

Powerful & Agile Cross-Application Data Circulation

# Lemo

White Paper v2.1

Lemo Foundation LTD, All Rights Reserved

3-10-2018

195 Pearl's Hill Terrace #02-65 Singapore (168976)



**Cross-application ecosystem for business data circulation, based on secure multi-party computation.**

Offering application developers and operators a universal user account system, smart contracts, as well as ownership authentication and circulation of digital assets to build a flourishing decentralized data ecosystem.

## IMPORTANT DISCLAIMER

There are risks and uncertainties associated with LemoChain and/or the Distributor and their respective businesses and operations, the Lemo tokens, the Lemo Initial Token Pre-sale and the Lemo Wallet (each as referred to in this Whitepaper). You can find a description of the risk related to the Token Pre-sale under the section Legal, which should be read carefully.

This Whitepaper, any part thereof and any copy thereof must not be taken or transmitted to any country where distribution or dissemination of Token Pre-sale or Initial Coin Offering like the one described in this Whitepaper is prohibited or restricted.

The Lemo tokens are not intended to constitute securities in any jurisdiction. Lemo tokens are utility token and cannot have a performance or a particular value outside the LemoChain Platform. Therefore, this Whitepaper cannot constitute a prospectus or offer document for investment in securities.

This Whitepaper does not constitute or form part of any opinion on any advice to sell, or any solicitation of any offer by LemoChain to purchase any Lemo tokens or give any help in any investment decision.

You are not eligible and you are not to purchase any Lemo tokens in the Lemo Token Pre-sale (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 or a resident of the People's Republic of China or South Korea.

## Contents

IMPORTANT DISCLAIMER .....	2
Executive Summary.....	5
LemoChain .....	8
Why we create LemoChain .....	8
The vision of LemoChain .....	10
The design principles of LemoChain .....	10
Components of LemoChain' s Ecosystem.....	14
Stakeholders.....	14
Users .....	14
Developers/Carriers.....	14
Storage nodes .....	14
Investors .....	15
Opinion leaders .....	15
Consensus mechanism .....	16
Practical Byzantine Fault Tolerance (PBFT) .....	16
Proof of Work (PoW) .....	17
Proof of Stake (PoS).....	18
Delegate Proof of Stake (DPoS) .....	18
Delegated Proof of Valuable Participation (DPoVP) .....	19
Throughput.....	19
Data Storage .....	20
Dealing with transactions.....	23
Smart Contract.....	25
Application Layer Services .....	27
Account System .....	27



Online Coffe	28
Data trade template	29
Lemo Wallet	30
Applications based on LemoChain	31
Decentralized Applications	31
The support from various sectors	31
Application scenarios	32
Lemo Token	35
Original token	35
Lemo Token Pre-sale	35
Overview	36
Budget	37
Unlocking plan of early token holders	38
Founding Team	38
Early Investors	39
LemoChain' s Ecosystem Governance Framework	40
Lemo Foundation LTD	40
Payroll Management	41
Founding Team of LemoChain	42
Lemo Advisory Board	46
Some Partners of Lemo	47
The Execution and Iteration of LemoChain	49
Timeline	49
Pre-sale plan of LemoChain	50
LemoChain iteration plans	50

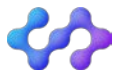
## Executive Summary

The Founders of LemoChain (Lemo for short) are committed to developing a decentralized data circulation ecosystem, focused on facilitating the effective open exchange of structured business data. Built on blockchain technology, Lemo's 'Smart-Contract Value Transfer Protocol' is able to achieve a P2P and B2B data exchange across a DApp platform - a decentralized application platform suitable for a range of industries (including education, social networking, gaming, recruitment, finance etc.). Lemo's innovative technology, comprehensive ecosystem governance and inclusive nature will facilitate an all-encompassing platform for widespread data pioneering.

From a technical viewpoint, Lemo possesses strong research and development capabilities. Through implementing an established technological framework, Lemo will be the first blockchain to run on a D-PoVP (Delegated Proof of Valued Participation) consensus mechanism. This innovative mechanism will be implemented in alignment with varying regulatory requirements across a broad spectrum of commercial applications.

Meanwhile, the adoption of secure multi-party computation, zero-knowledge proofs and homomorphic encryption will ensure secure and efficient data transfer; thus establishing the underlying trust foundations for data circulation on Lemo.

From an angle of ecosystem governance, The Lemo Foundation is designed to drive R&D growth, governance transparency and the overall development of the LemoChain ecosystem, so as to strive for universal security and cooperation between all stakeholders. The Foundation regularly evaluates all aspects of the open source community from several dimensions such as code management, team management, financial management and public relations. Thus, the sustainability of Lemo, the efficiency of the Foundation's management and the security of crowdfunding can be ensured.

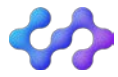


In regards to mobile applications, Lemo, along with service providers, will enhance business' off-chain capabilities by facilitating decentralized application development and providing smart contracts which align with real commercial logic. Eventually, not only does Lemo strive for the broad adoption of 'Go-Mobile' strategies; but ultimately aims to optimize traditional businesses using blockchain technology. Lemo maintains the belief that by realizing blockchain' s potential for business development, companies can bring tangible benefits to a range of stakeholders.

Within the whole ecosystem, Lemo will collaborate with third-party developers to provide support and technical framework assistance, including:

- **LEMO Token** - The encrypted Lemo token (LEMO) will be the universal medium of exchange on Lemo. LEMO will be a stable store of value that will facilitate data exchange, regardless of time or location.
- **Commercial data matching and trading system** - Providing data distribution services based on multi-party computation calculations; assisting different applications in developing compliant and transparent data distribution channels.
- **Data Circulation** - Sharing of data (serving for all social apps), helping different apps to build legal and transparent data flow channels.
- **Account System** - One account has access to all apps, increasing conversion rates and expanding traffic sources.
- **Digital Asset Smart Contract** - Ensuring the ownership authentication of digital assets for developers and users; helping the circulation and liquidation of digital assets, thus improving user' s mobilization.
- **Integrity System** - User credit system; an interest-driven system, evaluating overall ecosystem contribution; so as to recognize and reward positive contribution whilst discouraging negative input. This will aid developers in selecting target users whilst increasing conversion rates.
- **Data encryption storage and transmission system** – Providing a securely encrypted system for the storage and transmission of data for B-end users and developers .

At the same time, we will lay down a reward plan to encourage early third-party



developers to work with us on LemoChain-based mobile-end services, promoting the efficient and synergetic development of blockchain.



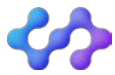
## LemoChain

### Why we create LemoChain

Since Bitcoin's implementation of open source P2P currency in 2009, we have witnessed a global phenomenon: an emergence of countless projects founded on achieving socio-economic development by means of decentralization and distributed ledger technologies. Arguably, the most notable of these projects being the Ethereum project, which focused on proving the potential of smart contracts whilst developing a universal platform for decentralized applications (DApps). However, despite these advances, the blockchain world still faces a host of challenges from both technical and industrial perspectives:

- Many existing smart-contract platforms have struggled to connect with real business logic due to the technological distance from everyday business, with both Bitcoin and Ethereum architecture having limited widespread application to the common consumer.
- Current consensus mechanisms lack flexibility and efficiency; the exchange of value is not centered around transferability to real commercial scenarios.
- The compatibility problems between different blockchain platforms. For example, UTXO-based Bitcoin ecosystem isn't compatible with Account-based Ethereum.
- Existing blockchain platforms are isolated from off-chain data. At present, most smart contracts solely accept on-chain data as the trigger condition, lacking interchangeability within the real world.






We are committed to building a brand-new blockchain data transmission ecosystem; Lemo, as a universal Internet data value transmission protocol for future decentralized applications, digitizing and tokenizing data values, and promoting Blockchain technology is applied to real-life business scenarios.

We are aiming to build a new data circulation system, based on LemoChain, which will become the universal online data transfer protocol. This is how LemoChain will connect blockchain technology with the real world.

At the same time, in offline and online business activities, valid data transfer and exchange has always been the power source of their business model. Traditional commercial activity faces the following obstacles whilst obtaining this data:

- 
- 1 Limited sources of data. Data channels are not public and transparent. The path between data owners and those requiring data is restricted;
  - 2 The validity of data is difficult to verify, or the verification cost is high;
  - 3 Data ownership is a grey area and there's no transparent and universally accepted solution
  - 4 The circulation and use of data remains highly ambiguous, and there is no public and transparent management system to bind and govern it effectively;
  - 5 High costs of data acquisition.

