



KOALA



JuChain



JuCoin

Let every piece of computing power have economic ownership,
governance voice and fair incentives.



KOALA

white paper 1.0



1 Project Overview

1.1 Background and Vision

As technologies such as artificial intelligence, big data, and Web3 continue to evolve, computing power, as a core resource supporting the digital economy, is becoming increasingly important. However, global computing power resources are still highly concentrated in the hands of a few centralized platforms, with many problems such as unfair distribution, price monopoly, and incentive imbalance. Resource waste and efficiency bottlenecks have seriously restricted the healthy development of the global digital economic infrastructure.

The birth of the Koala project is precisely to solve these core problems. **We are committed to breaking the centralized monopoly and making distributed computing power truly an open financial asset shared, governed, and participated in by global users. Koala is not only a technical protocol, but also an innovation in the global digital resource governance paradigm.

Koala's vision is:

Let every computing power have economic ownership, governance voice and fair incentives.

We hope to achieve the following three goals through the construction of Koala:

1. Value confirmation: transform computing resources in the physical world into on-chain assets that can be confirmed and circulated.

2. Decentralized governance: build a multi-level community governance structure based on tokens to achieve fair and democratic resource allocation.

3. Financial incentives: create a sustainable income model with incentives as the core, so that every computing resource can generate measurable economic returns.

1.2 Core Positioning

Koala is the world's first distributed computing power financial platform built on the JuChain public chain, jointly incubated by the Koala Protocol Crypto Lab and the Jucoin Exchange. The project uses blockchain and smart contract technology to achieve the following core positioning:

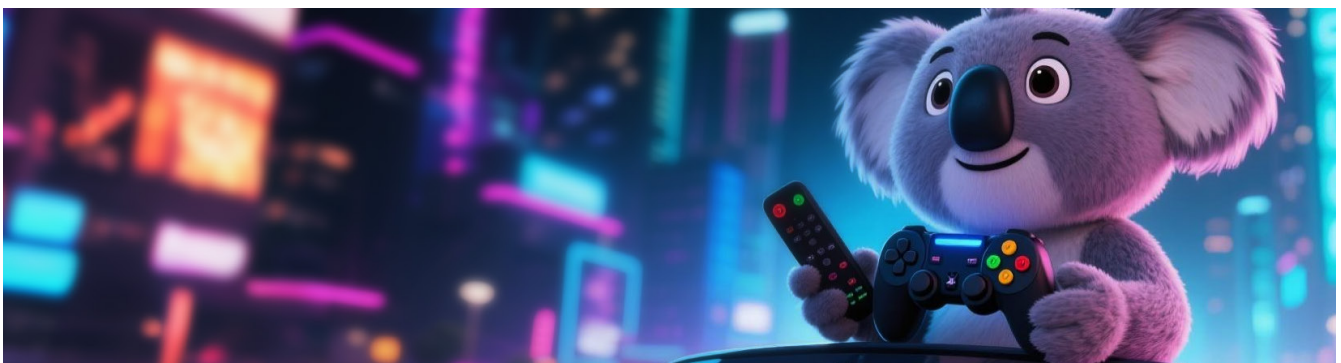
Distributed confirmation of ownership: Through the RWA mapping protocol, the computing power assets are confirmed on the chain to ensure that their sources are credible and the data is authentic.

Financial incentives: Using the Gruber-Morgan algorithm and the co-evolution mechanism, incentives are dynamically allocated according to node contributions to maximize incentive efficiency.

Global node network: Build a global computing power node ecosystem across Asia, America, Europe and other places to promote resource interconnection and regional collaboration.

Intelligent governance system: Introduce the Koala DAO governance framework, so that token holders, node operators, and community developers can participate in governance and ecological evolution.

Koala is not just a platform, but also a cutting-edge testing ground for the financialization of digital infrastructure. It will take a key step towards promoting a new era of "computing power as an asset" around the world.



Technical Architecture

The technical architecture of the Koala platform takes "openness, scalability, and security" as its core design concept, and builds a complete distributed system consisting of on-chain smart contracts, computing power node networks, RWA mapping mechanisms, and cross-chain components.

