

TONGTONG COIN  
**White Paper**



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# Tongtongchain Blockchain Whitepaper

## Overview

Tongtong Chain (TTChain) is a blockchain infrastructure platform that bridges the gap between Web2.0 and Web3.0 through a virtuous cycle of rewards and payments.

Web2.0 refers to the current state of the internet, where user engagement and content creation is high, and is dominated by centralized platforms such as Facebook, YouTube, and Twitter. Web3.0, on the other hand, is a new internet paradigm centered on decentralization, user ownership, and blockchain technology. It aims to restore sovereignty to user data and make online transactions more transparent.

The Tongtongcoin infrastructure platform bridges these two worlds through its rewards and payment system. The reward system provides users and participants with incentives based on their contributions to encourage active participation in the platform's ecosystem. For example, when users create or share content and support other users' activities, they can be rewarded with blockchain-based cryptocurrency. This reward structure keeps users engaged and promotes the growth and vitality of the community.

The payment system enables a seamless flow of funds between Web2.0 and Web3.0. Users can make secure and reliable payments through blockchain technology, which is faster and cheaper than traditional payment methods. The system also lowers the barriers to global payments, allowing diverse users to transact freely across the globe.

Thus, through a virtuous cycle of rewards and payments, this blockchain infrastructure platform enables users and businesses to enjoy the convenience of Web2.0 and the innovative benefits of Web3.0 at the same time. It sets a new standard for the digital economy, enabling innovative applications and services in various industries.

Tongtongchain will build a secure, stable blockchain network with a modularized design to enable smart contracts and digital assets, and will build a sandbox to monitor the execution of these contracts and the transfer of value within Tongtongchain. The sandbox can ensure the stability of contracts and the safe transfer of value.

It will also support DApps that can be utilized by various businesses and support protocols for mutual value exchange between these DApps. In the future, we will expand the Tongtong Chain ecosystem by allowing forking of Tongtong Chain for various purposes and connecting these forked blockchain networks.

Tongtong Chain uses a coin called Tongtong Coin (TTCOIN) to deploy smart contracts, exchange value between dapps, and utilize the network.

## Disclaimer

- This is a conceptual document (whitepaper) describing the Tongtongchain platform and Tongtongcoin. The white paper may be modified or replaced at any time.
- The purpose of this white paper is to convey the introduction, background, and operation of the platform to those interested in the Tongtongchain platform business, and should not be construed as a solicitation to buy or sell.
- This white paper is a document containing plans for the Tongtongchain business. It should not be understood that it will necessarily be realized, and the responsibility for decisions made through this white paper lies with the party making the decision.
- There is no guarantee as to the accuracy or completeness of the information and statements opinions or other matters described in the white paper or related to the business, and they may change as the company's business progresses. Therefore, you do not have any rights as a shareholder, such as voting rights,

dividend rights, or any rights equivalent thereto, for the company that created the project.

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# 1. Tongtong Chain

Since Bitcoin was developed in 2008 and became a blockchain technology, many developers have been involved in blockchain development. There are distributed platforms such as Ethereum, Bitcoin, and Litecoin, which focus on the development of digital currencies. However, despite the rapid development of blockchain technology, there are many technical issues that need to be resolved in the future.

- A. Security risks of smart contracts, which can cause users to lose their digital assets due to hacker attacks.
- B. Difficulties in cooperation and interconnection between applications in different fields and different blockchain platforms.
- C. Difficulty in connecting between the blockchain world and reality, which limits the implementation of various real-world situations such as authentication tracking of goods.
- D. Blockchain is a technical barrier to entry, and it is more expensive to apply to the real world than centralized.

Tongtongchain is a platform with a user-friendly interface for anonymous and decentralized management of assets. It prioritizes security, reliability, and scalability. TongtongChain adopts the latest designs such as virtual machines, smart sandboxes, value exchange protocols, and fork mechanisms, which make it possible to organize a blockchain network with high user convenience and low cost. It aims to reach speeds of up to 20,000 TPS through optimization of block interval, block volume, and consensus algorithms. Tongtong Chain includes Tongtong Coin, Tongtong Money, Tongtong Rewards, and Tongtong Wallet, as well as APIs that will be open to external users.

## **Tongtong Chain includes the following features**

- A. Utilizes the RDPOS consensus algorithm to make blocks more responsive and improve network reliability and security.
- B. Provides a Tongtong wallet service for secure storage of personal crypto assets.
- C. It aims to overcome the limitations of transmission speed and processing speed, which are the limitations of existing blockchain networks, so that cryptocurrency transfers can be made in real time.
- D. Provide an interface for DApps to be applied to various real-world environments.
- E. In the decentralized Web3.0 environment that has evolved from the existing Internet environment, we aim to achieve a user-driven economy through reward payment through participation beyond simple content consumption.

## **1.1 Features of Tongtong Chain**

### **1.1.1 Stability**

Network stability is an essential feature of a blockchain platform. Given the decentralization and constant scalability of blockchain platforms, they are exposed to potential uncertainties. However, TongtongChain is based on the Lua Virtual Machine (LVM) with a simplified and modular design as its basic idea. Designed for smart contracts, LVM has the advantages of the Lua language - fast processing speed and low defect rate - and is separately operated and independently structured to ensure the quality of the entire network. This allows Tongtong Chain to ensure network stability.

### **1.1.2 Security**



Proof of Work (PoW) is used to secure the Bitcoin network, but due to the increasing mining demand and hashing power, many strategies have been put into miners and mining farms, which have become unwanted centralized “central servers”. In theory, they can control most of the Bitcoin transactions by controlling 51% of the computing power, and the high power consumption makes them very expensive.

Compared to the PoW consensus algorithm, Proof of Stake (PoS) aims for a higher level of security and a wider range of applications. The PoS algorithm has a higher level of security than PoW when there are enough holders.

Therefore, the Tongtongchain team utilized the RDPoS (Result Delegated Proof of Stake) consensus algorithm, which increases the block response speed compared to DPoS and improves the stability and security of the network.

In addition, Tongtongchain utilizes a smart sandbox mechanism to ensure the safety of smart contracts by verifying and testing all smart contracts before they are registered on the Tongtongchain network.

### **1.1.3 Scalability**

To solve the problem of incompatibility of blocks in a blockchain, upgrades and forking are effective ways to evolve the network. When a fork occurs, a main chain and several subchains are created. These subchains can be organized to share information and exchange value between chains so that they can be utilized by multiple applications.

### **1.1.4 Ease of use**

Blockchain applications can be easily developed using visualized means of customizing data, forking chains, revealing and upgrading smart contracts, monitoring transactions, etc. It supports various programming languages such as Lua, C++, Java, etc. to make it easy for developers to participate.

## 1.2 Construction of Tongtong Chain

### 1.2.1 Smart Contracts

Typical smart contracts only allow data access within the blockchain network. However, Tongtong Chain allows data interaction between the blockchain network and external networks. In practice, business applications are complex in nature due to their data structures and business rules, but by appropriately using pre-prepared API interfaces and data structures, abstract ideas and general requirements of application development can be easily implemented within the blockchain network. In addition, LVM is used to approximate real-life rules as closely as possible, allowing static compilation and on-demand execution suitable for blockchains.

### 1.2.2 Consensus Algorithms

Blockchain networks cannot function without consensus. Currently, the most widely available consensus solutions are PoW, PoS, PBFT, and DPoS. Tongtongchain chose DPoS and enhanced it with a new mechanism called RDPoS (Stake of Resulted-Delegated Proof of Stake).

RDPoS inherited all the advantages of DPoS: not only does it not need to consume redundant computing power to obtain new blocks, but the execution result of the contract state can be verified by the agent node or all nodes depending on the network state. Community consensus cannot be achieved without incentives, which are commonly referred to as tokens in the blockchain world.

Tongtongchain is a public blockchain with its own coin, Tongtongcoin. Tongtongcoin holders have the right to participate in community events, such as

creating and publishing smart contracts, accessing network services, voting for delegates, and earning money as delegates.

In the Tongtongcoin community, candidates are voted for by all Tongtongcoin holders, and the 99 candidates with the highest number of votes are upgraded to agents and have the right to verify transactions in turn. No one can modify the verification order on their own.

In theory, RDPoS improves network transaction performance over DPOS because all nodes participate in verification, not just agent nodes, especially for long runs or heavy storage usage.

RDPoS can reduce the congestion of the entire network. Also, by optimizing the consensus mechanism, the membership of the agent group is constantly changing. This is important for the network to remain decentralized

### **1.2.3 Accounts**

Accounts are specially designed for secure transactions on the blockchain network. Accounts, public and private keys, and SHA-256 hashing method are available for secure use.

### **1.2.4 Value Exchange Protocols**

While a single blockchain is limited in supporting a wide range of applications, a complex network of connected blockchains can be applied in a variety of environments. New consensus algorithms are needed to exchange value between connected blockchains. For such value exchange between blockchains, we define rules for connection and communication and provide services that allow them to query and access each other. Provide interfaces for cross-chain smart contracts and token exchange with the goal of exchanging value between cross-chain.

