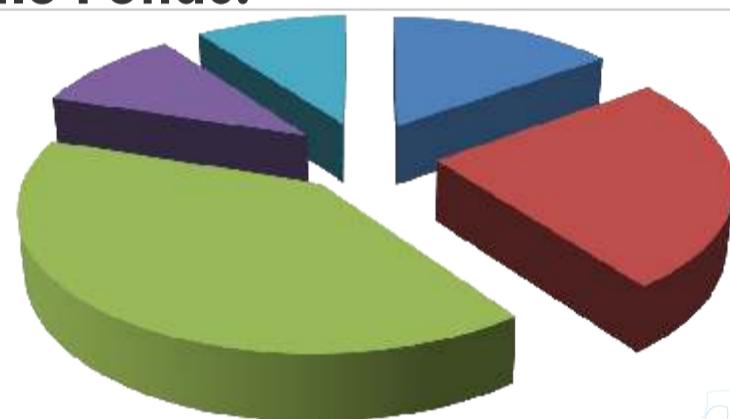
- ✓  $1,000,000 = 100\%$  - Bounty & Airdrops
- Total:  $1,000,000,000 = 100\%$

#### Pre-Sale Distribution:

- ✓  $8,000,000 = 100\%$

#### Use of Pre-Sale Funds:

- ✓ 12.5% = Development
- ✓ 12.5% = Marketing
- ✓ 37.5% = Legal & Compliance
- ✓ 25.0% = Exchange Listings
- ✓ 12.5% = Reserve

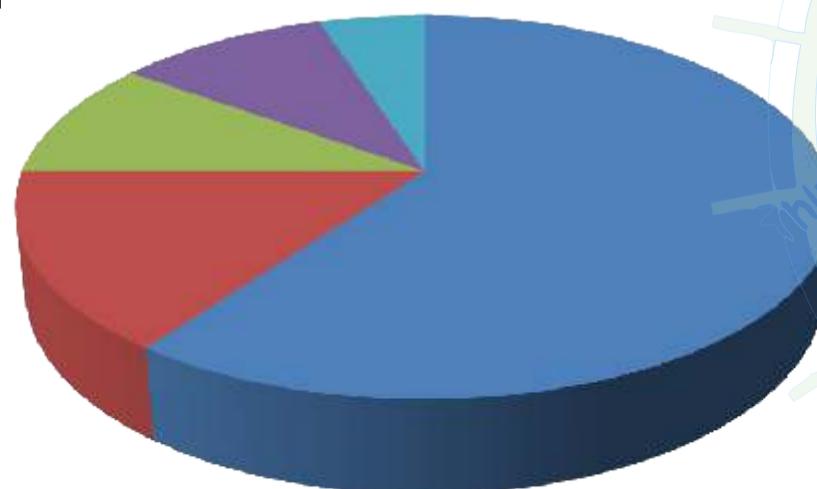


#### Security Token Offering:

- ✓  $500,000,000 = 100\%$

#### Use of Pre-Sale Funds:

- ✓ 40% = Research & Development
- ✓ 15% = Operations
- ✓ 20% = Marketing
- ✓ 10% = Legal & Compliance
- ✓ 5% = Early Backers
- ✓ 10% = Reserve



## 5.1.4.KYC/AML Policy

### Introduction:

LotanChain “Know Your Customer” and “Anti-Money Laundering” policy is designed in order to attenuate the possible risks of our platform being used in any kind of illegal/criminal activities.

Our strict KYC/AML policy meets the standards of local and international regulations to combat the misuse of the platform in the illegal activities such as money laundering, human and drug trafficking, terrorist financing, corruption and funds to proliferate the weapons of mass destruction. We at LotanChain discourage these criminal activities and we are committed to meet the standards mentioned in our AML policy. Below are the minimum requirements to prevent our company's involvement in such activities;

- Opting an enterprise-wide risk-based approach to determine the risks which need to prioritize and company's risk profile
- Creating and implementing the policies and procedures of AML
- Performing KYC in order to get the identity of every user of the platform
- In order to mitigate the risks of money laundering, successfully implementing internal control mechanisms of accountability
- Appoint a Compliance Officer to ensure the implementation of KYC/AML policy and enforce the AML program

### User Identification

LotanChain has opted for CDD (Customer Due Diligence) which authorizes us to establish our verification procedure to compliance with frameworks of KYC/AML.

This allows us to use customer's information for the sake of transparency and this document regulates how we use this information for customer's registration and verification.

