

# CTChain (CIT) 官方白皮书 2025 – 基于区块链的实体资产数字化平台

CTChain (CIT) Official White Paper 2025 – Blockchain-based Physical Asset Digitization Platform

## 目录 (Table of Contents)

- 项目总览 (Project Overview)
- 全平台结构说明 (Full Platform Structure)
- 核心系统架构 (三大模块) (Core System Architecture (Three Modules))
  - 资产上链模块 (Asset On-Chain Module)
  - CIT 通证系统 (CIT Token System)
  - 智能合约治理模块 (Smart Contract Governance Module)
- CIT 代币模型 (CIT Token Model)
  - 基本信息 (Basic Information)
  - 详细代币分配 (Detailed Token Distribution)
  - 价值支撑与动态调节 (Value Support and Dynamic Adjustment)
- 金融结构创新应用 (Innovative Financial Structure Applications)
  - 有限合伙基金 (LPF) 结构整合 (Limited Partnership Fund (LPF) Structure Integration)
  - 数字资产组合基金 (ETF) 结构整合 (Digital Asset Portfolio Fund (ETF) Structure Integration)
- 区块链实现 RWA 模型设计 (Blockchain-Implemented RWA Model Design)
  - 模式总体理念 (Overall Model Concept)
  - 核心流程与关键步骤 (Core Processes and Key Steps)
    - 资产识别与数据收集 (Asset Identification and Data Collection)
    - 数字身份与确权标识生成 (Digital Identity and Entitlement Certificate Generation)
    - 资产通证创建与智能合约应用 (Asset Token Creation and Smart

## Contract Deployment)

- 7. 产业子链案例 (Industry Sub-chain Case Studies)
    - 7.1 香港日报传媒子链案例 (Hong Kong Daily Media Sub-chain Case)
    - 7.2 房地产通证子链案例 (Real Estate Token Sub-chain Case)
  - 8. 法遵与透明性保障 (Legal Compliance and Transparency Assurance)
  - 9. CIT 经济模型 (CIT Economic Model)
    - 9.1 固定供应与价格模型 (Fixed Supply and Price Model)
    - 9.2 收益分润与持币回报 (Profit Sharing and Holder Returns)
    - 9.3 流通供给成长模型与市值动态 (Circulating Supply Growth Model and Market Dynamics)
    - 9.4 代币发行与解锁释放机制 (Token Issuance and Unlocking Mechanism)
    - 9.5 资产规模场景仿真与预测 (Asset Scale Simulation and Forecast)
    - 9.6 LPF / ETF 应用场景 (LPF/ETF Application Scenarios)
    - 9.7 DAO 治理模块与社群参与 (DAO Governance Module and Community Participation)
-

## 1. 项目总览 (Project Overview)

**CTChain 平台愿景与定位：**CTChain（全称「产通链」）旨在将不动产等实体资产与区块链技术结合，打通传统资产市场的流通瓶颈。“CT”取自「产通」（意为不动产流通），“Chain”代表区块链，寓意通过区块链实现实体资产的连接与透明，提升资产流动性并促进投资普惠。CTChain 将自身定位为全方位的 RWA（Real World Assets，真实世界资产）数字生态平台，专注于将实体资产数字化和通证化上链，为投资者与资产持有者提供新型资产交易与融资渠道。

**CTChain Platform Vision and Positioning:** CTChain (full name “Chantong Lian,” meaning “Asset Circulation Chain”) is committed to integrating real estate and other real-world assets with blockchain technology to break through liquidity bottlenecks in traditional asset markets. “CT” stands for “Chantong” (circulation of real estate), and “Chain” represents blockchain, symbolizing the use of blockchain to connect physical assets with transparency, enhance asset liquidity, and promote inclusive investment. CTChain is positioned as a comprehensive RWA (Real World Assets) digital ecosystem platform, focused on digitizing and tokenizing real-world assets on-chain, providing investors and asset holders with innovative channels for asset trading and financing.

**核心问题叙述：**传统不动产等实体资产市场长期存在流动性差、信息不透明、投资门槛高及融资困难等痛点。例如，不动产交易周期漫长，资金沉淀导致流动性不足；投资所需资金庞大，中小投资者难以参与其中；交易和产权等相关数据分散且缺乏透明，产权、租金收益和历史价格信息不易查证；同时，资产持有者缺乏快速变现或再融资途径，资产价值难以充分释放。这些挑战限制了实体资产市场的效率和参与度，不动产等资产的价值流动远未达到理想状态。

**Core Problem Statement:** Traditional real estate and other physical asset markets have long suffered from poor liquidity, lack of transparent information, high investment barriers, and difficulty in financing. For example, real estate transactions are time-consuming and tie up capital, resulting in insufficient liquidity; the capital required for investment is huge, making it hard for small and medium investors to participate; transactional and ownership data are fragmented and non-transparent, so information on ownership, rental income, and historical prices is hard to verify. Meanwhile, asset owners lack quick ways to liquidate or refinance their holdings, preventing full realization of asset value. These challenges constrain the efficiency

and participation in real asset markets, and the value circulation of assets like real estate is far from optimal.

**CTChain 解决方案概述：**伴随区块链、智能合约和大数据评估技术的成熟，实体资产数字化迎来重大机遇。CTChain 通过资产通证化实现资产上链与透明管理，并以降低投资门槛、提升资产流动性为使命。平台将实体资产（特别是不动产）转换为区块链上的可交易通证，使中小投资者也能参与并共享资产增值收益。同时，CTChain 引入智能合约执行收益分配，确保租金及利润自动按约定发放给投资人，保障各方权益。通过这种模式，资产所有者可获得新的融资途径，实现资产部分变现或快速再融资。整体而言，CTChain 的愿景是在合规前提下打造一个高流动性、低门槛、信息透明的实体资产链上生态，让传统资产市场的价值充分释放，并服务更广泛的投资群体。

**CTChain Solution Overview:** With the maturation of blockchain, smart contracts, and big data valuation technologies, the digitization of physical assets faces a major opportunity. CTChain enables on-chain asset representation and transparent management through asset tokenization, with a mission to lower investment barriers and enhance asset liquidity. The platform converts physical assets (especially real estate) into tradable tokens on the blockchain, allowing small and medium investors to participate and share in asset appreciation. At the same time, CTChain uses smart contracts to automate the distribution of returns, ensuring that rental income and profits are distributed to investors as agreed, thus protecting the rights and interests of all parties. Through this model, asset owners gain new financing channels, achieving partial asset liquidity or rapid refinancing. Overall, CTChain's vision is to create a highly liquid, low-barrier, and information-transparent on-chain ecosystem for real-world assets under the premise of compliance, fully unlocking the value of traditional asset markets and serving a broader base of investors.

## 2. 全平台结构说明 (Full Platform Structure)

**主链与子链架构：**CTChain 采用多层区块链架构以兼顾全局管理与行业专属需求。其中，主链作为核心管理链，负责平台的全局账本和代币治理；平台原生代币 CIT 在主链上发行，初始总供应固定为 50 亿枚，用于记录所有上链资产的基本信息和权属变更。主链之下，CTChain 支持产业子链（行业二级链）的灵活扩展。每条子链面向特定产业场景，处理该领域资产的上链操作、合规审查和数据存储，并与主链保持互通。主链与各子链之间通过跨链桥实现资产与

数据交互，确保不同链上的信息与价值能够自由流转。例如，不动产领域和数字内容领域可以分属不同子链运行，但 CIT 通证作为全局通用媒介，在主链和各子链之间流通，用于结算和价值传递。这样的“主链 + 多子链”架构既保障了全局一致性和安全性，又为各行业子链提供定制功能和高扩展性。

**Main Chain and Sub-chain Architecture:** CTChain adopts a multi-layer blockchain architecture to balance global management and industry-specific needs. The main chain serves as the core management chain, responsible for the platform's global ledger and token governance. The platform's native token CIT is issued on the main chain with a fixed total supply of 5 billion, and the main chain records all basic information of on-chain assets and changes in ownership. Beneath the main chain, CTChain supports flexible expansion through industry sub-chains (secondary chains for specific sectors). Each sub-chain is tailored to a particular industry scenario, handling asset onboarding, compliance verification, and data storage for that sector, while maintaining interoperability with the main chain. Assets and data move between the main chain and sub-chains via cross-chain bridges, ensuring free flow of information and value across different chains. For example, real estate and digital content can run on separate sub-chains, but the CIT token serves as a universal medium circulating between the main chain and all sub-chains for settlement and value transfer. This “main chain + multiple sub-chains” architecture guarantees global consistency and security, while providing each industry sub-chain with customized functionality and high scalability.