2.1 Architecture Overview

Koala's technical architecture consists of five modules:

1. Koala main protocol layer (Protocol Layer)
2. RWA mapping and confirmation system (RWA Mapper)
3. Computing node network and access gateway (Node Network)
4. Gruber-Morgan incentive engine (Incentive Engine)
5. JuChain smart contract and cross-chain components (Chain & Bridge Layer)

These five modules work together to support the complete closed loop of the Koala platform from physical computing power access, asset mapping, incentive issuance to governance collaboration.

2.2 Main Protocol Layer

The Koala master protocol defines the behavior logic and interaction standards of the entire platform, covering the following core functions:

- Node registration and identity authentication
- Proof of Capacity (PoC) submission

- Incentive allocation call
- KL token issuance/destruction and governance call

All protocol behaviors will be deployed on the JuChain main chain in the form of smart contracts to ensure transparency, fairness and auditability of operations.

2.3 RWA Mapping and Title Confirmation System

The RWA mapping mechanism is one of Koala's core innovations. Through two steps, off-chain verification and on-chain mapping, the on-chain assetization of computing resources is realized:

Off-chain collection: Real-time collection of computing power data and operation status of physical servers/edge devices through APIs and smart gateways.

Signature authentication: Digital signatures are issued by nodes and verified by third-party audit systems.

Mapping and confirmation of rights: Generate a unique RWA Token on the chain and bind the ownership relationship and contribution certificate of the corresponding device.

The system is compatible with various computing resource forms such as GPU/CPU computing power, cloud hosts, edge nodes, and mobile terminals.

2.4 Gruber-Morgan Motivation Engine

This incentive model is the core economic driving module of the Koala platform. Its basic mechanisms include:

Quantification of multi-factor contribution: Combine indicators such as computing power quantity, running time, location distribution, and energy efficiency to build a computing power contribution weight matrix.

Co-evolution mechanism: Dynamically adjust the incentive allocation ratio according to the total platform volume to guide nodes to continuously optimize resource efficiency.

Anti-Witch mechanism: Introduce a reputation mechanism and behavior scoring model to prevent incentive arbitrage and fake node volume brushing.

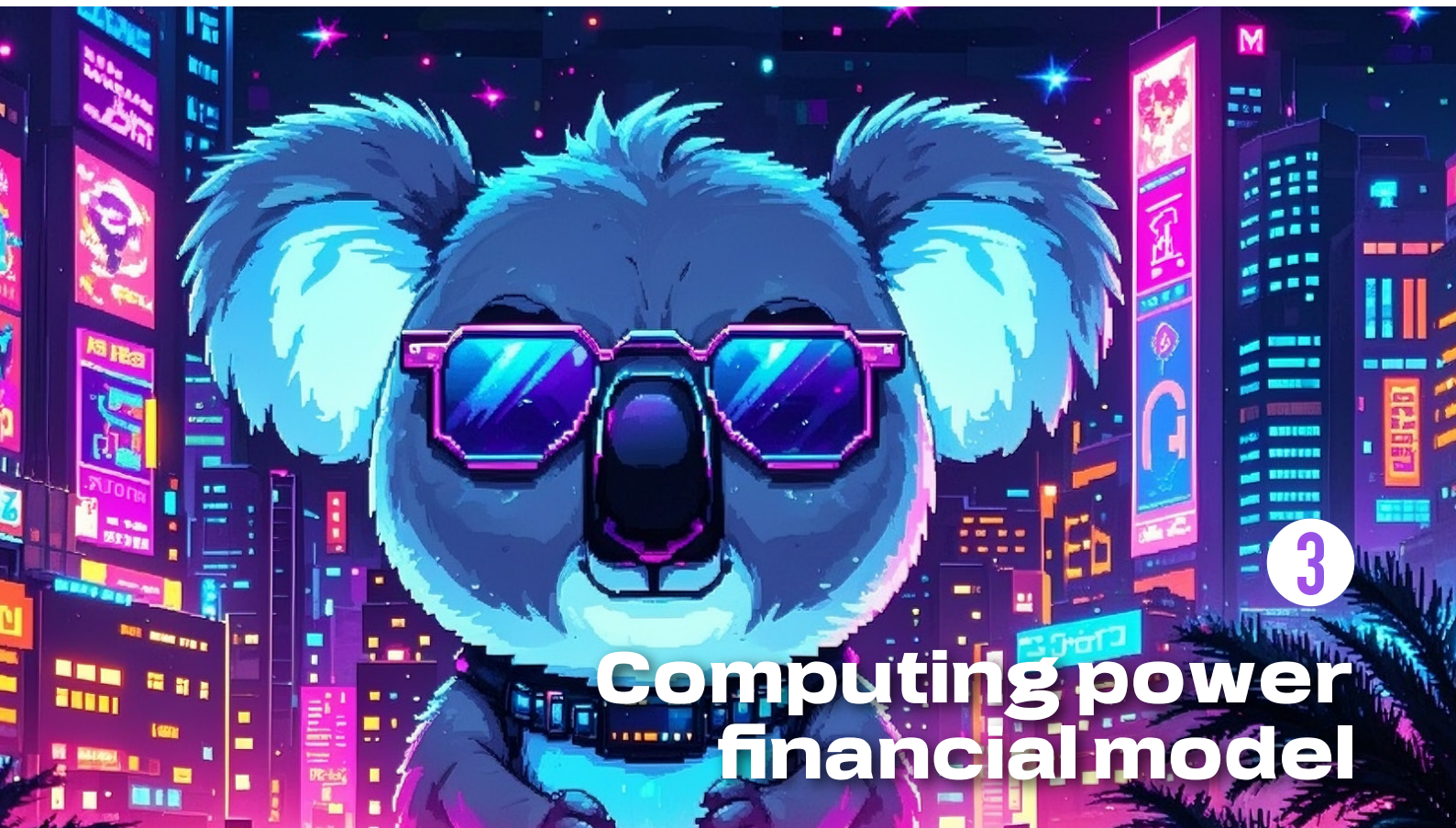
The model ensures fair incentives, sustainable node operations, and promotes overall network performance optimization by dynamically adjusting parameters.

