WHITE PAPER ON Mondo

Global Value Content Smart Ecology Sharing Platform

【English Ver. 1.0.0】

MONDO TEAM

Contents

About Mondo

Mondo is committed to creating a smart knowledge-sharing pay platform for global citizens. Relying on Mondo's tokens, transnational payments, the production, distribution and circulation of excitation value content, and the sharing of existing knowledge as well as the joint-creation of incremental knowledge on a global scale are achieved.

Mondo is going to build a blockchain-based smart content pay platform; to provide application settings with regard to the production and dissemination of knowledge content, such as value Q&A, the distribution of value content, etc.; to achieve the demand and supply matching of value content combined with AI; and to realize the registration of property right of knowledge making use of blockchain technology. Each and every piece of value content will be registered into the blockchain and disseminated through it. A certain amount of Mondo will be paid to content producers as the pay-per-view fee to enhance human's utilization ratio of existing knowledge and meanwhile inspire all human beings to participate in knowledge and cultural exchanges and creation.

1. How to Innovate the World by Blockchain Technology

Blockchains coming into being marks the beginning of creating the Internet that people can really trust. The core of a blockchain lies in its ability to establish reliable end-to-end trust in the network to remove intermediary interference during value transfer. It protects privacy while makes value content known to the public, and safeguards individuals' rights and interests while makes joint decisions. Such a mechanism not only improves the efficiency in value interaction but also decreases the cost.

From the economic point of view, the new paradigm of value interaction created by blockchains is based on "Diminished Centralization", but it doesn't mean that those various "centers" in the traditional community are completely removed. In the future, blockchains will have lots of "multi-center" systems, mainly incl. consortium blockchains, private blockchains or combination blockchains. Blockchains will further improve the operational efficiency of the "center" and meanwhile reduce a considerable part of the cost.

Technically, a blockchain is a technical system jointly maintained by multi-parties, in which data are stored in the form of blocks. It secures information transmission and users' accessing using cryptography. Blockchains are inherently resistant to modification of data, and they record data in a verifiable and permanent way. Such technology has brought the world unlimited space for imagination. The global attention to blockchains keeps heating up, and the world's major economies have started to study blockchain technology and its development trend from the

national strategic level.

1.1 Starting from Bitcoin

The design of blockchains originates from a dissertation published by Satoshi Nakamoto in 2008 titled *Bitcoin: A Peer-to-Peer Electronic Cash System*. In the paper, the author hopes to create a new set of electronic payment system which should be a "cryptography-based model rather than trust-based ones, and should allow all the two parties that have come to an agreement to pay directly without the involvement of any third-party intermediaries."

In response to this dissertation, bitcoin comes into being, marking a major step forward in the monetary system of human society. Adopting the design ideas of "open distributed ledgers", bitcoin really gets rid of the constraints of third-party institutions. Afterwards, bitcoin enters the period of rapid development.

On Jan. 3, 2009, the first block of blockchains was created, which was known as the "Genesis Block";

On Jan. 12, 2009, Satoshi Nakamoto sent 10 bitcoin to the cryptographer Hal Finney;

In Jul., 2010, the bitcoin mercantile exchange Mt. Gox was established, making the value of bitcoin recognized by the world.

The anonymity of bitcoin has posed a challenge to the traditional financial regulation because of the huge resource consumption caused by the mining mechanism of bitcoin over the next few years, making the price of bitcoin rise and fall radically.

1.2 A Global Upsurge in Blockchain +

The development of blockchain economy can be preliminarily divided into three stages:

Stage I - Incubation Period (2009-2012) - bitcoin and its industrial ecology were the main economic forms;

Stage II - Germination Period (2012-2015) - blockchains were made public with bitcoin, new wallet payment and remittance companies turned up, and blockchain economy was spread to the financial sector. Blockchains' underlying technology kept innovating. And blockchain technology started to develop independently after coming off the bitcoin system.

Stage III - Development Period - in 2016, industrial application was explored and blockchain start-up companies sprang up; as expected, 2017 will be the blossom period for industrial application. Blockchain economy has an extremely promising future. Blockchains will further realize the exchange, transaction and transfer of social funds, contracts and digital assets on the Internet based on the existing Internet, mobile communication and other infrastructures in the future to build a new value exchange system relying on machines and algorithms.

1.3 Overall Size and Trend of Mondo Blockchains

At present, blockchain economy is on the eve of the booming period. It has been relatively widely applied in the financial industry, and its application in other sectors has also entered the exploration and development stage. The future volume of this new economic form is estimated as follows:

Klaus Schwab, the founder of Davos Forum, believes that blockchains as an important achievement of the fourth industrial revolution following steam engines, electrification and computerization, 10% of the world's GDP will have been stored utilizing blockchain technology by 2025 as expected.

According to the prediction of the market research institution Gartner, in 2020, blockchain-based business will reach 100 billion US dollars. Apart from the financial industry, the manufacturing and supply chain management industry will also provide blockchains with a trillion-level potential market.

The market research firm MarketsAndMarkets predicted in its thematic research report that between 2016 and 2021, the Compound Annual Growth Rate (CAGR) of global blockchain market applications and solution providers will be the highest. The business of such providers includes payment, document certification, transactions and other solutions to improve the operational efficiency of enterprises.

Among the industries in which blockchain technology involves, banking, securities and insurance account for the largest market share. In the future, blockchain technology-guided entertainment and media industry will continue speeding up their development, closely followed by medical health, Internet of Things, supply chain and other industries.

1.4 Development of Blockchain Technology in Russia

The Russian government has been inclined to nanotechnology since 2007. To this end, they set up a government-owned joint-stock company Rusnanowas, in which Anatoly Chubais, the

former director of President Office, holds a core management position.

Over these years, the company has invested in many projects, but it hasn't made itself a participant contributing to the great progress of Russia. Later on in 2009, they founded Skolkovo Innovation Center in order to make itself a world-class technology incubator, as well as Silicon Valley's biggest rival in the fields of IT, biotechnology, aviation, nuclear and energy. However, this ambitious plan suffered from brain drain and corruption, stalling in the 13th place at Compass Global Startup Ecosystem Ranking, far behind other tiptop innovation centers. The attempt to seek sci-tech progress and shorten the distance from developed economic entities was re-made in 2012 when Putin was in office again.

Russian investors are very interested in the Hyperloop project, which is a high-speed train project that can reach 1,000 km or 700 miles per hour. The state-owned Russian Direct Investment Fund even bought a small stake in the company. Nevertheless, Russia is not in the priority list for this project. The areas mainly concerned are the United Arab Emirates and other places. Vitalik Buterin provides Putin with the opportunity to use blockchain technology, which could increase the transparency of government and financial sectors and meanwhile combat corruption. Putin seems to support this technology that could possibly solve Russia's general problems.

Russia may also become a country that develops digital currency by itself, and maybe it is working on it. "All national regulators agree that it is time to develop a nationally encrypted currency, of course, to do it in the future. Each country will determine a specific time frame. After the pilot project, we will see what kind of national monetary systems we need for the current situation", said Olga Skorobogatova, vice president of Bank of Russia. It is maybe wrong to

undergo nationwide blockchain trails, but it is likely to revitalize the country and to make progress towards cutting-edge technology. In addition to the government's public relations strategy, Putin's approach to Buterin's creativity and the actions that may be taken after the meeting are highly of public concern.

