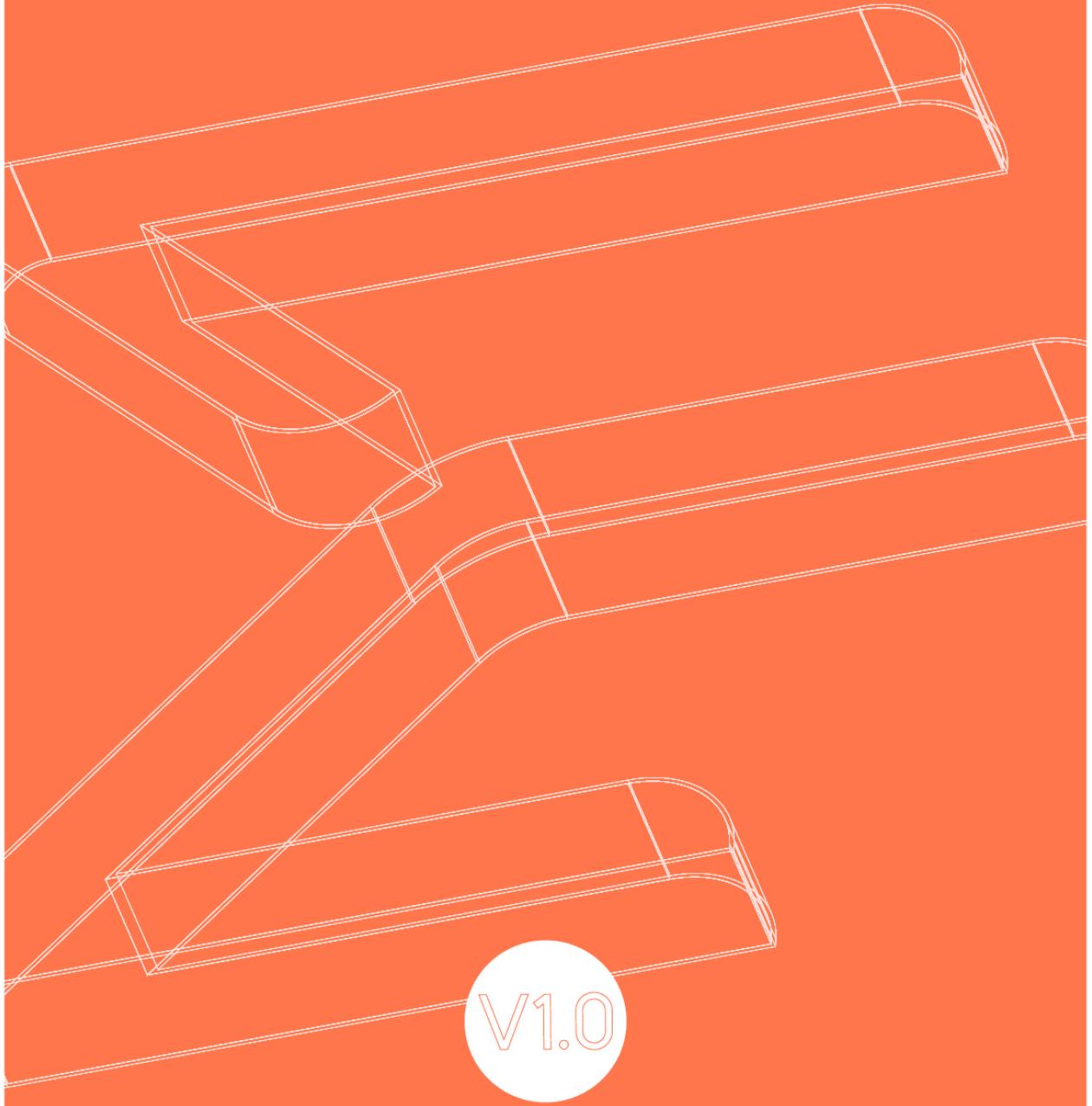


$\Sigma$  LIGHTCASH



LIGHTCASH  
WHITE PAPER

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# LightCash(Lcash) Payment Network

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# 1. Executive Summary

The rapid evolution of blockchain technology has been an important catalyst in the boom of the cryptocurrency industry, as seen in the development of Bitcoin. As of end of 2017, the global cryptocurrency market value exceeded US\$600 billion and more than 1,600 cryptocurrencies are in circulation around the world presently. However, the cryptocurrency industry is plagued by inconvenient management, high threshold of entrying and use, high prevalence of mainstream cryptocurrency, slow transfers, high processing fees, and limitations in processing micropayments.

Against this backdrop, LightCash, a forward thinking and innovative cryptocurrency payment solution, aims to provide effective answers through a decentralized cryptocurrency payment ecosystem, LightCash. A blockchain integrated payment platform, LightCash provides BaaS (Blockchain as a Service) one-stop payment solutions for blockchains built around a payment ecosystem. Specifically, it provides a scalable and cross-border payment solution (LCASH PAYMENT NETWORK, LPN) that is designed to create a safe, convenient, efficient and cross-chained digital asset payment platform. LightCash also helps organizations and companies gain access to the rapid deployment of blockchains.

Firstly, LightCash plans to create a cross-chain solution that enables users to implement safe, quick, low-cost and convenient management. Here, a hybrid mechanism of notarization and sidechain will be adopted to implement a cross-chain solution in the use of cryptocurrency for payment. Secondly, LightCash is well-positioned to provide technical solutions and elemental support for building decentralized applications, DAPPs, for companies and organizations that have need for such solutions.

The increase in types of cryptocurrency necessitates a more powerful payment tool to support a large number of cryptocurrencies. With LightCash, a complete payment ecosystem will be built, providing companies and institutions with a one-stop payment solution featuring BaaS.

From a technological point of view, LightCash focuses on solving the two major challenges of cross-chain communication, and payment and exchange. Firstly, LightCash creates a free flow between numerous cryptocurrencies, and secondly, it accomplishes the safe, fast, small- and micro-, and cross-border payment of digital assets.

2018 will be a crucial period for the public to form a better understanding of cryptocurrency. People will not only know the existence of various cryptocurrencies, but would also want to know which cryptocurrencies to purchased and use. It is estimated that by the end of 2018, there will be 50 million people who own at least one type of cryptocurrencies. The London British Exchange (LBX) pointed out in a study that by the end of 2018, one in every three young people will become a holder or investor of cryptocurrencies.

LightCash provides convenient payment methods that allow the use of cryptocurrencies at the tip of your fingers. LPN focuses on providing access to cryptocurrency and forming a payment ecosystem, and provides a blockchain application service BaaS platform.



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## 2. Project Background

### 2.1 Origin of Cryptocurrency

Cryptocurrency is a digital currency using cryptographic principles to ensure the security of transactions. It controls the trading medium created by trading units. Satoshi Nakamoto published a paper titled "Bitcoin: A Peer to Peer Electronic Cash System" in 2008. He first proposed the concept of blockchain and built a technology for the encrypted transmission of transaction information. He also built the Bitcoin network. In 2009, Bitcoin became the first decentralized cryptocurrency, and its system has been operating smoothly. Bitcoin has automatically made the process from distribution to trading.

Currently, there are more than 1,600 cryptocurrencies in circulation around the world, and the market value has exceeded \$ 600 billion. The market value is expected to reach \$ 1 to 2 trillion by the end of 2018.

A few years ago, Bitcoin was just a form of entertainment for geeks and nothing was more reliable than gold or US dollars in the world. However, history always presents rich rewards to pioneers. The value of one bitcoin has soared from a few cents to almost \$10,000 in nine years. The digital era will eventually lead people to know more about cryptocurrencies and the epoch-making significance of blockchain technology.

### 2.2 Advantages of Cryptocurrency

the medium of exchange has evolved from the exchange of goods to the use of gold, silver, copper and other metal coins as, to the unified legal paper currency established by national financial institutions. Today's bank cards are based on that legal currency. Electronic payments, a classic example of a payment method conducted online, have gone through four phases to form a centralized currency circulation system. Cryptocurrency (virtual currency), with its decentralized consensus mechanism, leads to another breakthrough in the ways of conducting transactions.

Today, blockchain technology is becoming one of the world's leading technology. It will change our future, and its value is widely recognized. Countries around the world might experience the stages of suspicion, understanding, trial, and promotion. Some countries such as Japan, Germany, Canada, and Switzerland will embrace it positively. The United States, China, and the United Kingdom will seize opportunities and set the stage for mass adoption. According to studies, there are still wait-and-see countries.

In a virtual currency report, the European Parliament emphasized that virtual currency and blockchain technology can significantly reduce the costs of payment and fund transfers and therefore make important contributions to consumer welfare and economic development. In addition, blockchain technology can also improve the speed and flexibility of payment systems and track transactions to prevent illegal activities.