2.5 JuChain Smart Contract and Cross-chain Components

Koala relies on JuChain's high-performance main chain and has the following advantages:

- High TPS, low Gas contract execution capability
- Native support for NFT, RWA, DAO modules
- Connect to JuBridge to interact with mainstream chain assets such as ETH, BSC, Polygon
- Support EVM and future WASM virtual machine expansion

The cross-chain component ensures that the KL token has good liquidity and cross-chain financial scalability, and is the key to the platform's connection to multiple ecosystems.



3 Computing power financial model

Koala has created a composite model of "computing power × finance × Web3". Its core is to transform the idle and exclusive computing power resources distributed around the world into on-chain assets that are confirmed, tradable, and financializable, thus achieving the trinity of value measurement, revenue distribution, and governance participation.

3.1 Model structure: three-layer computing power financial system

The computing power financial system of the Koala platform consists of three layers:

1. Physical Layer

- Includes physical computing nodes deployed around the world: home devices, enterprise-level data centers, edge computing devices, etc.
- Access devices complete identity authentication and operation data upload through the Koala standard protocol.

2. Asset Mapping Layer

- Each computing power device generates an independent computing power NFT, which records its device type, computing power parameters, stability rating and other information.
- Hardware power NFT holders enjoy the equity benefits corresponding to computing power and can trade and transfer on the Koala platform.

3. Financial Derivatives Layer

- Build a series of financial products based on computing power NFT: pledge, lending, derivatives, insurance, etc.
- Users can obtain KL through NFT pledge, participate in mining income, pledge dividends, liquidity mining, etc.

3.2 Gruber-Morgan Algorithm

Gruber-Morgan is a computing power contribution evaluation and incentive allocation algorithm independently developed by Koala. The core logic is as follows:

- Parameter input: Multi-factor data such as device performance, stability, online time, energy consumption ratio, etc.
- Weight evaluation: Dynamic scoring, weights are adjusted with the ecological operation cycle to prevent brushing or centralized manipulation.
- Incentive output: Dynamically allocate the allocable KL according to the computing power weight, and trigger the reward accumulation and ranking mechanism.

3.3 Co-evolution mechanism

Koala introduces the Co-Evolution Engine, which aims to achieve:

- Individual adaptation → group evolution: The behavior and performance of a single node will affect the resource allocation of the overall computing power ecosystem.
- Multiple consensus → incentive optimization: Combine user consensus voting, operation data feedback, and AI model assistance to form an incentive model for self-evolution.
- Marginal benefits → increasing incentives: The more active and early users participate, the higher their marginal returns in co-evolution.