互操作性与治理设计：为实现生态的广泛覆盖，CTChain 着重强化跨链互操作能力。平台支持与其他主流区块链（如以太坊、Solana 等）的数据和资产交换，方便 CTChain 上的资产通证按照主流标准发行，并可在外部市场流通。同时，CTChain 通过桥接技术与传统系统整合，例如对接不动产登记系统、金融机构系统，确保链上资产信息能被现实法律和监管所承认。在治理方面，CTChain 主链引入 DAO（去中心化自治组织）治理架构，所有 CIT 持币人可就关键参数调整 and 平台升级等事项提交提案并投票。治理决策由主链智能合约执行，对所有子链均具有约束力，保证整个生态协同演进。此外，平台对治理操作实施严格的多重签名和时间锁机制（详见后文），在保障主链与子链灵活升级的同时防止单方滥权并增强透明度。

**Interoperability and Governance Design:** To achieve broad ecosystem reach, CTChain places emphasis on cross-chain interoperability. The platform supports data and

asset exchange with other mainstream blockchains (such as Ethereum, Solana, etc.), making it convenient to issue asset tokens on CTChain following mainstream standards and allowing them to circulate in external markets. Meanwhile, CTChain integrates with traditional systems via bridge technology – for example, interfacing with real estate title registries and financial institution systems – to ensure that on-chain asset information is recognized by real-world legal and regulatory authorities. In terms of governance, the CTChain main chain adopts a DAO (Decentralized Autonomous Organization) governance framework. All CIT token holders can submit proposals and vote on matters such as adjustments to key parameters and platform upgrades. Governance decisions are executed by main-chain smart contracts and are binding on all sub-chains, ensuring coordinated evolution of the entire ecosystem. In addition, the platform enforces strict multi-signature and time-lock mechanisms on governance operations (see later sections), preventing unilateral abuse of power while enabling flexible upgrades of the main and sub-chains and enhancing transparency.

### **3. 核心系统架构（三大模块） (Core System Architecture (Three Modules))**

CTChain 平台的核心功能由以下三大模块构成，分别负责实体资产上链、通证经济运转和链上治理控制。这三部分协同工作，构筑出一个安全透明且符合监管要求的区块链资产生态。

**The core functionality of the CTChain platform is composed of the following three modules, which are respectively responsible for on-chaining physical assets, token economy operations, and on-chain governance control. These three components work in concert to build a secure, transparent, and regulatory-compliant blockchain asset ecosystem.**

#### **3.1 资产上链模块 (Asset On-Chain Module)**

模块定位：资产上链模块负责将现实世界的资产转化为链上通证，确保只有经过真实性与价值审查的资产才能铸造成对应的通证。资产上链流程始于资产持有人向平台提交实体产权证明和专业估值报告等材料。例如，在房地产场景下，产权证、土地登记文件、近期估值报告、租赁合同及保险凭证等都是必要文件。CTChain 与第三方律师事务所及评估机构合作，对上述资料进行公证和权属确认，确保资产权利清晰且符合当地法律规范。所有重要文件均以数字形式存档；通过扫描和 OCR 技术将其转换为电子文件后，计算文件的哈希值并

记录上链，作为不可篡改的数字存证。在完成数据审查与存证后，该资产会被赋予唯一标识并调用智能合约进行通证铸造（**tokenization**）：按照经评估的公允价值发行对应数量的代币代表资产权益。只有当实体权属证明和估值报告等经过验证并将其哈希上链存证后，智能合约才允许执行铸币操作，从源头上杜绝虚假资产上链。整个流程确保资产真实有效且价值透明地映射到区块链上，为后续通证交易提供可信基础。

**Module Role:** The Asset On-Chain Module is responsible for converting real-world assets into on-chain tokens, ensuring that only assets which have passed authenticity and valuation reviews can be tokenized. The asset onboarding process begins with the asset owner submitting materials such as proof of property ownership and a professional valuation report to the platform. For example, in a real estate scenario, the required documents include title deeds, land registry documents, recent appraisal reports, lease contracts, and insurance certificates. CTChain collaborates with third-party law firms and appraisal agencies to notarize and confirm ownership of these materials, ensuring clear asset title and compliance with local laws. All critical documents are digitally archived; they are converted into electronic files via scanning and OCR, then hashed and recorded on-chain as tamper-proof digital proof. After completing data verification and recordation, the asset is given a unique identifier and **a smart contract is invoked to mint tokens (tokenization)**: a corresponding quantity of tokens is issued according to the asset's appraised fair value, representing ownership rights in the asset. The smart contract permits the minting operation only after verifying that the physical ownership proof and valuation report have been authenticated and their hashes stored on-chain, eliminating fraudulent assets from being tokenized at the source. This end-to-end process ensures that assets are genuine and reliably reflected on the blockchain, providing a trustworthy foundation for subsequent token transactions.

功能特性：该模块还包含预言机（**Oracle**）接口，用于将外部市场数据引入链上。例如，房地产价格指数、区域租金水平等信息会通过预言机上链，辅助评估和审核资产价值。预言机确保数据来源权威且实时更新，为验证提交的估值报告和后续动态调整提供额外依据。资产上链过程完成后，资产通证将在主链上记录其基本信息（如资产 ID、名称、发行量等）以及与实体资产的关联关系。一旦代币发行，智能合约还会锁定资产原所有者的一部分代币作为保证，以激励其持续提供资产相关信息并维护资产状态。总之，资产上链模块建立起

实体资产与链上代币之间可信的纽带：前端严格把关审核准入，后端确保数据可追溯不可篡改，为整个 CTChain 生态输入高质量的链上资产。

**Functional Features:** This module also includes an Oracle interface responsible for bringing external market data on-chain. For example, real estate price indices, regional rental rates, and similar information are fed on-chain via oracles to assist in evaluating and verifying asset value. The oracle ensures that data sources are authoritative and updated in real time, providing additional evidence to validate submitted valuation reports and guide subsequent dynamic adjustments. After the asset onboarding process is completed, an asset token is recorded on the main chain with its essential information (asset ID, name, issuance quantity, etc.) and its linkage to the physical asset. Once the tokens are issued, the smart contract will also lock a portion of the tokens belonging to the asset's original owner as a guarantee, incentivizing them to continue providing asset-related information and maintaining the asset's condition. In summary, the Asset On-Chain Module establishes a trusted link between physical assets and on-chain tokens: rigorous front-end vetting ensures proper admission, and back-end measures ensure data traceability and immutability, injecting high-quality on-chain assets into the entire CTChain ecosystem.

### 3.2 CIT 通证系统 (CIT Token System)

模块定位：CIT 通证系统是 CTChain 平台的经济枢纽，负责平台代币 CIT 的发行管理及其在生态内各类金融功能的实现。CIT (CTChain Token) 是平台的原生功能型通证，在整个生态中被用作交易媒介、价值存储和治理凭证。该模块涵盖通证的交易结算、流动性提供、治理投票以及资产抵押等多方面功能。

**Module Role:** The CIT Token System is the economic hub of the CTChain platform, responsible for issuing and managing the platform's token, CIT, and enabling its various financial functions within the ecosystem. CIT (CTChain Token) is the platform's native utility token, serving as a medium of exchange, a store of value, and a governance credential across the ecosystem. This module encompasses a wide range of functionalities for the token, including transaction settlement, liquidity provision, governance voting, and asset collateralization.