### The vision of LemoChain

LemoChain is the future data value transfer solution for applications and businesses alike. It is an ecosystem powered by blockchain technology. The Lemo Foundation is aiming to integrate blockchain technology into a range of industries, such as: social networks, gaming, education and recruitment. This will be executed through building communities of third-party developers, operating on a network that is constantly evolving alongside the ecosystem.



### The design principles of LemoChain

Whilst striving to facilitate the optimum operation of Lemo-based applications, scalability must be of top priority. Slow transaction speeds inhibit the overall success of the ecosystem and prevent the growth of future applications; essentially rendering the underlying vision of a flourishing decentralized ecosystem on Lemo as flawed. For example, CryptoKitties caused 20,000 transactions on the Ethereum network to be blocked, whilst consuming 15% of the entire network. The DPoS based graphene/EOS framework can provide 10,000 TPS with an average transaction speed of 1 second; thus, reaching Visa scale transaction processing capabilities. These are hugely promising developments but has highlighted some clear room for development to Lemo.

Lemo will address the following characteristics in its' technical design:

**Universally Applicable:**

As a data circulation blockchain focused on a broad market, Lemo serves no specific industry and strives for widespread integration both within and between industries. Meanwhile, Lemo will provide development kits and tools to aid developers' integration into the ecosystem.

**Easily Upgradable:**

Bugs are an inevitable hurdle for any project and regular optimization is key to long term success of any organization. Bitcoin's centralized computing power has resulted in a mining pool with no democratic input; Its evolution as a stable decentralized network is arguably hindered by the conflict of interest that occurs between all stakeholders, from users to miners and even between mining pools. Conversely, Ethereum's failure to reach a common consensus following the hack of the DAO led to the hard fork into ETH and ETC, thus creating two separate forks that both require their own regular bug fixes. Lemo will ensure full community input and decentralized contribution, whilst ensuring all bugs and shortcomings are met with a high degree of efficiency and transparency.

**Security & Privacy**

Lemo, from its core blockchain code to its upper application interface will coherently safeguard user privacy across all aspects of data exchange within its' ecosystem. This will ensure sole ownership of data from the original holder, with no access available to any third party. All code related to the data privacy and user protection will be open-sourced entirely to accept consistent community feedback. Additionally, Lemo will organize regular code audits to ensure the entire mechanism can withstand any malicious attacks.

**Transparency & Support**

Lemo will develop blockchain infrastructure with a friendly user interface for true accessibility; with this being backed up by the release of development kits for developers wishing to operate on Lemo. Lemo will also be in regular collaboration and idea sharing with industry partners, aiming to align with one

core vision of a prosperous open data exchange infrastructure.

In response to the current limitations and various issues with existing blockchain technology, Lemo has proposed the following goals targeted at addressing existing public blockchain platforms (Circa October 2017):

- To make blockchain universally compatible with real world business;
- To develop a flexible and comprehensive consensus mechanism;
- To lower the transaction cost and solve the existing credit problems in current business environments;
- To conditionally release the smart contract based on the on-chain data, achieving interconnection between blockchain and the real world
- To provide a universal account system to eliminate boundaries faced by current applications;
- To protect the rights and interests of all participants;
- To aid the full circulation of participant' s digital assets.

Based on all these goals, Lemo will provide a solution which mainly includes five major notions to improve the overall application data circulation in the future:

1. A data circulation system based on Secure Multi-party Computation, with smart contracts to aid users effectively exchange and circulate data and digital assets;
2. A high-speed decentralized data storage and transmission system based on blockchain smart contracts and homomorphic encryption technology. This will help developers, service providers, and users securely store data (digital assets) to ensure that all participants rights and interests are rightfully protected.
3. Issuing LEMO tokens as a quantitative proof of ownership and as a distribution medium for digital assets;
4. An account system that establishes a common account for all participants in the system and eliminates the boundaries between varying businesses and applications on Lemo;
5. A credit system that uses smart contracts to agree on the credit impact of



different community behaviors; maintaining the value system of the community in a decentralized manner whilst rewarding quality participants and discouraging and/or punishing negative contribution.



Whilst looking at security, the antagonistic relationship between developers and users, combined with the competition between different developers in the same field is hindering industry and societal progress. In Lemo' s decentralized architecture, users and different developers are all participants with a common goal. By contributing their own products, development and operational capabilities, they each provide to the ecosystem: information, data, community governance, traffic, storage space, assets, etc., to receive tokens from the community. At the same time, Lemo provides a liquidation and circulation channel for digital assets and equity that will benefit all participants in the system.

## Components of LemoChain's Ecosystem

### Stakeholders

The stakeholders of LemoChain represent the true operational capability of LemoChain's ecosystem. Defining them from various dimensions, we've divided stakeholders into following categories:

#### Users

Users enter into the ecosystem via DApps; By creating accounts, inviting other users, and by positively contributing information users obtain financial reward, 'Lemo'. Also, Lemo can be used on other Dapps on LemoChain to pay for services such as data storage, or on cross-application data ownership authentication and circulation.

#### Developers/Carriers

Developers/Carriers enter into ecosystem through integrating and using Lemo API in their applications. By building applications, acquiring users, and contributing encrypted data, they gain Lemo reward. After ownership authentication and quotation conducted by Lemo, data contributed will have access to the overall circulation, so as to offer other participations the valuable information they need, through which developers can gain Lemo. Developers can also broadcast within LemoChain for their data demands (new user acquisition, business analytics and user behaviors). For those with limited app developing capabilities, LemoChain will also provide fundamental user framework so even those with less resources can reap the benefits of the Lemo ecosystem.

#### Storage nodes

Storage nodes enter into ecosystem by contributing their own storage space and computing power. Owners of limited storage server space can represent storage nodes to join the ecosystem and get Lemo tokens by providing decentralized storage and computing power for the entire ecosystem.

#### Investors

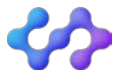
Investors can acquire early ownership of Lemo Token in the pre-sale stage. Investors are early supporters and visionaries of the LemoChain ecosystem. The funds raised by investors will be used in developing LemoChain, community building, marketing promotion, and daily operation, whilst laying the foundations for other participants' benefits.

#### Opinion leaders

Every 12 months, Lemo Foundation LTD will nominate candidates of opinion leaders through comprehensive evaluation based on annual community contribution. Then, community participants vote by ballot. Opinion leaders can bring forward opinions on ecosystem development and then after auditing, the future trend of Lemo ecosystem will be determined by participants' voting. At the same time, opinion leaders also embrace voting rights in The Lemo Foundation, enabling them to work on LemoChain-related decisions, whilst gaining Lemo from the community for their valued contribution.







**The Lemo ecosystem is open and free for everyone. People will be required to pay Lemo only when using specific storage or data. Lemo token can be acquired by investing in Lemo Foundation LTD during early stages or making contributions to the ecosystem including contributing their own data, creating traffic, providing storage and computing, inviting new users, participating in community governance and more.**

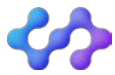
### Consensus mechanism

Consensus mechanisms have always been a hot topic in blockchain discussion. The prevailing view is that effective algorithms must comply with the Byzantine fault tolerance principle. Algorithms need to be safe, clear and irreversible whilst remaining scalable in order to provide an exceptional decentralized system. In practice, the process is divided into two aspects: selecting a unique node to generate a block and making the transaction ledger irreversible.

The Byzantine fault-tolerance principle can be expressed as a major solution to the problem of a general trusted communication. A group of generals want to achieve a certain goal (consistent attack or retreat), but the individual actions cannot be completed, as a consensus must be reached through cooperation. However, due to the presence of traitors, the generals do not know how to achieve consensus. Here "consistency" is the main content of the discussion of General Byzantine. Currently there are many algorithms that have solved the Byzantine General problem. The following compares several common algorithms:

#### Practical Byzantine Fault Tolerance (PBFT)

The PBFT mechanism is represented by the IBM HyperLedger fabric. The core of a solution it describes is the state machine replica replication algorithm. First, a master node is responsible for block production; then, the received transaction data is broadcast to the entire network. Eventually each node keeps a copy of the state of the service. The total number of sets composed of all copies is denoted by  $N$ , and each copy is represented by  $0$  to  $|N|-1$ , as



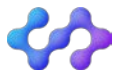
long as the number of untrusted copies is (analogous to the number of traitors)  $f \leq (|N|-1)/3$ , then this system can operate normally. Under this mechanism, all nodes eventually reach the same consensus and therefore do not diverge. If the master node goes offline, the backup node triggers a timeout mechanism and selects the next master node based on the node number.