LotanChain's verification procedure requires the user to provide us with non-tampered, reliable and independent source documents and data/information. These documents range from providing with; full name, date of birth, local and permanent address, bank statement, etc. Once the user has been identified, LotanChain is allowed to store the information of the user by conducting a risk-based CDD and the collected information will be stored and used strictly under the international regulations. After the user's identification, LotanChain must not be considered a part of a potential legal situation if its services are used for criminal/illegal activities.

## 2.- Internal Controls

### 2.1-Compliance Officer

LotanChain will seek to hire the services of a Compliance Officer who will ensure that our KYC/AML is in accordance with local and international regulations. Moreover, the presence of the Compliance Officer is going to enforce the implementation of LotanChain's KYC/AML policy. The Compliance Officer will have the following responsibilities but are not limited to; keeping the records of transactions, collecting and verifying the user's information, updating our internal mechanisms, interacting with law enforcement agencies and providing them with necessary information.

### 2.2-Transaction Monitoring

LotanChain is not only going to verify the users by the information provided but will also record what they are doing on the platform. The risk-based assessment through the data analysis will LotanChain inform of the user's activities. Several data analysis techniques will be used to slice and dice the user's data to maintain the transparency of the transactions and verify their nature.

LotanChain will have the right to discard or halt any transaction if found suspicious prior to any notice to the user. The users might be asked to provide additional information in case of such activities. If the transaction doesn't comply with any standards of LotanChain's policy, it will be reported and if it is found to be seriously going against the regulations then, we hold the right to inform the law enforcement agencies.

## 3-Risk Assessment

LotanChain has adopted a risk-based approach to combat money laundering and terrorist financing. By adopting this approach, the mitigation of money laundering and terrorist financing is going to be ensured. This approach is in line with international laws and will allow us to effectively allocate the resources and prioritize the risks.

## 5.2.Issuance

LRC-1115 tokens represent non-fungible assets which will pave a new way in the digital assets trading. In LotanChain, Proof-of-Stake algorithm is implemented which picks the block creator on the basis of wealth/stake. Thus, the creation and mining of new blocks are PoS-based and the participants get rewards based on coin ownership.

### PoS Rewards Breakdown:

Phase	Block Height	Reward	Masternodes	Miner	Budget
Phase 1	2-43200	250 LTN	20% (50 LTN)	80% (200 LTN)	N/A
Phase 2	43201-151200	275 LTN	20% (50 LTN)	70% (200 LTN)	10% (25 LTN)
Phase 3	151201-259200	50 LTN	45% (22.5 LTN)	45% (22.5 LTN)	10% (5 LTN)
Phase 4	259201-302399	50 LTN	90% (45 LTN)		10% (5 LTN)
Phase 5	302400-345599	45 LTN	90% (40.5 LTN)		10% (4.5 LTN)
Phase 6	345600-388799	40 LTN	90% (36 LTN)		10% (4 LTN)
Phase 7	388800-431999	35 LTN	90% (31.5 LTN)		10% (3.5 LTN)
Phase 8	432000-475199	30 LTN	90% (27 LTN)		10% (3 LTN)
Phase 9	475200-518399	25 LTN	90% (22.5 LTN)		10% (2.5 LTN)
Phase 10	518400-561599	20 LTN	90% (18 LTN)		10% (2 LTN)
Phase	561600-	15 LTN	90% (13.5 LTN)		10% (1.5 LTN)

# CONCLUSION



# 6. Conclusion

LotanChain is a scalability-focused dream child of Bitcoin UTXO model and Ethereum VM, which seeks to improve on perceived weaknesses in these protocols. This decentralized and transparent platform will bring drastic innovative changes in several sectors and society with its exotic features. The easy development of smart contracts with integrated powerful x86 Virtual Machine will aid not only the veteran developers of the blockchain but act as a guiding star to the new upcoming developers that wish to elevate their careers. This secure network with its integration of AAL will secure your digital assets and create an ecosystem which will benefit the globe. The transparent distribution of rewards through the services of PoSe will make the developers and the clients want to invest their time and funds on our network right away.

The easily accessible platform will benefit the individuals, businesses and our clients across the globe. In order to foster a real sense of community and empower them, our platform will offer unlimited resources in the shape of tools, hands-on challenges to diversify the perspectives of the participants of our network. Communication is a major key to the success and for this purpose, our community will highly benefit by interacting with the dedicated and supportive team behind LotanChain through different communicating channels such as Twitter, Discord, Medium, and Telegram. The platform will welcome the contribution from the third-party developers and provide them an opportunity to be part of this next 'big thing' through our GitHub community.