交易与流动性：CIT 是所有子链通用的结算单位，用于资产通证的初始认购、二级市场交易计价以及手续费支付。当投资者在 CTChain 平台购买某项资产的代币时，可以使用 CIT 进行结算，提高了不同资产之间交易的便利性。平台内



建二级市场撮合机制，支持 CIT 与各资产通证的自由兑换交易。同时，为鼓励市场活跃度，CTChain 设计了流动性激励计划：用户可将持有的 CIT 存入平台的做市池，为资产交易提供流动性，从而获得额外的 CIT 奖励（类似于流动性挖矿）。这种奖励机制属于“流通激励”范畴，旨在提高 CIT 在市场中的流转速度和参与度。通过上述措施，CIT 作为平台“血液”的作用得到发挥，促进整体生态中交易的高效畅通。

**Transactions and Liquidity:** CIT serves as the universal settlement unit across all sub-chains, used for initial subscription of asset tokens, secondary market trade pricing, and payment of transaction fees. When an investor purchases an asset token on the CTChain platform, they use CIT for settlement, which improves the convenience of trading between different assets. The platform has a built-in secondary market matching mechanism that supports free exchange trading between CIT and various asset tokens. Additionally, to encourage market vibrancy, CTChain has designed a liquidity incentive program: users can deposit their CIT into the platform's liquidity pools to facilitate asset trading, and in return earn additional CIT rewards (analogous to liquidity mining). This incentive mechanism is a form of “circulation incentive,” aimed at increasing the velocity and participation of CIT in the market. Through these measures, CIT's role as the “lifeblood” of the platform is fully realized, ensuring efficient and smooth transactions across the ecosystem.

治理与权益：持有 CIT 通证意味着拥有参与 CTChain 生态治理的权利。CIT 持币者可以通过 DAO 平台对提案进行投票，决定诸如交易手续费率调整、代币增发或销毁策略、资产上链规则修改等重大事项。投票权重与持有的 CIT 数量挂钩，确保治理决策体现整体社区利益。除了治理权之外，CIT 持有者还可按其持币比例分享平台收益和激励。例如，平台每笔交易会收取少量手续费，其中一部分按照 DAO 规则定期分配给参与治理的 CIT 持有者，作为对其贡献的回馈。此外，在平台推出的新项目中，活跃治理参与者可能获得额外奖励（如新通证空投），进一步激励社区成员长期持有并积极参与治理。

**Governance and Entitlements:** Holding CIT tokens confers the right to participate in CTChain ecosystem governance. CIT token holders can vote via the DAO platform on proposals determining major matters such as adjustments to transaction fee rates, token issuance or burn strategies, and modifications to asset onboarding rules. Voting power is proportional to the amount of CIT held, ensuring that governance decisions reflect the interests of the community as a whole. In addition to

governance rights, CIT holders can also share in platform revenues and incentives in proportion to their token holdings. For instance, the platform charges a small fee on each transaction, and a portion of those fees is periodically distributed, according to DAO rules, to CIT holders who participate in governance as a reward for their contributions. Moreover, when the platform launches new projects, active participants in governance may receive additional benefits (such as airdrops of new tokens), providing further incentives for community members to hold CIT long-term and engage in governance.

抵押融资功能：CIT 通证系统还支持资产抵押与借贷功能，为资产持有人和投资者提供灵活的资金融通渠道。一方面，资产所有者在将实体资产通证化上链后，可将所获得的一部分 CIT（例如通过该资产发行所募得的 CIT）用作抵押品，在平台上获得稳定币或其他资金贷款，用于物业维护或其他投资，实现资产的再次融资；另一方面，一般投资者也可抵押其闲置的 CIT，从平台借出资金用于购买更多资产代币，提升资金使用效率。所有抵押借贷均通过智能合约执行，合同条款公开透明，例如抵押率、清算线等均写入链上。若抵押物价值波动触及阈值，市场调节合约将自动发出追加保证金通知或执行清算，保障放贷方利益和系统稳定。总体而言，CIT 通证系统在流通、治理、抵押三方面提供了完善的经济功能，既驱动平台内价值流转，又赋能持币者参与生态建设并享受收益。

**Collateralized Lending Function:** The CIT Token System also supports asset collateralization and lending features, providing flexible financing channels for asset owners and investors. On one hand, after tokenizing and on-chaining their physical asset, an asset owner can use a portion of the CIT obtained (for example, CIT received from the token issuance of that asset) as collateral to obtain stablecoin or other loans on the platform, which can be used for property maintenance or other investments – effectively refinancing the asset. On the other hand, ordinary investors can also collateralize their idle CIT to borrow funds from the platform to invest in additional asset tokens, improving capital utilization. All collateralized loans are executed via smart contracts with transparent terms; for example, parameters like collateral ratios and liquidation thresholds are coded on-chain. If collateral values fluctuate beyond set thresholds, the system's adjustment contract will automatically issue margin calls or perform liquidations to protect lenders' interests and maintain system stability. In sum, the CIT Token System provides comprehensive economic

functions in circulation, governance, and collateralization, simultaneously driving value flow within the platform and empowering token holders to participate in ecosystem development while enjoying returns.

### 3.3 智能合约治理模块 (Smart Contract Governance Module)

DAO 治理架构：CTChain 的治理模块以去中心化自治组织 (DAO) 模式为核心，通过智能合约使治理规则透明化并自动执行。所有关于平台参数调整、重大功能升级、代币经济政策变动等决策，均需经过“提案提交 -> 持币人投票 -> 智能合约执行”三步流程。首先，任何持有足够数量 CIT 的用户（或设立的特定治理委员会）都可以提出提案，内容可能涉及修改交易手续费率、调整代币发行节奏、引入新的子链应用等。提案提交后进入投票期，所有 CIT 持有人可根据自身判断投出赞成或反对票。投票过程由智能合约自动计票和判定结果，避免人工干预。当投票截止且赞成票数超过预设阈值，提案即视为通过，触发相关治理合约执行提案内容。例如，如果提案是调整代币流动池分配比例，则治理合约将在提案通过后自动更新相应参数。整个过程及结果均记录在链上，任何人可查询，确保决策过程公开透明、不可篡改。这种 DAO 治理架构使 CTChain 生态的重要变更由社区集体决策，避免了中心化控制风险，提升了参与者的信任度和积极性。

**DAO Governance Framework:** CTChain's governance module is centered on a Decentralized Autonomous Organization (DAO) model, which uses smart contracts to make governance rules transparent and automatically enforceable. All decisions regarding platform parameter adjustments, major upgrades, changes to token economic policies, etc., must undergo a three-step process: proposal submission -> token-holder voting -> execution via smart contracts. First, any user holding a sufficient amount of CIT (or a designated governance committee) may submit a proposal. Proposals might include changes such as modifying transaction fee rates, adjusting token issuance schedules, introducing new sub-chain applications, and so on. Once submitted, the proposal enters a voting period during which all CIT holders can cast approval or rejection votes based on their judgment. The voting is tallied by a smart contract which automatically counts votes and determines the outcome, eliminating manual interference. If the voting period ends and the number of approval votes exceeds a preset threshold, the proposal is considered passed, triggering the relevant governance contract to execute the proposal's content. For

example, if a proposal seeks to adjust the allocation ratio of a token liquidity pool, the governance contract will automatically update the corresponding parameters once the proposal is approved. The entire process and its results are recorded on-chain, accessible to anyone, ensuring that the decision-making process is open, transparent, and tamper-proof. This DAO governance framework means that major changes in the CTChain ecosystem are decided collectively by the community, avoiding risks of centralized control and enhancing trust and engagement among participants.

**TimeLock Vault 机制：**为进一步保障治理执行的透明与安全，CTChain 在关键合约中引入了 **TimeLock Vault**（时间锁定保险库）机制。其原理是在治理提案通过后与实际执行之间设置一个时间延迟（如 24 小时或数日），所有更改操作将在延迟期结束后才由保险库合约释放执行。这段缓冲时间允许社区监督提案执行情况，并在发现恶意提案时有时间紧急干预叫停。另外，**TimeLock Vault** 也用于存放团队及早期投资人的代币，并按照预定的锁仓期限线性释放。例如，创始团队和顾问的代币锁定期可能为 2 年，在此期间这些代币存放于 **Vault** 中无法转移；每隔一段时间，**Vault** 按既定释放速率将部分代币解锁给团队地址，全过程在链上透明可见。如此一来，平台能向投资者保证：没有任何未公开的代币会被突然释放或转移。**TimeLock Vault** 为 CTChain 提供了双重保障：对内约束团队行为，确保利益一致且长期投入；对外强化治理可信度，防止恶意行为损害社区利益。结合 DAO 治理流程与时间锁机制，CTChain 建立了一套完善的智能合约治理体系，在去中心化与安全性之间取得良好平衡。

**TimeLock Vault Mechanism:** To further ensure transparency and security in governance execution, CTChain has introduced a **TimeLock Vault** mechanism in key contracts. The principle is to impose a time delay (e.g., 24 hours or a few days) between the approval of a governance proposal and its actual execution; all changes are queued and only executed by the Vault contract after the delay elapses. This buffer period allows the community to oversee the proposal's execution and provides time to intervene and halt execution if a malicious proposal is detected. Additionally, the TimeLock Vault is used to hold team and early investor tokens and release them linearly according to a predetermined vesting schedule. For example, the founding team and advisors' tokens might have a 2-year lock-up; during this period, these tokens remain in the Vault and cannot be transferred. At set intervals, the Vault unlocks a portion of the tokens to the team's address at a fixed release rate, with the

entire process being transparently visible on-chain. This setup assures investors that no undisclosed tokens will be released or moved unexpectedly. The TimeLock Vault provides CTChain with dual protection: internally, it restrains team actions to ensure alignment of interests and long-term commitment; externally, it bolsters the credibility of governance by preventing malicious acts from harming the community. By combining the DAO governance process with the time-lock mechanism, CTChain has established a robust smart contract governance system that strikes a well-considered balance between decentralization and security.