The working premise of PBFT is that the nodes in the network are known in advance, and therefore are only applicable to the consortium chain or private chain. Nodes working under the PBFT mechanism need to communicate with each other. The complexity of network communication is  $O(n^2)$ . The traffic volume will grow explosively as the number of nodes grows. In a public-chain environment, it will cause serious broadcast storms.

### Proof of Work (PoW)

PoW is a research report posted by Nakamoto in a secret crypto-discussion group in 2008. The report describes his new ideas on cryptocurrency and the proposed bitcoin consensus algorithm. Each node in the entire system provides computing power for the entire system (abbreviation referred to as computational power). Through a competition mechanism, the nodes that have completed the most outstanding calculation work are rewarded by the system, once the distribution of newly generated currencies is completed. Simple and stable, it has withstood all kinds of attacks after attracting the attention of various hackers and scientists.

Satoshi tried to accomplish the maximum degree of democracy and decentralization. Because he designed the PoW on the premise that the node and the computing power are evenly distributed, because with the CPU to vote, the number of wallets (nodes) and the computing power should roughly match. With the gradual upgrading of CPU mining to GPUs and FPGAs, and the mining of ASIC mining machines, this road has gradually drifted away from the original intention of decentralization and even distribution of



computing power. This violates the design concept of digital currency, leading bitcoin users to split into two groups, coin bearers and miners. Their interests are in conflict with each other and they are vulnerable to attacks.

### Proof of Stake (PoS)

The POS mechanism can be described as 'virtual mining'. Since PoW mainly depends on the scarcity of computer hardware to prevent witch attacks, PoS relies mainly on tokens in the blockchain itself. The holder holds the token as a deposit in the PoS mechanism so that they become validators. The PoS algorithm randomly selects one of these verifiers and gives them the right to generate the next block. The basis for selection is how much they invest in tokens and how long they hold tokens. If, within a certain period of time, the verifier does not produce a block, a verifier will be reselected instead of generating a new block. Similar to a system that distributes interest based on the amount and timing of token possession. The actual implementation of PoS will also have some mechanisms for clearing currency age, currency decay, etc. The PoS mechanism will have the advantage of not being able to carry out force attacks because the person who launches the attack needs to hold 51% of the total currency. After the attack causes the currency value to fall, he will be the person whose total currency value is most damaged.

Under the PoS mechanism, some holders will hold large amounts of tokens for a long period of time in order to increase voting weight. As a result, the total tokens in circulation will be reduced and prices will be more vulnerable to fluctuations. Because there may be a large number of big players or mine pools holding most tokens in the entire network, the entire network may become more and more centralized as the running time increases.

### Delegate Proof of Stake (DPoS)

The DPoS consensus mechanism sacrifices certain aspects of decentralization on the basis of PoS, whilst greatly accelerating the time-consuming transaction confirmation process. The main principle is to randomly select a



limited number of agent nodes among all nodes, and these nodes take turns accounting and take the consensus of the agent as the consensus of the entire network. New block rewards are shared by both agents and voters. In order to avoid adverse effects on the blockchain after the malicious node becomes the agent, the DPoS mechanism needs to re-elect the agent after a certain period of time.

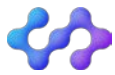
DPoS currently has the advantages of maturity and high throughput. Only the agent node can reach a consensus to confirm the transaction, and its transaction frequency can even reach the centralized Visa settlement scale.

### Delegated Proof of Valuable Participation (DPoVP)

In order to promote the fair development of each application within the Lemo ecosystem and to promote universal value contribution, Lemo has developed a new DPoVP mechanism based on the DPoS consensus mechanism. The representative feature of this technology is the definition of multiple, not just to acquire token/point system in the mode of renting and selling idle computer resources. Lemo will implement a user credit system; digitizing user behavior within the ecosystem, so as to incentivize positive contribution across all user levels. Businesses and contributors of all sizes will be equally capable for mining competition, providing they show commitment to the ecosystem and regularly have positive input. This will extend the traditional mining approach beyond one based on technical or financial capabilities and into a more relevant consensus mechanism, focused on bringing real-world business value.

### Throughput

Increasing the throughput of blockchain networks is a very real issue. At present, Bitcoin's block time is 10 minutes, and an average of 300,000 transactions are confirmed daily. The transaction confirmation time is at least one hour, which is far below the requirement of an exceptional financial instrument's settlement ability. The average confirmation time of 1ETH on the Ethereum network is



about 14 seconds. In the face of phenomenal applications, network congestion is prone to occur and it cannot be restored in the long term, thus restricting its potential to handle large-scale applications. Therefore, Lemo chose to use DPoVP technology with its high response speed in order to solve this problem.

DPoVP is written in C++. Its concurrency is strong and it can achieve an average confirmation speed of 1.5s and a data throughput of 3300TPS under limited conditions. The DPoVP-based Lemo can achieve up to one million transactions per second through concurrent multithreading. The transaction frequency can even reach the centralized Visa settlement scale.

### Data Storage

Lemo aims to create a decentralized data rights and circulation platform; the safe storage, encrypted transmission, and copyright attribution of participant data are crucial to the success of such a platform. The blockchain's security largely depends on it being mirrored by a large number of nodes and being 100% available. The storage of large, variable files on the chain will result in very high cost. For example, there is a high-performance blockchain application that processes 1 million transactions per second. Each transaction generates 100 bytes of records, and the consumed storage space will increase at more than 100MB/s. In order to maintain practicality, it is necessary to periodically truncate transaction records on the blockchain and save a blockchain state snapshot. However, the complete transaction record will still be copied to each node, causing unnecessary backup overhead. Therefore, it is a practical and non-extensible decentralized file storage solution to store large-size data in the blockchain.

To solve this problem, Lemo will separate the data layer and store it off-chain. By only recording the summary of the data on-chain, the overall pressure on the blockchain is significantly reduced. According to different scenarios and business applications, various fields that may be used by the application service are taken into consideration to abstract a unified external storage interface.

Flexible docking will support decentralized IPFS, storj file system, centralized cloud database and other programs, therefore providing users with a more diverse choice when it comes to data storage. In order to further simplify the application platform interfaces, Lemo will provide: a storage system adapter SDK, a public and private key generation package, address generation, signature verification, encryption, decryption and other functions. These will be shielded by complex signature generation rules, coding-conversion problems, and a variety of underlying error-code processing logic. The user identity management module and the private key storage module can be optionally introduced on the interface to reduce the public-private key management burden on the service application. Overall, Lemo is providing a convenient and easy to use interface for business developers.

IPFS is a global, P2P distributed version of the typical cloud system. It reduces the risk of data loss due to data center failures. IPFS's p2p network uses DHT technology, which replaces domain-based addresses with content-based addresses.

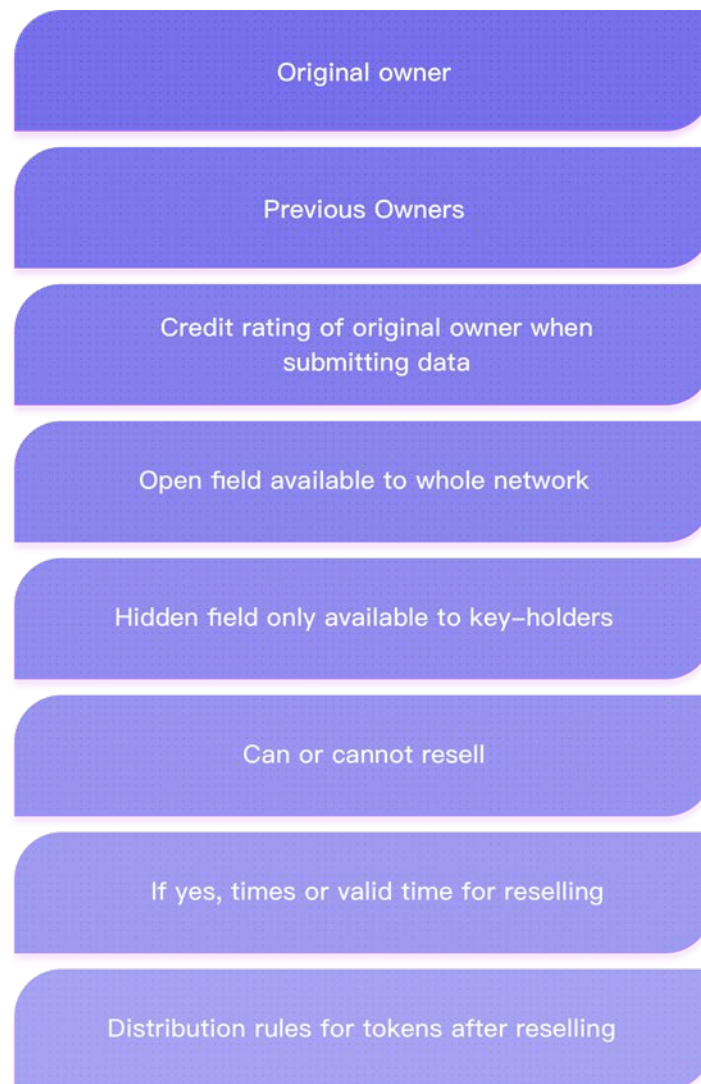
IPFS is a global, P2P distributed version of the typical cloud system. It reduces the risk of data loss due to data center failures. IPFS's P2P network uses DHT technology, which replaces domain-based addresses with content-based addresses.