Meanwhile, close attention must be attached to the actions taken by other economic powers, because they are likely to respond to the technology that is expected to bring great advantages to Russia.

In Feb., 2016, the European Commission gave first priority to encrypted digital currency to all the other rapid development goals. This initiative promoted the policy research into digital currency by various institutions.

On Apr.18-21, 2016, the European Digital Currency and Blockchain Technology Forum (EDCAB) organized an "Expo" for policymakers in the European Parliament to focus on the discussion about blockchains.

Vice president of Bank of Russia Olga Skorobogatova said that blockchain technology would spread in Russia on a large scale within seven to ten years. "I think it will take seven to ten years to develop and utilize the technology in a variety of projects, whether it is in the financial industry or in other industries", said Olga Skorobogatova at this year's St. Petersburg International Economic Forum (SPIEF-2017). Blockchains are distributed ledger technology based on a continuously growing list of records that can't be counterfeited, modified, attacked or plagiarized. Bank of Russia announced the establishment of a blockchain alliance last summer to work with the EU, "this year, we will start to work on some cooperation projects with the EU and jointly test

the application of blockchain technology to them."

In Jan., 2017, EU ambassador to Russia Vigaudas Usackas and EU ambassadors met with Elvira Nabiullina, president of Bank of Russia, to discuss Russia's macroeconomic situation, the monetary policy of Bank of Russia, the development trends of banking business, financial institutions and domestic payment systems.

At the same time, European Central Bank indicated that they plan to assess the relevance of blockchain and sub-ledger technology and payment, custody of securities, mortgage and other banking business.

2. Core Technology of Mondo

2.1. Overall Structure of Mondo:

APP	QUORA	STACKOVERFLOW	REDDIT
Management Module	ID Authentication	Name Service	Buit-in Contracts
Blockchain-layer Network Protocol	Blockchain Storage	Synchronic Calculation	Security Insurance
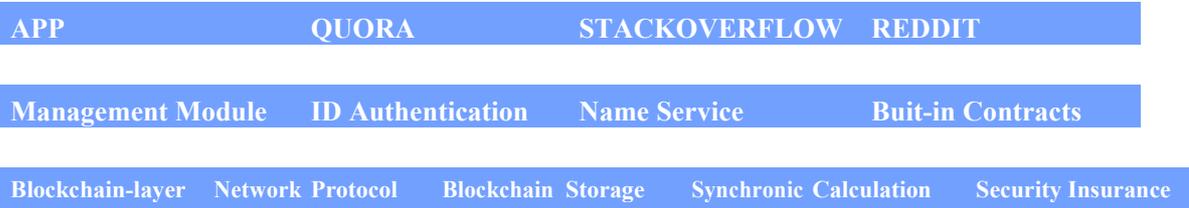
2.2 Network Protocol: Quick Finder Innovation

Compared with traditional blockchain-based P2P networks on which the Mondo network is based, Mondo specially introduces the Quick Finder mechanism. The mechanism depends on a Nodes Book in the underlying storage on a blockchain. The Nodes Book is registered by the user through the smart contract. Once it is successfully registered, the node will become the Node Hub. In the initial case, the first time when you register the Node Hub, a low-order TR value will be generated. The Mondo client will give preference to the Hub with higher TR values when connecting to the network. To ensure that each registered node has the opportunity to be used by the client, some Hubs with lower TR values will also be randomly allocated to the client. The entire blockchain network will dynamically calculate the actual performance of each Hub. When a Hub is discarded by too many nodes, it indicates that the Hub has a lower Qos value. Therefore, the smart contract will dynamically update the Qos value in the Nodes Book. When it is below the normal service level, the corresponding Hub will be included into the list of Banned Hubs. The IP address in the Banned Hubs list will be banned from providing Hub services for one year.

To encourage more nodes to join the Nodes Book to provide Hub services, Mondo Labs plans

to run the plan code-named "Moon Hubs" after the major network of Mondo is launched. Through the length of service provided by Nodes and the QoS level, certain Mondo tokens will be rewarded to the corresponding Node.

MondoHubs Workflow:
Node Hub: NodeHubBookContract.Register(Region, Ip, Reward Mondo Address);
Common Wallet : NodeHubBookContract.GetAvailableHubs(Region);

2.3 ID Authentication: Smart ID

Identity authentication service has always been a difficult problem for blockchains. Mondo is the first to put forward the Smart ID concept, by which the user can complete the process of authentication without exposing their private key.

Smart ID is inspired by the "message signature" and "authentication message" functions of bitcoin. The detailed process is as follows:

Step 1: Knowledge Sharing App: Sign(Mondo Addr, Random String) = Signature
Step 2: Send(Addr, Random, Signature)   to   AuthServer
Step 3: Auth Server
If(Validate(Addr,Random,Signature)){
    FindUserNameByAddr(Addr);
    Return username;
}else{
    Auth Failed;
}

In the entire process, the Authserver can't get the user's private key but accurately obtain the user's address. Knowing the user's address, the nickname of the user will be obtained through Mondo's Name Service, thus completing the entire authentication process.

Smart ID is an open protocol stack. Any codes that meet the Smart ID protocol, as long as

they pass the code security examination and verification by Mondo lib, any organizations, institutions or individuals can release their own Smart ID implementation.

2.4 Name Service

It is not a friendly way to simply use a user's address as his/her nickname in the real world. For this reason, Mondo provides the global Name Service to establish a link between a user's address and his/her nickname. In the Mondo world, Name Service is a scarce resource. Mondo Lib will build an Auction Smart Contract within the Mondo system to auction off each Name. The registration of every Name will be put up for auction. After 24 hours, the highest bidder can get the ownership of the Name.

Mondo will constrain its users from accessing to the smart contract address of Name Service during bottom implementation to ensure that all Name auctions share the same access.

Auction process:

➢ The Name initiator initiates the auction, and transfers a deposit to the specified contract address;

➢ Higher bidders also transfer a deposit to the specified contract address;

➢ The highest bidder will obtain the right to use the Name when the auction ends. Then the auction contract will update the corresponding relation between Name and Address to the Name Book;

➢ Mondo tokens of the deposit will be 100% reimbursed to those who fail in the auction.

2.5 Plugable File Storage

The literal data preserved by human beings to today since the development of human

civilization are counted in P. The increment of information is far more beyond your imagination, especially in the current era of the Big Bang of knowledge.

With today's Internet development, many large companies have already developed a mature cloud storage program. But essentially, a user's data don't really belong to the owner himself. And fundamentally speaking, the cloud storage programs are still centralized solutions. How long can a user's data be preserved and whether there are some risks in the course of the preservation still rely on the service life of the business company.

Mondo, however, retains sufficient flexibility in its design. The file storage module is designed to be plugable is such a typical example, i.e., Mondo Labs will keep designing new file storage for iteration. During each Migration, Mondo will use the way similar to the soft fork of bitcoin, and finally, the file system of Mondo will completely be shifted to IPFS.

2.5.1 About IPFS

In the field of blockchains, storage programs are still a great obstacle to the real application of blockchains. Fortunately, we have seen the birth of IPFS.

It is thought that the IPFS protocol can be used to create a more permanent network that makes data more difficult to be erased by storing multiple copies of data.