## 4. CIT 代币模型 (CIT Token Model)

### 4.1 基本信息 (Basic Information)

代币名称与定位：CTChain 的原生代币命名为 CIT（即 CTChain Token），总供应量固定为 50 亿枚。CIT 是一种功能型通证，主要作用包括：平台内的价值交换媒介、社区治理权重以及资产价值支撑载体。CIT 按照主流区块链标准发行，具备高可转移性和兼容性，便于在不同的去中心化交易所和数字钱包之间流通。CIT 在初始发行时通过 CTChain 主链创世区块一次性铸造 50 亿枚，未来不会随意增发；如需动态调节供应（详见 4.3 节），也将通过 DAO 治理程序严格执行，以维持市场对代币供给的稳定预期。

**Token Name and Role:** The native token of CTChain is called CIT (CTChain Token), with a fixed total supply of 5,000,000,000 tokens (5 billion). CIT is a utility token whose main functions include: serving as a medium of value exchange on the platform, providing voting weight in community governance, and acting as a vehicle for supporting asset value. CIT is issued according to mainstream blockchain standards, ensuring high transferability and compatibility, which facilitates its circulation across different decentralized exchanges and digital wallets. At genesis, 5 billion CIT were minted in one go on the CTChain main chain, and no arbitrary additional issuance is planned in the future; if any dynamic supply adjustment is needed (see Section 4.3), it will be carried out strictly via the DAO governance process to maintain a stable market expectation of token supply.

发行与流通计划：为启动生态建设，CTChain 计划在代币发行初期进行公开募资与市场认购。其中，10%（即 5 亿枚）CIT 将通过市场认购的方式释放给早期参与者，以提供项目启动资金并确保代币的基本流动性。市场认购将遵守相关法规进行（例如仅向合格投资者开放，并执行 KYC 审查等），并以公平透明

的方式售出代币。在此之后，随着平台上线具体资产项目，CIT 的释放节奏将与资产上链进度挂钩：每当有新的实体资产完成通证化并接入 CTChain，系统会按该资产的价值同比例释放额外的 CIT 到市场。举例而言，若一项价值 1,000 万美元的不动产资产上链，则智能合约将追加释放约 1,202 万枚 CIT，其中 1,000 万枚提供给市场投资者认购，作为该资产价值的对应映射；另有 200 万枚作为奖励拨付给资产提供方，以鼓励更多优质资产加入平台，还有约 2 万枚拨付给协助该项目上链的合作伙伴。这种由资产触发的代币释放机制可确保 CIT 通证的供应增长与平台实际资产价值相匹配，不会无故稀释现有持币者的权益。同时，CIT 在二级市场可自由交易，其中一部分会因投资者购买资产通证的需求而被锁定，另一部分则随着收益分配再循环回市场，从而形成健康的流通动态。

**Issuance and Circulation Plan:** To kick-start ecosystem development, CTChain plans to conduct a public fundraising and market offering in the initial token issuance phase. In this phase, 10% of CIT (500 million tokens) will be released to early participants via a market offering, providing seed funding for the project and ensuring basic liquidity of the token. This public sale will be carried out in compliance with applicable regulations (for example, open only to qualified investors with KYC/AML verification) and in a fair, transparent manner. Thereafter, as specific asset projects go live on the platform, the release of CIT will be tied to the progress of asset onboarding. Each time a new physical asset is tokenized and added to CTChain, the system will release additional CIT to the market in proportion to that asset's value. For example, if a real estate asset worth USD 10 million is brought on-chain, the smart contract would release approximately 12.02 million additional CIT, of which 10 million CIT are made available for market investors to purchase (serving as the on-chain value representation of that asset); another 2 million CIT would be awarded to the asset provider as an incentive to encourage more high-quality assets to join the platform, and about 20 thousand CIT would be allocated to partner(s) that assisted in bringing the asset on-chain. This asset-triggered token release mechanism ensures that the growth of CIT's supply aligns with the platform's actual asset value growth, so existing token holders' interests are not diluted without cause. Meanwhile, CIT can be freely traded on secondary markets; some portion will be locked up due to investor demand for purchasing asset tokens, and another portion will recirculate back to the market through profit distribution, thereby creating

healthy circulation dynamics.

## 4.2 详细代币分配 (Detailed Token Distribution)

为兼顾平台长远发展、市场激励和各利益相关方的需求，CTChain 针对 50 亿枚 CIT 制定了详细的代币分配方案。各部分比例及用途如下：

- 资产储备池 – 40%：约 20 亿枚 CIT 分配至资产储备池，主要用于在新实体资产上链时按比例释放对应的 CIT 通证。此储备池确保随着真实资产加入平台，等值的 CIT 进入市场流通，从而为 CIT 提供资产价值支撑。
- **Asset Reserve Pool – 40%:** Approximately 2.0 billion CIT are allocated to an Asset Reserve Pool, primarily used to release corresponding CIT tokens when new real-world assets are tokenized and onboarded. This reserve ensures that as real assets are added to the platform, an equivalent value of CIT is introduced into circulation, thereby providing asset-backed value support for CIT.
- 流通激励 – 15%：约 7.5 亿枚 CIT 用于各类流通激励计划，包括流动性挖矿、交易奖励和用户增长激励等。这部分通证将通过流动性矿池奖励、交易返现等方式发放，提升市场交易活跃度和 CIT 的流转速度。
- **Circulation Incentives – 15%:** Approximately 0.75 billion CIT are reserved for various circulation incentive programs, including liquidity mining, trading rewards, and user growth incentives. These tokens will be distributed via liquidity pool rewards, trading cashback, and similar mechanisms to boost market activity and increase the velocity of CIT circulation.
- 机构基金 – 10%：约 5 亿枚 CIT 预留给战略投资者和生态发展资金，用于引入机构资本、支持生态项目孵化和拓展关键合作伙伴关系等。这部分代币的使用将严格遵循投资协议，并可能设定锁定期以保证项目长期利益。
- **Institutional Fund – 10%:** Approximately 0.5 billion CIT are allocated for strategic investors and ecosystem development funds, aimed at bringing in institutional capital, supporting incubation of ecosystem projects, and fostering key partnerships. The use of these tokens will strictly follow

investment agreements and may include lock-up periods to ensure alignment with long-term project interests.

- 团队与顾问锁仓 – 20%：约 10 亿枚 CIT 分配给创始团队和顾问，作为对其贡献的奖励，并将设定长期锁仓和线性释放计划（如分几年逐步解锁）。这种安排确保团队利益与平台长期发展挂钩，激励其持续推进项目成功。
- **Team & Advisor Lock-up – 20%:** Approximately 1.0 billion CIT are allocated to the founding team and advisors as rewards for their contributions, subject to a long-term lock-up with a linear vesting schedule (e.g. gradually unlocked over several years). This arrangement ties the team's interests to the long-term success of the platform and incentivizes them to continuously drive the project forward.
- 节点与推荐奖励 – 15%：约 7.5 亿枚 CIT 用于奖励 CTChain 网络的技术节点运营者和市场推广贡献者。节点激励将用于鼓励更多高质量节点加入以维护网络安全和性能；推荐奖励则用于激励用户推广平台、带来新资产和投资者进入生态。
- **Node & Referral Rewards – 15%:** Approximately 0.75 billion CIT are designated to reward technical node operators of the CTChain network and contributors to its marketing and user growth. Node incentives will encourage more high-quality nodes to join and help maintain network security and performance; referral rewards will incentivize users to promote the platform and bring new assets and investors into the ecosystem.