In P2P networks running on DHT, users address the file based on the contents of the file instead of the file path, and no longer need to authenticate when reading. Only the hash of the file content needs to be verified. Lemo will encrypt the user's data and store it in the IPFS system. Anybody can obtain the data according to the private key obtained by the transaction, without relying on centralized storage. In order to ensure the redundancy and reliability of the files, such file systems require users to pay tokens to motivate the nodes providing storage services to be online for a long time. Otherwise, if too many nodes are offline, partial fragmentation of the file will not be recovered.

The centralized cloud database will be built on a world-class system of large-

scale cloud service providers, running as a stable, reliable, and low-cost database. It can provide 99.99999999% data reliability, 99.9% availability, up to 200gbps throughput and low latency to 1ms. Lemo will encrypt user data and open source code to secure a high-trust relationship and ensure that the privacy of user data is not violated.

All data circulating in the Lemo network will be in the form of encrypted packets that contain the terms of use. These terms are determined by the original owner, who has been confirmed by the Lemo value chain. Also, the LEMO token, which contains the smart contract for data circulation, helps them to circulate and trade their data safely and securely. Lemo will help participants define the following information and circulation mechanisms for data:





### Dealing with transactions

In a traditional private data exchange scenario, the data of both parties in the transaction needs to be disclosed to each other or be matched by a trusted third party. In the current volatile and malicious business environment, this is extremely risky. The third party's right to facilitate the transaction is too large, and there is the possibility of leakage, tampering, and concealment of data between the two parties. As a result, protocols that can support joint computing and protect the privacy of participants have become increasingly more recognized. Lemo is committed to introducing Secure Multi-Party Computation (SMC) to solve this problem.

Secure multi-party computation is a collaborative computing solution that solves the problem of privacy protection among a group of non-trusted parties. SMC ensures the independence of input and the correctness of calculation; all without disclosing each input value to any of the participants. In general, a secure multi-party computing problem calculates any probability function based on any input to a distribution network. Each input party has an input on the distribution network. This distribution network needs to ensure the independence of the input and the correctness of the calculation. Also, in addition to their respective inputs, they do not disclose any other non-relevant information that can be used to derive other inputs and/or outputs.

Taking marriage and love website pairing as an example, the user's conditions and features are mapped into points in a t-dimensional space.

$$P = (x_1, x_2, \dots, x_t), x_i \in [0, 1]$$

Let the target of the demand side be  $a$ , the data of the data provider is  $B = b_1, b_2, \dots, b_n$  to satisfy:

$$a, b_i \in P$$





The matchmaking transaction algorithm can be summarized as the nearest neighbor algorithm NN in the  $t$ -dimensional space  $b'$ , that is, the minimum distance  $d$  between  $a$  and  $B$  is found to be minimum

$$b' = NN(a, B) = \min_{i=1, \dots, n} d(a, b_i)$$

In order to protect the confidentiality of the  $B$  data, the nodes in the blockchain need to be isolated from the data  $a$  and  $b$ , and only the encrypted data can be obtained. Therefore, Lemo introduced will introduce Fully Homomorphic Encryption to perform data matching calculations. Fully homomorphic encryption can perform arbitrarily complex operations on encrypted data without a decryption key to achieve secure plaintext computations.

Let the encryption algorithm be:  $E(x) = c_x$  The decryption algorithm is:  $D(x) = p_x$ ,

$$b' = NN(a, B) = D(NN(c_a, c_B))$$

Limited by the performance of the homomorphic encryption algorithm, Lemo chooses the square of the Euclidean distance to calculate the matching degree. The optimal match calculation formula is:

$$b' = NN(a, B) = D\left(\min_{i=1, \dots, n} d(c_a, c_{b_i})\right) = D\left(\min_{i=1, \dots, n} \sum_{j=1}^t (c_{a_j} - c_{b_{ij}})^2\right)$$

After calculating  $b'$  via the above formula, the inquirer obtains the best matching target. During the entire matching process, the proxy computing node and the inquirer cannot access other user's data before encryption, and the privacy of the user data is ensured.

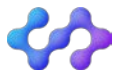
## Smart Contract

A smart contract is a digital version of a traditional contract. Once written, it can be trusted by all parties, without requiring trust between those parties. The terms of the contract are final and therefore cannot be changed. This idea was proposed back in 1994 by cryptographer Nick Szabo, but the full potential was not widely recognized until the emergence of blockchain technology. Essentially, a smart contract is a computer program running on a blockchain database that can be triggered by preprogrammed conditions. Blockchain technology brings a decentralized, unchangeable and highly reliable system for an extensive range of applications. Smart contracts are one of the most important features of the blockchain and a key factor in its reputation as disruptive technology that is revolutionizing our social structure.

Lemo's smart contract supports Java, C/C++, Python and a range of other coding languages. All smart contract source code is compiled into bytecode to run in the virtual machine.

The use of Sandbox technology has been implemented to achieve a complete isolation of affairs and limit access to computing resources, whilst maximizing performance and security.

Lemo's smart contract virtual machine is built on a LLVM (Low Level Virtual Machine)-based compiler architecture. LLVM supports JIT (Just-In-Time Compilation) technology, which can dynamically compile and execute the generated machine code according to the users' requirements, which can significantly increase the execution speed of dynamic languages and maximize the performance of hardware. Based on LLVM's powerful three-stage design, future Lemo smart contracts will also support JavaScript and other more languages, and developers who are most comfortable with different technical backgrounds will develop smart contracts. Smart contracts include the four parts of contract registration, triggering, execution and cancellation:



### *Contract registration*

Contract registration is the process of storing the consensus in the blockchain after processing the user-written contract security check. Users need to consume gas according to the amount of code required to register a contract.

### *Contract trigger*

Contract triggering is the process of triggering contract execution through external conditions after contract registration. It supports timing triggering, event triggering, transaction triggering, and other contract triggering methods. Timing trigger refers to the process of automatically triggering the contract call after the node triggers the time consensus after meeting the preset time in the contract. Events, transactions, and other contract calls are new requests that trigger contract execution during the consensus process.

### *Contract execution*

Contract execution is the complete process of running the contract code in an external environment, including the contract structure mirroring environment, code execution, the implementation of state changes in the implementation of the code and exception handling of the consensus. There is a special message call named a proxy call. Except for the code of the target address being executed in the caller's context, everything else is the same as the message call. This means that the contract can dynamically load code for other addresses at runtime. Only the code is obtained from the caller, this allows us to easily package code into libraries and reuse them in other contracts. For example, to implement a complex data structure, reusable code can be applied to contract storage.

### *Cancellation of contract*

Cancellation is only necessary to clean up a contract that has been executed, expired or faces changes in business requirements that are no longer needed. The cleanup process requires a multi-node consensus before it can be completed. The only way to remove code from the blockchain is to have the



contract perform a self-destruct operation on its address. The remaining balance under this account will be sent to the specified target, and the storage and code will be removed from the stack.

Lemo provides some of the standard contract implementations. Including the consistency check of assets, automatic integration, multi-signature, automatic settlement and other relatively simple logic of the contract. Users can invoke or adapt these contracts to suit their own business needs. It can also be completely implemented by itself.

### Application Layer Services

LemoChain, in the application layer, provides a rich application development framework and flexible deployment methods to facilitate different types of developers to quickly access and build applications.