3.4 Global Node Economic System

Koala's global node network is divided into a three-level structure, combining financial and physical properties:

- Master Node: With hardware standard certification and continuous computing power contribution capabilities, it can obtain platform basic income and DAO governance rights.
- Partner Node: Developed by the first-level node, it assists in building local node clusters and participates in community operations.
- Edge Node: Small and medium-sized or home devices are connected to obtain flexible income based on actual contributions.

The platform connects each level of nodes through the NFT+DAO+algorithm model, building a decentralized, highly incentivized, and governable computing power supply and collaboration system.

3.5 Core Features of Hash Power Finance

1. Asset confirmation: All computing power equipment is assetized and put on the chain, and the confirmation and transaction are carried out in the form of NFT.
2. Income can be combined: Users can use NFT for a variety of financial strategy combinations such as staking, lending, and order mining.
3. Risks can be hedged: Introduce computing power insurance mechanism and stability pool to resist systemic risks such as node offline and energy fluctuations.
4. Value can be governed: All computing power participants can influence the reward mechanism and platform decision-making through staking and voting.



4.1 Token Information

Name: Koala Token

Code: KL

Total issuance: 130 million

Type: Native token, deployed on JuChain public chain

4.2 Application Scenarios

- Payment: used to pay for computing resources and services
- Incentives: node rewards, community governance rewards
- Governance: holding KL to participate in DAO governance

4.3 Deflation Mechanism

- The portion of KL paid for handling fees will be automatically destroyed
- The node exit mechanism will force the destruction of some mortgage assets
- DAO proposals can adjust the token deflation rate



Application scenarios and ecological layout

Koala is not just a computing power financial platform, but also a bridge connecting Web3 and the real world. By building a variety of landing scenarios and sustainable ecosystems, Koala is committed to creating an open, collaborative, and autonomous global distributed computing power ecosystem.

5.1 Core Application Scenarios

1. Edge computing collaborative network

- Home servers, routers, smart terminals, etc. can be connected through the Koala node protocol to contribute edge computing power.
- Applied in local AI reasoning, video processing, IoT network management and other fields.

2. Web3 AI Inference Computing Power Market

- Provides flexible decentralized computing power for AI Agent, on-chain model reasoning, graph generation and other needs.
- Supports on-demand billing, data verifiability, open bidding for tasks and other features.

3. Digital financial derivatives platform

- Derivatives such as pledge, lending, and portfolio investment based on computing power NFT.
- Users can create personalized strategy pools to combine different types of computing power assets to improve revenue efficiency.

4. Carbon asset management and green finance

- Track node energy consumption data, access the carbon neutrality platform, and issue carbon credits NFTs for clean energy nodes.
- Support the circulation of carbon credits in the green financial trading market to offset transaction fees and incentivize green contributors.

5. RWA (Real World Asset) Mapping Channel

- Cooperate with real industries (such as data centers, power companies, and logistics companies) to map their computing power equipment into on-chain assets.
- Create a new RWA model of "corporate computing power asset securitization".

6. Multi-chain support and cross-domain computing power calls

- Through JuChain's cross-chain protocol, it supports coordinated calls with other public chains' computing power.
- Applied to cross-chain and cross-domain DApp computing needs, privacy computing tasks, etc.

5.2 Global Ecosystem Layout Planning

Koala is building a computing power collaboration network across multiple countries and regions, with the following key layouts:

1. Southeast Asia Node Alliance

- Preliminary cooperation has been established with IDCs and mining farms in Singapore, Thailand, Malaysia and other regions.
- Promote the local "Web3+Data Industry" incubation plan to attract developers and hardware manufacturers to join.

2. East Asian Technology Cluster Cooperation

- Cooperate with South Korea, Japan, and Taiwan to build high-performance AI computing clusters to support high-load tasks such as language model reasoning.

3. Distributed Node Pilot in Africa

- Collaborate with NGOs and community organizations to deploy low-power edge nodes in Nigeria, Kenya and other regions to achieve universal computing power access.