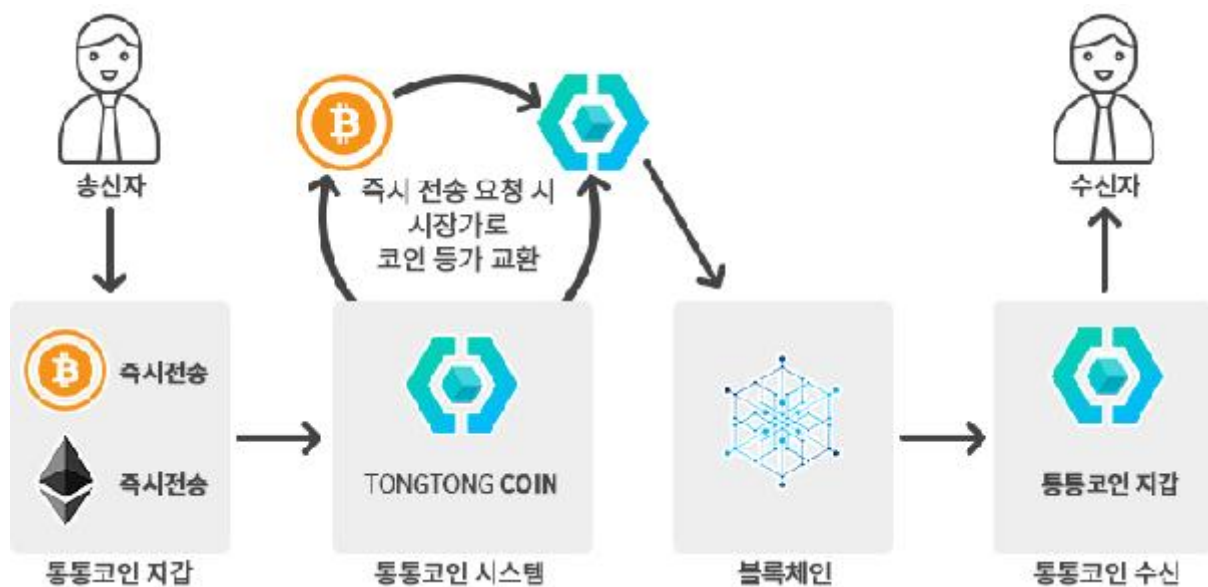
### **1.2.5 Fees**

The fee for sending Tongtong Coin, Tongtong Money, and Tongtong Rewards Dapps using Tongtong Chain on the blockchain is 0.5% of the transaction amount, with a minimum value of 0.1 Tongtong Coin.

### 1.3 Real-time instant money transfers

Traditional cryptocurrency transactions require time for proof of transaction operations. Bitcoin transfers take 10 to 30 minutes, and Ethereum transfers require 10 to 30 seconds.

Tongtong Coin is built as a hybrid blockchain in conjunction with Tongtong Wallet, which converts each cryptocurrency into Tongtong Coin in real time, and the converted Tongtong Coin can be sent instantly.



[Figure 1] Real-time transfer of Tongtong Coin

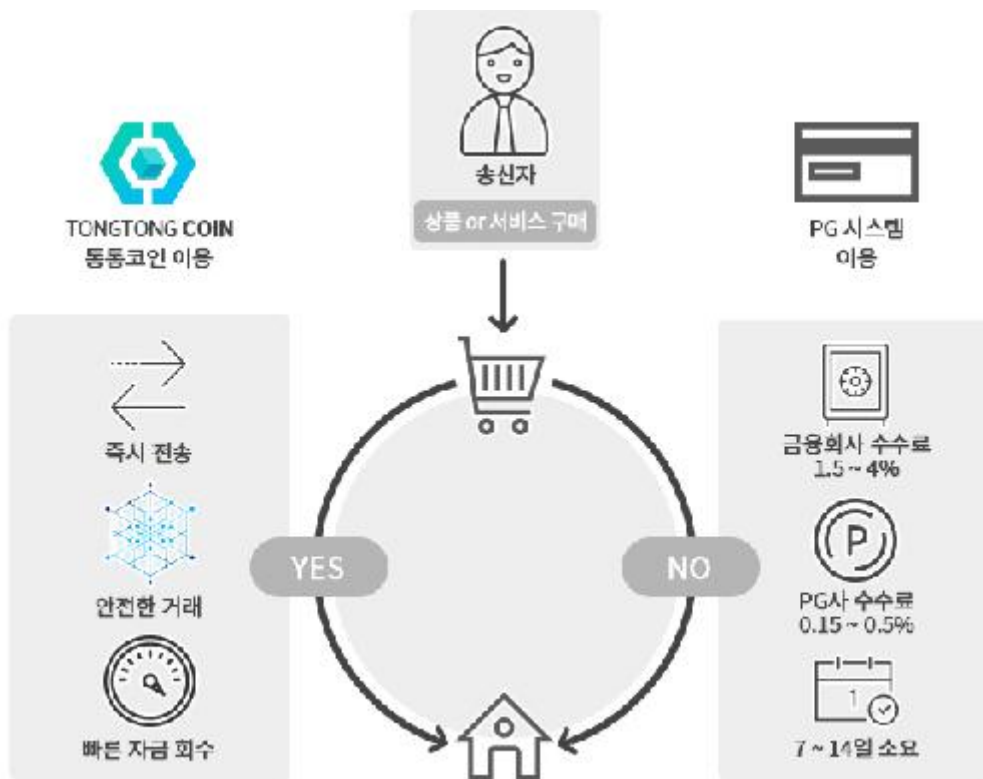
If the sender wishes to send Bitcoin, Ethereum, or other cryptocurrencies, the TongTongCoin system will convert the coin you wish to send into TongTongCoin at

the prevailing market price, and then send TongTongCoin. The recipient will then receive TOKENS and can convert them to other coins as needed.

## 1.4 Alternatives to online payment methods

When a user purchases goods or services online, they incur fees of 2-5% of the value of the item, including card company fees and PG company fees. In the case of stores, the payment cycle of the PG company takes about 1-2 weeks, causing a delay in the recovery of funds.

By replacing the online payment system with Tongtong Coin, the price of goods and services can be lowered through lower fees and faster remittance compared to existing payment methods, and the store can recover funds faster.



[Figure 2] Online payment alternative to TongtongCoin

The Tongtong Coin real-time payment service works in a similar way to the existing PG system, where Tongtong Coin is transferred from the user's wallet to the online store's wallet in real time based on the market price at the time of payment. The merchant can immediately see the payment history and check the price, balance, etc. according to the market price of Tongtong Coin.

### **1.4.1 Transaction fees**

In order for blockchains to work well with real-world payments, transaction fees need to be zero or kept low enough.

Tongtong Chain utilizes an RDPoS consensus algorithm, which allows us to significantly reduce transaction fees. Tongtong aims to charge only 10% of the fees of traditional payment methods such as credit cards, and will continue to expand its market to online payment methods so that the reduced costs can be passed on to both producers and consumers.

## **1.5 Tongtong Coin Usage**

You can use Tongtong Chain to develop and use DApps that can be applied to real life. It provides a platform to expand the Tongtongchain distribution ecosystem by forking Tongtongchain, building its own private blockchain, and enabling value exchange with Tongtongchain.

### **1.5.1 Examples of Usecase**

#### **A. Tongtong Mall**

Tongtong Mall is an online shopping mall operated by Tomato Pay Inc. It can be utilized in both web and app formats, and about 3,000 types of products can be

purchased with Tongtong Coin. In addition, TTR, which is paid as an activity reward, can be converted into TTCO or TTC and utilized for purchasing Tongtong Mall products.

**B. Ticket Tong**

Ticket Tong is a ticket purchase platform operated by Tomato Classic. You can purchase tickets on Ticketmaster with TTC. TTC's database of ticket buyers and ticket purchase history is combined with blockchain technology. Specifically, it prevents black market transactions and ticket forgery and tampering through smart contract technology to form a healthy ticket purchasing culture in the overall performance culture life.

**1.6 Smart Contracts in Tongtong Chain**

Blockchains are decentralized and connected structures that make it difficult to modify data, but lack search queries due to low-level data formats. Distributed databases also have a decentralized data structure with fast data processing processes and well-designed data formats, but the data is less reliable.



[Figure 3] Smart Contract

The structure of the data involves data being recorded in blocks. As each new block or transaction is recorded, the new record is added to the previous one to form a chain of data records, or blockchain.

As a result, the blockchain contains a record of every transaction since the ledger began.

The technology is based on a consensus algorithm that requires a large number of nodes to validate any new transaction on the network. This makes it very difficult for unauthorized modifications/alterations or attempts at data manipulation.

As a database, a blockchain can contain any information, but due to network and cost limitations, it is not ideal for storing vast amounts of data.

### **1.6.1 Tongtong Chain as a Database for Applications**

When using Tongtong Chain as a database, you can divide the input data into two categories.