IPFS has fundamentally changed users' search modes. Through IPFS, what the user search for is content. When searching for a file through an HTTP browser, you first find the location (IP address) of the server, and then locate the file on the server using the path name. According to this design, only the file owner can determine whether it is the file that the user wants to find. At this

point, you must make sure that the trustee will not make any changes to the file either by removing the file or closing the server.

When a file is added to an IPFS node, it will get a new name. This name is actually an encrypted hash which is calculated based on the content of the file. The encryption ensures that the hash will always and only indicate the content of this file. Even if only one bit of data is modified in the file, the hash will become completely different.

When you inquire the IPFS distributed network about a hash in the next step, it can quickly find the node (only 20 jumps in a network with 10,000,000 nodes) bearing the data by using a distributed hash table, so as to retrieve the data and use the hash to verify if it is the correct data.

IPFS is all-purpose with few storage restrictions. The file it serves can be either big or small. For some big files, it will automatically cut them into smaller pieces, making it possible for IPFS nodes to download files from not only a single server like HTTP, but also hundreds of servers synchronously. The IPFS network is a finely-grained, trustless, distributed and easily federated Content Delivery Network (CDN). It is useful for all data types, incl. images, video streaming, distributed databases, operating systems, blockchains, etc, and most important for IPFS, the static website.

IPFS files can also be special IPFS directory objects which allow you to use human readable filenames (which transparently link to other IPFS hashes). You can load the directory's index.html by default, which is also the way a standard HTTP server does. Using directory objects, IPFS allows you to generate static web sites in exactly the same way. Adding a web site to an IPFS node requires only a simple command: ipfs add -r yoursitedirectory. After that, it will be available from

any IPFS nodes without requiring you to link to any hashes in the HTML.

With such an outstanding work, Mondo doesn't need to re-invent the wheel. The use of IPFS is an important factor for Mondo to be more useable. Thank IPFS.

2.6 Combining and Splitting Value

In designing the Bitcoin, Satoshi Nakamoto introduced UTXO to solve the problem of combining and splitting value.

UTXO (Unspent Transaction Outputs) refers to the unused transaction output, which is the basic unit of the bitcoin block chain and a core concept of bitcoin transaction generation and verification. The transaction constitutes a set of chain structures, and all legitimate bitcoin can be traced back to the output of one or more forward transactions. All the unexpended output is the UTXO of the entire Bitcoin network. For Bitcoin, the input of each new transaction must be an output of an unexpended transaction, each input requires a private key corresponding to the previous output for signature, and each bitcoin node stores the UTXO present on the entire block chain. All the nodes on network verify the legitimacy of new transactions through UTXO and signature algorithm. In this way, the node can verify the legitimacy of new transaction without tracing history.
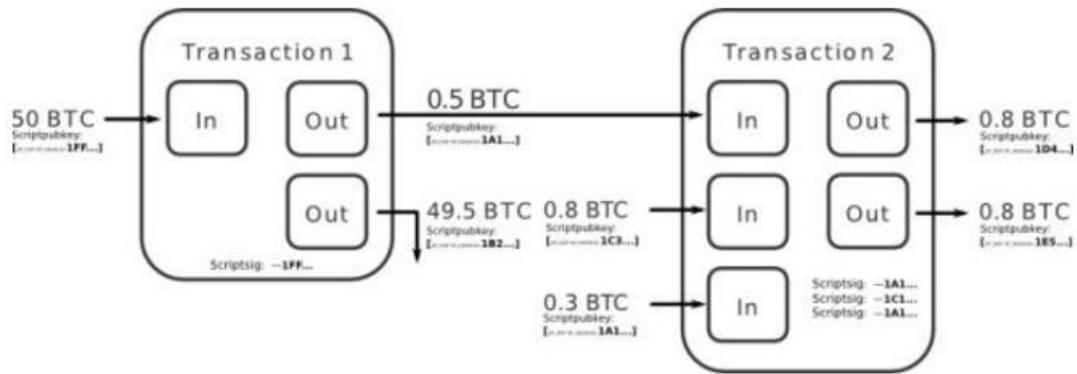
UTXO Schematic

Instead of using Satoshi Nakamoto's UTXO model in design, ETHeum has introduced account model and world state.

In the ETHeum system, the state is consisted by an object called "account" (each account has a 20-byte address) and state transition of value and information transfer between the two accounts. The ETHeum account comprises four parts:

◆ Random number, a counter used to determine each transaction can only be processed once

◆ Current ETH balance in account

◆ Account   contract code, if any

◆ Account storage (Leave blank for default)

ETH is the main encrypted fuel of internal ETHeum, used to pay the transaction costs. In general, there are two types of accounts: all the external accounts (controlled by private keys) and contract accounts (controlled by contract codes). All external accounts are lack of code, so that people can send messages from an external account by creating and signing a deal. Whenever a

contract account receives a message, the internal code of contract will be activated, allowing it to read and write the internal storage, send other messages or create a contract.
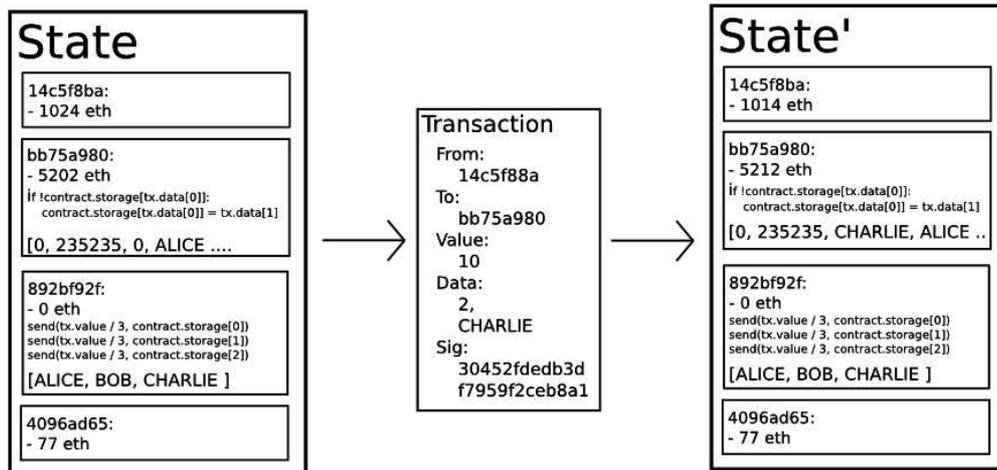
ETHeum Trading Model

Mondo is a combination of the inspiration of Bitcoin UTXO and advantages of ETHeum account model, which is also called the IAM (Improved Account Model) thanks to unique multichannel account model. The asset ID field added in ETHeum account model makes the entire transaction structure easier to read, and multiple transaction record of asset included in one transaction, with the same computation cost for verification, which both ensures security and reduces the demand on computing resources.

2.7 Extended Multiple Signature Digest Algorithms Supportive

In the original block chain network, the encrypted signature system of public and private key

is applied for Bitcoin address, transaction data, and transaction output and input so as to ensure data tamper-resistance and ownership. The standard algorithm is spcp256K1 standard special elliptic curve and mathematical constants defined by American National Standard and National Standard and Technology Research (NIST), with ECDSA signature algorithm and SHA256 digest algorithm to achieve. In practical business application, signature algorithm and digest algorithm must achieve the efficient support to transaction data on the basis of guaranteeing security. Mondo backs up various signature algorithms, including: ECDSA algorithm and SM2 gmb algorithm, which can significantly shorten the signature time of private key to transaction data. Digest algorithm includes: SHA256, SM3, RIPEMD160, TIGER and PANAMA, etc, of which, the demand is set up for the data block buffer cache in digest algorithm according to the structure characteristics of transaction data, and optimization is made for different platforms.