From a technological and financial perspective, cryptocurrencies have the following advantages:

#### a. Decentralization and low transaction costs

Traditional monetary transactions must rely on authoritative third parties while cryptocurrency solves the problem of double-spending. It removes third-party organization



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and reduces intermediaries to lower payment processing fees. At the same time, it also means that payments can easily cross borders and can be used for peer-to-peer transactions with anyone.

**b. No credit risk, completely anonymous**

Without any third-party intermediary, two strangers are able to reach trust at a low cost. They can quickly achieve direct and efficient transactions. The payment process is completely anonymous and therefore it does not record the personal information.

**c. Open and transparent, constant in quantity**

When a cryptocurrency is issued, it simultaneously reveals the open source code. All the processed information exists on the blockchain, a universal ledger. The account book has absolute authenticity and uniqueness. It is difficult to tamper with the entire network of payment records. At the same time, each cryptocurrency has a limited total amount which can be queried through open source code. In this way, the value of the cryptocurrency is kept stable

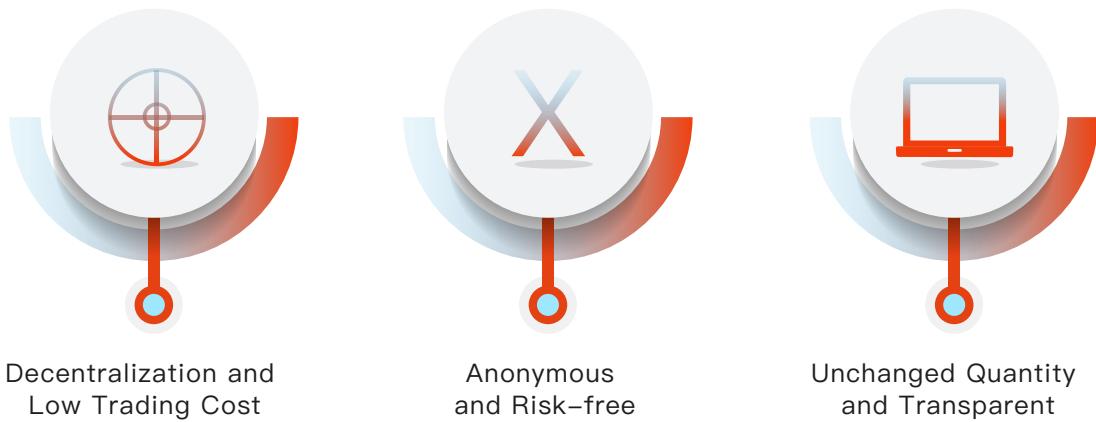


Fig. 1 Features of Cryptocurrency

## 2.3 Current Challenges

However, cryptocurrencies, represented by Bitcoin, are also facing many challenges for payment today:

**a. High threshold**

The use of cryptocurrency is not friendly, and users need to spend a lot of time learning the system. The problematic and cumbersome access process can also lead to high communication costs.

**b. Difficulty in making micropayments**

Cryptocurrency should have the ability to process small amount transactions quickly. However, mainstream cryptocurrency represented by Bitcoin has lost its micropayment capability. Due to constant transfer fees, the high cost of micropayments also limits the expansion of the use of cryptocurrency.

**c. Congestion and slow transactions**



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Bitcoin's main network is now very congested. The number of transactions in the entire network has far exceeded the processing speed. A single payment can only be completed on the next day if there is a delay of just a few minutes.

d. **Decentralized management**

Many cryptocurrency addresses are difficult to manage. The private key information is a randomly generated alphanumeric string and it is not convenient to memorize. In addition, each currency is independent and cross-chain communication is not available.

e. **Limited real-world use**

The further development of cryptocurrencies will eventually connect with our real life. However, at present, there are few global contexts for the use of cryptocurrencies. The payment ecosystem needs to be enriched.

f. **Inconvenient platform**

At present, many blockchain payment projects still rely on digital wallets. Most of them address the inconvenience of cryptocurrency management. They do not provide a one-stop BaaS payment solution in the payment ecosystem or build a large payment infrastructure platform. No project has yet reached this stage so far.

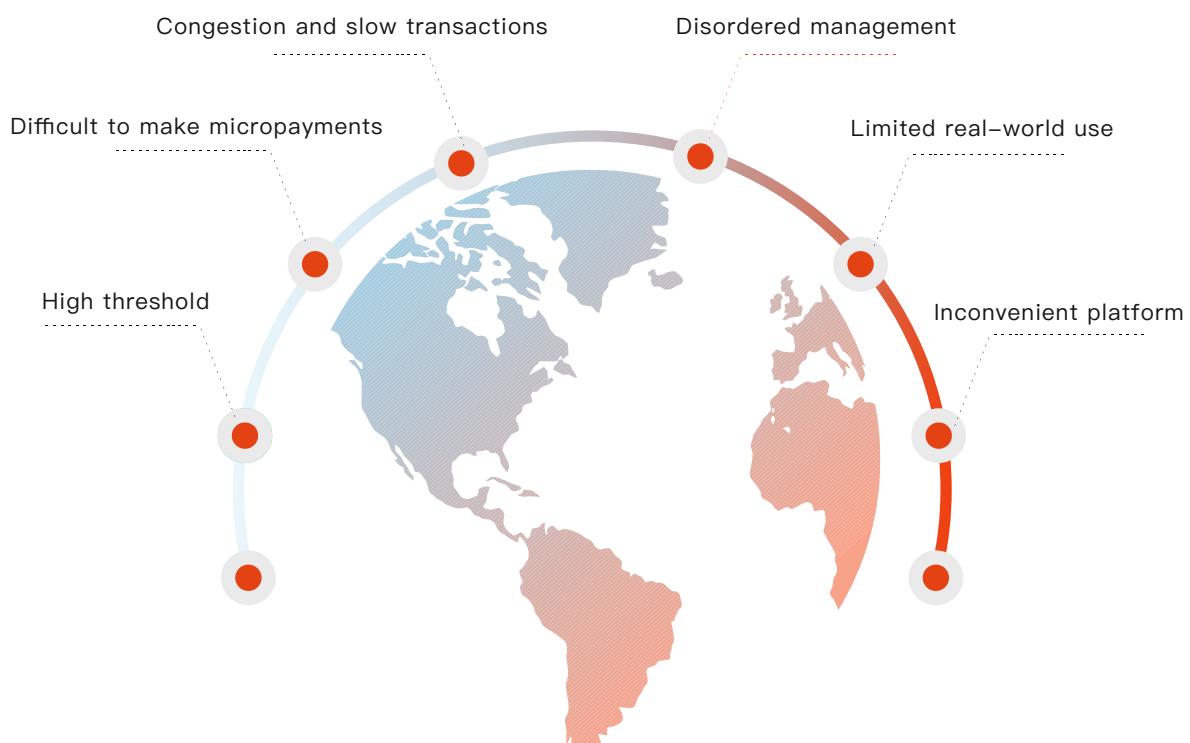


Fig. 2 Current challenges in blockchain payment



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LightCash has the capability to solve the above-mentioned challenges. It will build a perfect big payment ecosystem, provide blockchains with a BaaS one-stop payment solution that opens up the use of cryptocurrencies in the real world, and help users use cryptocurrencies freely and conveniently. LightCash's related digital asset services will also make it easy for users to manage their digital assets.



L I G H T C A S H

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## 3. LightCash Products

LightCash is open to the world. We will introduce retailers and similar merchants, and access to banks and other legal currency settlement agencies in accordance with current laws and policies around the world and future legislative provisions. We are committed to providing users with compliant, safe, and convenient payment methods and services. Further, our goal is to build a fully decentralized cryptocurrency payment ecosystem consisting of LightCash Wallet, LightCash Business Platform, and BaaS One Stop Payment Solution.

### 3.1 LightCash Wallet

The LightCash DAPP Wallet is a blockchain wallet based on the LightCash Payment Network (LPN). It is secure and easy to use.

For individual users, LightCash Wallet is designed for cryptocurrency payments. The LightCash Wallet based on LPN technology has the following features:

#### 3.1.1 One-click Management of All Cryptocurrencies

Unified management of different cryptocurrencies through the LightCash Wallet (DAPP) not only supports the current mainstream currency, but also updates access to new tokens at any time. Users can conveniently manage blockchain assets and enjoy secure and reliable wallet management services.

#### 3.1.2 Decentralized Secure Payment

LightCash Wallet can easily realize the payment of assets through the contract payment process of the LPN network. Since digital assets in the LPN network are all anchored assets, the decentralized digital currency exchange services can be conducted easily for decentralized peer-to-peer payments. The secure payment through multiple-signed nodes can also be achieved.