上述代币分配比例如需调整，亦须通过社区治理程序批准方可执行，从而保证分配机制透明、符合各方利益。

*Any adjustments to the above token distribution proportions would require approval through the community governance process, ensuring the distribution mechanism remains transparent and aligned with the interests of all stakeholders.*

#### 4.3 价值支撑与动态调节 (Value Support and Dynamic Adjustment)

实体资产背书：CIT 通证最重要的价值来源是其背后链上实体资产的映射支撑。每当有经过严格审查的实体资产完成通证化上链，系统便会按该资产的公



允价值释放相应数量的 CIT 至市场。这意味着，市场上流通的每一枚 CIT 背后都有等值的实体资产价值作支撑（目前以不动产项目为主，未来亦可能扩展至其他实物资产）。随着平台所管理资产规模的增长，CIT 的内在价值也水涨船高，持币者可以享受资产池壮大所带来的红利。相应地，如果发生资产退出（例如某项资产的通证被平台回购并注销），CTChain 平台也将同步回收并销毁等值数量的 CIT，以保持代币总价值与资产池价值之间的平衡。这种模式类似于由资产抵押支持的稳定币，确保 CIT 代币具有强有力的实物价值背书，而非毫无依托的“空气代币”。

**Physical Asset Backing:** The most important source of CIT's value is the backing of real-world assets reflected on-chain. Each time a rigorously vetted physical asset is tokenized and added to the blockchain, the system releases a proportional amount of CIT into the market corresponding to that asset's fair value. In practice, this means every CIT token in circulation is supported by an equivalent value of physical assets (currently primarily real estate projects, with potential expansion to other tangible assets in the future). As the total value of assets managed on the platform grows, the intrinsic value of CIT rises accordingly, allowing token holders to benefit from the expansion of the asset pool. Conversely, if an asset exits the platform (for example, if an asset token is bought back by the platform and retired), CTChain will concurrently remove from circulation (burn) an equivalent value of CIT to maintain balance between the total token value and the value of the asset pool. This mechanism is analogous to an asset-collateralized stablecoin, ensuring that the CIT token has robust tangible asset backing rather than being an unsupported “hot air” token.

储备池与 BTC 支撑：为进一步强化 CIT 的价值稳定性，CTChain 计划建立跨资产的储备池，其中包括一篮子高流动性的资产，例如主流加密货币（BTC、ETH 等）和法币稳定币储备，用于在极端市场行情下支撑 CIT 的币值。当市场出现剧烈波动时，CTChain 可动用储备池中的资产回购 CIT 以支撑价格，避免 CIT 价格过度偏离其资产净值。特别值得一提的是，BTC 储备将作为储备池中的重点配置：平台将把部分募集资金和运营收益兑换为比特币并存入储备池。比特币作为“数字黄金”，具有长期增值潜力和全球认可度，它的加入为 CIT 提供了额外的价值支撑和抗风险缓冲。通过多元资产背书和严谨的合规审核，CIT 既能享受实体资产增值带来的收益，又具备一定程度的抗市场波动韧性，成为连接加密世界和实体经济的坚实桥梁。

**Reserve Pool and BTC Support:** To further enhance the value stability of CIT, CTChain

plans to establish a cross-asset reserve pool comprising a basket of highly liquid assets, such as mainstream cryptocurrencies (BTC, ETH, etc.) and reserves of fiat-pegged stablecoins, to maintain CIT's price stability under extreme market conditions. In the event of severe market volatility, CTChain can deploy assets from the reserve pool to buy back CIT and support its price, preventing CIT from straying too far below its net asset value. Notably, Bitcoin (BTC) will be a key component of this reserve pool: the platform intends to convert a portion of the funds raised and platform revenues into BTC to be held in the reserve pool. As "digital gold," Bitcoin offers long-term appreciation potential and global recognition; its inclusion provides CIT with additional value support and a buffer against risk. Through diversified asset backing and rigorous compliance auditing, CIT is positioned to reap the returns of real asset appreciation while also possessing resilience against market volatility, thereby serving as a solid bridge between the crypto world and the real economy.

合规审计与信任：CIT 价值支撑的另一层来自严格的合规和审计措施。平台制定了完善的资产审查标准，每一项纳入 CIT 支撑的资产都经过法律和财务的尽职调查及公证。平台还定期披露资产池细节、估值报告、储备池余额等关键信息，并邀请独立的第三方审计机构对资产和储备进行审核，其结果报告给监管部门和公众。这些措施确保 CIT 通证真正做到“一币有凭、价值有据”：每枚 CIT 背后的资产及储备情况清晰可验证，杜绝暗箱操作和资产挪用的可能。凭借多元资产背书和严谨合规审核，CIT 既能分享实体资产增值收益，又具备抵御市场波动的韧性，成为链接加密世界与实体经济的坚实桥梁。

**Compliance Auditing and Trust:** Another layer of CIT's value support comes from strict compliance and auditing measures. The platform has established comprehensive asset vetting standards, ensuring that every asset used to back CIT undergoes thorough legal and financial due diligence and notarization. The platform also regularly discloses key information such as asset pool details, valuation reports, and reserve pool balances, and engages independent third-party auditors to examine the assets and reserves, with results reported to regulators and the public. These measures ensure that the CIT token truly achieves "one token, with proof and value": every CIT in circulation has clearly verifiable asset and reserve backing, eliminating the possibility of hidden operations or misappropriation of assets. With diversified asset backing and rigorous compliance checks, CIT can enjoy the upside of real asset appreciation while maintaining resilience against market volatility, solidifying its role

as a reliable bridge between the crypto world and the real economy.

图 1：CIT 价格随平台资产总值（TVL）增长的关系示意图。在总供应固定的前提下，CIT 价格与平台上管理的资产规模呈线性正比关系。图中示例显示，当平台资产总值分别为 50B、200B、500B 美元时，CIT 理论价格约对应 \$10、\$40、\$100 美元。

*Figure 1: CIT Price vs. Total Asset Value (TVL) Growth Curve. Under a fixed total supply, CIT's price is directly proportional to the scale of assets managed on the platform. In the illustrated example, when the platform's total asset value is \$50B, \$200B, and \$500B USD, the theoretical price of CIT is approximately \$10, \$40, and \$100 USD, respectively.*

上述图表直观地展示了 CIT 的价格与平台资产总值之间的线性关系。在总供应量固定的情况下，平台资产每增加一倍，CIT 的理论价格也相应增加一倍。例如，当平台 TVL 从 \$50B 增长到 \$100B 美元时，CIT 价格将从约 \$10 增长到约 \$20；若 TVL 增长至 \$500B，CIT 价格则升至约 \$100。由此可见，CIT 价格由平台资产总值（TVL）与流通供给量的比值决定，公式表示为：**CIT 价格 = 平台资产总值 / 流通供给量**。换言之，每枚 CIT 代表平台资产池中等值资产的份额。这个原理类似于传统金融市场中的每股净资产价值（NAV）：资产价格等于总资产净值除以流通股份数。随着平台锁定资产（TVL）的增长而流通供给保持不变，CIT 单价会相应上升；反之，如果流通供给增加而资产规模未成比例提高，单枚 CIT 的价格可能出现摊薄下滑。因此，CIT 的价格动态由资产变动和供给变动共同决定，实际上反映了平台资产池中每枚代币所对应的资产价值。

*The graph above illustrates the linear relationship between CIT's price and the platform's total asset value. With a fixed total supply, every doubling of the platform's asset value would theoretically double CIT's price. For example, when the platform TVL grows from \$50B to \$100B USD, CIT's price would rise from about \$10 to about \$20; if TVL reaches \$500B, CIT's price would increase to roughly \$100. Essentially, CIT's price is determined by the ratio of the platform's total asset value (TVL) to the circulating supply, expressed by the formula: **CIT Price = Total Asset Value / Circulating Supply**. In other words, each CIT represents a share of the total value of assets in the platform's pool. This principle is analogous to the Net Asset Value (NAV) per share in traditional finance: an asset's price equals total net asset value divided*

by the number of shares outstanding. If the platform's asset value (TVL) grows while circulating supply remains unchanged, the price per CIT will increase accordingly; conversely, if circulating supply grows without a proportional increase in asset value, the price per CIT may dilute and decline. Therefore, CIT's price dynamics are driven jointly by changes in assets and changes in supply, fundamentally reflecting the asset value that each token represents in the platform's asset pool.