2.8 Consensus Mechanism: POW and POC Hybrid

Mondo Labs is the believer of POW that is a necessary factor guaranteeing network operation of entire blockchain as a blockchain network. However, as a blockchain born for knowledge sharing, Mondo cannot succeed without the motivation of users to do knowledge sharing. Therefore, Mondo Labs proposes POC incentive mechanism.

POC's full name is Proof Of Contribution. Instead of dominating the right to keep accounts (the fight for the right is still POW), POC is mainly used to reward the Address of higher contribution value. For how to identify the contribution value, please refer to the section "Knowledge identity".

2.9 Knowledge Identity

Completing the POC mechanism is a huge challenge for Mondo, because it's still a problem for how to judge whETH the knowledge is original or plagiarism faced with the vast expanse of human civilization.

To this end, Mondo will screen volunteers to undertake the audit work in initial period. The corresponding volunteers may obtain certain Mondo tokens as reward by the workload audited, while knowledge importers (mainly refer to the knowledge wealth left by human ancestors) can receive certain Mondo as reward.

Mondo will abstract the knowledge identification into a fixed interface, and bring in AI company subsequently to do knowledge identity, which to some extent reduces the workload and error.

2.10 Mondo Virtual Machine

Mondo is a blockchain inborn for knowledge sharing, but Mondo has a greater ambition to further progress in the evolution of Internet by providing serverless service. In simple terms, we can rely on Mondo blockchain to offer computing services in the future.

Mondo Labs believe that the ETHeun smart contract has provided convenience for asset distribution and DAO operation, so there is no need to invent another ETHeun for Mondo. On the contrary, Mondo Labs hold that the computing resources can be used by way of decentration, which is a very important strike in the evolution history of entire blockchain.

Therefore, Mondo Labs plan to divide Mondo Virtual Machine (hereinafter referred to as MVM) into Contract Virtual Machine and Executor Virtual Machine, in which, Contract Virtual Machine is mainly responsible for the implementation of Mondo Smart Contract, and Mondo Labs are responsible for preparation and maintenance of fixed smart contract, not open to the outside world. The Executor Virtual Machine is based on Mondo Js Virtual Machine developed by Google V8 engine.

Some improvements have been made on the file storage for Mondo Js Virtual Machine. The file storage is divided into sandbox area and network area. Sandbox area provides users with limited local file access under the premise of protecting security, similar to windows temp file, while the network area offers unlimited file storage services for the ipfs package.

2.11 Chain Plug

In Mondo's architecture, IPFS is the key to Mondo significant innovation, so Mondo Labs have innovatively applied Chain Plug technology, anchoring Mondo ecology and other blockchain through abstract interfaces (token transaction and blockchain information access). Mondo Foundation will invest in the corresponding digital assets to ensure the normal operation of Mondo network before Mondo anchoring technology has enough users.

3. Design and Features of Mondo

Mondo follows the mature six-tier technology architecture, bottom-up: Data layer, network, consensus, incentive, contract and application layer. As shown below

- Data layer: Block data, all transactions occurred

- Network layer: P2P network is used for concealed and untrackable address

- Consensus layer: Consensus mechanism based on contribution degree

- Incentive layer: Incentive and cumulative

- Contract layer: Directional function code support

- Application layer: Support to develop the targeted distributed application; flexibly call

  the business application implementation of directional function.

3.1 Data Layer

Data layer is the core data part of Mondo, which is sequentially connected by the blocks

with time stamps. Each block is consisted by block header and transaction data. The standard blockchain structure, Merkle tree, hash function, asymmetric encryption, timestamp and other technologies are applied for data layer. As shown below:
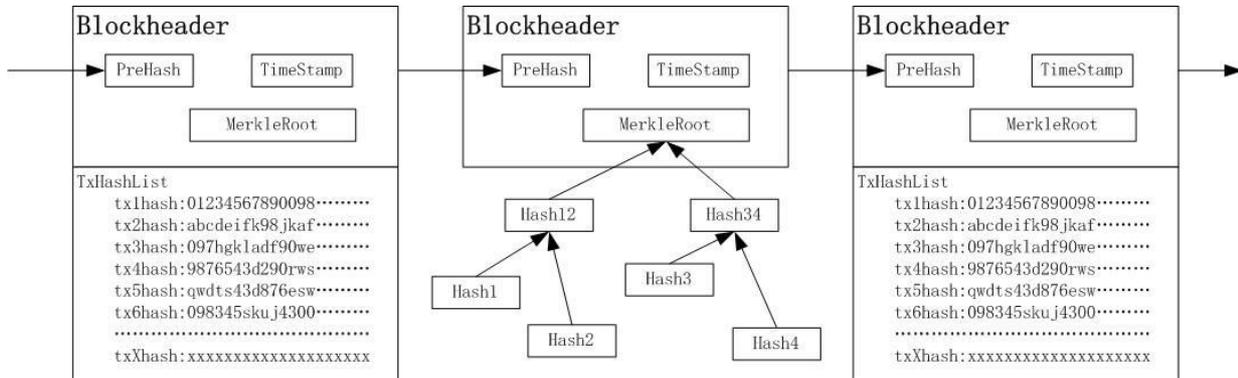
Fig. 4 Mondo's Data Structure

3.2 Network Layer

Network layer uses P2P networking that sends data through the broadcast. The risk of electoral system is the purposive and targeted IP attack caused by the determined unit of account at the beginning of each billing cycle. There are several ways to prevent the attack from occurring. For network layer, each node is required to notify the active state of other nodes. The other network elements monitor the generation status of new block. In the event of a half-cycle timeout exception, other nodes will immediately take over the accounting right, which ensures the validity of transaction bookkeeping and effectively avoids the purposive attack.

3.3 Consensus Layer

The consensus layer applies the DPOC election mode, based on the encouragement for long-term accounting and balance of equity use. The contributed index is non-linear. To encourage long-term accounting, the contribution balance factor is dynamic and non-linear. The longer

billing cycle, the more times of accounting, and greater possibility of another accounting. At the same time, to ensure the possibility of other billing nodes, and balance the long-term advantages, contribution value will produce a natural recession.