#### Account System

In a decentralized blockchain world, the user's possessions can only be mastered by themselves, no one person nor organization can steal money, and there is no possibility of it being stolen by server hackers. But in fact, most users can not properly manage their accounts private key. According to Deloitte, at least 37% of users forget the password when they log in and use the "retrieve password" feature. Forgetting the private key on the blockchain will cause the property to disappear directly, and there is no way to get this property back. The total amount of bitcoin having disappeared has reached 4 million, accounting for nearly 20% of the total amount. Users have a very strong demand for secure hosting of private keys.

LemoChain's account system addresses the mapping of user identities to blockchain addresses, user privacy confidentiality, and regulatory audit traceability issues. It allows users to use easy-to-remember usernames and passwords for access and implements OAuth2.0 authentication mechanisms. Third-party applications that obtain user authorization can easily obtain basic

user information without the management logic of implementing and maintaining user-accounts by themselves. This boils down to just a few lines of code in accessing the LemoChain ecosystem.

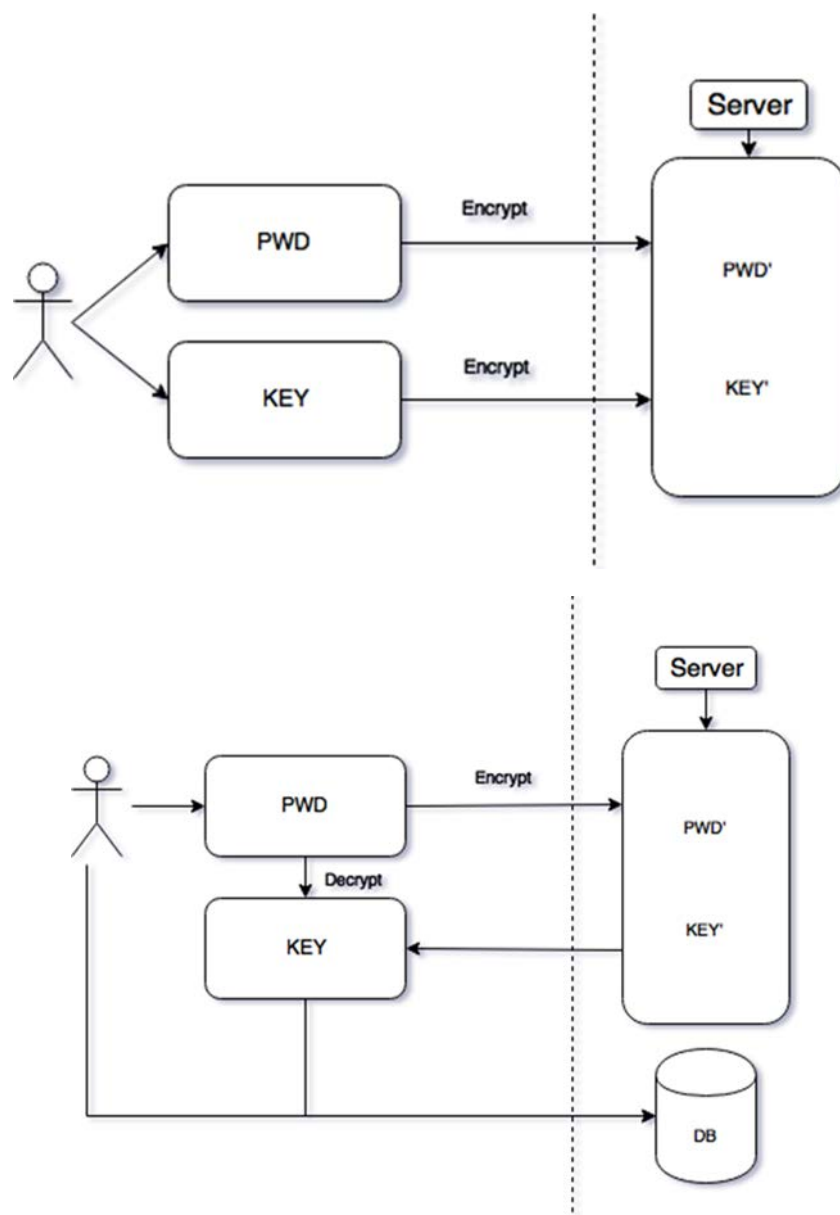
Based on the account system, LemoChain will provide some common business unit plug-ins, which can be rapidly integrated into developers DApp applications. This greatly shortens the project development cycle.

- **Online Coffe.** Encrypting the private key and hosting the backup online. Can only be retrieved by the user.
- **Contacts.** Manages and maintains many token addresses held by users, as well as address information of recent transactions.
- **Points system.** Supports multiple dimensions and digitizes user behavior. Accumulation and summation serve as a measure of the user's loyalty and contribution to the platform and can be used as an operation method to motivate users.
- **Credit system.** Through some basic real-name authentication services, the user's initial credit is evaluated, and the assessment results are continuously revised according to the user's late performance. The entire assessment result will be written as a credit record in the blockchain, providing a strong credit basis for buyers and sellers of data transaction software.
- **Authority Configuration.** Allows the establishment of authorization relationships between accounts and accounts, accounts and applications. Create higher-level data flow control logic through permissions and licensing mechanisms.

#### Online Coffe

The online coffe is a secure private key hosting service provided by Lemo. It is designed to ease the security burden on users. First, the local client encrypts the user's private key and uploads it to Lemo's private key coffe. When the user's private key is lost, the encrypted private key can be retrieved by providing authentication information and decrypted locally. The private key

and password in the entire process will not appear on the Internet, nor will it appear in the Lemo server. Private key security is guaranteed. Only users themselves can decrypt private data stored on the network.



#### Data trade template

In order to help developers trade data of their own industry faster, Lemo has implemented a set of decentralized data trade templates based on dating application scenarios.

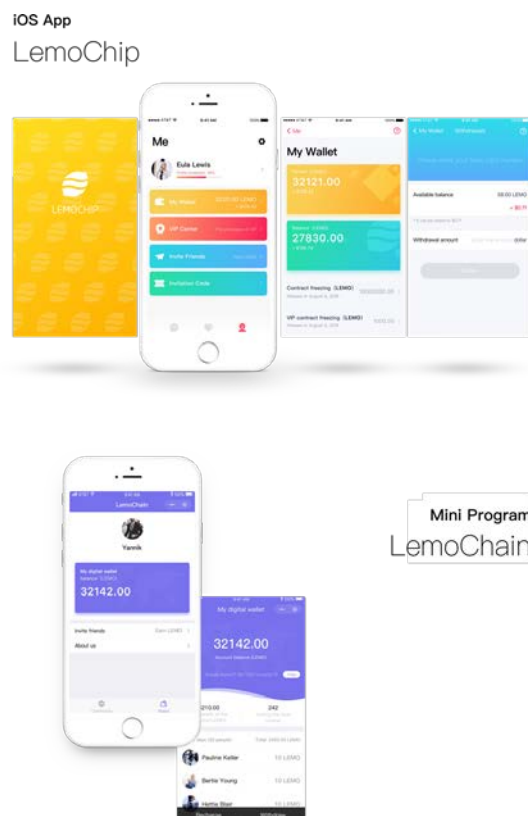
Match all the match-making requirements as transaction data on the chain and automatically match transactions with smart contracts. When the match

is successful, both parties send data to decrypt each other's private key, ensuring that the user's privacy can be seen only if both parties match. The entire transaction process is open and transparent, private information will not be leaked to third parties, and exchanges cannot conceal fraud. Solved the problem of security and trust in traditional data exchanges.

This application shows developers the smart contract of Lemo and how to use each service. It is the best developer learning material. And can be used as a template to derive data transaction applications in other fields.

### Lemo Wallet

We have developed a wallet application for Lemo in order to facilitate Lemo token holders checking their balance, inquiring and tracing transactions and reward records, also receiving related news about LemoChain community. Currently, it only applies to iOS (being reviewed) and Mini-Program on WeChat.



## Applications based on LemoChain

### Decentralized Applications

Blockchain fundamentally solves the trust problem within data circulation, whilst realizing the capabilities of decentralization. The ecosystem of LemoChain will focus on supporting the application of decentralization from the technical level. It develops different modules, such as account systems, credit systems, data flow protocol and so on. It also provides a development platform and interface suitable for different developers and service providers, whilst helping them to save development costs thus allowing them to make efficient alterations. In addition, we will attract more developers to join us through incentive strategies, transforming current brilliant Dapp ideas into a reality, through an accessible and easy to use blockchain platform.

### The support from various sectors

LemoChain is developed on a decentralized blockchain network with a platform capable of supporting tens of millions of active users daily. Through adopting a standardized and decentralized storage mechanism, LemoChain will reduce participation costs for all concerned parties.