#### 3.1.3 Support Full-Scene Payment Mode

The core idea of LightCash payment transaction is to separate transaction information and settlement processing of digital currency on the main chain. Four modes of payments including receipt payment, mixed payment, contract payment and exchange payment are supported. their supports cryptocurrency as the only payment currency, and the cryptocurrency and legal currency as the payment currency. At the same time, users can conveniently conduct transactions and exchanges with the exchange API., Optimization and upgrading functions such as one-button buying of the new currency of the exchanges are also available.

#### 3.1.4 Improve Payment Efficiency and Reduce Costs

Based on the security and stability of the main chain network, LightCash improves the efficiency of the main chain payment transaction processing through the sidechain approach. As a result, the cost of multi-frequency transactions will be significantly reduced.

LightCash's payment process can be simply understood as: crediting, payment, billing, and settlement. LightCash will credit the user account with the same amount of the anchor



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asset currency (LCT). The payment process uses the process of anchoring the LCT trade. The user's real assets stay on the original currency's main chain. Transactions in LightCash will be recorded in the LPN network as orders. At the time of settlement, LightCash initiates final master-chain settlement through smart contracts. This process ensures that the transaction is extremely fast and free.

#### 3.1.5 Support for Legal Currency Settlement

Supports settlement of legal currency in countries and regions covered by the legal currency acceptance network. At the same time, LightCash will follow-up the introduction of recognized credible institutions such as banks, notaries, and licensed public trust agencies to provide digital asset exchanges services.

### 3.2 LightCash Commercial Platform

LightCash provides commercial users with its commercial platform. With a traditional payment-level SDK, it provides a sandbox environment for testing. It supports merchants to use DAPP traditional web and offline access. It also provides mobile and PC-based payment applications.

For example, merchants such as retailers can use the LightCash Commercial Platform to access cryptocurrency payment scenarios with one-click access to zero-cost cryptocurrency payments from around the world.

In the field of cross-border payment, it can help foreign trade companies achieve rapid, contractual, irrevocable, non-restricted, safe and low-cost cross-border payments.

### 3.3 BaaS One Stop Payment Solution

LC-BaaS (LightCash Blockchain as a Service) is built on the LPN platform. It provides a one-stop payment solution for enterprises rapidly build corresponding IT infrastructure and blockchain services according to their needs. One-click rapid deployment access, decentralized trust mechanism, support for private chain, affiliate chain and multi-chain can reduce the cost of implementing blockchain technology, and simplify the blockchain application construction and operation and maintenance management. At the same time, it can help companies to achieve personalized needs, all-round one-stop rapid provision of customized programs.



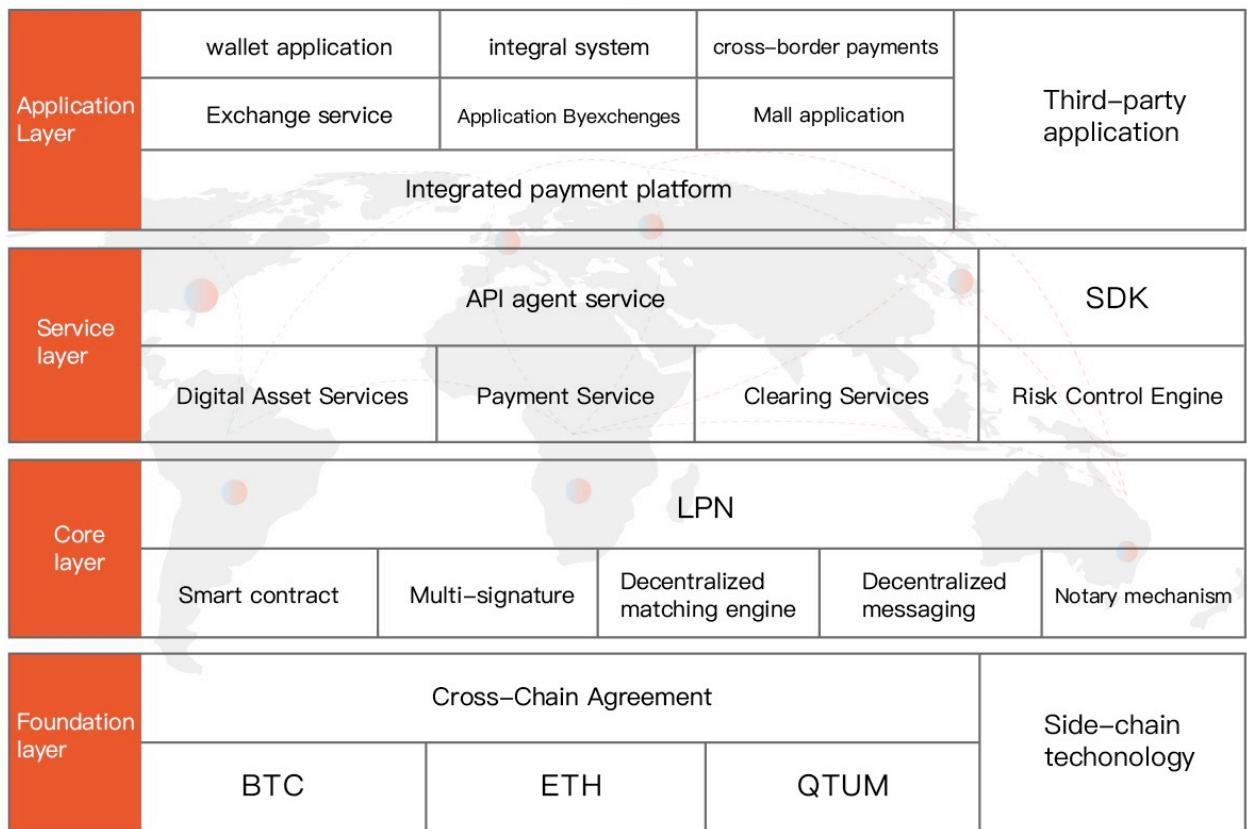


Fig. 3 Overall Structure of LIGHTCASH Platform

For an enterprise or individual user without a blockchain related technology, the open blockchain API interface allows easy and quick access to the functions of storing, transferring, and payment of digital currencies based on the underlying blockchain. Users only need to care about the business logic of their upper application, rather than how the underlying blockchain implements these functions.

### 3.4 Advantages of LightCash

**Decentralization:** Cryptocurrency custody, payment decentralization (not on exchanges)

**No risk:** The cryptocurrency is still on the original main chain and it will only be transferred after the transaction is completed.

**Universal:** Efficient and low-cost cross-border payment

**Seamless cross-chain:** Instant payment across multiple currencies, including mainstream cryptocurrencies

**Instant and efficient:** LPN technology enables millisecond payment experience

**Access to notary mechanism:** Allows merchants to instantly settle into legal currency

**One-stop digital asset management:** One-click management for all currencies

**BaaS service:** Provides one-stop blockchain payment solution for enterprises





Fig. 4 Advantages of LightCash

Through the LPN technology solution, LCash aims to effectively and permanently resolve cryptocurrency payments in a decentralized manner.

There is no centralized node in the LPN architecture. Both the transmission of cryptocurrency and the settlement of the legal currency are coordinated by the user nodes on the network. In this process, users will be able to make successful and complete real-time payments using cryptocurrencies, especially small and micro-payments for consumption scenarios. They will not be delayed due to congestion and they will not be ignored due to small amounts. The circumstance that the fee is higher than the payment amount will not occur. The merchant receives the corresponding cryptocurrency in real time and they can convert it into a legal currency through a third-party trusted organization in the LPN ecosystem (in the scope permitted by law, such as relevant countries and regions). Third-party trusted organizations accessing LPNs and providing corresponding services receive corresponding incentives to attract more currency exchange agencies.

LPN solves the problems encountered by cryptocurrencies in payment scenarios with low cost and high efficiency. It can also ensure the safety of funds of both users and merchants. The main chain asset is actually locked on the main chain network, and the private key is multi-signature encrypted, and therefore the entire process is automatically completed by the smart contract. In the above transaction process, if there is a problem in the transaction link, the user's funds will not be affected, stolen or lost. Instead, it will still stay securely in the main chain of the corresponding cryptocurrency.



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## 4. LightCash Technology Innovation

LightCash focuses on the development, implementation and landing of blockchain applications. In order to quickly build a blockchain-based payment ecosystem, the LightCash blockchain unified payment platform uses LPN solutions to implement the underlying service interface of blockchain applications. The existing cryptocurrency payments are received via LPN on the blockchain to form a set of replicable and scalable blockchain payment ecological landing solutions through practical project practice. It also provides blockchain application service (BaaS) one-stop payment solutions.