The conclusion of consensus agreement lies in every participant. Actually the result of meeting can be expected. The consensus is extended by way of billing cycle. At the beginning of each billing cycle, the all will resume a meeting and launch a new round of election until a definitive election result is obtained before the end of the meeting. Due to the open and determined election way, the result of each election is also determined. Since the computational effort is not used to calculate the block difficulty, the calculation task of billing node becomes easy. At the same time, the security of blockchain can be guaranteed by long-term accounting or investing in huge fund to obtain the right of accounting because the competition is decided by determined factors. The billing cycle is shown below:
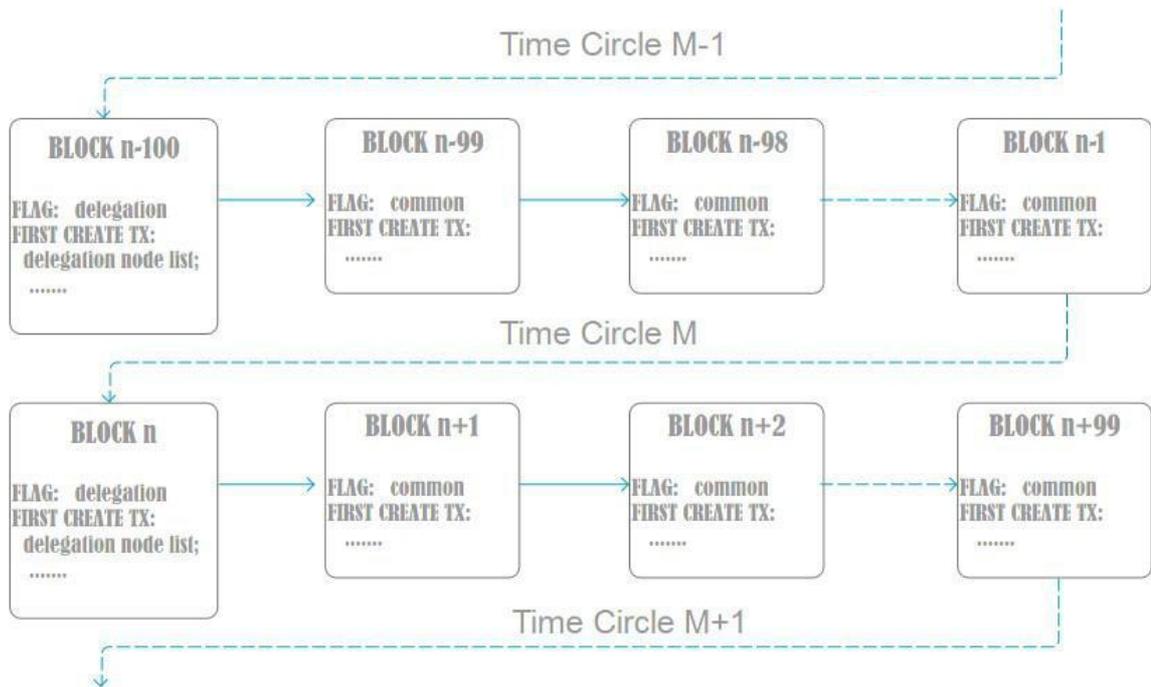
3.4 Excitation Layer

For the reward of billing node, the usual practice is to directly obtain the assets income (ie, currency award). This is straightforward, but the direct reward has no persistence. Therefore, the IPC incentive billing node adds an honest bookkeeping contribution bonus in addition to direct return on assets. The bookkeeping contribution bonus will become an equity interest basis for another bookkeeping. Each accounting income consists of two parts:

- Direct accounting income: By monetary aggregates * annual yield + transaction fees

- Accounting contribution income (cumulative): Hidden income, as the basis of next vote calculation

- The accounting contribution income will grow constantly along with the accumulation of times of accounting. The accounting income will be regarded as a node to participate

in the campaign for an important competitive parameter.

3.5 Contract Layer

The contract layer mainly provides the paradigm of orientating function that is divided into different types according to different functional forms. At the beginning of appointment, the functional paradigm considers the possibility of backward expansion, namely sufficient flexibility. Elastic design can be determined by deterministic type and functional type. Meanwhile, the load interval can exist inside the paradigm as an extended regional option.

The deterministic type of functional paradigm shall meet the demand of basic transactions, including underlying transaction. The underlying transaction supports P2PSK, P2SH and P2P transactions. The deterministic type of transaction paradigm mainly sustains the underlying transaction. Therefore, the transaction security is taken as core function.

The functional type of contract paradigm shall meet the demand of functional conduction, so it includes functional conduction attribute in addition to the token attribute. Functional paradigm usually contains value, type and convention constraint. Functional type of transaction paradigm may solidify contract by determining the address. The contract content can be transferred through conduction transfer of functional contract to complete the transfer of valuable knowledge. Due to the special effect of functional paradigm, the subject of functional contract is absent from direct currency transaction. The implementation of functional contract requires the support of token, because the transaction fee is required during the delivery process of functional contract.

- Basic prohibition of functional contract paradigm

- Functional paradigm conducts inspection and condition constraint for different required functions. The concrete norm carries out the corresponding transaction check according to different transaction types.

- All functional paradigm UTXO can be transferred to ordinary UTXO through transaction

- Valuable knowledge function paradigm mainly constrains registration of bookkeeping right, registration of valuable knowledge and authorized distribution of valuable knowledge etc

- Flexible expansion of functional paradigm

- Considered the diversity of business activities, some basic types of transactions have been determined.

- The functional paradigm itself provides a flexible expansion of structural design. The functional paradigm can be extended by the type inside electronic tag, transaction attribute or in transferred meaning / label. It should be noted that the transaction is free of statute inspection for expansion way.

3.6 Application Layer

The application layer provides a RPC functionality of functional paradigm, so that the user can generate asset operation by using functional paradigm. The agreement and use of functional paradigm is completed through a simple interface function. In most cases, the developers of

business application can achieve flexible diverse business applications with the convention of custom functional paradigm without understanding on implementation logic and process at low-level. In consideration of business flexibility, the application layer does not interfere with the convention of user except for basic functional paradigm constraint.

Application layer offers a view on basic information of transaction through block browser (BlockExplorer). For basic information description, the specific information is available through electronic tag, transaction type and transaction description.

4. The Birth of Mondo: Value Content Is the Foundation of Human Civilization

"Knowledge is the ladder of human's improvement"

By Gorky

Knowledge is consistent with the direction of civilization, a sum of exploration result to material and spiritual worlds for human.

Human civilization is the sum of knowledge summarized by generations. The storage and circulation efficiency of knowledge determine the development rate of human civilization to a certain extent.

The invention of modern printing has brought the development speed of human civilization to a new level, so that vast knowledge content can be distributed to the rest of the world, and a single human discovery and creation can be shared by all mankind.

The rise of Internet makes the spread of human civilization to a new dimension, allowing convenient cloud storage of knowledge, cross-regional and cross-border information exchange; and real-time interaction of value information in the cloud.

The birth of large data and artificial intelligence has greatly increased the experience of human analysis and efficiency of acquiring knowledge. Through the recording and sorting of large data on human behavior, the knowledge analyzed is more accurate and effective, greatly increasing the efficiency of human on knowledge sorting and content retrieval.

The valuable knowledge, intellectual property rights, patent right and blockchain technology

will lead the future development of the world. Using blockchain technology to protect valuable knowledge, intellectual property rights, patent right and its knowledge value will have a long and promising future.

The value of all knowledge intellectual achievements is the capitalization of ownership of knowledge production. In broad sense, knowledge include all the non-physical assets transmitted on the internet, such as films and television, music, image, video, VR, short video, capture, network fiction, travel notes, knowledge, e-book, software, patent, creation, integral, discount coupon and game equipment etc.

The world is about to usher an era of extremely rich material. People tend to have an increasingly higher desire and demand on virtual assets and spiritual assets, with gradually lower desire for material assets. Virtual assets and spiritual assets are characterized by high frequency of consumption, innovation, and endless iteration, showing infinite potential of the market.