图 2：每枚 CIT 对应的年化收益与平台资产总值（TVL）的关系模拟图。在其他条件保持不变下，单枚代币的年收入随平台总资产呈线性增长。例如，当 TVL = \$50B 时，每枚 CIT 年收入约为 \$0.7；TVL = \$500B 时，每枚 CIT 年收入增至约 \$7。然而由于 CIT 价格随资产同步上升，其收益率始终维持在约 7%。

Figure 2: Annual Yield per CIT vs. Platform Total Asset Value (TVL) – Simulation.

Keeping other factors constant, the annual yield per token increases linearly with total platform assets. For instance, when TVL = \$50B USD, each CIT yields about \$0.7 annually; when TVL = \$500B, each CIT yields about \$7 annually. However, since CIT's price rises in tandem with asset growth, its yield rate stays around 7%.

## 9.2 收益分润与持币回报 (Profit Sharing and Holder Returns)

CIT 采用了一种创新的收益分润模型，使代币持有者可以分享平台资产收益，让代币不仅具有资产增值潜力，还能提供稳定的现金流回报。这种模式在 DeFi 生态中属于“实际收益”型代币设计，类似于 GMX 等项目的做法——例如 GMX 将手续费收入的 30% 分配给代币持有人，以 ETH/AVAX 的形式发放收益。同样地，CIT 将平台真实收益作为持币回报来源，而非依靠额外代币通胀补贴，从而确保代币价值来源可靠且可持续。

在此分润机制下，我们可以计算每枚 CIT 对应的年收入，公式如下：

$$\text{每枚 CIT 年收入} = \frac{0.07 \times \text{平台资产总值 (TVL)}}{\text{流通供给量}} = 0.07 \times \text{CIT 价格}$$

根据上述公式，CIT 平台会将旗下资产年度收益的大约 7% 分配给 CIT 持有者。由于 CIT 价格与平台资产规模直接相关（如前节所述），这一 7% 左右的持币年化收益率相对稳定，体现出该模型追求稳健、长期价值回报的特点。相比之下，许多缺乏业务收益支撑的 DeFi 代币，因为没有内在价值依托而表现不佳；而 CIT 的收益分润模式吸引了注重基本面的投资者，因为其提供了类似股息的定期回报，令代币持有者更愿意长期持有并支持平台发展。

值得一提的是，平台保留的另外 **3%** 收益部分也将用于加强 CIT 生态的长期价值。例如，这部分收益可注入平台储备池，在市场波动或特殊情况下用于支撑资产池安全；或者用于回购 CIT 充实社区金库，抑或用于拓展平台产品和服务。这些举措最终都会反哺 CIT 价值的增长。通过将绝大部分收益（约 **70%**）分享给持币人、小部分用于生态发展，CTChain 达成了激励社区参与和保障项目长远发展的双重目标。

**CIT employs an innovative profit-sharing model that allows token holders to share in the platform's asset returns, giving the token not only asset appreciation potential but also a stable cash flow.** This model represents a “real yield” token design in the DeFi ecosystem, similar to the approach of projects like GMX which distribute 30% of fee revenue to token holders in the form of ETH/AVAX rewards. In the same vein, **CIT uses the platform's actual earnings as the source of holder rewards**, rather than relying on inflationary token emissions, thereby ensuring that the token's value is derived from reliable and sustainable sources.

Under this profit-sharing mechanism, the annual yield attributable to each CIT can be calculated by the formula:

$$\left[ \text{Annual Yield per CIT} = \frac{0.07 \times \text{Total Asset Value (TVL)}}{\text{Circulating Supply}} = 0.07 \times \text{CIT Price} \right]$$

According to the above formula, the CTChain platform distributes roughly **7%** of its annual asset-generated profits to CIT holders. Because CIT's price is directly tied to the platform's asset scale (as described in the previous section), this **~7%** annual yield for holders remains relatively stable, reflecting the model's focus on steady, long-term value return. By contrast, many DeFi tokens without underlying business revenue have underperformed due to lack of intrinsic support; in CIT's case, the profit-sharing model attracts fundamentally-oriented investors, since it provides a dividend-like regular return and encourages token holders to remain invested for the long term and support the platform's growth.

It is noteworthy that the remaining **3%** of platform profits (not distributed to holders) is used to reinforce the long-term value of the CIT ecosystem. For example, this portion can be added to the platform's reserve pool to bolster asset pool security during market volatility or exceptional events; it can also be used to buy back CIT to enrich the community treasury, or to fund expansion of the platform's products and

services. All these measures ultimately feed back into CIT's value growth. By distributing the majority of returns (~70%) to token holders and allocating a smaller portion to ecosystem development, CTChain achieves the dual goals of incentivizing community participation and safeguarding the project's long-term development.

图 3：CIT 市值与流通供给量的变化模拟图（3 年期）。左轴为 CIT 流通市值（橙色实线，单位：亿美元），右轴为流通供给量（品红虚线，单位：亿枚），横轴为时间（年）。模拟假设平台 TVL 从 \$50B 增长至 \$500B（对应资产增加推动市值上升），同期 CIT 流通供给从 15 亿枚增至 50 亿枚。结果显示，随着资产和供给同步增长，CIT 流通市值大幅提升；而代币价格在第 2~3 年趋于平稳（约 \$100），表明供给释放与资产成长保持平衡。

*Figure 3: Simulation of CIT Market Capitalization vs. Circulating Supply over 3 Years. The left axis represents CIT circulating market cap (orange solid line, in USD billions), the right axis represents circulating supply (magenta dashed line, in billions of tokens), and the horizontal axis is time in years. The simulation assumes platform TVL grows from \$50B to \$500B (asset growth drives market cap up), while CIT circulating supply increases from 1.5B to 5.0B tokens. The outcome shows CIT's circulating market cap rising substantially as assets and supply grow in tandem; the token price stabilizes around \$100 by years 2–3, indicating a balance between token release and asset growth.*

从图 3 可以看出，在理想平衡的增长路径中，CIT 的市值随着平台资产壮大而上升，并始终接近平台锁定资产总值。这是因为 CIT 市值本质上反映平台资产池价值。具体来说，在模拟初期（第 0 年），平台资产约 \$50B，流通供给仅 15 亿枚，CIT 价格较高（约 \$33），但流通市值为 \$50B，正好对应平台全部资产价值。随后一年内，平台资产快速增至 \$200B，更多代币解锁使流通供给增至 25 亿枚，年底 CIT 价格约升至 \$80、流通市值达 \$200B。第二年末资产继续增至 \$350B、供给至 35 亿枚，CIT 价格趋近 \$100、流通市值约 \$350B。第三年资产达 \$500B、代币全数流通 50 亿枚，此时 CIT 价格稳定在 ~\$100 左右、流通市值等同 \$500B 平台资产价值。总体而言，只要平台资产增长与代币释放节奏相匹配，CIT 价格便能保持稳健增长或稳定，现有持币者不会因为新增代币流入而遭受严重稀释。

*As Figure 3 illustrates, under an ideally balanced growth trajectory, CIT's market capitalization rises alongside the expansion of the platform's assets and remains*

*roughly in line with the total value of assets locked on the platform. This is because CIT's market cap essentially reflects the value of the platform's asset pool. In the simulation, at the start (Year 0), platform assets are about \$50B and circulating supply is only 1.5 billion tokens, yielding a relatively high CIT price (around \$33), but the circulating market cap is \$50B, exactly matching the platform's total asset value. Over the first year, platform assets rapidly grow to \$200B and more tokens unlock, bringing circulating supply to 2.5 billion; by the end of that year, CIT's price rises to about \$80 and the circulating market cap reaches \$200B. By the end of the second year, assets increase further to \$350B and supply to 3.5 billion tokens, CIT's price approaches \$100 and market cap about \$350B. In the third year, assets reach \$500B and the full 5.0 billion token supply is circulating; CIT's price stabilizes around \$100 and the circulating market cap equals \$500B, the value of the platform's assets. Overall, as long as asset growth keeps pace with the token release schedule, CIT's price can continue to grow steadily or remain stable, and existing holders will not suffer significant dilution from new tokens entering the market.*