### 4.1 LCASH Payment Network (LPN)

LPN is essentially a public network capable of carrying any main chain (such as Bitcoin and Ethereum). Each LPN node is called a LPNE (LIGHTCASHMENT NET ELEMENT) network element and can be connected to one or more backbone nodes. Deployed together, the LPNE network's smart contract program allows access to the underlying APIs of the main chain, enabling chain functions such as asset locking, asset unlocking, asset verification, and asset transactions. Its characteristics are based on the security and stability of the main chain network. It enhances the efficiency of the main chain payment transaction processing through the side chain approach. It also greatly reduces the cost of multi-frequency trading. The original independent main chain can freely exchange and circulate information and assets with other main chains through the external chain.

#### 4.1.1 Features of LPNE Network Elements

The characteristics of LPNE network elements are based on the security and stability of the main chain network, and improve the efficiency of the main chain payment transaction processing through the external chain method, greatly reducing the cost of multi-frequency transaction, and at the same time through the external chain, so that the original independent main chain can freely exchange and circulate information and assets with other main chains.



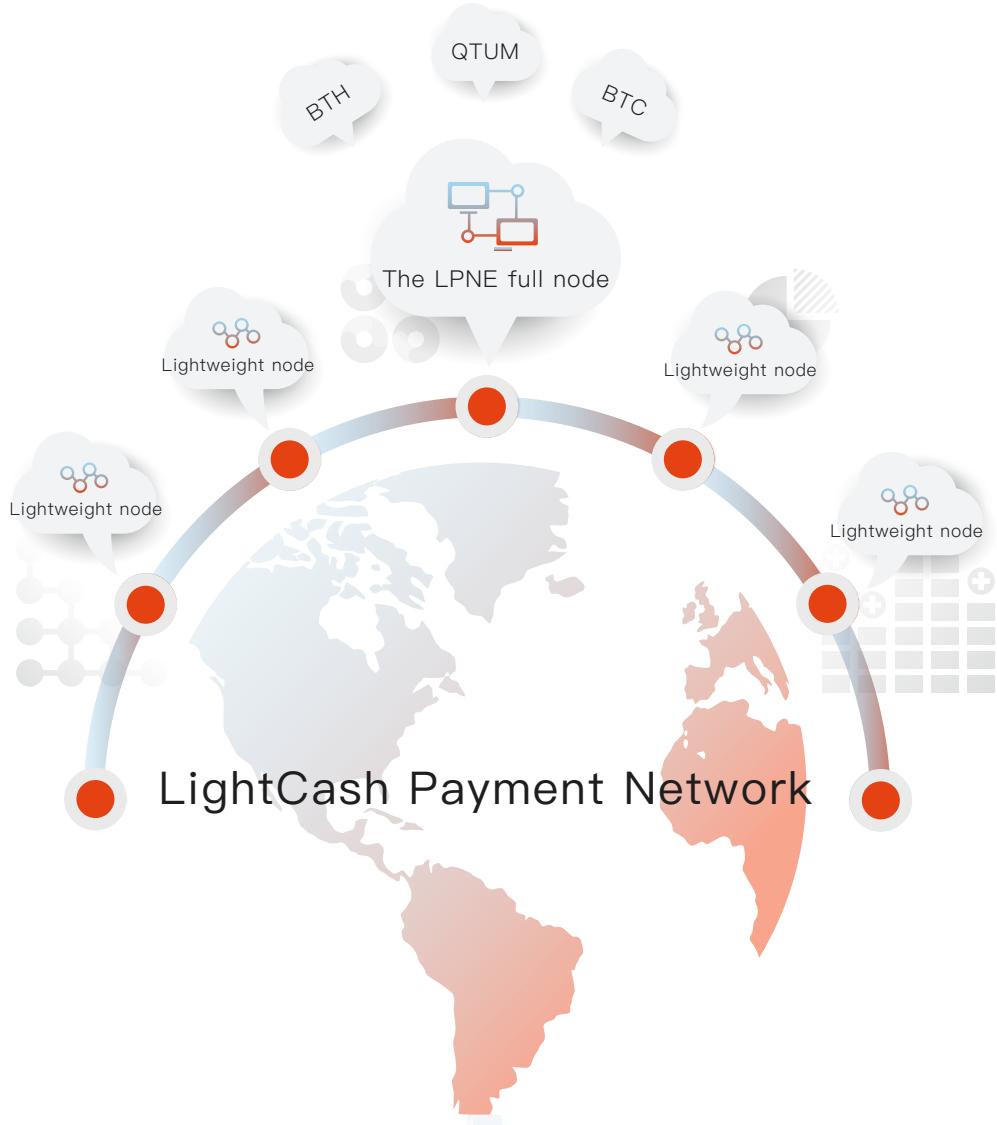


Fig. 5 LightCash Payment Network

#### 4.1.2 LPNE Network Element Format

LPNE network elements will be divided into two forms:

- All-block nodes: Synchronize all blocks to provide power for the network.
- Light node: Synchronize only the block header information related to itself, which is mainly used for mobile applications.

The operation of the whole node will generate a credit according to the credit mechanism. When the credit score is greater than a certain value, the whole node can be selected as a notary.

#### 4.1.3 Four Payment Modes of LPN

The core idea of the payment transaction on the LPN network is to separate the



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transaction information and settlement processing of the digital currency on the main chain. It mainly supports the following four payment scenarios:

- Receiving payment
- Mixed payment
- Contract payment
- Exchange payment

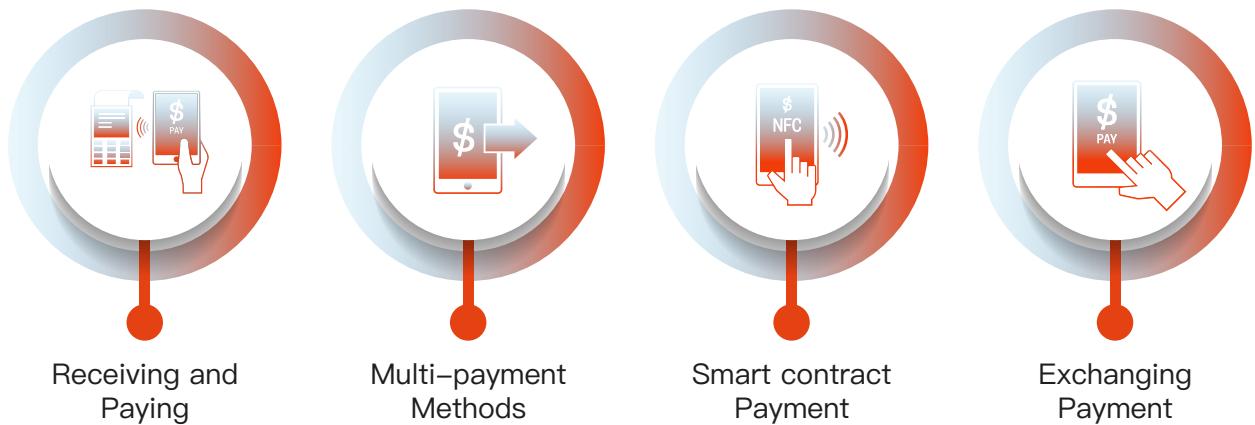


Fig. 6 LPN Payment Methods

Around these four payment modes, application scenarios including digital currency store receipts, digital asset exchanges, and international cross-border payment can be implemented.

#### 4.1.4 Payment Process of LPN

The common payment process of the LPN network can be simply understood as: recharging, payment, bookkeeping, and settlement.

(1) **Recharging:** The user transfers the digital currency in the main chain to a main chain address generated by the LPN network smart contract. This address is multi-signed by the notary on the LPN network to ensure the locked state of the main chain currency. After the top-up asset is credited to the main chain address, it will include the equal amount of the anchored asset currency in the user account. The main chain asset is actually locked on the main chain network, and the private key is encrypted with multiple signatures. The entire process is completed automatically by smart contracts and is completely decentralized.

(2) **Payment:** The payment process on the LPN network is actually the payment process of the anchored asset in the user's account. Since the entire payment process does not actually occur on the main chain, the transaction is fast and free.

(3) **Bookkeeping:** Payment transactions will be recorded on the LPN network in the form of orders. This information includes the identification information of the parties and the flow of assets.

(4) **Settlement:** The essence of settlement is the process of extracting the digital currency to the user's own main chain address. LPN will initiate the final settlement of the



main chain through a smart contract. The node participating in multi-signature will confirm the legality of the settlement. It will eventually unlock the actual assets of the main chain and thus transfer it to the user's main chain address.