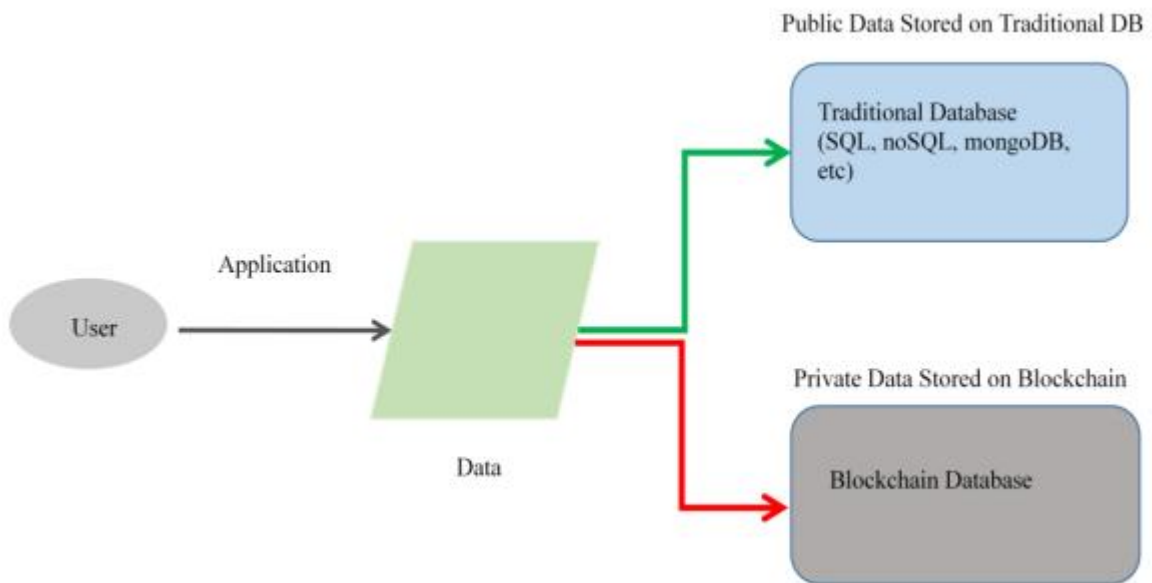
- 1) Public data
- 2) Private data

Public data is publicly viewable and does not contain any security-related or sensitive information, while private data is sensitive and requires security. Currently, all blockchains have limitations because they were initially designed as a currency (monetary) platform, but later modified/transformed to be used as other platforms.

To optimize the use of a blockchain as a database, you can store public data in an existing database and private data in a blockchain, and then connect the blockchain database to the existing database.

- 1) Public data in existing DB
- 2) Private data on the blockchain





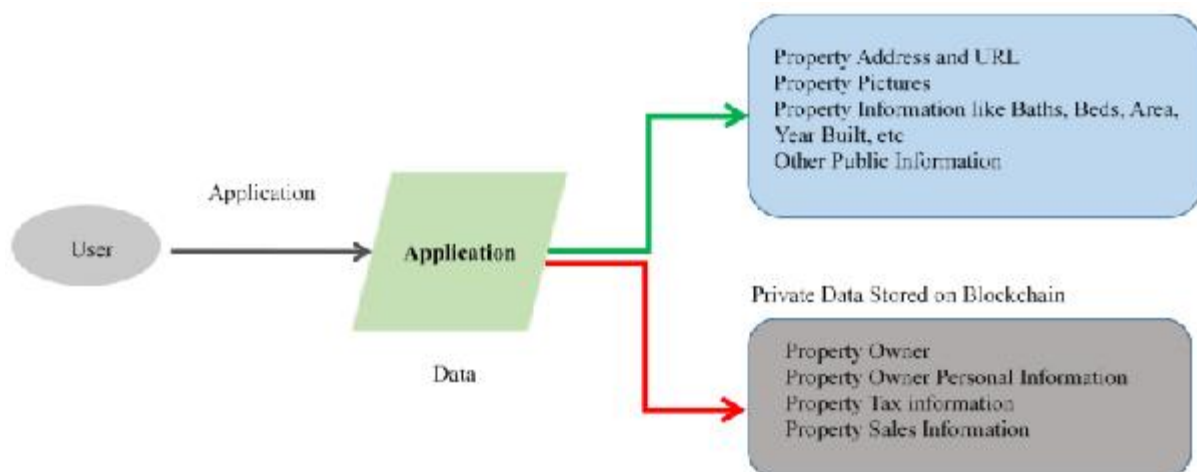
The reasons for storing public data in a traditional DB are as follows

- 1) Blockchain is peer-to-peer, and all nodes need to be synchronized to stabilize the platform. If you store a lot of data in the blockchain, it will take longer to synchronize.
- 2) Tongtongchain is limited in returning data from function calls of smart contracts. data from smart contract function calls. It can only fetch 2MB of data in a single call, so if the data is 100MB of data, a total of 50 calls are required, each of which takes about 2 seconds, so a total of 100 seconds is required to get the complete total of 100 seconds to get the perfect data.
- 3) The query logic of traditional DB is better.
- 4) Traditional DB is easier to scale. To make a modification on the blockchain, all nodes need to be upgraded, and all users need to get the latest version of the node.

- 5) If there is public data in the traditional DB, it is easily accessible and can be exposed to users, while the private data of each user or application will be stored in the blockchain.

### 1.6.2 Use Cases

Using real estate as an example, and assuming User A is the owner of the property, you can make the property tax details private data and the ownership private data.



In the picture above, you can see that public information is stored in a traditional database, while private information is stored securely on the blockchain. We do it this way because,

- 1) A single call to the data takes 2-3 seconds.
- 2) The current blockchain has a 2MB data limit for each call. So to fetch 100MB of data, it takes 50 calls, and if each call takes 2 seconds, it takes 100 seconds to fetch the entire data.
- 3) Scalability is an issue because every time you make a change to the blockchain, all users must install the new change to use it.

The above example can also be applied to designing a model for applications such as Tongtong Messenger, Tongtong Ticket, Tongtong House, Tongtong Car, etc.

This requires categorizing public and private data for each application and storing them in either a DB or a blockchain.

## 2. Introduction to TTC, TTR, and TTCO

Tomato has issued TTC (Tongtong Coin) and TTCO (Tongtong Coupon) based on the Tongtong Chain mainnet. Tongtongchain is a blockchain infrastructure platform that serves as a bridge between Web2.0 and Web3.0, implementing an innovative system that benefits both users and service providers through a virtuous cycle of rewards and payments.

Tongtongchain's biggest feature is the formation of a user-participatory platform ecosystem centered on a reward system. Through various Dapps based on Tongtongchain, such as News, Search, Communication, etc., users can be rewarded with TTC and TTCO while engaging in content creation, sharing, search, and social networking activities. This reward system encourages users to engage more actively with the platform, which promotes its activation and continued growth.

Tongtong Chain is also expanding its real-life application possibilities through value exchange between Dapps. Through various real-life applications such as Tongtong Mall, Ticket Box, and Tomato Investment Club, users can use TTC and TTCO to purchase physical goods, book tickets, and engage in investment activities. In doing so, Tongtong Chain is not just a cryptocurrency ecosystem, but a blockchain-based economic system that is closely connected to real life.

Tongtong Chain provides a variety of interfaces to maximize user convenience, making it easily accessible and usable even for those unfamiliar with blockchain technology. For example, by providing an intuitive user interface (UI) and user experience (UX), anyone can easily use Tongtong Chain-based dapps. This allows users to participate in the

blockchain ecosystem without the need for complex technical knowledge, which is an important factor in accelerating the popularization of the platform.

In conclusion, TongtongChain is a blockchain infrastructure platform that serves as a bridge between Web2.0 and Web3.0 through a virtuous cycle of rewards and payments, and maximizes user convenience by building a user-participatory platform ecosystem and expanding real-life application possibilities. Tongtongchain's innovative approach sets a new standard for the digital economy, enabling innovative applications and services in various industries.

As such, TongtongChain aims to actively utilize its coins and tokens in line with the evolving technology and trends of the times.

## **2.1 Tongtong and Tongtong Wallet**

Tongtong is a highly secure P2P-based messenger with a user-friendly messenger interface. You can send and receive Tongtong Coin, Tongtong Money, Tongtong Rewards, Bitcoin, and more, and use it as a payment method, just like you would with a friend.

In addition, Tongtong's basic design idea that conversations between individuals should be verifiable only by individuals is in line with the basic idea of cryptocurrency. Therefore, using Tongtong as the default application of Tongtong Wallet means that cryptocurrency transactions can be guaranteed anonymously and transaction stability can be ensured.

### **2.1.1 Tongtong (P2P messenger platform)**

Tongtong, the messenger platform of Tomato Group, is a P2P-based messenger platform that does not store messages on the server.

The Tongtong messenger platform does not store the contents of users' conversations on the server, but simply relays them. TongTong messenger is a direct communication method between devices, and all users' conversations are encrypted/decrypted using the user's private key, so it is impossible to intercept the communication section and check the contents of the conversation on the server.

## A. Features of Tongtong

Tongtong is a user-friendly messenger platform that allows you to easily sign up with your phone number, have 1:1 conversations, and group chats.