LemoChain' s ecosystem architecture is as follows:

- For Developers: We open Data Exchange APIs, Statistical Analysis APIs and Deep Learning APIs
- For Businesses: Data Trading, Algorithmic Trading, DAPP Enterprise
- For the Open Source community: Availability of results from LemoChain' s blockchain R&D

Within LemoChain' s ecosystem, there will be regular adaption and introduction of consensus mechanism developments to adhere to ever-changing industry requirements. LemoChain will support multiple industries which have flaws in credit and data exchange, whilst providing the corresponding technical support to ensure businesses remain consistently in-tune with blockchain. Some industries include: social media, education, recruitment etc. Furthermore, based on the data circulation, smart contracts and



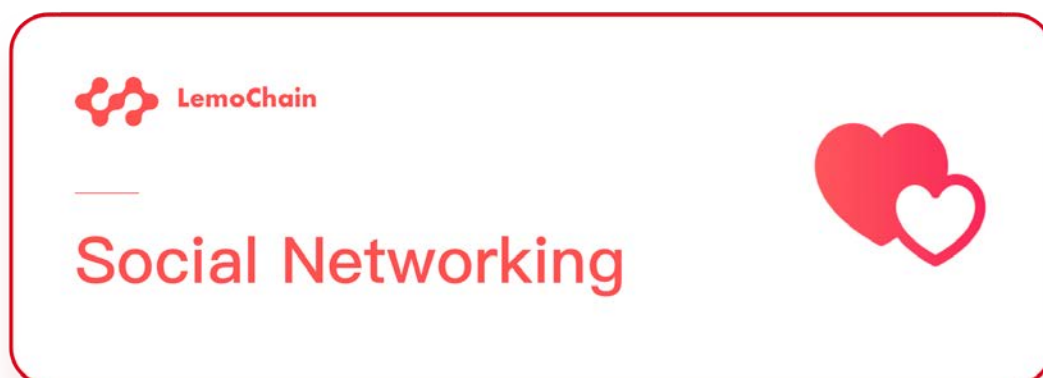
credit system of LemoChain, we can utilize more complex business logic support through the Turing complete programming language.

#### Application scenarios

##### *Scenario 1, applying LemoChain to love, dating and marriage Apps*

In an industry that seeks to provide the best service for individuals finding love, it seems strange that they run exclusively from each other in terms of data. As a result, the industry is plagued with scammers and fake profiles who dilute the quality of matchmaking. Through opening up the data spread across the industry, it can be expected that the overall matchmaking ability and accuracy can only be improved.

LemoChain is secure and transparent, so it is unable to be tampered with or altered; therefore, it can solve the problems of user credit investigation and trust. Meanwhile, our data circulation module will help different dating social networks to break the barrier of data ambiguity, achieving cross-platform interaction of data, offering users more dating partners of higher quality. As a secure, encrypted network LemoChain provides a range of possibilities for decentralized dating applications. Through efficient smart contracts, dating apps will be able to significantly increase matchmaking accuracy; then once a match is proposed by the system and both parties agree



*Scenario 2, applying LemoChain to Healthcare*

Healthcare related DApps possess the capacity to significantly strengthen patient data protection and awareness, whilst providing a platform for efficient data sharing for industrial R&D purposes. Through actively uploading their data onto the blockchain, companies and individuals will be able to receive financial reward (Lemo). This incredibly valuable data pool will then be accessible to medical institutions who are incorporated into the blockchain. Providing this incentive for participants to enlist medical information will serve to streamline the currently extensive data harvesting process in the healthcare industry.

*Scenario 3, applying blockchain to education and HR*

A blockchain based education, skills, and career experience information platform. Blockchain' s immutability and time-stamping capabilities provide a prime platform for universal storage of 'digital identity' . It provides employers with an approved source of qualifications, skills, and professional experience that save them a great deal of human and financial resources in the recruitment process for background checks. The technology system can also be widely used in notarization, finance, banking and other industries requiring document authentication.



Blockchain technology fundamentally addresses the problem of trust in existing data circulation, and then on its basis to achieve decentralization. The LemoChain ecosystem will be devoted to fully supporting the decentralized application from the technical level, developing different modules such as

account system, credit system and data distribution protocol, providing development platforms and interfaces for different developers and service providers, and saving development Cost, helping them to iterate quickly and increase profitability. In addition, through incentives, attract more developers to join LemoChain, the idea of DApp products, so that ordinary Internet users enjoy the value of blockchain technology.

## Lemo Token

### Original token

LemoChain has created its own founding currency, Lemo, which during the pre-sale will be issued as an ERC-20 token and can be converted 1: 1 into a LemoChain based token at the end of pre-sale.

Lemo is about to be published to the LemoChain community members and investors. With a shared vision, they will be working with LemoChain to create value and change the future of data circulation. These members will be the mainstay of community discussion, offering invaluable feedback to LemoChain and even becoming visionaries for its community outreach and future development.

LemoChain created Lemo Token based on Ethereum. Lemo is the digital currency based on the smart contracts and published on the decentralized Ethereum blockchain. The total published amount is 1.6 billion before “mining” , and will annually publish no more than 25 million. The new Lemo based on the main chain of LemoChain adopts a D-PoVP mining mechanism, on the backbone of LemoChain, with contributions to data, storage space and power, community contributions and more.

### Lemo Token Pre-sale

Lemo will issue a total of 1.6 billion Lemo tokens (LEMO). For pre-mining, 25% (400 million) LEMO will be exchanged at a rate of 1 ETH:9,000 LEMO. Tokens will be allocated to the participants during the pre-sale period in two phases: private sale and public sale. The hard cap is 40,000 ETH and the soft cap is 4000 ETH, if the soft cap is not met, all participants will be refunded. The pre-sale will be released to different participants in stages from March 2018, and no more than 20% of the tokens will be issued during the private sale according to the participants' contributions. The pre-sale lasts for 35 days, and stops within 24 hours of reaching the hard cap.

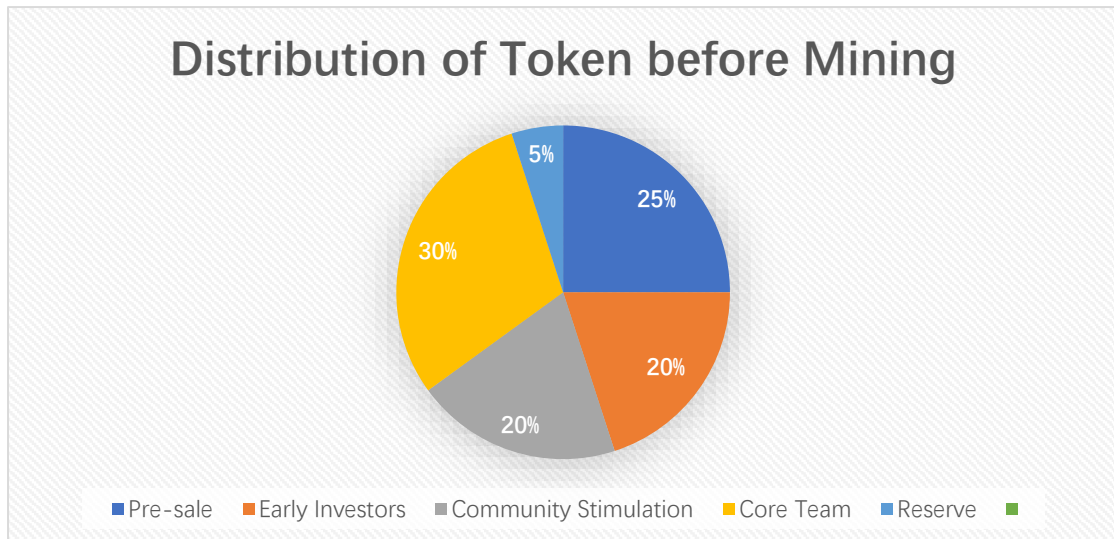
After the pre-sale period is over, subsequent investors will also be able to obtain LEMO through major cryptocurrency exchanges. Lemo will gradually be listed of various cryptocurrency exchanges from mid-late April.

The Lemo Token is a universal medium of data exchange within the Lemo platform; it has the attributes of quantifying the value of data in the Lemo Ecosystem, but it does not participate in the circulation within any other platform besides its native one.