4. European Green Computing Standard Docking

- Cooperate with the EU carbon auditing agency to develop Koala node green standards and explore the European green finance market.

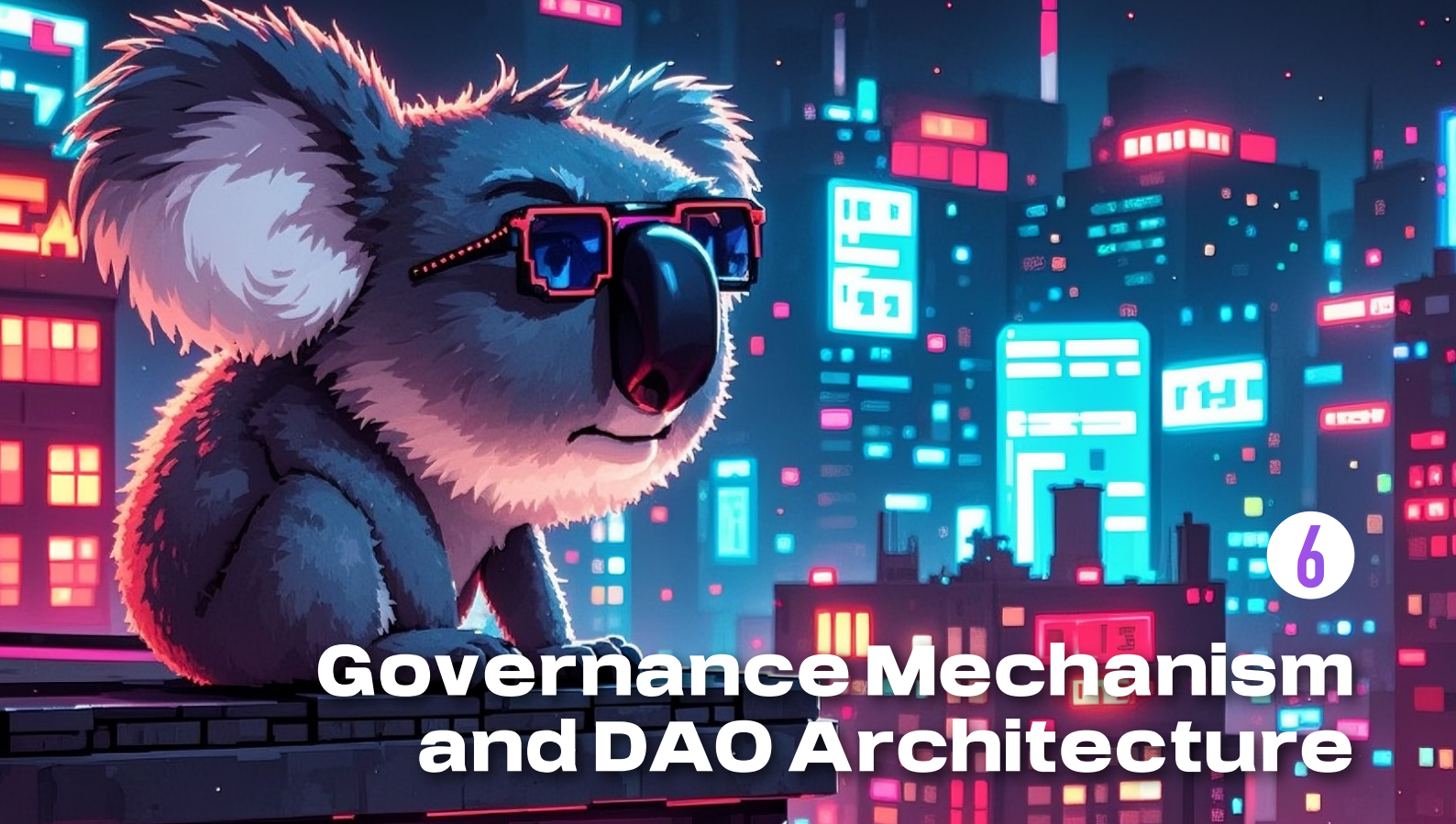
5. North American Web3 University Node Program

- Cooperate with blockchain laboratories of many universities in North America to establish experimental nodes and provide practical testing scenarios for academic research and courses.