### - Sign up

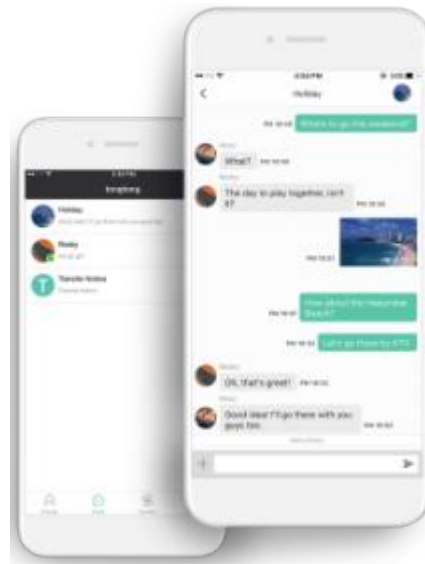
You can easily sign up/login with your own mobile phone number. If you log in from another device with the same number, re-authentication is required and data from the previous device will be deleted.



[Figure 4] Sign up for Tongtong

### - Chatting

If you want to have a conversation between users, you can select a friend from your friends list to talk to them. You can chat 1:1 or in a group. It also provides a feature that lets you know if a user is available in their profile..



[Figure 5] Tongtong Chatting

## B. Main characteristics of plump

### - Security

Tongtong's server simply relays, and all conversations between users are conducted in a peer-to-peer manner between devices, ensuring security.

### \* Encryption/decryption algorithm

: Private keys are securely encrypted and stored within the TongTong application. All conversations are encrypted with AES256 and decrypted at the end device, so it is safe from eavesdropping in the communication section.

No user-to-user conversations are stored on the server under any circumstances.

### - Simplicity

: It's easy to sign up with just the user's mobile number.

: We do not require any information from you other than your mobile phone

number.

: It has the interface of a typical messenger, so it can be easily used by users.

### - Scalability

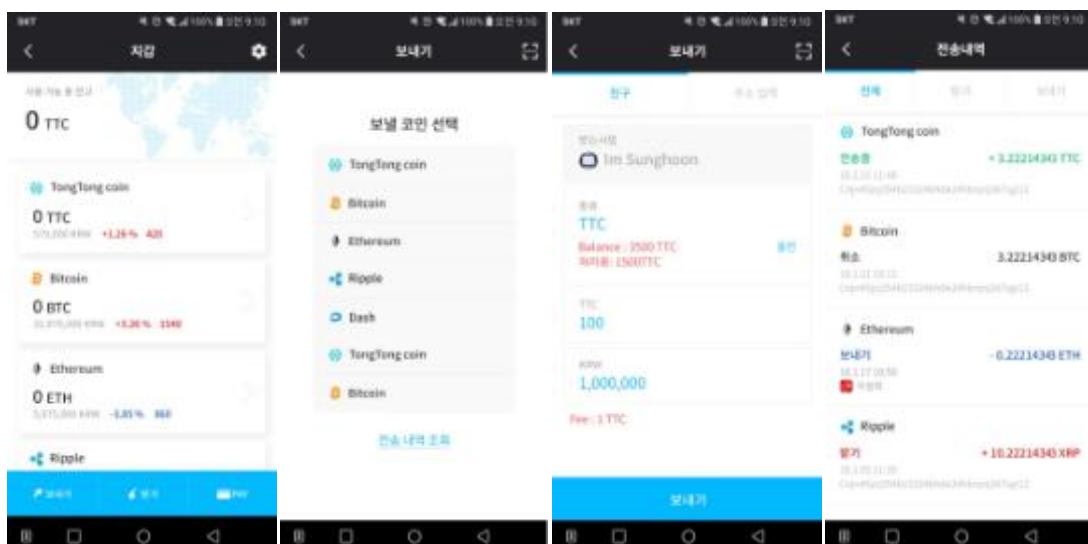
: Tongtong has a great potential to be expanded by adding/connecting various services.

: It has an open architecture that allows not only Tongtong wallet but also shopping malls, payment systems, etc. to be connected.

## 2.1.2 Tongtong wallets

Tongtong Wallet is intended for users who are already subscribed to Tongtong, and generates a private key at the user's choice. This private key is encrypted and securely stored on the user's device, and the Tongtong Chain platform does not know any information. However, in order to use it as a smooth cryptocurrency transfer and payment method, it is implemented to enable fast transfer by utilizing the user's de-identified information and coin quantity.

All services such as online/offline payments, P2P transfers, and mileage utilization using Tongtong Coin and Tongtong Rewards are done through Tongtong Wallet.



[Figure 6] Tongtong wallet example

## **A. Key characteristics of a plump wallet**

### **- Secure**

The user's private key is generated and stored on the local device and is never sent to an external server. Users have full control and protection of their assets.

### **- Anonymity**

Tongtong Wallet does not require users to identify themselves or verify any information. This eliminates the risk of user identification and personal data leakage.

### **- Convenience**

TongTong Wallet works on top of our messenger service, TongTong. It is a familiar messenger-based service that allows users to send and receive Tongtong Coin, Tongtong Money, and Tongtong Rewards to and from friends, pay at shopping malls through participating partners, convert mileage/points, etc.

### **- Variety**

Tongtong Wallet provides a standardized interface to easily install not only Tongtong Coin, Tongtong Money, and Tongtong Rewards, but also various DApps that use the Tongtong Chain network.

You can also store, send, and receive commonly used cryptocurrencies such as Bitcoin and Ethereum. We will continue to expand the number of cryptocurrencies supported by Tongtong Wallet. We also plan to add the ability to convert coins within the wallet to solve the problem of double and triple fees paid to call coins.

## **2.1.3 Features of Tongtong Wallet**



All functions using Tongtong Coin, Tongtong Money, and Tongtong Rewards are implemented through Tongtong Wallet.

Based on our messenger, Tongtong, Tongtong Wallet is an application that is essential for everyday life, such as safeguarding personal digital assets, communicating with friends, sending and receiving funds, purchasing goods and services, and converting mileage/points.

### **A. Account Creation / Wallet Creation**

Tongtong, our messenger platform, creates an ID based on the user's phone number and does not store the contents of the conversation on the server. Creating a Tongtong account is the basic step to use Tongtong Wallet, and all accounts are created in conjunction with a phone number. To create a Tongtong wallet, the private key is encrypted and stored in a secure area within the Tongtong program, so it cannot be managed by the Tongtong messenger server or even within the Tongtong chain system, making it highly secure.

Once the plump account is created, the user can create a plump wallet. This is done by entering a prescribed word to generate a private key. The private key must be kept securely by the user, and if lost, the wallet cannot be recovered.



[Figure 7] Sign up for Tongtong Wallet

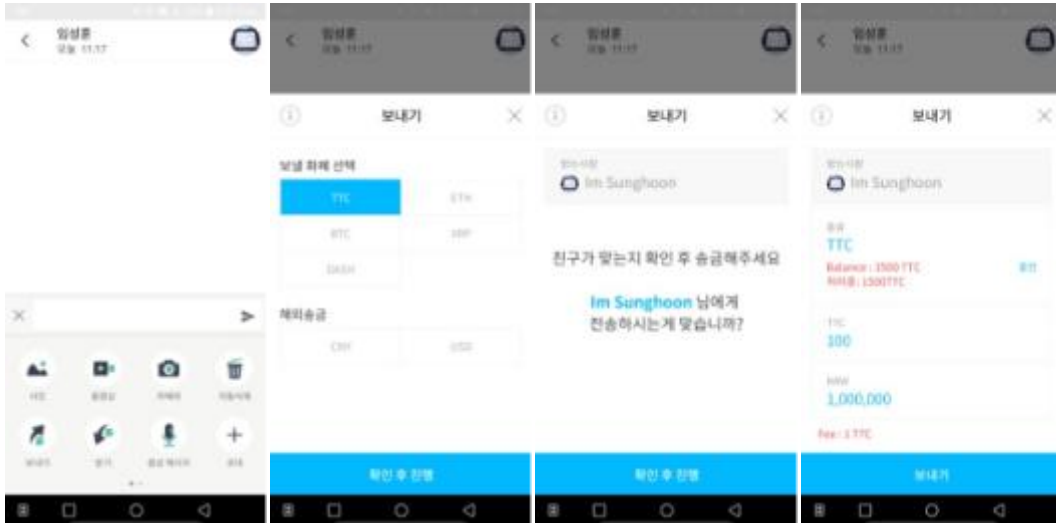


[Figure 8] Example of generating a Tongtong wallet security key

## B. Real-time transfers and purchases

You can easily transfer Tongtong Coin, Tongtong Money, Tongtong Rewards, and other cryptocurrencies by selecting a friend on Tongtong Messenger.

Implemented as a user interface integrated with the messenger, users can easily use the familiar interface.



[Figure 9] Example of a real-time transfer

In addition, we provide a service that allows you to purchase goods with Tongtong Coin and Tongtong Rewards at shopping malls that are participating in Tongtong Messenger. You can purchase goods and services with Tongtong Coin, Tongtong Rewards, and other payment methods. Using the API for shops, you can easily register and sell products on Tongtong Messenger and check the settlement information through the admin page. This provides an interface in the form of an API, so there are endless possibilities for future expansion to other services.