## PAYMENT FLOW DIAGRAM FOR LIGHTCASH

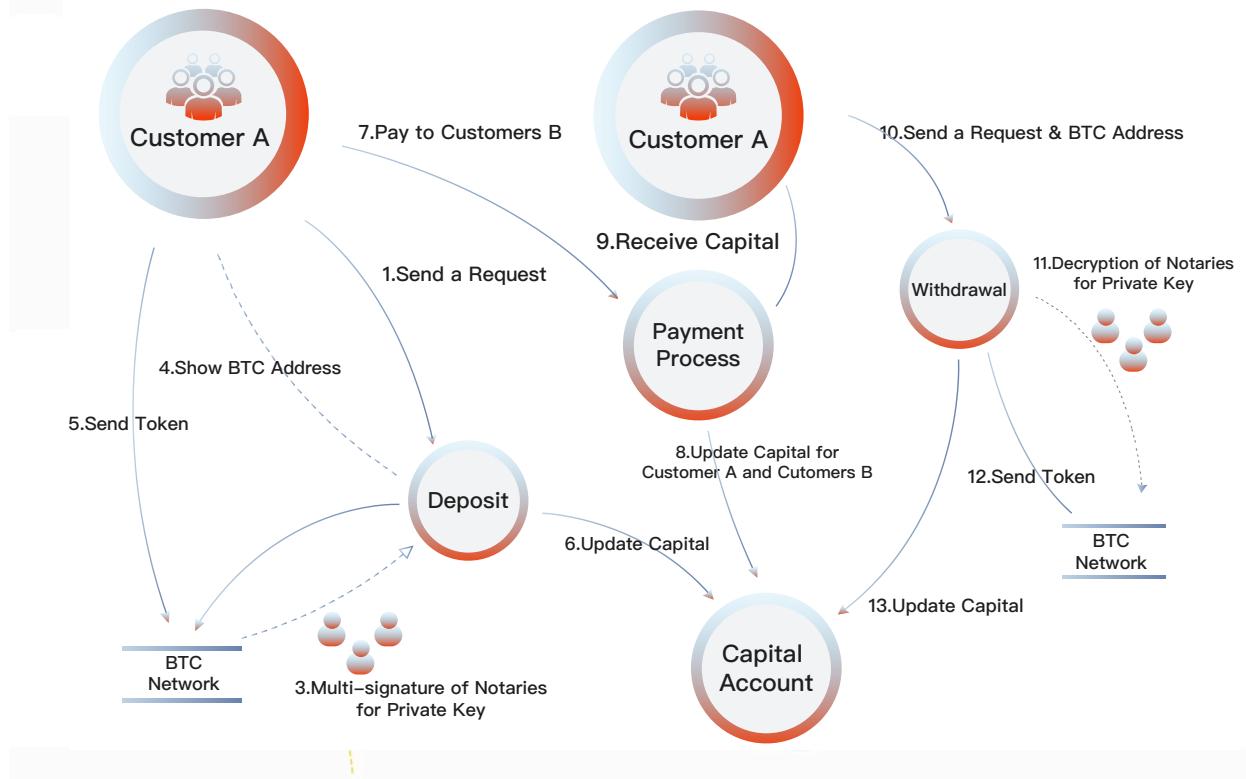


Fig. 7 Payment Process

## 4.2 Cross-chain Communication Technology

### 4.2.1 Mainstream Cross-chain Mechanism

Currently, there are three main cross-chain methods in the blockchain industry:

#### Notary schemes

Through the introduction of an intermediary credible person is the basis for trust between the parties to the transaction. The credible person is generally a centralized trusted organization or a witness who participates in multiple signatures.

#### Sidechains/relays

The intermediate chain serves as a channel between different blockchains. It supports SPV (Simple Payment Verification) and can read the events and status of the main chain. It can verify the transaction status by checking the header and merkle tree information on the main chain block.

#### Hash-locking



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Hash locking is originated from the Bitcoin Lightning Network. Its essential feature is the HTLC (Hashed Time Lock Contract). It establishes the mechanism for channel exchange payment by locking the hash value for a certain period of time.

#### 4.2.2 LPN Cross-chain Communication Solution

The LPN network uses the "notary schemes + sidechains" hybrid approach to implement the cross-chain plan. The intelligent contract defines the anchor asset for the main chain. When the main chain currency recharging and settlement services take place, the smart contract is used to obtain the corresponding value. The block information of the main chain is used to verify the legitimacy of the main chain transaction. It will update the corresponding transaction and asset status on the LPN network. Throughout the process, the user needs to select the trusted N nodes in the network as notaries, and the notary will serve as a trusted party in the process of multi-signature and credit guarantees on condition that two-thirds of the notaries confirm their legality. The transaction behavior can be submitted to the main chain. The basis for becoming a notary is the credit score of the node. The credit score can be obtained in different ways including asset pledge, payment process participation, participation time in multi-signatures and notary rating. The notary will gain the relevant rewards according to the actual rules after participating in the process of multi-signatures, payment and exchange.

### 4.3 Account System

The LPN network creates a unique account index for each user. All the main chain assets will be mapped to the relevant asset information in the account. These assets are signed by the user's private key and recorded in the smart contract, and can be linked to the user's main chain. The account and the main chain information will be synchronized. The user's digital identity is recorded in the account system and the billing information of the block.

### 4.4 Exchange Network

Exchange business can be simply fulfilled on this basis.

For example, if user A needs to convert digital currency A1 to B1. The user will need to initiate a contract order by calling a simple time lock protocol of the smart contract, record the currency type and quantity of the exchange, and simultaneously lock the digital currency A1 of the A account with the same amount. The contract order information will be broadcast to the entire network. When user B is willing to use B1 to exchange A1, a request for exchange will be initiated. At this time, the smart contract will be executed automatically. After deducting B1 from the B account, the A1 will be increased, and the A1 in the A account will be deducted and the B1 will be increased. If the time limit for this contract is still not accepted, the time-out process will be triggered based on the timestamp information in the contract. As a result, A's A1 will be returned.

### 4.5 Mixed Payment

Thanks to the introduction of the notary mechanism, the notary can be fully trusted in the entire LPN network to perform its duties. The following payment scenarios can be



pictured:

- 1) Consumers pay digital currency and merchants receive digital currency.
- 2) Consumers pay digital currency, notaries accept digital currency, notaries pay for legal currency, and merchants receive money in legal currency.
- 3) Consumers pay for digital currency A, convert to digital currency for exchange B, notaries receive digital currency B, notaries pay for legal currency, and merchant receive money in legal currency.
- 4) Consumers pay digital currency + legal currency, merchants receive digital currency + legal currency.
- 5) Consumers pay digital currency + legal currency, notaries accept digital currency, notaries pay for legal currency, and merchant receive money in legal currency.

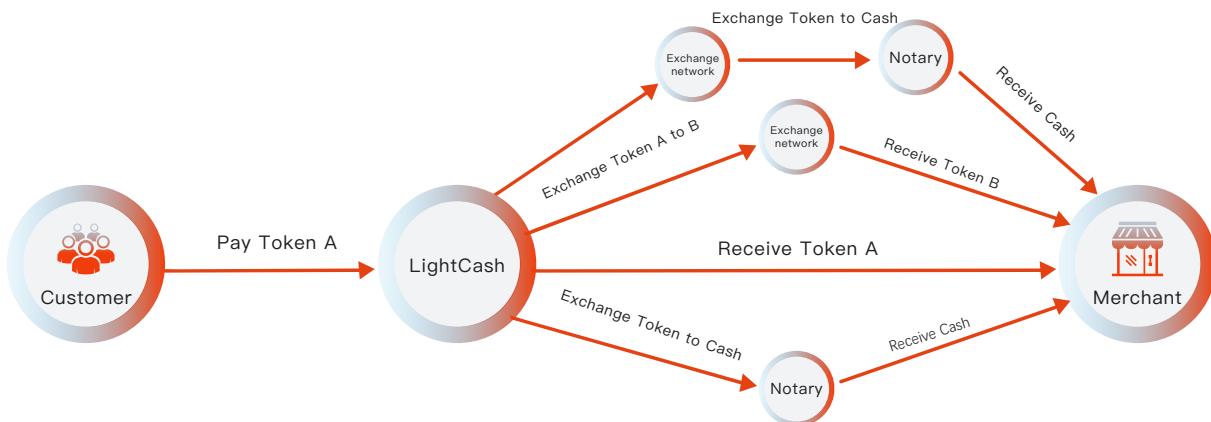


Fig. 8 Mixed Payment Model

## 4.6 Digital Integral System

Users can publish their own digital assets on the LPN network. These assets can be used in specific application scenarios, such as mall vouchers, game points, and membership points if they are not connected to the main chain/public chain. The built-in payment attributes in LPN networks can well manage and operate these digital assets. These assets can also be mapped and exchanged with the main chain value once connected to the main chain.



## 5. Introducing LightCash TOKEN

LightCash Token (LCT)

LCT is a token issued by LightCash and can be distributed and used in the LightCash system.