#### **9.4 代币发行与解锁释放机制 (Token Issuance and Unlocking Mechanism)**

为清晰说明 CIT 的供给扩张路径，官方在白皮书中详尽披露了代币锁定和解锁机制。在初始发行方面，CTChain 针对不同用途分配了代币份额：例如 **X%** 用于公募/私募发行（立即流通）、**Y%** 分配给团队和顾问（长期锁定）、**Z%** 分配给基金会与生态发展（部分锁定）等。代币在创世区块已一次性铸造全部 50 亿枚，但其中相当比例被锁仓，不会立即进入市场流通。这些锁定的代币遵循预定的解锁时间表逐步释放，以避免在平台初期过多供给冲击市场导致价格剧烈波动。

具体而言，假设初始流通供给量约占总量的 **30%**（约 15 亿枚），其余 **70%** 被锁定分配给团队、基金会、早期投资人等，并在三年内逐步解锁释放。一个示例性的解锁曲线如下：**第 1 年末**流通量提升至总供给的约 **50%**（约 25 亿枚），**第 2 年末**达到约 **70%**（约 35 亿枚），**第 3 年末**实现 **100%** 全部释放（50 亿枚全部进入流通）。在此三年解锁期结束后，CIT 不会再有新的增发，除非经由 DAO 治理程序决定进行特定增发或销毁操作。

To transparently illustrate CIT's supply expansion, the team has fully disclosed the token lock-up and release mechanism in the white paper. For the initial issuance, CTChain allocated token portions for different purposes: for example, **X%** for

public/private sale (immediately circulating), **Y%** allocated to the team and advisors (long-term lock-up), **Z%** allocated to the foundation and ecosystem growth (partially locked), and so on. All 5 billion tokens were minted at genesis, but a substantial portion was placed into lock-up and did not enter market circulation immediately. These locked tokens are released gradually according to a predetermined unlocking schedule to avoid excessive supply flooding the market in the early stages and causing extreme price volatility.

Specifically, suppose the initial circulating supply is about **30%** of the total (around 1.5 billion tokens), with the remaining **70%** locked and allocated to the team, foundation, early investors, etc., to be released over three years. An example unlocking curve could be: by the **end of Year 1**, circulating supply increases to roughly **50%** of the total (about 2.5 billion tokens); by the **end of Year 2**, about **70%** is circulating (3.5 billion tokens); and by the **end of Year 3**, the full **100%** of tokens are released (all 5 billion tokens in circulation). After this three-year vesting period, no further CIT will be released into circulation unless a specific additional issuance or burn is approved through the DAO governance process.

图 4：CIT 代币供应的解锁曲线示意图（假设为三年完全释放）。橙色表示累计流通供应占比，随着时间推移逐步从 30% 提升至 100%；灰色表示锁定供应占比逐步从 70% 下降至 0%。稳定的解锁节奏避免了市场上代币供给的骤增骤减。

*Figure 4: Illustration of CIT Token Supply Unlock Curve (assuming full release over three years). Orange indicates the cumulative circulating supply percentage, gradually rising from 30% to 100% over time; gray indicates the locked supply percentage correspondingly decreasing from 70% to 0%. A steady unlocking pace prevents sudden surges or drops in token supply in the market.*

通过上述锁仓机制，CIT 的供给扩张遵循“先锁后释、循序渐进”的原则。对于早期投资人和团队而言，锁定期激励他们与平台共同成长，在代币未完全释放前持续投入资源、提升平台价值；对于市场投资者而言，透明的解锁计划减少了不确定性，避免突然大量代币涌入市场导致价格剧烈波动。社区可以随时查询剩余锁仓量与预计解锁时间，确保信息披露透明。在解锁过程中，团队也会审慎管理已解锁但暂未流通的代币（例如可能逐步投入二级市场交易或用于生态建设奖励等），以维护市场稳定。未来如遇特殊情况需要调整解锁节奏，同样将通过 DAO 治理程序由社区共同决策，保障所有持币者利益。需要强调的



是，CIT 没有任何额外增发机制，50 亿枚作为最大供应上限已被明确写入智能合约，如非经社区决议修改合约，否则永不增发。

Through the above lock-up mechanism, CIT's supply expansion follows a "lock first, release gradually" principle. For early investors and team members, the vesting period incentivizes them to grow alongside the platform – they are encouraged to continue contributing resources and increasing platform value before their tokens fully unlock. For market investors, a transparent unlocking schedule reduces uncertainty and prevents sudden large influxes of tokens that could cause sharp price swings. The community can at any time check the remaining locked tokens and the expected unlocking timeline, ensuring transparency of information disclosure. During the unlocking process, the team will also carefully manage tokens that have been unlocked but not yet circulated (for example, potentially introducing them gradually into secondary markets or using them for ecosystem development rewards) to maintain market stability. If in the future extraordinary circumstances necessitate an adjustment to the unlocking pace, any changes will likewise be decided collectively through the DAO governance process to protect the interests of all token holders. It should be emphasized that CIT has no built-in inflation mechanism beyond the initial supply – the 5 billion maximum supply is hard-coded in the smart contract and will never increase unless a community resolution explicitly amends the contract.

## **9.5 资产规模场景仿真与预测 (Asset Scale Scenario Simulation and Forecast)**

当然，上述模型分析基于静态假设，实际市场表现还会受到交易供需、投资者预期等因素影响。然而，整体而言，CIT 模型通过资产挂钩和收益分润机制，提供了一个可量化评估代币价值的方法。在未来的财务报告和信息披露文件中，团队也将定期更新平台的实际 TVL 数据和 CIT 收益指标，使投资者能够据此判断 CIT 的内在价值是否合理，从而提高市场定价效率和信心。

Naturally, the above model analysis is based on static assumptions, and actual market performance will be influenced by factors such as trading supply and demand and investor sentiment. Nevertheless, in general, CIT's model — through asset backing and profit-sharing mechanisms — provides a quantifiable method to assess the token's value. In future financial reports and disclosure documents, the team will also regularly update the platform's actual TVL figures and CIT yield metrics, enabling investors to evaluate whether CIT's intrinsic value is justified. This will help improve

market pricing efficiency and bolster investor confidence.

## 9.6 LPF / ETF 应用场景 (LPF/ETF Application Scenarios)

CIT 作为反映 CTChain 平台整体资产池价值的代币，在传统金融与 DeFi 结合的场景下具有广泛的应用潜力。对于关注加密资产的有限合伙基金（LPF）或交易型指数基金（ETF）而言，CIT 可以成为一种高效的投资工具，使投资组合直接分享 CTChain 平台的整体收益和增长。以下是几个典型的应用情境：

- 作为投资组合目标：基金经理可以将 CIT 纳入其 LPF 或 ETF 的投资组合中，以一键式方式获得 CTChain 平台的整体敞口。由于 CIT 代表平台内多元资产池的所有权，持有 CIT 就相当于持有了一篮子平台资产，有助于基金组合分散风险。同时，CIT 每年约 7% 的收益分润将转化为基金的收入来源之一，有望提高基金产品的收益率。
- **As a Portfolio Holding:** Fund managers can include CIT in the investment portfolios of their LPFs or ETFs to obtain one-stop exposure to the entire CTChain platform. Since CIT represents ownership of a diversified pool of assets on the platform, holding CIT is equivalent to holding a basket of those assets, which helps the fund portfolio diversify risk. Meanwhile, CIT's ~7% annual profit-sharing yield flows into the fund as one of its income sources, potentially boosting the fund's overall returns.
- 收益回流再投资：对于长期持有 CIT 的基金，其获得的 CIT 分润（例如以稳定币或平台代币形式发放）可以自动回流并再投资到基金中，形成复利效果。这类似于 ETF 将股票股息自动再投资的机制，使基金净值随时间加速增长。CIT 稳定的现金流特性使其非常适合作为收益再投资策略的一部分。
- **Yield Reinvestment:** For funds that hold CIT long-term, the profit distributions received from CIT (e.g. paid in stablecoins or platform tokens) can be automatically reinvested back into the fund, creating a compounding effect. This is akin to an ETF reinvesting stock dividends automatically, which accelerates the fund's NAV growth over time. CIT's stable cash flow characteristics make it an excellent component of a yield reinvestment strategy.