[Figure 10] Example of a real-time payment

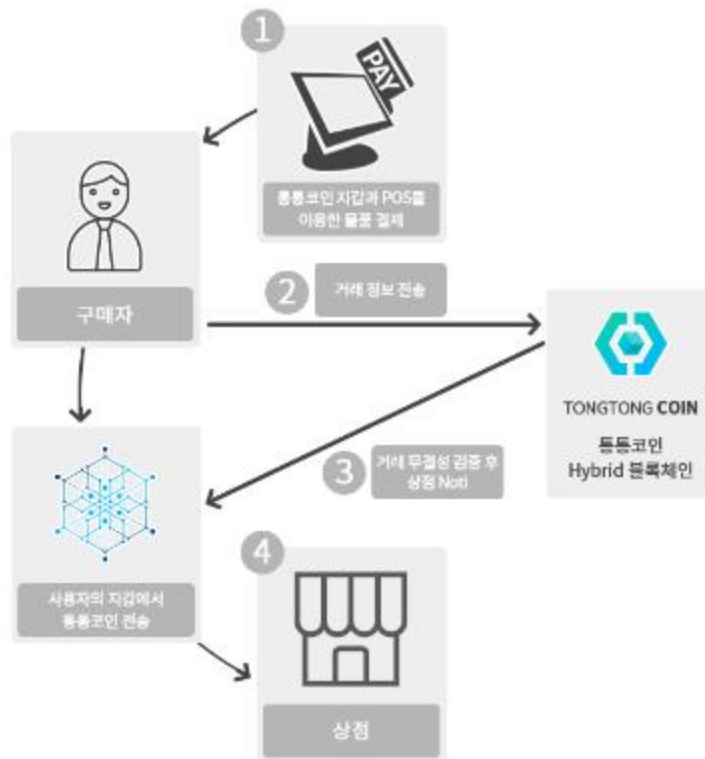
### C. Securely send and receive cryptocurrency between individuals

Provide a user interface for securely transferring fiat coins between individuals. In existing cryptocurrency transactions, even if the transaction is based on mutual trust, it is often exposed to fraud, causing economic damage. To prevent such damages, we provide services for safe transactions.

## 2.2 Offline Payment

Tongtong Coin enables offline instant payment in conjunction with the Point of Sale (POS) produced by 'Tomato Pay', an affiliate of Tongtong Chain, an affiliate of the manager.

When a user scans a QR code using Tongtong Wallet, real-time payment occurs in conjunction with TomatoPay POS. To avoid long waiting time for Tongtong Coin transfer, Tongtong Chain's hybrid blockchain technology is used to ensure safe and fast transfer.



[Figure 11] Tongtong Coin offline payment

## 2.3 Introduction of TTC(Tongtong Coin)

TongtongCoin (TTC) is the core cryptocurrency of the TongTongChain ecosystem, playing an important role in supporting the reward and payment system. By promoting user engagement and facilitating the exchange of value between various Dapps, TongtongCoin plays an important role in bridging the gap between Web2.0 and Web3.0 and expanding the potential for real-world applications.

Web2.0 represents the current state of the Internet, where user engagement and content creation are high, and is dominated by centralized platforms like Facebook, YouTube, and Twitter. Web3.0, on the other hand, is a new internet paradigm centered on decentralization, user ownership, and blockchain technology. It aims to restore sovereignty to user data and make online transactions more transparent.

The Tongtongcoin infrastructure platform bridges these two worlds through its

reward and payment system. Tongtong Coin is used as a reward for users in various DApps such as news, search, and communication, and is also used in real-world applications such as Tongtong Mall, Ticket Box, and Tomato Investment Club.

The reward system provides users and participants with incentives based on their contributions to encourage active participation in the platform ecosystem. For example, when users create or share content and support other users' activities, they can be rewarded with blockchain-based cryptocurrency. This reward structure keeps users engaged and promotes the growth and vitality of the community.

Due to the Tongtong Chain structure, the maximum issuance of Tongtong Coin is set at 10 billion. In June 2018, the first 10 billion Tongtong coins were minted. However, the total mintage was adjusted to 1 billion in 2020 due to the burning of 9 billion Tongtong coins. Due to this burning and changes in the market environment, the tokenomics of Tongtong has been revised.

As of 2024, development and distribution costs exceeded TTC's market capitalization, but it is self-funded and continues to operate. It also avoids excessive airdrops to prevent market shocks.

### **2.3.1 Multi-Chain Operation (Solana)**

Tongtong Coin operates multi-chain to increase liquidity according to market conditions. Tongtong Coin is issued on the Tongtong Chain and Solana networks.

Multichain is a concept that enables interoperability between multiple blockchain networks, allowing data and assets to be exchanged between different blockchains. This technical framework allows different blockchain platforms to work together, helping to overcome the limitations of a specific blockchain and form a broader ecosystem. Multichain provides interoperability, flexibility, scalability, security, and

transaction efficiency, which is important for a variety of use cases, including cross-chain token trading, data sharing, and decentralized finance (DeFi). It overcomes the limitations of blockchain technology and leverages the unique capabilities of each blockchain to enable more efficient and secure data and asset exchange.

Tongtong Coin's total supply (maximum circulating supply) will remain at 1 billion. Solana will have an initial mintage of 0.3 billion to increase liquidity. Additional Solana may be issued to increase liquidity, in which case an additional amount of Solana will be locked up on the Tongtong chain. Prior to issuance and lockup, we will announce it on a widely recognized platform such as X (formerly Twitter).

Solana supports the smooth operation of Tongtong Chain's reward and payment systems, and interacts with Tongtong Coin(TTC) to increase the efficiency of the ecosystem and improve the user experience.

## **2.4 Introduction of Tongtong Reward(TTR)**

### **2.4.1 Business Background**

Tomato Group aims to introduce a Web3.0 system to provide richer experiences and rewards to users of its services. Web3.0 provides an environment where users can go beyond simply consuming content and receive direct rewards through active participation. This is why the Tongtong Rewards(TTR) project was launched.

TTR is a tokenized point that allows users to earn rewards for their activities on Tomato Group's various services (Searchtong, Sotong, Newstong). Users can earn TTR through activities such as reading news, staying on the site for a certain amount of time, etc. An important feature of TTR is that it utilizes blockchain technology to make the process of exchanging and moving points transparent.

TTR issued on the blockchain ensure transparency and reliability as all transactions are public and can be verified by anyone. This allows users to clearly see how their rewards are being moved and exchanged.

Through this transparent reward system, the Tongtong Rewards project aims to encourage user participation and further revitalize Tomato Group's service ecosystem.

## **2.4.2 Benefits of Web3.0 Reward Systems**

Web3.0 is a step up from the traditional Internet experience and offers many benefits to users. The Tongtong Rewards (TTR) project aims to take full advantage of these Web3.0 benefits to enhance the user experience. The following are the main benefits of Web3.0 for our customers.

### **A. Decentralization**

In Web3.0, data is managed through a distributed network rather than by a centralized authority. This puts the ownership of user data back in the hands of the user and avoids the single point of failure of a centralized server.

TTRs are issued utilizing blockchain technology, which means that all transactions are managed and recorded on a decentralized network. This gives users transparency into the movement of their rewards, and even if the points database is hacked, the TTRs they hold are safe.

Another advantage is that TTRs can be liquidated anywhere in the global environment.

### **B. Transparency and trustworthiness**



Due to the nature of blockchain technology, all transactions are recorded in a public and immutable form. This provides a high level of transparency and reliability for users.

In the TTR project, the process of issuing, moving, and exchanging points is recorded on the blockchain, so users can check their reward history at any time. This increases fairness and trust among users.

### **C. Security**

Web3.0 enhances data security through encryption techniques. Users' personal information and transaction history are protected.

Since TTRs are issued on the blockchain, the risk of hacking or data falsification is significantly lower. This allows users to use the service with confidence.

### **D. Enhanced reward system**

Web3.0 enables direct rewards for user engagement. Users are more likely to engage with services when they receive tangible rewards for their activities.

TTRs are points that users can earn for various activities, such as viewing news, staying on the site, etc.

### **E. User-driven economy**

In a Web3.0 environment, users are no longer just consumers, but also important members of the ecosystem. Users activate the ecosystem by creating, sharing, and communicating content, and are rewarded for doing so.

The TTR project provides an environment where users are actively engaged in the service and are further motivated by the rewards they receive.

Through these Web3.0 benefits, the TTR project aims to revolutionize the user experience and further revitalize Tomato Group's service ecosystem.



[Figure 12] Schematic of a decentralized network

## 2.5 Where to use TTR

TTR can be utilized in various places such as News, Search, Communication, Wallet, and Tongtong Mall. With a Euro subscription, users can become paid contributors to the newsbook and receive a portion of the sales generated by the subscription service as TTR. In Search, users can participate in various surveys that are updated through Search and earn TTR rewards. In Chats, every minute of activity is rewarded with TTR, meaning you can earn TTR rewards just for being online and connected. In Tongtong Wallet, TTR holders can exchange TTR for two types of products. In Tongtong Mall, TTR can be converted into TTCO or TTC and used to purchase Tongtong Mall products.

### 2.5.1 News Tong

Newstong is an AI news portal application operated by MediaTomato, Inc. and is an innovative platform that provides news according to customers' preferences. It

analyzes users' interests and reading patterns to curate personalized news. The main features of Newsong and how to utilize TTR are as follows:

### **A. Newsbook**

**Expert articles:** Newsbooks provide in-depth articles and analysis written by experts in various fields. Users can earn TTR by reading, commenting, etc. on this content.