## Overview

Lemo Token Pre-sale Overview	
Description	Volume
Pre-mining	1,600,000,000 Lemos (100%)
For Pre-sale	400,000,000 Lemos (25%)

- 25% of Lemo before mining will be created and distributed to the participants at their smart contract addresses at the pre-sale stage. Participants can check it via the wallet application of LemoChain or Ethereum network;
- 20% of Lemo before mining will be created and distributed to early-stage investors of LemoChain;
- 20% of Lemo before mining will be used for early user stimulation, rewarding users and developers joining in to develop the ecosystem and community of LemoChain;
- 30% of Lemo before mining will be created and distributed to the core developers, founders, teams, and partners of LemoChain. It is bound to a 24-month period smart contract, which executes once every 6 months;
- 5% of Lemo reserve will be locked for at least 12 months as a strategic buffer, and periodically and gradually assigned to new contributors. The premise should be beneficial to the growth of the entire Lemo community. Otherwise, these reserves will be withdrawn and reallocated.



## Budget

Funds raised during the pre-sale period will only be used to help LemoChain's ecosystem development and expansion. LemoChain's technical research shows the viability of these technologies in related fields, but also recognizes that the work of the Lemo community has a long way to go.

Below is a budget plan:

### *40% Core development*

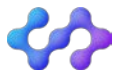
Core development includes the core techniques of LemoChain as well as the development of smart contracts and the decentralized ecosystem. A majority of this budget will be used for building basic framework, improving user experience and developing new functions.

### *20% Security*

The undergoing foundation relies on the security of LemoChain's blockchain. We are planning a series of security inspections, and each new function must be inspected thoroughly before going online to the main network.

### *25% Marketing*

Given the reward mechanism of the previous Lemo platform, we will reward and support early contributions of quality developers and encourage users to invite more potential community members in order to remain continually prosperous.

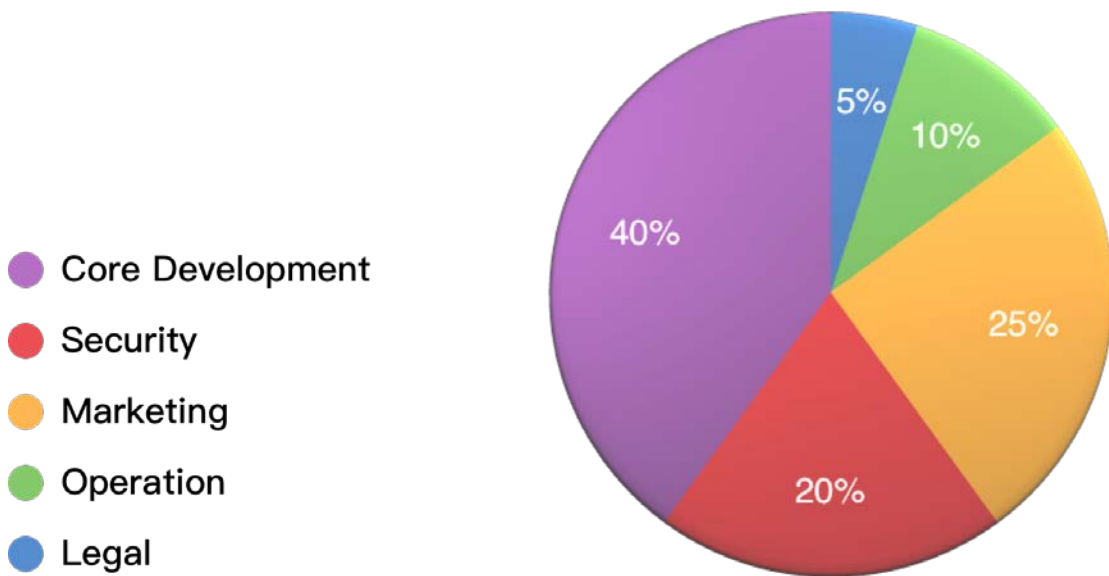


### *10% Operations*

To ensure the smooth operation of the whole network, Lemo Foundation will pay more attention to the operation and management of community, and will globally seek resources useful for ecosystem development.

### *5% Legal*

Legitimacy is the key to the long-term success of LemoChain, so we will delegate a portion of the budget to legal expenses, to ensure it is legal under all sorts of inspections when LemoChain goes global.



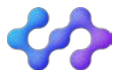
### *Unlocking plan of early token holders*

To ensure the long-lasting success of the LemoChain community, early token holders of Lemo will meet a lock-up period, details are the following:

#### *Founding Team*

Lemo tokens held by the founding team can only be periodically liquidated. Additionally, every withdrawal needs the support of the Foundation's decision-making committee.

- First time (2018.10) 12.5%
- Second time (2019.04) 12.5%
- Third (2019.10) 12.5%
- Fourth (2020.04) 12.5%

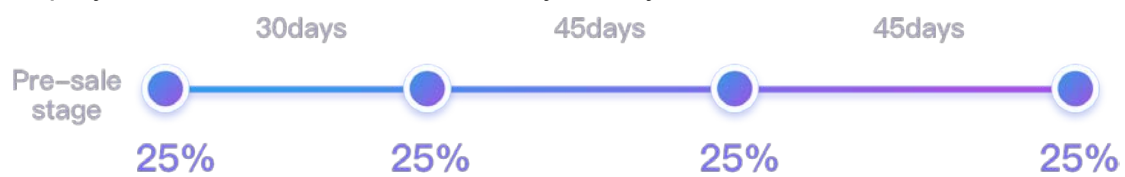


## Lemo White Paper

- Fifth (2020.10) 12.5%
- Sixth (2021.04) 12.5%
- Seventh (2021.10) 12.5%
- Eighth (2022.04) 12.5%

### Early Investors

After pre-sale stage, Lemo held by early investors will be deployed in four phases. On the day of being listed on the first exchange, 25% of Lemo will be deployed, the following 25% will 30 days later, and the final 50% will be deployed in 25% installments for every 45 days.





## LemoChain's Ecosystem Governance Framework

### Lemo Foundation LTD

In order to maintain the sustainable progress of LemoChain and avoid scattered development structure and the underlying structural differentiation, Lemo Foundation LTD (Lemo Foundation), a non-profit organization registered in Singapore, will oversee LemoChain's operations. The primary purpose of the foundation is to ensure the fairness and productivity of ecosystems Growth, at the same time will develop a sound governance structure, the establishment of the Standing Committee, the code management, financial management, payroll management, update iterative management and the scope of privileged operations management. At the same time, the Standing Committee follows the continuous development of foundations and communities and introduces monitoring and oversight mechanisms, rulemaking and change control management. Ultimately, the Lemo Foundation will promote the transition of the entire ecosystem to a fully decentralized and autonomous network. Through full cooperation with partners, Lemo Foundation LTD will integrate various resources such as government, enterprises, technology, commerce and universities to maximize resource sharing, make efficient use of resources and achieve social synergy.

To ensure LemoChain's sustainable development and alignment with community values; The Lemo Foundation, a non-profit organization registered in Singapore, will oversee LemoChain's operations. The purpose of The Foundation is to ensure fairness and productivity are at the core of the ecosystem's growth, whilst providing a range of support including:

- Stable governance architecture
- The establishment of a standing committee
- Code management
- Financial Management

## Payroll Management

Ultimately, the Lemo Foundation will promote the transition of the entire ecosystem to a fully decentralized and autonomous network. Through full cooperation with partners, Lemo Foundation LTD will integrate various resources such as government, enterprises, technology, commerce and universities to maximize resource sharing, make efficient use of resources and achieve social synergy.

At the same time, The Lemo Foundation LTD will also provide transparent financial management, comprehensive code management, R&D, marketing and security R&D, to help LemoChain's commercial promotion. The Lemo Foundation will actively promote a high standard of ethical and honest business practices, abiding by all relevant laws and regulations. In addition, The Lemo Foundation LTD will employ third-party authorities to audit f LemoChain through relevant audit reports.