5.3 Application Ecosystem Cooperation Direction

1. Cooperate with DApp developers: Provide API and SDK access for games, social and financial applications to call Koala computing power.
2. Cooperate with hardware manufacturers: Embed Koala protocol modules in routers, NAS, and edge boxes to achieve plug-and-play.
3. Cooperate with financial institutions: Explore innovative products such as computing power NFT mortgage loans, liquidity asset management, and computing power options.
4. Interoperate with Web3 projects: Connect DID, DePIN, RWA, AI Agent and other tracks to achieve ecological linkage and diversified value-added.





6

Governance Mechanism and DAO Architecture

Koala uses a decentralized autonomous organization (DAO) mechanism to achieve ecological governance and resource allocation, ensuring the openness, fairness and sustainability of the system. The mechanism is built through smart contracts, on-chain voting systems and multi-level governance structures.

6.1 Overview of Governance Structure

Koala DAO's governance structure is divided into the following three levels:

1. Basic Participation Layer (General Users):

- Conditions: Hold a certain amount of KL or computing power NFT
- Rights: Participate in proposal voting, receive ecological announcements and rewards, and use governance tools

2. Community Representatives (Delegates):

- Conditions: Have high activity and reputation in the community, and can be delegated voting rights by basic users
- Responsibilities: Participate in key proposals on behalf of users, review node applications, and assist in parameter updates

3. Koala Core Council:

- Composition: from Koala Protocol Crypto Lab, Jucoin Exchange, senior community developers and scholars
- Responsibilities: the final arbitration body for system risks, major upgrades, emergency rollbacks, etc.

6.2 DAO Operation Mechanism

The daily operation of Koala DAO relies on the following three systems:

On-chain Proposal Engine:

- Users can initiate governance proposals, including parameter modification, ecological subsidies, new proposals, etc.
- Each proposal must obtain a certain number of votes before it can enter the voting stage

Quadratic Voting:

- A non-linear voting mechanism is used to limit the monopoly of large households
- Voting rights are linked to the lock-up period to encourage long-term holders to participate in governance

Governance Incentives:

- Voting users can receive participation incentives (such as KL tokens, computing power points)
- Those who pass the proposal will receive additional ecological rewards based on the actual implementation effect

6.3 DAO key functional modules

Module Name	Functional Description
Proposal initiation system	Users or nodes can initiate multiple types of proposals
Voting and delegation system	Support one person one vote and delegated voting mechanism
Parameter governance system	Governance adjustments can be made to reward ratios, release cycles, node access, etc.
Node review mechanism	Regularly evaluate and review node qualifications and node reputation
Fund pool management system	Manage the DAO treasury on-chain and allocate operating expenses according to rules

6.4 Governance Upgrade Path

The Koala governance system will evolve in stages based on community development:

Phase 1 (startup phase): The core team leads the setting of governance parameters, and DAO gradually opens up basic voting rights

Phase 2 (community autonomy phase): Start the node referendum mechanism and open key parameter governance

Phase 3 (complete decentralization): All core governance roles are generated by DAO voting, and the technology evolution introduces AI+DAO protocol management

6.5 Governance Outlook

Koala DAO will not only be a platform governance mechanism, but also a collaborative engine for global computing power finance. Through community autonomy, mechanism incentives and technical support, Koala DAO is expected to become the most vital distributed governance model, leading the long-term prosperity of the computing power finance ecosystem.



Development Roadmap

2025 Q2

- Complete the Koala core protocol architecture and smart contract development
- Preliminary test network deployment, node stress testing and data collection
- Launch a global node recruitment plan, with priority coverage of Southeast Asia and East Asia
- Publish the first version of the white paper and technical documents, and solicit community opinions

2025 Q3

- Official mainnet launch, supporting KL token issuance, transfer, mortgage, governance and other core functions

- Launch RWA mapping system to realize on-chain confirmation and certificate issuance of computing power equipment assets
- Introduce basic node incentive mechanism and community incentive plan
- Build the first version of computing power NFT trading market and test the free circulation mechanism

2025 Q4

- Upgrade the computing power NFT market, add staking and combination packaging functions
- Launch the Koala DAO governance mechanism, open the proposal and voting system
- Launch DeFi + computing power application scenarios, such as lending, staking gains, computing power insurance, etc.
- Cooperate with Thailand iData and Singapore SmartInfra to build a local node demonstration center