**Paid Subscriptions:** Users can become paid contributors to the Newsbook and earn TTRs equivalent to 50% of the revenue generated from subscription services. This incentivizes users to provide higher quality content.

### **B. Newslines**

**Posts written by the public :** Newslines function similarly to blogs and are a place to share lighthearted news and opinions written by regular users. Users can earn TTR by writing posts on Newslines, reading other users' posts, leaving comments, and more.

**Community engagement :** Users who are active in Newslines are rewarded with additional rewards. For example, they can receive more TTRs if they write a popular post or get a lot of comments and reactions.

### **c. Ads**

**Rewarded advertising :** Anyone can become a writer or reporter in Newslines and receive ad revenue derived from their skills.

### **D. Content sharing**

**Social media sharing** : You can earn TTRs by sharing news and articles from Newsong on social media. This helps Newsong's content spread more widely.

**Inviting friends** : When you invite a friend to join Newsong, and they sign up and start being active, both you and your friend will earn TTRs.

Through these different ways, Newsong provides an environment where users can actively engage with the platform and be rewarded for doing so. This encourages users to become more informed and increases the value of the platform.

## 2.5.2 Search Tong

Searchtong is a survey platform operated by MediaTomato, Inc. that offers a wide range of surveys, from daily surveys to in-depth polls that capture a variety of opinions and information.

Through Searchtong, users can participate in a variety of newly updated surveys to earn TTR rewards. Users can also easily gain insights by commissioning their own surveys or publishing research.

### A. Survey participation

When participating in general research, you will receive TTRs as a participation reward. TTRs are awarded for participating in polling research. Earn TTRs for joining a panel.

### B. Requesting surveys

It's easy and straightforward to generate insights through Search. Access the sub-admin page of the search box and sign up. Users can create their own surveys by writing their own survey questions. You can also request surveys to be conducted for you. Survey results are provided in the form of statistics.

You need to set a reward amount for your survey, and TTR will pay you through a 'pocket wallet'. Searchbox is a platform where users can easily participate in surveys, create their own surveys, and gain insights. Experience data come alive with a variety of research and opinions.

### **2.5.3 So Tong**

Communication is a metaverse application service of TomatoPass, a company that operates a financial certification online lecture service. You can enjoy various services such as Online Meets, games, and more.

All time spent in the communication application is rewarded with TTR, which means that you can receive TTR rewards according to your connection time just by connecting to communication.

In addition, various games will be available in the communication application. You can also use TTR to purchase game money that can be used in games within the communication.

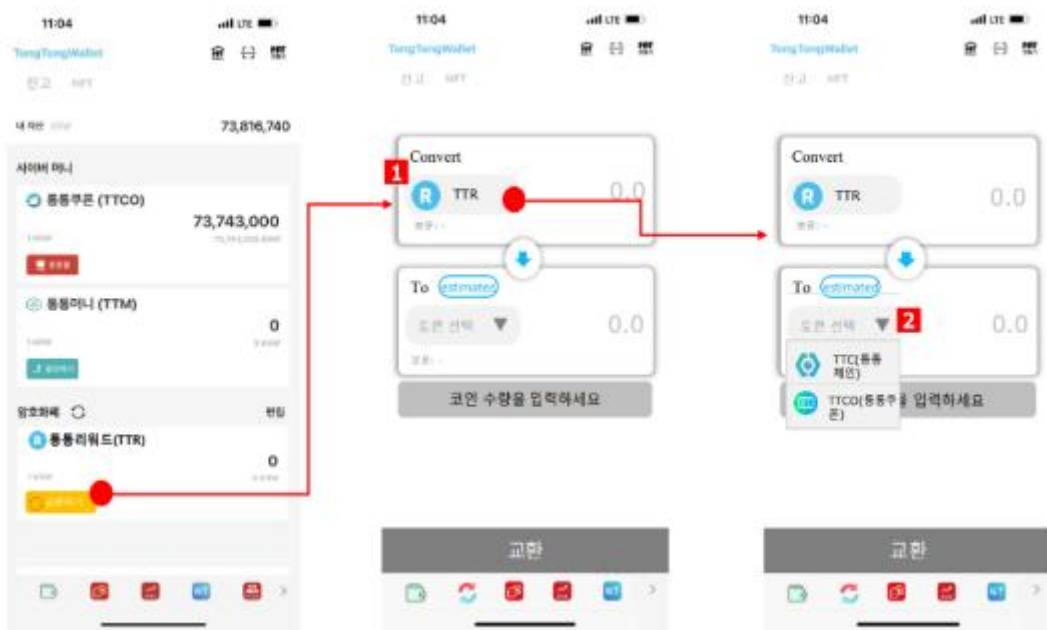


[Figure 13] Communication Metaverse Development Schematic

## 2.6 Introduction of TTCO (Tongtong Coupon)

TTCO (Tongtong Coupon) is a coupon that allows you to use Tomato Group's products and services at a discount. TTCO redeemed through Tongtong Wallet allows you to use Tomato Group's subscription service and direct payment service (Ticket Tong, Tongtong Mall) at a discount of up to 70%.

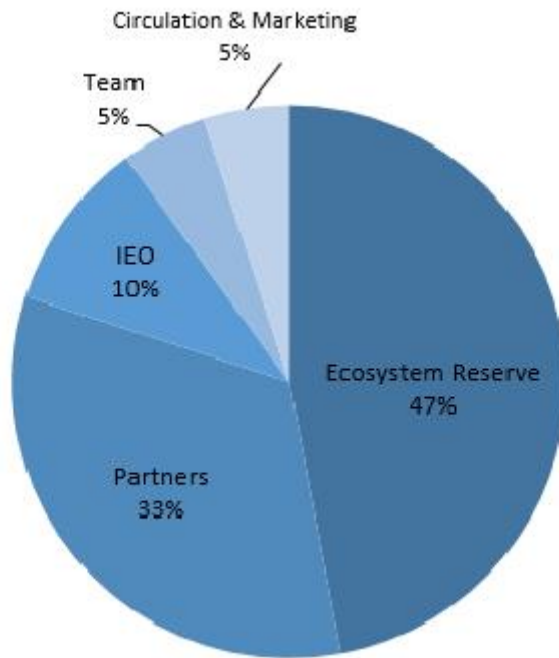
TTCO (Tongtong Coupon) is given when you sign up for a subscription paid service. You can purchase various products prepared by Tongtong Mall at a discount with TTCO. You can also get 70% off performances at Ticket Tong with TTCO. TTCO (Tongtong Coupon) can only be used within the contract period and will be expired after the contract expires.



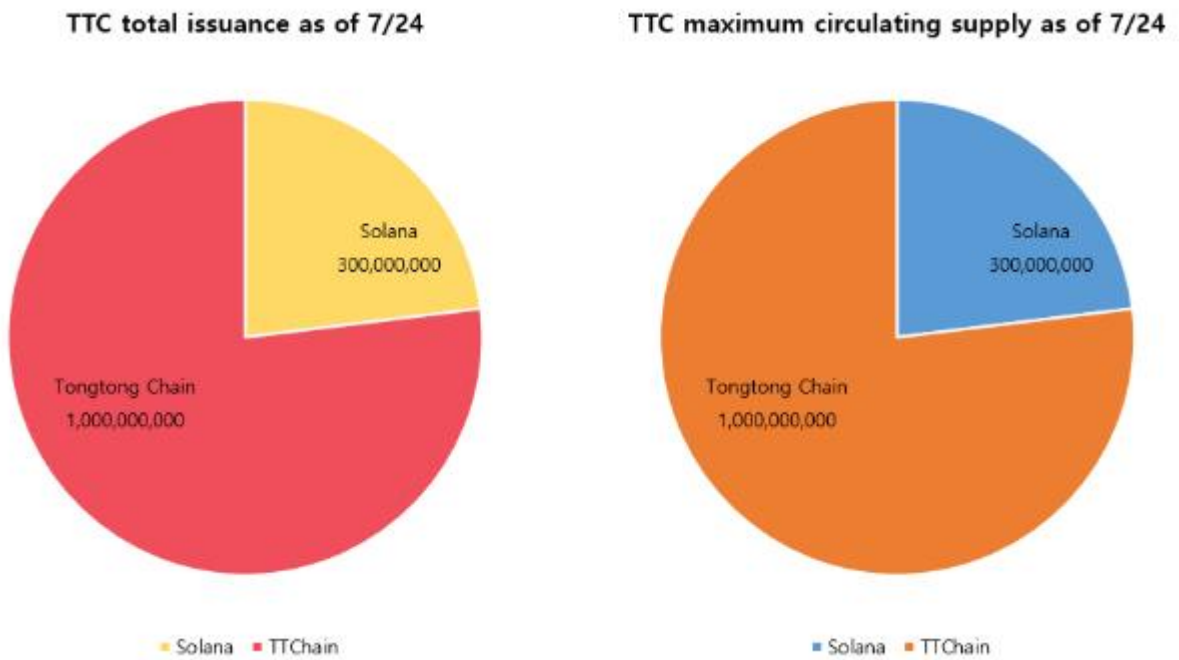
[Figure 14] Tong wallet exchange function

### 3. TTC Tokenomics

The maximum mintage of Tongtong Coin is approximately 10,000,000,000 due to the Tongtong chain structure. In June 2018, 10,000,000,000 coins were issued, and on April 28, 2020, 9,000,000,000 coins, 90% of the total supply, were burned, leaving a residual supply of 1,000,000,000 coins. As a multi-chain token, Solana will initially issue 300,000,000 as of July 2024, with the same number of tokens locked up on the Tongtong chain to keep the total supply of Tongtong at 1 billion. Additional Solana may be issued at a later date for liquidity purposes, which will be locked up on the Tongtong chain for an additional amount. Prior to issuance and lockup, we will announce it through a widely recognized platform. Tongtong Coin avoids excessive airdrops to prevent a shock to the market, and its development and sales management expenses exceeded the market capitalization of PhongCoin as of 2024, but it continues to maintain its ecosystem by raising its own funds. The initial distribution plan, issuance and circulation of Tongtong Coin is as follows.