Lemo Foundation LTD is a Non-Profit Entity, approved by the Accounting and Corporate Regulatory Authority (ACRA) (ACRA) and is governed by the Singapore Companies Act. The foundation is run independently by a board of trustees and management committees (i.e., decision committees below) that have business and legal personnel who are qualified by the foundation. Under Singapore law, the Lemo Foundation is a legally established non-profit organization that does not have any commercial interest in support of or participation in public or private profit driven activities. The "profits" it receives are defined as surpluses and will be retained as funds for other activities without allocation among its participants. Whilst operating internationally, The Lemo Foundation will always comply with all local Laws and Codes of Conduct so as to run efficient global operations



### Founding Team of LemoChain

LemoChain team consist of intellectuals from Silicon Valley, Singapore, London and China. It integrates technological innovation of Silicon Valley, high efficiency of Singapore, financial data processing ability of London as well as quality R&D capabilities from major companies including Tencent and Qihoo 360. The team is equipped with experienced data construction and processing ability and is committed to uplifting real-life quality and commercial effectiveness through blockchain. "Go Mobile" strategy will accelerate the transformation of blockchain from technology to 'brick and mortar' products whilst uplifting its industry usability so as to make data interconnected in a real commercial society:

### *Founding Members (Q1 2018)*

LemoChain team consist of intellectuals from Silicon Valley, Singapore, London and China. It integrates technological innovation of Silicon Valley, high efficiency of Singapore, financial data processing ability of London as well as quality R&D capabilities from major companies including Tencent and Qihoo 360. The team is equipped with experienced data construction and processing ability and is committed to uplifting real-life quality and commercial effectiveness through blockchain. "Go Mobile" strategy will accelerate the transformation of blockchain from technology to 'brick and mortar' products whilst uplifting its industry usability so as to make data interconnected in a real commercial society:



**Andrew Ma** (Co-founder & CEO)

As a college tennis Champion & mountain bike free-rider, Andrew never lacks the passion for making achievement. He holds a Master's degree in Electrical and Electronic Engineering. Founded Senorld in 2013 and developed the first Zigbee powered wearable device for dogs, then built and operated several successful social networking apps. With years of high-tech industry experience in both China and the U.S., Andrew is now leading the LemoChain team.



**Dylan Sutton** (Co-founder & COO)

A Bachelor of Business Management BSc from Swansea University, U.K. Dylan has a wealth of business experience and financial data understanding. At LemoChain, he'll be in charge of: LemoChain community growth, core user maintenance, operational strategies and marketing/branding strategies. He is also the planner for LemoChain's future rewards engine



**Lnk Yan** (Co-founder & CTO)

He received a bachelor's degree and a master's degree from the Sichuan Universities' Computing College. Additionally, having worked at Tencent he was responsible for over 100, 000, 000 users whilst working on product development. Whilst at QQ team, he was on the browser team in charge of client R&D work as well as developing Tencent cloud storage products. He's been well in touch with Blockchain from 2013 and is an experienced full-stack engineer.



**Frank Liu** (Co-founder & Chief Architect)

He obtained a Bachelor's degree in Computer Science. He worked as a big data engineer at Comverse Technology, Inc., a

benchmark technology company in Israel, responsible for the creation of credit information. He was also the founder of Meetin Ltd. a meeting & conference oriented business networking app, and conference big data analysis SaaS system.



**Benjamin Jooste** (Community Leader, Promotional Manager)

As a blockchain aficionado and social media guru, Benjamin passionately leads our promotional operations. His diverse linguistic skills and experience in social media management allows him to ignite and integrate Lemo's community across all corners of the globe.



**Raffael Krause** (Brand & PR Manager)

He graduated from the University of Hockenheim, Germany with a Master's degree in Management before becoming brand manager at Wüstenrot & Württembergische Bank. He has a deep understanding of the requirements of the European and has a range of technical capabilities, including: brand analysis, market positioning and promotion. He's Now responsible for the development and implementation of LemoChain's brand and operating strategy.



**Han-liang Ding** (Foundation Chief Secretary)

He graduated from Nanyang Technological University in Singapore and is familiar with Singapore's foundation regulatory rules. He has many years of experience in social media and foundation operations and is in charge of the preparation and daily routine of the Lemo Foundation.



**Roby Zhou** (Chief System developer)

Roby is a bachelor of Engineering from Sichuan University. He was In the WeChat R&D team involved with WeChats' first voice recognition tool. He was also In Tencent' s research Institute, engaging in Big Data product SOSO, voice assistant iOS products and Mac browser R&D work. He has a comprehensive understanding of the Apple iOS system framework and is currently responsible for LemoChain system development.



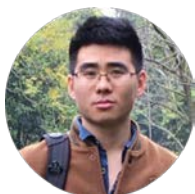
**Sean Zhang** (Product Manager)

Previous PM of Qihoo 360, with 2 years experience managing over a million users for social products, he has a deep understanding of social user experience and operations. He now serves as LemoChain product manager.



**Jake Andrews** (Front-end Developer)

He graduated from Cardiff University in the United Kingdom, majoring in computer science and information science. He has rich experience in the development of blockchain technology and is responsible for LemoChain wallet security and communications.



**Roy Luo** (Back-end Developer) (CHN)

Having served at Sangfor Technologies as a research engineer; Roy, a long-term Ethereum enthusiast has 3 years of extensive R&D experience in the development of blockchain.

**Dr. Lucas Lu**

- Graduated from the Department of Modern Physics, University of Science and Technology of China , subsequently received a Ph.D. in Physics from the Southern Methodist University in the United States.
- He worked at CERN when he participated in theoretical and experimental research of The Higgs Boson
- Former CTO of Light in the Box set trend and reconstructed technical framework. The escort Lan Ting Gadget which in 2013 was the first foreign trade e-commerce company listed on the New York Stock Exchange
- First general manager of Taobao mobile, also the general manager of Hua Taobao (joint venture) company (later repurchased by Alibaba).
- Current 5miles CEO

**Dr. Xiaosong Zhang**

- Yangtze River Scholar and Distinguished Professor at the Chinese Ministry of Education;
- The 11th Chinese Technology Education Leader
- National Science and Technology Award Review Experts;
- Visiting expert and advisor to The National Defense Laboratory
- China National Center for Information Technology Security - Director of Cyber Security
- Technology Laboratory, University of Electronic Science and Technology of China;
- Deputy Director of the Big Data Research Center, University of Electronic Science and Technology, Director of the Institute of Security Big Data and Blockchain Institute.

**Yuhang Guo**

- CEO & Founder of Dianrong.com, one of the the largest ITFINs in China.

**Timothy Tang**

- Former Product Manager, Tencent, QQ Browser

- Founder, Zero Start Ventures

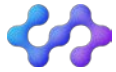
### Wenhui Yu

- BABI Finance, COO
- Xiouhui.com COO
- MoveBlock Capital Chief Market Analyst

Some Partners of Lemo





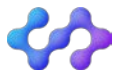


*Due to various NDAs we have signed, information about our current investors and more partners can only be revealed upon request and sign a NDA. For details please contact us through: [foundation@lemochain.com](mailto:foundation@lemochain.com)*

## The Execution and Iteration of LemoChain

### Timeline





### Pre-sale plan of LemoChain

LemoChain users and their developers acquire the power of LemoChain by leveraging Lemo holdings, especially paying and consuming a certain amount of Lemo currency when running distributed applications in LemoChain. At the same time, other digital asset transactions in the LemoChain network will be settled in Lemo tokens.

LemoChain tokens will be generated when Lemo is released and is held by The Lemo Foundation. ERC-20 Lemo tokens held by early holders can be redeemed 1: 1 at this time.

Specific rules and regulations for the Lemo public pre-sale will be listed on the official LemoChain website and on all Lemo wallet applications, please pay attention to these.

To participate in the Lemo pre-sale is not non-risk. For detailed risk details, see LemoChain Disclaimer and Risk Descriptions.

### LemoChain iteration plans

As an emerging technology, blockchain will confront various challenges as well as opportunities. Iteration directions of LemoChain in the future:

- ❖ Infrastructure code iteration;
- ❖ Commerce-based application iteration.

#### *Infrastructure code iteration*

When the infrastructure code of LemoChain fails itself, system upgrades will be deployed. The loopholes need to be analyzed, tested and audited by Code Review Committee and then reported to Decision-making Committee. Definition of loopholes are as follows:

- ❖ Affecting user asset security
- ❖ Major security issues
- ❖ System operation logic is not in accordance with what' s designed



When LemoChain ecosystem cannot satisfy the commercial and user requirements from participants, opinion leaders, on behalf of community interest, will bring forward a plan. Following this, the Decision-making Committee will organize developers to work on that after an agreement being reached on that plan. After the development, Code Review Committee will analyze, test, and audit on code submitted and then report to Decision-making Committee for iteration.

### *Commerce-based application iteration*

LemoChain is a global open source project that connects blockchain with the real world through technological and conceptual innovation. Regarding the iteration of business applications, Lemo Foundation will select the appropriate third-party to cooperate with LemoChain to strive forwards and provide technical support.

*\*The white paper only demonstrates LemoChain project progress up to Mar. 10th, 2018. Version number 2.1  
Looking forward...*