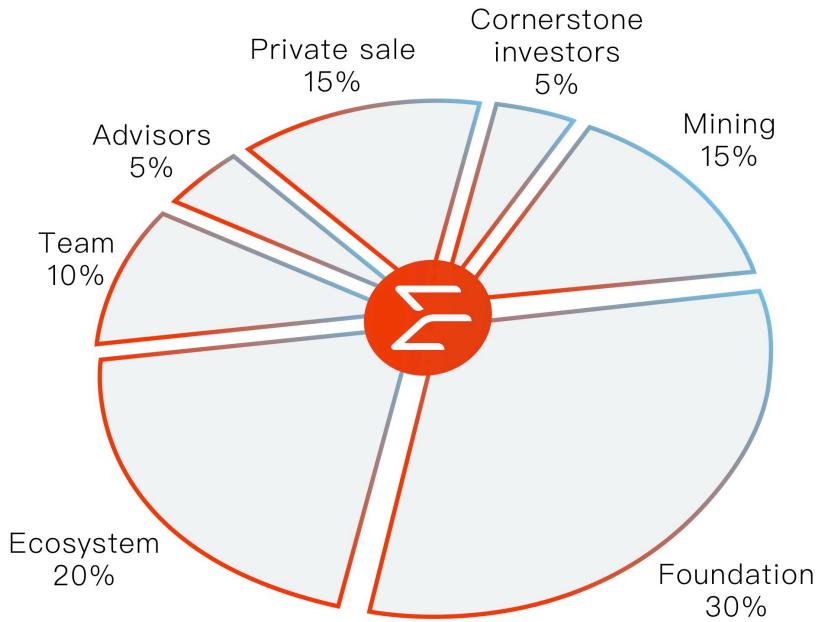


Fig.9 LightCash Token Distribution

15% of LCT entered the market through global private equity.

5% of LCT will be distributed to cornerstone investors.

15% of LCT will be used as rewards to support hash power, data support, mining and other services.

30% of LCT will be locked in the LightCash Foundation. This part of the Token will be released according to rewards based on actual conditions to maintain the LightCash payment ecosystem.

20% of LCT will be used as ecological incentive. These Token will be distributed to any individual or organization who contributes to the ecosystem.

10% of LCT will be held by the team, in which cannot be immediate trading, in order to ensure that the interests of the founders are consistent with the long-term goals of the project.

5% of LCT will be distributed to advisors and any other individual or organization that LightCash may cooperate with in the future.



L I G H T C A S H

## 6. Token Issuance Plan

Number of LCT issue: 10,000,000,000

Token Raising Target: 20,000ETH

Type of Token to Be Raised: ETH

Where,

1 ETH=100,000 LCT

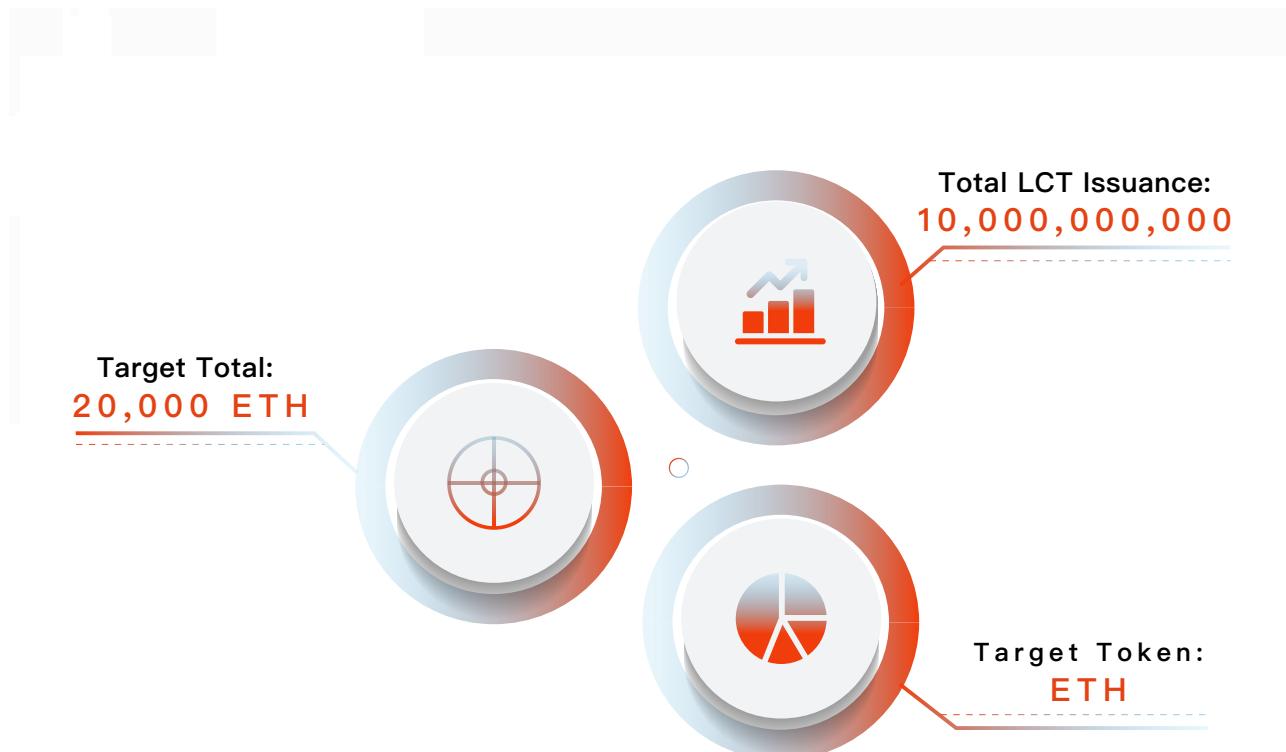


Fig. 10 LCT Token Issuance Plan

The above exchange rate is for reference only.

The final exchange rate will be adjusted based on the actual currency issuance.



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## 7. TOKEN Operational Mechanism

### 7.1 Distribution Mechanism

The total number of issuance is 10 billion.

Starting from second year, there will be 6% secondary public offering. These Token will be airdropped to users according to the number of Token they possess. This process lasts 5 years, and there will be 30% more Token generated in total.

### 7.2 TOKEN Circulation

1. When a payment transaction is initiated, the user needs to select 12 notaries in the network to provide a guarantee for the transaction (or automatically selected by the optimal path algorithm);
2. When the transaction occurs, the tokens need to be paid as a handling fee. 60% of the processing fee is allocated to 12 notaries, and 40% will be stored in the foundation for the maintenance of the ecosystem.
3. Notaries will be accumulatively notarized each time when they provide calculations, and the greater the number of nodes at the notary is, the greater the amount of computing power provided and the greater the contribution to ecology will be.
4. In order to ensure that users can use BaaS services fairly, users have free BaaS API credits every day. The number of tokens held by the user will determine their free quota. Excess API calls will require additional processing fees.



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## 8. Strategic Use of Funding

The funding will be used to pay for LightCash-related operating expenses (including but not limited to consulting costs, marketing costs, staffing costs, business travel expenses, communications fees, and other expenses incurred during the issuance of all external consultants).

It also supports expenses in the coding, development, promotion, marketing, and construction costs of major platforms for LightCash projects (including but not limited to compensation for core development teams and technicians, fees for external legal, financial and business consultants, marketing and promotion, office accessories and consumables, equipment and software).



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## 9. Operational Planning

### 9.1 Mission and Vision

LightCash is committed to using blockchain technology to help parties in the ecosystem to build payment scenarios, and can provide BaaS one-stop solutions for payments for large companies and organizations.

### 9.2 Development Plan and Timetable

<b>May 2018</b>	Establishment of the team
<b>June 2018</b>	<b>Finish Underlying architecture design and development</b>
<b>July 2018</b>	Complete LightCash architecture and design
<b>October 2018</b>	Finish bottom layer construction
<b>December 2018</b>	Complete LPN structure testing
<b>January 2019</b>	DAPP beta test
<b>April 2019</b>	Provide BaaS one-stop payment solution

### 9.3 Different Cross-chain Technologies to Be Developed

The current level of overall underlying public-chain technology is still far from the actual large-scale commercial applications. It is mainly manifested in slow network transfer rate, high cost, poor system concurrent processing capability, poor stability, data storage, and security defects.

These may limit the company's development after the company's business expansion and increase in trading volume, so the foundation decided to develop different public-chain cross-chain technologies such as BTC, ETH, and EOS in the future to achieve more stable and sustainable development of the ecosystem.



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## 10. Introduction to the Team

### 10.1 Operations Team



**Youssef Warda CEO**

Youssef is an accreditation programmer at London Computer University, lecturer on blockchain courses. He has received trade training from the World Trade Organization and has working experience as a business consultant and project director in many global corporations in Egypt. He was strategy adviser helping Air France, Erypt Air, Lufthansa etc, expand the North Africa market. He has helped many project owners to achieve the landing of blockchain projects and made PR plans for several exchanges.