[Figure 15] Initial distribution plan for Tongtong Coin



[Figure 16] Tongtong Coin Supply and Circulating Supply



### 3.1 TTC Call Options

Tomato Group employees are granted Tongtong Coin options equal to three months' salary. Options can be purchased at a price of 100won for TTC, and if your salary changes, you can purchase additional options in the amount of the increase.

## 4. Dapp Examples

### 4.1 Tongtong

Tongtong is a messenger/multifunctional wallet application from Tomato Group. Tongtong users' personal information is encrypted and stored in blocks for high security. Through the messenger, you can communicate not only with your acquaintances but also with securities experts and sellers/buyers of second-hand goods on the Tong Tong market.

### 4.2 Tongtong Wallet

Tongtong Wallet is a multifunctional wallet application. It enables efficient asset management by enabling both cryptocurrency and NFT storage and card registration. In the case of cryptocurrency, you can freely register and store any cryptocurrency you own, such as Bitcoin, Ethereum, etc. in addition to Tongtong Chain-based Tongtong Coin and Tongtong Money.

In the case of NFTs, it not only enables storage but also trading and selling within Tongtong, contributing to the building of a digital asset ecosystem.

### 4.3 Stock Tong

Tomato Group owns Securities Tong, the market leader on MTS in South Korea. It is the number one stock trading application in South Korea, with 5 million members on Android and iOS combined, and 1.2 million users visit the application per month, with an average of 300,000 concurrent users.

The app has partnered with leading Korean securities firms for real-time stock trading, and with Coinone and Bithumb, two of Korea's largest cryptocurrency exchanges, for real-time price quotes and trading of cryptocurrencies.

When users trade stocks or cryptocurrencies on Securities Tong, a percentage of the transaction amount will be paid in Tongtong Coin.



[Figure 17] Example of the Stock Bin screen

### 4.4 Tongtong Mall

Tongtong Mall is an online shopping mall created by the Tomato Group that sells a wide variety of products at low prices while identifying customer needs through customer personality analysis.

It currently sells about 3,000 types of products and is continuously expanding the number of participating companies and products. Tongtong Mall is equipped with a payment system that allows customers to pay with Tongtong Coin. When a customer pays with Tongtong Coin, the payment amount is linked to the coin barrel and reflects the market price of Tongtong Coin. At this time, a certain percentage of the total payment amount is discounted, or the payment is completed. Tongtong Coin is paid based on the market price on the day of the transaction.

In addition, Tongtong Coin is distributed through various events and reward policies.



[Figure 18] Example of a plumped screen

## 4.5 Search Tong

Searchtong is a research service of Newshour, part of the Tomato Group. It conducts research by identifying gender and age-specific tendencies on major domestic and international issues, including the presidential election. The database is then combined with blockchain technology to ensure the anonymity of survey participants. We plan to increase transparency, speed, and detail by processing data using smart contract technology, which automatically executes contracts according to conditions by setting programming codes. This not only ensures the reliability of research results, but also ensures security by storing data on the blockchain. In addition, we use the A2E (Ad to Earn) method, which provides rewards to users who respond to

research or watch advertisements, to induce continuous use of the application and contribute to the construction of the Tongtong Coin ecosystem by using the rewards received from Tongtong Mall.

#### **4.6 Tongtong Market**

Tongtong Market is a location-based second-hand trading platform by Tomato Pay, part of the Tomato Group.

Tongtong Market tries to differentiate itself from the market of second-hand trading platforms by encouraging customers to trade second-hand items through lucky bidding events where anyone who posts a used item can bid on a new product from 100 won. The lucky bidding event is held every weekday, and the products are different every day. In this way, Tongtong Market provides customers with the benefit of getting everyday items at a low price while practicing emptying out their closets, and also introduces a safe payment service to increase the convenience of payment.

Tongtong Market also plans to expand to second-hand luxury goods trading services. By introducing blockchain technology to distinguish between genuine and fake goods, Tongtong Market aims to prevent fake goods fraud, which is a concern for second-hand luxury goods consumers. By doing so, it aims to lead a healthy second-hand luxury goods trading culture.

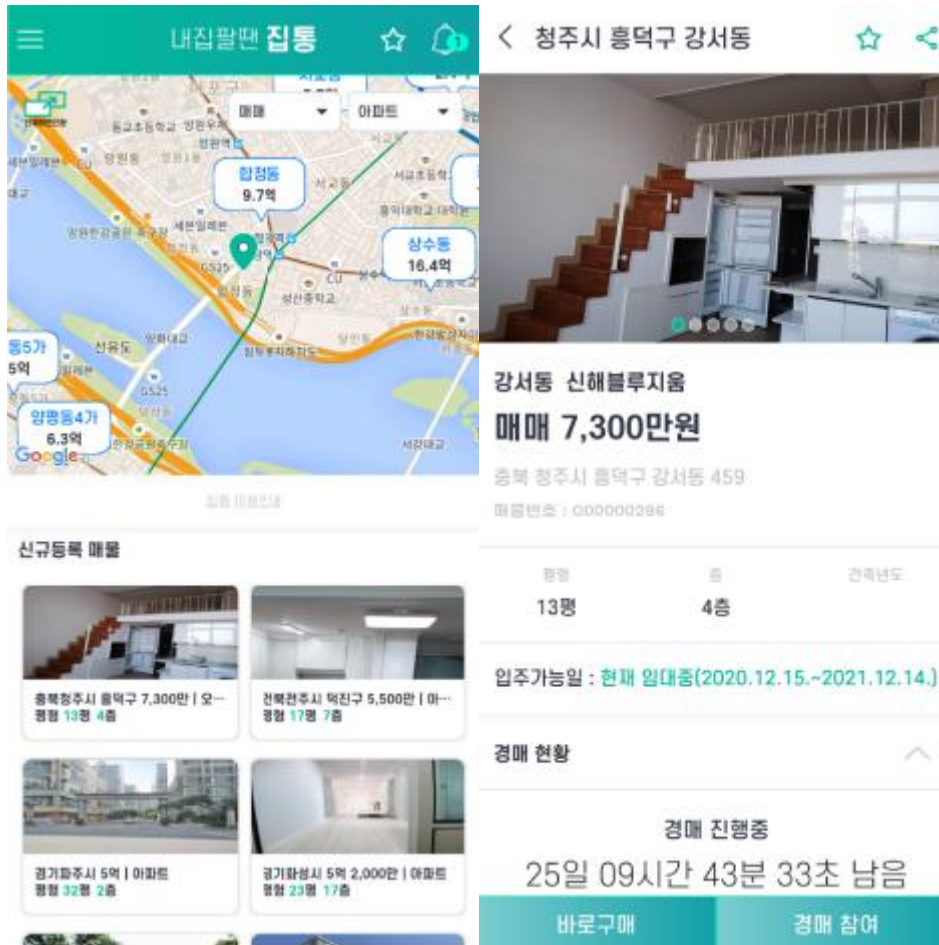


[Figure 19] (Left) Tongtong Market home screen (Right) Lucky Bid screen

#### 4.7 Jip Tong

Jiptong is a real estate transaction platform by Altomato, part of the Tomato Group. By blockchainizing real estate listing information, JipTong identifies false and duplicate listings. Through smart contract technology that automatically filters out false and duplicate listings, we will provide a service that allows customers to transact with peace of mind by increasing stability and reliability, which is the core of real estate transactions.

In addition, we will provide a service where real estate transaction documents are prepared by a real estate agent affiliated with Jiptong, as well as real estate expert consultation and access to the real estate register.



[Figure 20] (Left) Jiptong home screen  
(Right) Example Jiptong listing information screen

## 4.8 Ticket Tong

Tickettong is the ticketing platform for Tomato Classics, part of the Tomato Group. Tomato Classical is a UHD classical music station that is about to launch a TV channel. In line with the non-face-to-face era, we are producing high-quality content with 4K UHD and Dolby Atmos so that you can easily and vividly experience the best classical performances at home and abroad. In addition, we provide differentiated experiences through content utilizing new technologies such as videos using 360 VR technology and Hi-Res high-quality music.

Furthermore, all contents such as videos and music produced by Tomato Classic are NFTs (Non Fungible Tokens), which can be freely traded. Each work is given ownership rights that cannot be duplicated, so you can have your own artwork.