The existing valuable knowledge etc are distributed and exchanged in a central way, monopolized by large-scale media and distribution publishing houses. With persistent piracy, the real creators and beneficiaries can only share very modest gains, directly leading to the loss of initiatives to original and innovation, severely affecting China's science and technology, intellectual property and weak position of entertainment industry.

To solve the above problems, Mondo helps the development of science and technology and protection of intellectual property rights in China, and protects intellectual property rights from stolen and plagiarized based on blockchain technology, while creating a decentralized service knowledge platform for direct transaction between creator and consumer, auction, intellectual

property rights of realization landing and patent.

4.1 Mondo's Vision

Mondo's vision is to complete the self-renewal and self-adaptation of artificial intelligence by using the self-iteration of computer algorithm, providing a cornerstone for aerospace technology, laying a foundation for universe exploration AIT.

Self-reflection, self-thinking, finding problems, seeking answers. Q & A, human knowledge transmission, exchange of knowledge, the highest form of embodiment of knowledge learning

We are constantly seeking for own exploration, and more knowledge. We are looking for mystery and exploring the unknown. We are eager to let the computer think and talk like human beings. We are creating a knowledge body that thinks as human being for constant self-sublimation, knowledge accumulation and exploring unknown knowledge.

In the face of unknown knowledge, human beings are extremely limited to the exploration of life process. Mondo creates a new artificial intelligence technology using blockchain technology to help humans complete the sustainable exploration.

Humans are always exploring our surrounding environment and the universe.

As early as the 4th century BC, the ancient Greek philosopher Aristotle put forward the "Geocentric theory", i.e., the earth being located in the center of the universe. In the 140 AD, the ancient Greek astronomer Ptolemy published his 13 volumes of masterpiece "Almagest", systematically establishing geocentric theory on the basis of summarizing the work of

predecessors. In 1543, the Polish astronomer Copernicus systematically put forward the heliocentric theory in his immortal masterpiece "The Revolutions of the Heavenly Bodies". In his heliocentric system theory, the sun is in the center of the universe, while the earth and other planets go along the circular orbit around the sun. In 1608, the Dutchmen Lippershey invented telescope by chance. In the next year, learning of the news, the Italian physicist, astronomer Galileo immediately produced the first astronomical telescope personally, and improved it constantly. Galileo used his telescope to discover the crater on lunar surface, Venus moon phase, Jupiter's satellite, sunspots, and the vast galaxy composed of numerous stars. In 1917, American astronomer Shapley confirmed that the sun is located relatively close to the edge of the Galaxy rather than the center of the Galaxy by analyzing the distribution of celestial bodies in the Galaxy. Then, the status of the earth downgraded to a general planet from a peculiar object in the universe. Has the galaxy already included the whole contents of the universe? With the continuous improvement of observation means, Hubble telescope – a new means of observation makes human further explore the universe.

In the process of exploring the unknown, we can feel the human desire for unknown exploration and many efforts have been made for it.

Advantages of Mondo artificial intelligence in exploring the universe:

(A) Mondo artificial intelligence has an infinite length of life, laying the most central advantage for aerospace technology.

(B) Mondo artificial intelligence self-iteration is updated real-time compared to other false possession of universe travel, avoiding the information lagging, equivalent to a wisdom body that

studies constantly with infinite life length.

(C) The self-development function of Mondo artificial intelligence will be self-corrected continuously, from the original error at the beginning to the final research, exploration and analysis. Therefore, Mondo artificial intelligence will create a more perfect exploration mechanism.

5. Problems Solved by Mondo: Problems of Existing Content Industry

5.1 Inadequate Excitation for Content Creation

Most of the existing content creation platforms are independent communication platforms for users, relying on user's own creation motivation and personal branding motivation, lack of the channels or ways that land and realize the valuable knowledge. The realization of traditional knowledge is usually book creation. Although the high-quality value content can be attached to the book for a more extensive spread, its actual economic benefits are shared by publisher, intermediaries and channels in a great portion, resulting in the direct benefits of content creators far below the value of their creative content.

5.2 Copyright Protection Difficulties

In spite of copyright protection more and more concerned by the state, and the introduction of "Copyright Protection Law", "Intellectual Property Protection Law" and other relevant laws and regulations, the creators still have difficulty in protecting rights, for how to determine the infringement in addition to economic and time problems. There is no effective and impartial way to determine the enforcement of infringement.

5.3 The Trans-border Spread of Content Is Still of Great Difficulties

5.3.1 Trans-border Payment

The existing cross-border payment problems lie in cumbersome operation process, low efficiency and high operating threshold. Currently the middle class is the main group realizing the acquisition content of cross-border payment.

For students, ordinary staff and other low-income people, there is a high threshold and unfeasibility for operation.

5.3.2 Language Translation

At present, some important international academic papers are mainly translated by a small number of professionals before propagated to own country, which greatly limits the spread of important value content, and produces unequal opportunities in different social classes.

6. Mondo - Building a Global Value Content Smart Ecology Sharing Platform

6.1 The Creation of Excitation Value Content

6.1.1 Copyright Protection - Protecting the Rights and Interests of Content Producers

Mondo global ecological sharing platform of value content will conduct copyright protection for value content works using the design concept in blockchain culture field by blockchain technology. The content creators are allowed to achieve self-intellectual property rights relying on platform technology, avoiding value content from stolen and infringement disputes occurring.

Each knowledge product will be marked as the user's copyright for life. The user will be more and more known and recognized with the spread of works, realizing the creator's self-actualization. The value content creators will be inspired to create more and more valuable knowledge content.

6.1.2 Realizing the Conversion of Content Value into Cash More Rapidly

Mondo is a token in knowledge payment domain circulated globally, which is issued using ETHeun smart contract based on ETHeun public chain. The decentralized and discrete payment method of Mondo makes its circulation payment free of national boundary, saving the trouble of currency exchange and long time of system processing, optimizing Mondo's global payment

experience, laying a solid foundation for global development of value content ecosystem of Mondo.

6.1.3 Disintermediation - Content Producers Getting a Higher Return

Mondo, global ecological sharing platform of blockchain value content. The core value of blockchain technology is the disintermediation of consensus mechanism. The both sides rely on the consensus algorithm for mutual trust transaction through blockchain, without depending on a third-party credit institution or interpersonal trust, thus eliminating the intermediary trust costs.

The sufficient return on the economy will greatly stimulate the creator of value content to have a greater willingness to content creation and invest more time and energy for construction of human civilization.

6.1.4 Providing All-sided Certification for Originators' Value Knowledge

Mondo is able to provide the creator's valuable knowledge with the best security protection through the technical characteristics of blockchain distributed account book. Meanwhile, when the creator encounters infringement-related issues, Mondo community will offer the most comprehensive and powerful rights data to help creator win relevant legal action and effectively deter all pirates and infringers.

6.2 The Spread of Excitation Value Content

6.2.1 Global Sharing Platforms

Mondo builds a global content sharing platform of valuable knowledge, which will incorporate the content creators and readers from around the world to achieve no-border and no-racial value content discussion, and hatch out more exciting high-value knowledge in the integration of human civilization.