- **ETF 指数化产品：**交易所可以基于 CIT 发行追踪 CTChain 平台资产池表现的指数型 ETF。由于 CIT 价格直接锚定平台资产净值，ETF 持有 CIT 即可跟踪平台资产价值变化，同时按期获得 CIT 分润作为“股息”收益。这降低了传统市场投资者进入区块链资产领域的门槛——他们无需深入了解每项链上资产，只需购买这一 ETF 即可分享 CTChain 生态增长的红利。
- **Index-Linked ETF Products:** Exchanges could issue index ETFs that track the performance of CTChain’s asset pool by using CIT. Since CIT’s price is directly tied to the platform’s net asset value, an ETF holding CIT can track changes in the platform’s asset value, while also receiving CIT profit distributions as “dividend” income at intervals. This lowers the barrier for traditional market investors to enter the blockchain asset space — they don’t need to research each on-chain asset in depth; by purchasing such an ETF, they can share in the growth dividends of the CTChain ecosystem.
- **LP 资金池应用：**在 DeFi 生态中，CIT 也可被用作流动性提供（LP）资金池的一部分。例如，可以在去中心化交易所建立 CIT/USDT 或 CIT/ETH 的流动性池，为交易提供深度。LP 持有者除了获得交易手续费收益外，还可以分享 CIT 代币收益，形成双重收益模式。CTChain 的智能合约能够将部分资产收益自动分配给 LP 池中的 CIT 份额，提高做市收益率，从而吸引更多资金参与，扩大整个生态的资金规模。
- **Liquidity Pool (LP) in DeFi:** In the DeFi ecosystem, CIT can also be used as part of liquidity provider pools. For example, a CIT/USDT or CIT/ETH liquidity pool could be established on a decentralized exchange to provide market depth for trading. LP token holders would earn trading fee revenue and additionally share in CIT holding yields, creating a dual-reward model. CTChain’s smart contracts can automatically allocate a portion of asset returns to the CIT portion of LP pools, boosting liquidity provider yields, which in turn attracts more capital and enlarges the overall ecosystem’s capital base.

综上所述，CIT 身为连接传统金融与区块链资产的桥梁，其价值不仅体现于 CTChain 平台内部，也通过上述场景延伸到了更广阔的金融领域。随着监管环境逐渐明朗，预期将有更多此类 LPF/ETF 产品将 CIT 纳入其投资组合，进一步拓宽 CIT 的需求和用途。

*In summary, CIT serves as a bridge between traditional finance and blockchain assets, and its value is realized not only within the CTChain platform but also extends to broader financial contexts as illustrated above. As the regulatory landscape becomes clearer, it is expected that more LPF/ETF products will include CIT in their portfolios, further expanding the demand and use cases for CIT\*.\**

## **9.7 DAO 治理模块与社群参与 (DAO Governance Module and Community Participation)**

CIT 不仅具有经济价值，在治理层面也扮演关键角色。CTChain 平台将引入去中心化自治组织（DAO）模式，赋予 CIT 持币人参与重大决策的权力。具体而言，CIT 充当治理代币，持有人可通过提案和投票机制，直接影响以下事务：

- 资产上链审核：当有新资产（如新的贷款资产、投资产品或实体资产通证）提议纳入 CTChain 资产池时，需要经过 DAO 审核。CIT 持币人可以对该资产上线与否进行投票表决。这确保引入的新资产符合社区利益和风险偏好，由持币人共同把关资产池质量。若多数投票支持，新资产方可纳入，并计入平台 TVL，从而进一步提升 CIT 价值支撑。
- **Asset Onboarding Approval:** When a new asset (e.g., a proposed loan asset, investment product, or real-world asset token) is considered for inclusion in CTChain's asset pool, it must undergo DAO review. CIT holders can vote on whether the asset should be onboarded. This ensures that any new asset introduced aligns with the community's interests and risk appetite, with token holders collectively safeguarding the quality of the asset pool. Only if a majority of votes support the proposal will the new asset be admitted and counted toward the platform's TVL, thereby further enhancing CIT's value backing.
- 代币发行与销毁：有关 CIT 或子链代币的增发、回购、销毁等重大经济策略需经由 DAO 决策。例如，修改 CIT 二级市场流动池的代币分配比例、执行 CIT 回购销毁计划、调整释放节奏等，都将提交社区讨论投票。通过这种方式，持币人可以直接影响代币经济政策，确保相关决策兼顾代币持有者利益与生态发展需要。
- **Token Issuance and Burn Policies:** Major economic strategies involving CIT or sub-chain tokens – such as additional issuance, buybacks, or token burns –

require DAO decision-making. For instance, changes to CIT's liquidity pool allocation ratios, implementing a CIT buyback-and-burn program, or adjusting the token release schedule must be put to community discussion and vote. In this way, token holders can directly influence token economic policies, ensuring that decisions consider both the interests of token holders and the needs of ecosystem development.

- 协议升级与资金调配：任何涉及主链或子链协议升级、重要功能新增、以及生态资金用途（如社区基金支出、大额投资、跨链扩展策略等）的提案，均需提交 DAO 表决。例如，平台可能提议升级智能合约来引入新功能模块，或动用储备基金投资关键基础设施，这些均须经 CIT 持币人投票批准。这保证平台演进方向由社区共同决定，避免中心化团队单方面做出重大改变。
- **Protocol Upgrades and Fund Allocation:** Any proposals involving upgrades to the main chain or sub-chains, addition of major new features, or usage of ecosystem funds (such as disbursement of community treasury funds, large investments, cross-chain expansion strategies, etc.) must be decided by DAO vote. For example, the platform might propose a smart contract upgrade to introduce a new functional module, or the use of reserve funds to invest in critical infrastructure—such actions require approval from CIT token holders via voting. This ensures that the platform's evolutionary direction is determined collectively by the community, preventing the centralized team from unilaterally making major changes.

上述治理事项均通过智能合约执行，全程公开透明且不可篡改。值得一提的是，为鼓励长期参与治理，CTChain 正考虑引入类似 *veCRV* 的投票加权机制：用户可以通过锁定 CIT 来获取更高的投票权重，从而激励持有人长期持有代币并深度参与治理。积极参与治理的持币人还可能获得额外奖励（例如治理代币空投或手续费分红），以补偿其贡献的时间和精力。此外，所有治理提案、投票记录和执行结果都将上链存证，供公众和监管机构查询审计，体现 CTChain 治理的高透明度。

**All the above governance matters are executed via smart contracts, with the entire process being open, transparent, and tamper-proof.** Notably, to encourage long-term governance participation, CTChain is considering introducing a vote-weighting

mechanism similar to *veCRV*: users could lock up CIT to obtain greater voting power, thereby incentivizing token holders to hold their tokens longer and engage more deeply in governance. Holders who actively participate in governance may also receive extra rewards (such as governance token airdrops or a share of fees) to compensate for the time and effort they contribute. In addition, all governance proposals, voting records, and execution outcomes will be recorded on-chain, available for public and regulatory audit, reflecting the high transparency of CTChain's governance.

总而言之，CIT 不仅是价值载体，更是社区治理的核心工具。持币即享权，享权须尽责。通过 CIT 的分布式治理，CTChain 社区将共同决定平台未来的发展方向和规则。在这一机制下，CIT 持有者既是平台的受益者，也是平台的建设者：他们对平台发展的每一步都有发言权，平台的成功与否也直接体现在 CIT 代币的价值上。CTChain 致力于在政府监管框架内，构建一个由持币人自治、自我进化的区块链实体资产平台，开创传统资产与区块链技术融合的新范式。

**In summary, CIT is not only a vessel of value but also the core instrument of community governance. With ownership comes authority, and with authority comes responsibility. Through CIT's decentralized governance, the CTChain community collectively determines the platform's future direction and rules.** Under this model, CIT holders are both beneficiaries and builders of the platform: they have a voice in every step of the platform's development, and the platform's success or failure is directly reflected in the value of the CIT token. CTChain is committed to building, within the framework of government regulation, a blockchain-based real asset platform that is governed autonomously by its token holders and capable of self-evolution, pioneering a new paradigm for the convergence of traditional assets and blockchain technology.