Tomato Classics' NFTs can be traded through Tongtong Coin. By combining traditional classical music with digital technology, NFTs, we aim to popularize classical music and create new added value in the content industry.

Tickettong's database of ticket buyers and ticket purchase history is combined with blockchain technology. Specifically, it prevents black market transactions and ticket forgery/tampering through smart contract technology to form a healthy ticket purchasing culture in the overall performance cultural life.

#### **4.9 Tongtong Sign**

Tongtong Sign is a facial recognition identity authentication system of Tomato Chain, a member of the Tomato Group.

It provides services from door access to payment through facial recognition of users through blockchain technology, in line with the dailyization of non-face-to-face/contactless technology established by the corona pandemic.

Furthermore, Tongtong sign is free to use in conjunction with the Tongtong app, unlike other biometric recognition systems that typically require expensive terminals when used by businesses. In this way, Tongtong Sign ensures convenience for customers and affordability for businesses.

#### **4.10 Mat Tong**

attong is a restaurant platform from TomatoPay, part of Tomato Group, that allows users to recommend and search for restaurants, as well as make reservations and pay for orders.

Matong stores a database of restaurants nationwide in blocks using blockchain technology to help customers efficiently search for nearby restaurants based on their location. In addition, the application concept is based on health, which is the main trend of post-corona, and will provide a customized service that recommends healthy restaurants based on health-related keyword hashtags set by customers when they sign up for membership.

In addition, it is possible to reserve, order, and pay for famous restaurants nationwide, so you can place a reservation order in advance without waiting in line or waiting for the staff. Payments are made through the Tongtong wallet, which allows users to choose between cryptocurrency, including Tongtong Coin, and credit cards.

This gives stores a predictable customer experience and eliminates additional costs by replacing kiosks. Users also benefit from the convenience of being able to reserve a seat with less waiting time and, in some cases, even a seat.

Users can receive a discounted ticket-box ticket with TTCO and can purchase tickets with TTC like cash.

#### 4.11 Tomato Investment Club

Tomato Group provides various securities information through eTomato, Tomato Investment Advisory, etc. When purchasing knowledge information products such as Tomato Group's online content or expert lectures, you can pay using Tongtong Coin, and a certain percentage of Tongtong Coin will be discounted or rewarded after payment is completed.

At this time, the price of Tongtong coins paid or discounted is based on the market price, so users should pay attention to the market price.



[Figure 21] This tomato homepage



## 4.12 Car Tong

Cartong is the tomato affiliate's vehicle information sharing community platform. Basically, you are free to post anything related to the vehicle, but in the process, it is possible to repair the vehicle through used transactions between users and affiliated contractors.

When trading used cars in Cartong, information such as the price of used cars at the time of vehicle search, the number of ownership movements, and the number of shipments is stored on the blockchain. This information is not arbitrarily written by the seller, but is automatically exposed when the vehicle number is searched, so users gain transparency and stability. Through this, we seek to differentiate it from other used car trading platforms.

In addition, the contractor affiliated with the contractor for vehicle repair will also be required to record actual reviews and ratings of users who used the contractor directly to facilitate the exchange of information not only about the vehicle but also about the repair contractor. At this time, if you register your vehicle or leave a review, you will receive a certain amount of chubby coins that can be used by other applications within the affiliate to form a virtuous cycle of chubby coins.

## 4.13 So Tong

Sotong is a platform that allows consultation and communication with experts in various fields such as real estate, law, and securities. It aims to improve user convenience by facilitating communication with experts in fields that are generally difficult for the general public to access.

Experts receive applications for registration separately and register through thorough

verification in the tomato group to ensure stability. Appointments with experts can be made easily through communication applications. Basically, consultations are made through voice chat, and even video chat is possible according to the needs of the user.

Furthermore, you can meet experts even in the virtual world through space by interest category within communication. Space is a virtual space based on the metaverse trend, allowing various users to form a community in their respective fields of need.

Users can earn points (HP) through time to play games in space and access time to communicate, and can be exchanged for TTC through hourly TTR payment compensation. In the process, Metamiles are paid to users based on the Play to Earn (P2E) model.

In addition, users can purchase nonfungible token (NFT) items that allow them to decorate their avatars through chubby coins on the NFT Mall loaded on the chubby mall. This combines the metaverse industry and the chubby chain ecosystem by incorporating chubby coins into the virtual world.

#### **4.14 Pass Tong**

Passtong is a lecture subscription platform operated by Tomato Pass. Passtong provides lectures for obtaining professional certificates in the fields of financial investment, banking/insurance, FPSB/international, accounting/IT, trade/distribution, and economy/real estate. In particular, AFPK, credit management companies, etc., have a pass rate of over 50%, providing high-quality lectures enough to be located on the top economic lecture platform with a pass rate of over 50%.

Users can exchange TTR (Tongtong Rewards) for TTC (Tongtong Coin) and TTCO (Tongtong Coupon) to freely use it as cash or receive discounts within the passing box.

#### **4.15 News Tong**

Newstong is Tomato Group's news portal platform. Rather than just providing news stories to users, it will make news stories NFTs so that they can be consumed as a single content. When a user purchases a news article NFT, the copyright of the article becomes owned by the user who purchased it. At this time, news article NFTs will be available for purchase with not only chubby coins but also other mainnet-based coins, expanding Tomato Group's news article NFT market while providing users with the satisfaction of owning the copyright of news articles.

Newstong not only recommends customized articles that customers want by upgrading its personalized AI news desk function, but also includes services such as newsbooks and news lines that make it easy for the general public to write and receive compensation. In addition, we plan to further develop the compensation system centered on TTR, the point system of Tomato Group.

MediaTomato will open a new paradigm in the domestic news portal market by improving the advertising reward structure for content creators and upgrading personalized news provision services through AI. Furthermore, various customized news and reward systems provided through news sources will play an important role in promoting user participation and building a richer content ecosystem. By utilizing AI technology, news sources maximize the user experience by analyzing the user's interests and behavior patterns and providing customized news accordingly. In addition, it has a structure in which general users can easily create and share content and receive rewards through newsbooks and newlines. Such a system will serve as an important factor in further inducing user participation and promoting platform activation.

Newstong will play an important role in changing the paradigm of the domestic

news portal market, as well as providing new experiences to users through innovative news provision services and reward systems utilizing AI technology.

#### **4.16 AUTI AI**

The Auti AI project is a program that helps diagnose ASD (autism spectrum) through AI. ASD is one of the developmental disorders, which are disorders that struggle with social interaction and communication. To date, ASD diagnosis has mainly relied on subjective judgment and behavioral observation by clinical experts. However, autism diagnosis programs using AI suggest the following possibilities.

First, early diagnosis can be made. Typically, ASD begins to show signs as early as 12 months, and diagnosis can begin at 18 months. Social and verbal improvement is relatively good if early diagnosis and treatment are initiated. However, in Korea, the average age of ASD diagnosis remains between the ages of 4 and 5, and you have to wait at least two to three years to be diagnosed with ASD by a university hospital professor. Using Auti AI's big data and machine learning algorithms, it can analyze children's behavioral patterns, language development, and social interactions, and detect symptoms of ASD early.

Second, it can be judged objectively. Unlike conventional methods in which a biased view can be involved depending on a parent's report, AI makes judgments based on objective data. This enables more accurate and consistent diagnosis. Auti AI analyzes the various symptoms and characteristics of ASD by big data such as participants in experiments, various papers, DSM-5, CARS, etc. to determine the rating of ASD. It collects data from children diagnosed with ASD and utilizes it in research and development to improve it through deep learning methods.

Thirdly, biomarkers can be detected. Autism diagnosis programs using big data and AI can identify biomarkers linked to ASD by analyzing large-scale data. This enables personalized treatment for accurate diagnosis and improved prognosis.

Fourth, it can reduce costs and increase efficiency. Diagnosing autism using AI can save time and money for professionals. A quick and accurate diagnosis will greatly help patients and their families.

## 5. Roadmap

We will continue to complete the main functions of the Tongbu Coin as stated in this white paper.

We plan to focus on expanding the chubby chain ecosystem.

### 2024. 1Q

- Launched blockchain-based autism early diagnosis AI consortium
- Launched AI service for news portal app 'NewsTong'

### 2Q

- Renewal of TTC payment support online shopping mall 'Tongtong Mall'
- Introduced and advanced AI chatbot service for blockchain messenger 'Tongtong'
- Introduced blockchain point 'TTR' system for rewards and issued tokens

### 3Q

- Participated in IXO LBANK side event as a partner
- Developed and launched 'NewsTong' AI article recommendation service
- Launched TTC <->TTR exchange function
- Multi-chain expansion (to enter the domestic market)
- Introduced AI stock recommendation function for 'Stock Tong' application

### 4Q

- Developed metaverse 'SOTONG'
- Completed autism diagnosis AI API

## 6. Partner

Tongtong Coin/Wallet is partnering with several partner companies.

The goods and services of the partner companies will be applied with the Tongtong Coin Payment Service.

### 6.1 Group Partners



### 6.2 MOU Partners



DALPHA

**홍익대학교**  
HONGIK UNIVERSITY

galaxia  
METAVERSE