6.2.2 Intermediate Nodes for International Circulation

Since the initial creation, Mondo has taken payment as an initial value. For a global platform, language translation is indispensable. Payment incentives will encourage more people to participate in the literature translation, which will be returned with Mondo as token. Such translators will play a real role as a bridge for the final step of cross-border and racial transmission of value content. Of course, the current artificial intelligence technology turns into high-speed development track as block-chain technology. Since artificial intelligence translation technology has gradually become mature, perhaps in the near future, the translation work will be replaced by artificial intelligence, which is what we are happy to see and means that the translation costs saved will also be owned by content creators.

6.3 Achieving Global Knowledge Exchange and Cultural Collision

When the Mondo model gradually matures, the international platform similar to Mondo will also appear, because we believe that this is a market big enough to cover all mankind, unprecedentedly huge. At that time, the cross-border ideas will open a new civilization era for human.

6.4 Artificial Intelligence - Promoting the Efficiency in Demand and Supply Matching

Mondo will also embrace the forefront of artificial intelligence technology. The content production, translation, browsing and retrieval will be embedded in the artificial intelligence system for systematic intelligent processing. The matching efficiency of questions and answers will be increased to intelligently analyze the user's demand on questions, while efficient matching can provide knowledge or the matching exchangers.

Therefore, the efficiency of knowledge acquisition process in production, exchange and reception is improved, and people are given with more time to create more valuable content and beautiful things.

7. Mondo's Global Blockchain Value Content Ecology Sharing Platform

By using the decentration of blockchain technology and strong security, Mondo knowledge platform provides creators with a knowledge value cashing platform of very low cost. Mondo platform will create an honor integral system based on contribution degree of platform. The integral is named as MO that will keep relative exchange rate with Mondo on the point of ICO, ensuring the normal transaction circulation and landing realization for valuable knowledge.

Everyone is allowed to create own knowledge base at Mondo. Mondo will review the valuable knowledge before the owners directly conduct transaction, transfer, authorization and project cooperation on Mondo platform. For various valuable knowledge transactions, Mondo provides a consensus mechanism based on Delegated Proof of Contribution and Raft protocol fusion, meeting the demand on blockchain speed and capacity in a trusted network. Through the introduction of multiple signature contract technology on the basis of blockchain technology, the complex business logic can be achieved on the platform.

Users can put forward the demand of answering or solving problem in Mondo community. The system will automatically search the matching blocks of knowledge. If the match is successful, the user should pay the corresponding MO to get the complete data information. If the match fails, Mondo will publicize the needs of user on the platform, so that the user may attract other users to provide solutions by rewarding MO.

Mondo platform will render the bidding and auction functions. The users hoping to get

solutions, patents, intellectual property and valuable knowledge can bid, acquiring the desired valuable knowledge with the most reasonable value. Users with patent and valuable knowledge can auction own patents, intellectual property, and valuable knowledge to maximize the value.

How to get MO?

In Mondo knowledge community, MO is money. In Mondo community, all transactions shall be conducted with MO. Then how to get MO? There are four ways:

(A) Buy Mondo to exchange MO in digital monetary market

(B) Sell, transfer and auction own valuable knowledge or patent, etc in Mondo community to obtain MO

(C) Obtain MO money reward by solving other users' problems in Mondo

(D) Obtain MO by completing the task issued by Mondo community

7.1 The Introduction about the Company

Global Smart Capital Limited Company is a listed company that was quoted on Bermuda Stock Exchange in 23th, October, 2013. Global Smart City Company is a wholly owned subsidiary registered in HongKong.

For many years, all sovereignty, ministries and commissions, provisional government and municipal government has created a unlivable city devoid of plan that was characterized with traffic

congestion and serious contamination. However, now, a group of innovators--Smart City Developer are dominating a reform, for the purpose of building a new type of city featuring common plan, development, financing and management. GSC is one of the innovators. These

public and private innovation partnerships comprise six principal spheres such as environment, economy(urban economy), management, traffic and population. In a word, all these aim at creating a better lifestyle for Citizens. To some degree, we represent citizens to meet their demands for a better life

7.2 GSC and Mondo

Like other traditional investment company, GSC,as a new type of capital company dominating innovation and reform is confronted with multifarious problems such as transnational payment, difficulty in communication and inadequate protection on rights and so on. The emergence of Mondo exactly provides a complete and feasible solutions for GSC. Mondo will achieve greater success and enjoy high reputation while solving problems. It can be foreseen that GSC and Mondo is a good cooperation relationships featuring common prosperity and progress.

7.3 The Structure of Capital Stock

The total stock of Global Smart Capital Limited Company is 300 million in the listed company of Bermuda, where transaction code is GSC.BH, and its sponsor is Cohort Limited. The published number is 264.95 million stocks whose stock valuation is more than 3 Euro in every stock based on the discount income at the discount of 30% within five years, thus possessing nominal market value with 795 million Euro.

7.4 Leadership Team

We have a core team that consists of powerful thinking leaders and team leaders with abundant experience, which involves in project management, finance, ICT, environment and lifestyle. We possess outsourcing association partners in communication, urban plan, research and development. The development of smart city offers money, technology and development. These three aspects are all incorporated into the knowledge and experience of our team.

First: The Board of Directors

Chairman of the Board(global)– Johan P ROUX

Co-chair(Asia)– Shee Fu MAK

President(global)– Jacques C Pauw

President(China)– Bruce Tsang

Second: Leadership Team of Business(global)

Financing / Treasury Management- Dr. W. Burns

Environment/Renewable Energy / Agriculture- Dr. C DUTLOW

Global project management）- N J LeIte

Lifestyle/Retirement pension- M. R. Lourens

Global legal & Compliance- Ms. Z. zhang

ICT & Data center- J. Grobler

Information security- J .G . Pauw

Accounting/Financing- R. Pretorius

GSC, as a global capital company, covers widespread business, which has made remarkable

achievements in all spheres of business.

7.4.1 Primary Business

First: Bond business: we provide debt tools(which is secured by smart city) for smart city through

business module in Luxembourg to create profits.

Second: Consult business: we earn consult fees through our consult business partners such as the

Academy of City Science in Massachusetts Institute of Technology, Terraform and other institutes.

Third: Technical service: we win royalty and service fees through our technical connection.

Fourth: Project development: we get profits by engaging in block development project selected by

smart city.

7.4.2 The Application of Mondo Technology in GSC

Mondo technology provides convenience and security that can not be offered by traditional

internet technology for business of GSC:

First: Anti-counterfeiting identification: the security of internet information has been on

people's mind. The anti-counterfeiting identification technology designed by Mondo can

provides more safe and more reliable anti-counterfeiting identification technology for

company's clients. Mondo first establishes the concept of Smart ID, which lets clients

accomplish identity verification through the way in which users' private key can not be

exposed.

Second: Name service: we can enable every client of GSC and shareholder to possess unique name

through Mondo technology, which not only guarantees uniqueness of people's identity, but also

ensures the accuracy of communication.

Third: File storage: In an era of information explosion, the company's clients worry about the space and time of file storage. The company completely solves the problem of centralized storage through updated storage technology .

Fourth: Intellectual property rights: as a company that provides technology and consult service, it is a must thing to solve the application and protection of intellectual property rights. At the same time, it is necessary to understand how to identify knowledge as an original or pilgrim; how to protect intellectual property rights; how to motivate original. Mondo provides guarantee scheme for innovation development of the company through its knowledge identification technoilogy and incentive mechanism.