2026 Q1-Q2

- The cross-border node expansion plan has entered the second phase, covering emerging markets such as South Korea, India, and Indonesia
- Release the Koala Mobile mobile node deployment system to enable personal mobile phones/edge devices to participate in mining and governance
- Launch the Koala SDK to support Web3 and AI dApp developers to quickly call computing resources
- Launch the Global Developer Hackathon Competition and Technology Ecosystem Incentive Fund
- Evaluate and promote node access strategies and compliance docking in North America and Europe

2026 Q3-Q4

- Officially deployed the first batch of compliant nodes in North America and Europe to expand the global node map
- Upgraded Koala Mobile to achieve offline cache mining and edge AI computing support
- Launched Koala Developer Hub to build a one-stop documentation, API, SDK and community Q&A platform
- Promoted cross-border cooperation pilots with education, energy, medical and other industries, and incorporated physical application scenarios into the computing power financial ecosystem
- Launch the "Hundred Schools Plan" to cooperate with global universities to promote node laboratories and developer education courses

2027

- Launched Koala Layer-2 expansion solution to improve transaction processing and low-latency computing power collaboration capabilities
- Cooperated with telecom and cloud service providers in multiple countries to embed Koala into 5G base station/edge node infrastructure
- Established a cross-border computing power exchange market to achieve free resource leasing, arbitrage and governance competition mechanism between nodes
- Released Koala governance upgrade proposal 2.0, introducing the "parliament + mobile representative system" hybrid DAO governance model
- Launched the Koala AI Engine module to support the on-chain deployment and incentive model of AI tasks and microservices

2028–2030 (Long-term Outlook)

- Build a global computing power alliance network (Global Koala Alliance) to support cross-public chain and cross-regional collaborative governance
- Introduce a computing power privacy protection mechanism based on zero-knowledge proof to achieve privacy-secure data/computing power services
- Expand RWA asset types, including high-value physical assets such as energy, agricultural equipment, and industrial robots
- Cooperate with sovereign funds and development banks to promote "computing power infrastructure" to become a new digital economy investment category
- Build Koala InfraOS to form a complete set of underlying computing power operating system standards for the integration of the physical world and Web3





Team and partners

8.1 Koala Protocol Crypto Lab

Koala Protocol is the technical core of this project, which is composed of PhDs and engineers in the fields of blockchain, cryptography, game theory, and financial modeling from top universities around the world (such as MIT, Tsinghua University, Nanyang Technological University, etc.). The laboratory has long focused on the following areas:

- Distributed system architecture design and optimization
- Algorithmic game mechanism and incentive model research
- RWA (real world asset) on-chain and financial mapping standards
- Blockchain data security and privacy computing technology

Team members have participated in the design of core modules of several well-known blockchain projects and published many Web3-related research papers.

8.2 Jucoin Exchange

As Asia's leading digital asset trading platform, Jucoin provides:

- Initial issuance of Koala tokens and continuous liquidity support
- User base and node resource import channel
- Brand promotion in overseas markets and local compliance resources

The participation of Jucoin ensures the liquidity security, transaction convenience and market influence of the Koala project, and assists Koala in deploying computing power infrastructure in multiple countries through its node operation system.