**Neil Wasserman, Cheif Science Officer (CSO)**

Neil Wasserman (B.A. Cornell; M.A. MIT, Ph.D., Harvard) is a blockchain specialist. He expertises in information systems, analytics, startup innovation, blockchain business models, behavioral economics, enterprise architecture, and systems analysis, his work focuses on applications of data analytics and networked technologies. In the past, he led implementation of standard practices in IT strategic planning, business planning, portfolio management, governance in \$20 billion business unit (Navy/NAVSEA). Directed service development and world-wide rollout for services in risk management and business continuity that grew (first year, \$0 to \$75 million) into a \$100 million/year consulting practice; \$410 million in revenue over 4 years in 43 countries. He is the managing partner of Timewave Analytics, LLC.





### **Reece Shandro CMO**

Reese is an early Bitcoin investor who had given many speeches in the field with rich team management experience. He has studied education for years and wants to spread blockchain concept to the world.



### **Dr. Xu COO**

Dr. Xu Visiting Professor of George Mason University, and Columbia University, former World Bank lead of big data scientist and vice president of the United States International Institute of Applied Sciences. She is also the World Bank Vice President Award winner and won the White House chief technical officer nomination award. She was the representative of World Bank going to Mongolia, Angola to support economic evaluation and technology. She has studied and published scientific report on Big data, blockchain, Machine learning, AI, and quantum computation. Her blockchain research and model are used as solutions of cross border transferring, insurance, payment, sourcing capitals, bonding issuance and identity verification.

## **10.2 Project consultant and investor team**



### **Mohamed El Kandri**

CEO of Fab Foundation. Monhamed is a certified Ethereum developer and developer at the Blockchain Development and Research Institute certified by IBM. He is the Executive Member of the Blockchain Hub at York University, Canada. He is also the blockchain expert and keynote speaker for the Canadian government. He is a "Durland Innovation Award" recipient for a Blockchain use case; The use case was described as "A



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cutting edge security technology to protect artists from forgeries and theft." I am also holder of the "Beta Gamma Sigma International Award".

He is very active in the Blockchain space, leading the strategic initiatives at The BlockchainHub and also lead the C-Lab incubation program, the first peer-to-peer community-based incubation program for Blockchain startups. he was also a mentor at the Blockchain for Social Impact Hackathon, the first international decentralized impact accelerator, where teams around the world solved challenges around financial inclusion, supply chain, identity & vulnerable populations and energy & environment. His researches are keenly focused on the intersection of Blockchain with other technologies, what he likes to call "The Autonomous Revolution".



### **William Entriken**

William, dual masters in computer science and MBA, participated in the construction of GitHub, Travis CI, OpenStack, LAMP, WordPress Jekyll, and Ruby. He is an IBM Certified Solution Designer; experience with SAP Crystal Reports, Cognos, MS Dynamics, expert user of SQL, UNIX Systems, C/C++, Perl, Solidity. His experience includes closed \$60 million of corporate acquisitions and integrations and deployed products to the App Store, Blockchain, US Navy ships and International Space Station.

He has Extensive experience in computer security red/blue teams, published, collaboration with Apple, FBI, SEC, FINRA.



### **Dr. Bo**

Dr. Bo is the Founder and President of Washon Group (BusinessObject Solutions, Inc.) which is an IT service company. Recently he changed from IT service to startup mentoring and investment. He found International Applied Technology Research Institute which is technology transfer and training non-profit organization, Washon Capital which is an early stage investment company for blockchain, AI and big health, and Washon FinTech which is a blockchain and fintech service company. He has been given lectures on blockchain and crytocurrency, Global development of blockchain technology, Fundamentals of blockchain technology, the design principal of blockchain project, how to evaluate a blockchain project, and 2018 blockchain application ecosystem.

He has led the course system for "practical blockchain technology and leadership", "2018 Blockchain International Seminar" through Wengou big data academy. He has



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successfully organized seven startup competitions and supported multiple startup competitions past over three years globally. Mr. Bo obtained his bachelor's degree and an M.S. in Engineering Mechanics from Tsinghua University in Beijing and has an M.S. in Environmental Engineering from the University of Cincinnati. He is an advisor for close to ten companies including several blockchain projects and helped to raise fund for several companies successfully.



### **Dr. Zhang**

He holds Peking University's B.A in computer science and University of Maryland's Ph.D in computer science. He joined Vangard Capital and Investment Company, focusing on user experience, new technology strategy research, system architecture, and information security works. He has worked at the World Bank since 2009. From 2009 to 2013, he served as the World Bank information technology security architect. He is the World Bank's chief information technology security architect since 2013. He also works on the research in new technologies including building blockchain laboratory. Recent years, Dr.Zhang has made several speeches about blockchain on many international forums.



### **Dr. Bao**

Professor Bao Minghui holds dual Masters in economics and computer science. He is the senior technology manager in CITI Bank. He has worked in five Wall Street firms, including JPMorgan Chase, Goldman Sachs and Deutsche Bank etc. He was a senior counselor at a Chinese national bank, during this period, he helped this bank to get the American banking license. This bank became the second Chinese national bank which has branch bank in New York. Before going abroad, Mr. Bao graduated from the Master's Program of the Chinese Academy of Social Sciences. Since 2017, he has taught the digital currency course for the China Alliance of small and Medium-sized Enterprises and systematically introduced the concept of digital currency to more than 3000 members of the Union.





### **Steven Kubisen**

He holds a PhD from Harvard University, entrepreneur and venture capitalist. Professor Kubisen has always provided business and technical assistance for entrepreneurial teams and early-middle startups. Steve is a serial entrepreneur, corporate executive and university technology commercialization executive. He started his career in research and then moved to research management and general management for Union Carbide, Akzo Coatings, GE and Alcoa. During his eight years with GE, as General Manager of GE Electromaterials, he commercialized a revolutionary circuit board material for the emerging computer and telecommunications industries and as General Manager of R&D and Engineering of the \$500M GE Silicones Division instituted systems to double new product sales.

As an entrepreneur, Steve was CEO of a revolutionary composite manufacturing venture and a medical device venture, in addition to serving on boards of a number of early stage ventures. Steve's passion for commercializing early technologies and growing entrepreneurial communities led him to university technology commercialization operations.

For over seven years, he served as Vice President of Utah State University's Office of Technology Commercialization and Senior Director of Ventures and the Medical Device/Software/Engineering Portfolio Group at the Johns Hopkins University. During his four-year tenure at Utah State, Steve tripled licensing revenue and moved the institution into the top five in the nation for start-ups per research dollar. During his three-year tenure at Hopkins, the institution increased start-ups from a historical annual level of four to 12 in 2008, with \$76M venture capital raised.



### **Vivek Choudhury**

Vivek Choudhury is Interim Dean and Professor of Information Systems and Technology Management at the George Washington University School of Business. He joined GWSB in January 2016 as Associate Dean for Graduate Programs. Before this, he was at the Carl H. Lindner College of Business at the University of Cincinnati, where he served as Associate Dean from 2011-2015, and as Head of the Information Systems Department from 2003-2011. He has also taught at the College of Business at Florida State University and at the University of Pittsburgh. He earned his Ph.D. in Information



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Systems from the Anderson Graduate School of Management at UCLA.

Dr. Choudhury co-founded and was a former member of the Board of Directors of the non-profit organization INTERalliance, which works with high schools and corporations in Cincinnati to create programs to build interest among high school students in choosing technology-based careers.

Dr. Choudhury's research interests include: management of offshored/outsourced IT projects, trust in electronic commerce, and knowledge management. His publications have appeared in such outlets as *Information Systems Research*, *MIS Quarterly*, *Journal of Strategic Information Systems*, *Journal of Small Business Research*, and *Competitive Intelligence Review*. He has previously served as a Senior Editor at *MISQ*, and as Associate Editor at *MISQ* and at *Information Systems Research*.



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# 11. Project Compliance and Risk Statement

## 11.1 Disclaimer

This document is for information purposes only. The contents of the document are for reference only and do not constitute purchase or sales advice, teaching or invitation of any business in LCash and its related companies. This document does not constitute nor is it to be understood as providing any trading activity, nor is it any form of contract or commitment.

Due to unpredictable circumstances, the goals outlined in this white paper may change. Although the team will do its best to achieve all the goals of this white paper, some of the contents of the document may be adjusted accordingly in the new white paper as the project progresses. The team will publish the updated content through public announcements or new white papers on the website, WeChat public account, etc.

LCash expressly stated that it does not assume direct or indirect losses caused by participants including:

Rely on the contents of this document;

Wrong, negligent or inaccurate information in this article;

Any behavior caused by this article.