7.4.3 Main Performance

First: Smart city

At the end of March,2013, GSC signed an investment framework agreement(term of validity: 20 years) with Zhongchengke Smart City Plan Management Co.Ltd luckily (the company is affiliated to the Ministry of China's Housing and Town and Country Construction and the Academy of Scientific Research of China's city), which focuses on the development of China's smart city, urban infrastructure construction, the supervision on urban facility, the transformation from waste water to fuel, the cooperation with urban agriculture, high-technology trade and other fields. The agreement makes it possible that 46 smart cities and app of the Ministry of China's Housing and Construction are globalized.

Second: Conventional energy resources

Recently, GSC signed a framework cooperation agreement with an Oil Company in Switzerland and exploited 12 blocks of petroleum and natural gas in Иркутск in Russia(the board of GSC estimated that 12 oil gas blocks were 10 billion Euro in 2015). GSC will be responsible for raising 500 million Euro while REDIM ENERGY AG provide the permission of oil gas block. As an appendix of the above agreement, REDIM ENERGY AG promises to bring about all supply channel of oil and natural gas with the income of 100 million Euro for cooperation partners.

One of the reason why GSC involves in the industry of conventional energy resources is that it can provide strong support for renewable energy projects. At present, we are negotiating with an international renowned energy and trade company and the trade platform will open the channels between international supplier and purchaser.

Third: Renewable energy

At present, GSC is negotiating with a large-scale enterprise in China that pays more attention to the development of wind energy and solar energy and expands the cooperation of the product with various countries. GSC will choose an expert as a charger of the Department of Renewable Energy.

Fourth: Financing

The investment agreement contents between GSC and the Ministry of Housing and Construction are involved in providing fund for infrastructure construction of smart city, corresponding smart city technology, consult service, and the development of selective land and real estate project.

Fifth: Technology

GSC signed an agreement with Zhongchengke Smart City Plan Management Co.Ltd that 46

new intelligence technologies are applied to the building of smart city. In addition, GSC

accumulated a stack of valuable intelligence technology such as the transformation from waste

water to fuel, biomass energy, ultimate treatment(cancer/AIDS)and so on. GSC will achieve the

application of these technologies in the world together with strategic partners and retain a majority

of stocks of these operation entities in a sustainable way.

Sixth: The development of land and real estate project

To provide financing for smart city will bring about the opportunity of the development of

land and the cooperation of real estate project for us and create all kinds of incomes. The highest

place of rate of return on the sphere of traditional investment is concentrated on the region devoid

of land resources such as China. The original money will be used in organizing expert team and

acquiring the most appropriate land use rights. Corresponding procedures can be reducible on the

basis of framework agreement and positive cooperation from cities. Once the project is confirmed,

it can foresee current profits.

Seventh: Joint venture with GWEDE MANTASHE foundation

GSC signed a joint agreement with GWEDE MANTASHE foundation recently. They set up

a joint venture together and attach the development and establishment on energy resources,

education and food security in South Africa, which is a business extension except China fo GSC

and possesses potential handsome profits.

7.5 The Advantages and Future Vision of Company's

Development

7.5.1 The Advantages of Company's Development

The reason why GSC company can obtain remarkable business performance is certainly related to its advantages.

First: The government relations

If a company wants to achieve success in a country, the company must build a long-term and superb partnerships with the government of the country. It is seven years that Our company has established a longstanding and stale partnerships with the Chinese government(such as the Ministry of Housing and Construction).

Second: The Local Agreement

In the field of smart city, we have signed the contract with 100 billion yuan(32 billion dollars) with the Ministry of Housing and Construction fortunately. We are gradually reaching these agreements such as establishing joint venture in smart city, developing financing, providing more than 50 technologies, offering global technical consult, and selecting the most valuable projects to develop in certain cities(such as the landmark architecture in Beijing, and the development on Hainan Island) and so on.

Meanwhile, we enjoy all kinds of incomes to ensure the accomplishment of the responsibilities:

1.Investment profits and debt tools arranged by Deutsche Bank as a representative and the profits of smart city;

2.Consult fees from consult institutes of MIT;

3.The permission use fee and service fee brought by our technology;

4.The profits of the development of specific land blocks.

Third: The Financial Cooperation among Banks

Russia Foreign Trade Bank, as one of shareholders is a state-owned bank, which is

responsible for trade balance between China and Russia and RMB balance business. In terms of it, foreign trade bank ranks first in all Russia banks, and one third of balance amount in China-Russia trade is incorporated into the bank. In the latest one and half years, foreign trade bank has made various progress in the business development in China, established good cooperation platform with all banks in China and turned their eyes on the transformation from traditional market in America, Europe countries to Asia, especially in China, which laid a foundation for achieving "the strategy on the east". The main strategies that our bank aims at are that we are ready to increase foreign exchange products and financial derivatives, and issue bond and gold transaction except trade balance business.

At the same time, foreign trade bank has built partnerships with Harbin Bank and Bank of Inner Mongolia and other banks.

7.5.2 The Vision of the Company in Mondo

The company will dully utilize the sources of international capital market and expand financing channels through making use of Mondo Platform to deliver more benefits fro all company's user, filiale, partners and shareholders.

8. The Launch of Mondo

8.1 The Birth of Mondo

The Mondo team, an expert in the field of sharing community of knowledge payment and computer, was engaged in blockchain field in February 2015. After half-year structure conception and repeated elaboration, a special group for sharing ecology platform of blockchain + content payment was established in May 2016.

Since the project has been prepared, the Mondo team has the confidence to bring it to market and accept a broader market test. The project ICO is launched to allow more people to understand and participate in the Mondo project, thus maximizing the value of Mondo project.

8.2 Management of Mondo

8.2.1 Mondo's ICO By-laws

	Mondo Total circulation: 1 billion
1.	**Angel wheel (private equity): 30%** The total of angel subscription :30%. The money brought by subscription will be used in the company's program operation and technical research and development and so on).
2.	**Venture Capital Fund: 30% (locked position)** In order to maintain the interests of the majority of investors, the total circulation of 30% forthe introduction of strategic investors, the funds will be used as a fund reserve to maintain the MO in the trading platform on the healthy development. There are locked position for three years, 33% in the first year , 33% in the second year,34% in the third year.
3.	**Start-up team, technology development team: 15% (locked position for four years)** (15 percent of total offering is distributed to the start-up team and technology development team and is released in four years for 25% per year).
4.	**Marketing incentives: 5%**
5	**Business cooperation: 15%** (To expand the size of project industry and attract more business alliance to join us, 20% is reserved for expanded funds in late period.

9. Risk Warning

The purchasers involved in Mondo ICO should read Mondo White Paper carefully for a comprehensive understanding of characteristics of Mondo ICO's risk-benefit and Mondo technology, and take full account of own risk tolerance for rational judgment and prudent decision making. The purchasers should understand that the Mondo project will not provide a refund in any case.

Mondo project team will rationally use the digit raised by ICO in accordance with the disclosed contents of White Paper.

For assets and regulatory management projects, although the Mondo project team fulfill their duties, and undertake the management obligations honestly, credibly and diligently, the purchasers may have the risk of loss. There may be policy risk, economic cycle risk, network hacker risk, management risk, liquidity risk, currency price risk and other risks.

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