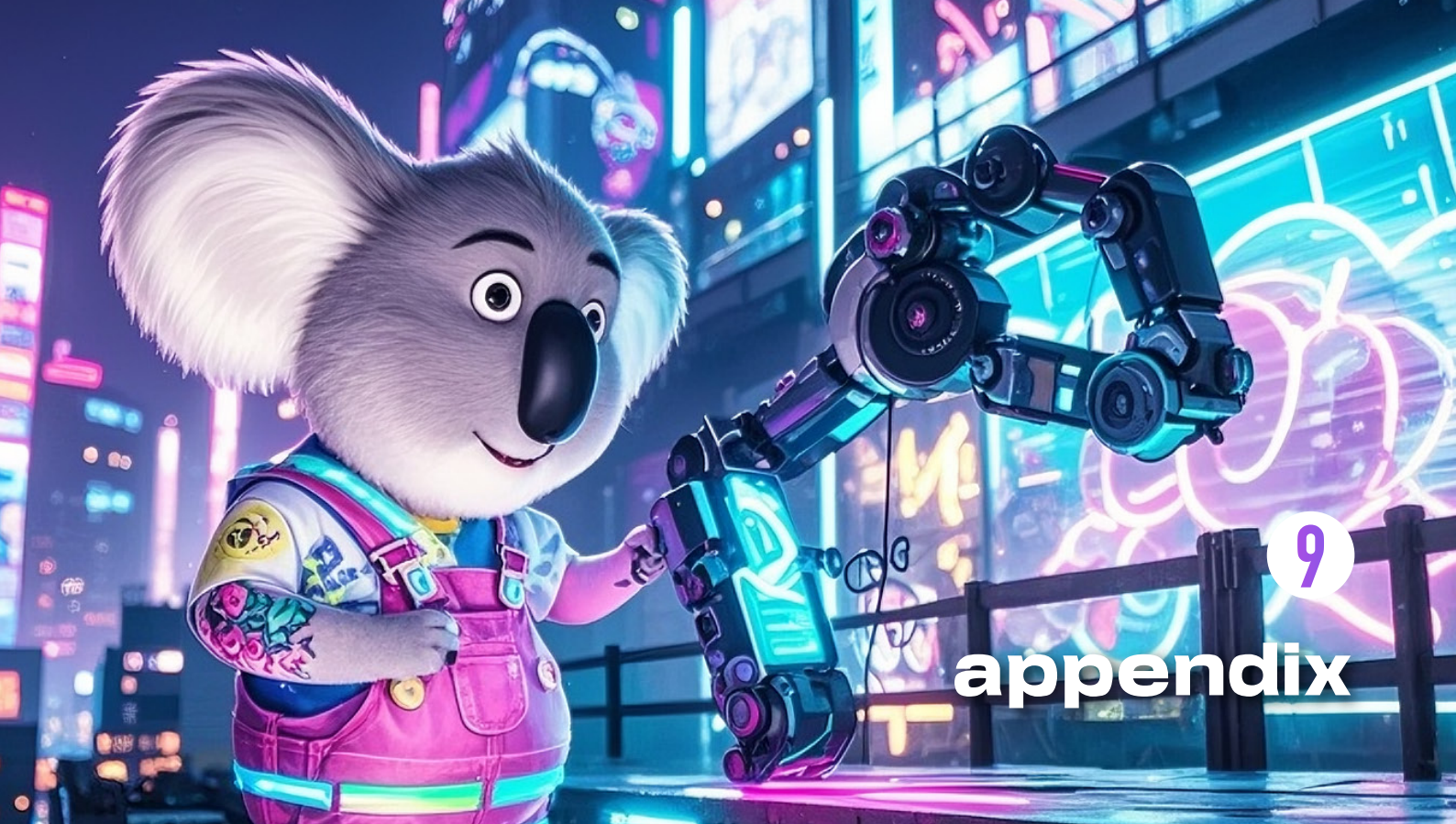
8.3 Strategic partners (some have signed memorandums of understanding)

- Thailand iData Cloud Center: Providing computing power access support and local regulatory coordination
- Singapore Smart City Planning Team: Collaborating to promote computing power access for edge devices and integration with smart infrastructure
- Korea Edge Computing Network Association: Jointly promoting edge device computing power access standards and national deployment demonstration projects
- India Mumbai TechHub Alliance: Assisting Koala in implementing RWA infrastructure in the Indian urbanized market

In addition, Koala is negotiating cooperation with dozens of computing power providers, scientific research institutions, infrastructure companies, and blockchain project parties around the world to jointly build a global Web3+ physical computing power ecosystem.
Protocol Crypto Lab

The research team focuses on distributed systems, game mechanisms, and financial modeling, and is composed of several blockchain and distributed computing PhDs from MIT, Tsinghua University, Nanyang Technological University, and other institutions.





9.1 Explanation of Common Terms

RWA: Real World Asset, real-world assets

DAO: Decentralized Autonomous Organization

NFT: Non-fungible token, used to confirm the ownership of specific assets

9.2 Community portal and resources

Official website:

Twitter:

Telegram:

GitHub:

Koala | Let every bit of computing power become a value unit that drives the world.