The team will strive to achieve the goals mentioned in the document, but based on the existence of force majeure, the team cannot make a complete commitment.

The LightCash Project Token, the official token of the blockchain payment, is an important tool for platform performance and is not an investment product. Having a LightCash project does not grant its owner ownership, control, or decision-making authority over the platform. The LightCash Token, as an encrypted token used in the blockchain payment, does not fall into the following categories: (a) any kind of currency; (b) securities; (c) equity of legal entities; (d) stocks, bonds, Notes, warrants, certificates or other instruments that grant any rights. The LCash project may not have any value; the team does not make any commitment to its value added, and is not responsible for the consequences of its increase or decrease in value. To the fullest extent permitted by applicable law, the damages and risks arising from participating in crowdfunding, including but not limited to direct or indirect personal damages, loss of commercial profits, loss of business information or any other economic loss, the team does not take responsibility. The LightCash project platform complies with any regulatory regulations and industry self-regulations that are conducive to the healthy development of the blockchain industry. Participant participation means that the representative will fully accept and comply with such inspections. At the same time, all information disclosed by the participants to complete such inspections must be complete and accurate.

In particular, if you are a citizen, resident or green card holder of the United States of America, or if you are a citizen or resident of the People's Republic of China, you are not eligible to purchase LightCash Token.

No portion of this white paper may be photocopied, reproduced, distributed, or transmitted in any form without the prior written consent of the LightCash project team. The LCash project team clearly communicated possible risks to participants. Please confirm that you understand and approve the descriptions of each clause in the detailed



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rules and accept the potential risks of this platform at your own risk.

## 11.2 Risk Warning

There are risks in the development, maintenance, and operation of LightCash and many of these risks are beyond the control of the LightCash team. In addition to the other content described in this white paper, participants shall fully understand and agree to accept the following risks:

### 11.2.1 Systematic risk:

It refers to the possible changes in the returns due to global common factors that affect the returns of all digital currencies and securities in the same way. In case of market risk, if the overall value of the digital asset market is overestimated, then the investment risk will increase and the participants may expect that the growth of the project is too high, but these high expectations may not be expected. At the same time, systematic risks include but not limited to, natural disasters, large-scale computer network failures worldwide, and political turmoil and other force majeure.

### 11.2.2 Team risk:

The LightCash project brings together a highly motivated and capable human resources team consisting of senior practitioners in the blockchain field, experienced technical developers and industry-related resources. As a leader in payment wallet blockchain technology, the stability and cohesiveness within the team are critical to the overall development of the LightCash project. However, there is a possibility that the core personnel will leave and the internal conflicts in the team will affect the LightCash project.

### 11.2.3 Project overall risk:

The LightCash project ecological community will spare no effort to achieve the development goals set out in the white paper and extend the project's growth potential. Currently, the LightCash project has a relatively mature business model analysis. However, due to the unpredictable factors in the overall development trend of the industry, the existing business model and the overall planning ideas might not agree with the market demand, resulting in unpredictable profits. At the same time, the white paper and the project details might be adjusted. If the details of the updated project are not obtained in a timely manner, or the public does not understand the latest progress of the project, the project development might be affected.

### 11.2.4 Hacking and criminal risk:

In terms of security, the amount of individual supporters is small, but the total number is large, which also puts forward high requirements for the safety and security of the project. Electronic tokens have features such as anonymity and hard-to-recovery, which are easily exploited by criminals or attacked by hackers or may be involved in criminal activities such as the transfer of illegal assets.



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#### **11.2.5 Regulatory measures:**

Encrypted tokens are being or may be supervised by the authorities of various countries. LCash may receive enquiries, notices, warnings, orders or rulings from one or more authorities, and may even be ordered to suspend or terminate any actions related to this public sale plan or LightCash development. LCT's development, marketing, promotion, or other aspects may therefore be seriously affected, hindered, or terminated. As regulatory policies may change from time to time, existing regulatory approvals or tolerances for LCT in any country may only be temporary. In various countries, LCT may be defined as virtual goods, digital assets or even securities or currencies at any time. Therefore, LCT may be prohibited from trading or holding according to local regulatory requirements in some countries.

#### **11.2.6 Cryptography:**

Cryptography is constantly evolving and it cannot guarantee absolute security at all times. Advances in cryptography (such as password cracking) or technological advances (such as the invention of quantum computers) may pose dangers to cryptography-based systems (including LCT). This may result in the theft, disappearance, destruction, or devaluation of LCTs held by anyone. Within reasonable bounds, LCT will prepare itself for preventive or remedial measures to upgrade LCT's underlying agreement to address any advances in cryptography and, where appropriate, incorporate new and reasonable security measures. The future of cryptography and security innovation is unpredictable, and LCT will try its best to meet the needs of the changing cryptography and security fields.

#### **11.2.7 Source code:**

No one can guarantee that LCash's source code is completely flawless. Code may have certain flaws, errors, bugs, and vulnerabilities that may make it impossible for users to use specific features, expose user information, or cause other problems. If such defects are present, the availability, stability, and/or security of LightCash will be impaired, and as a result, the value of LCT will be affected. The open source code is based on transparency to facilitate identification and problem resolution of code originating from the community. LightCash will work closely with the digital currency community to continuously improve, optimize, and complete its source code.

#### **11.2.8 Distributed Denial of Service attack:**

Ethereum is designed as an open book without access permission. As a result, Ethereum may suffer from "Distributed Denial of Service" cyber-attacks from time to time. This attack will affect, stagnate, or paralyze the LightCash system. And as a result, transactions on top of it will be delayed or written into blocks in the Ethereum blockchain, or even become temporarily unavailable.

#### **11.2.9 Insufficient processing capacity:**

The rapid development of LCT will be accompanied by a significant increase in trading volume and demand for processing capacity. If the demand for processing power exceeds the load, the LCT's network may collapse and/or stagnate, and fraudulent or erroneous transactions such as "double spending" may occur. In the worst case, LCT held by anyone may be lost, blockchain rollback or even a hard fork may be triggered. The aftermath of



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these incidents will impair the usability, stability, safety and value of LCT and the value of LCT.

#### **11.2.10 Inflation:**

It may be due to the adoption of LCT source code patches or upgrades, there might be an increase in the number of LCTs. The LCT supply inflation may cause market prices to fall and therefore LCT holders (including buyers) may suffer economic losses. Compensation or any form of compensation for LCT buyers or holders due to LCT inflation cannot be guaranteed.

#### **11.2.11 Popularity:**

The value of LCT depends to a large extent on the popularity of the LightCash project. The LightCash project is not expected to be widely used within a very short period of time after release. In the worst case, the LightCash project may even be marginalized for a long period of time, attracting only a small number of users. In contrast, a large part of LCT demand may be speculative. The lack of users may lead to an increase in the price of LCT market and thus affect the long-term development of LCT. When this price fluctuation occurs, the LightCash project has no responsibility to stabilize or affects the market price of LCT.

#### **11.2.12 Liquidity:**

The LightCash project is neither a currency issued by any individual, entity, central bank or national, supranational or quasi-state organization nor is it supported by any hard assets or other credits. The circulation and trading of LCT in the market is not the responsibility or pursuit of the LightCash project. LCT's transactions are based only on the consensus reached by the relevant market participants on their value. No one is obligated to redeem or purchase any LCT from an LCT holder, nor does any person guarantee the liquidity or market price of LCT at any time. If the LCT holder wants to transfer LCT, the LCT holder needs to find one or more buyers who are interested in buying at a mutually agreed price. This process can be very costly, time consuming, and ultimately unsuccessful. In addition, there may not be an encrypted token exchange or other market LCT for public trading.

#### **11.2.13 Price fluctuations:**

The price of encrypted tokens usually fluctuates in open markets. In the short term, price shocks often occur. The price may be based on Bitcoin, Ethereum, U.S. Dollar, or other legal currency. The price volatility may be caused by market forces (including speculative trading), changes in regulatory policies, technological innovations, the availability of exchanges, and other objective factors. This also reflect changes in the supply-demand balance. Regardless of whether there is a secondary market for LCT trading, the LightCash project is not responsible for LCT transactions in any secondary market. Therefore, the LCash project is not obliged to stabilize LCT's price fluctuations, nor is this LCT's concern. The risk in the LCT trading price shall be borne by the LCT trader.



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#### **11.2.14 Other unpredicted risks:**

Due to continuous development of blockchain technology and the overall trend of the industry, the LightCash project may face some unforeseen risks. Please fully understand the project content, know the overall framework and ideas of the project and rationally adjust your expectation



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## 12. Contact LightCash

Website: [lightcash.fund](http://lightcash.fund)

Twitter: @LightCash\_Official

Facebook: @LightCash



L I G H T C A S H