SCG Token White Paper

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1. Introduction

1.1 The Trend of Integration between Blockchain and Quantum Computing

Since its inception, blockchain technology has become the representative of distributed ledger technology, bringing revolutionary changes to global finance, supply chains, identity verification, and other fields. However, with the widespread adoption of blockchain applications, traditional blockchain systems face a series of challenges, particularly in terms of security, computational bottlenecks, and scalability. Currently, while the cryptographic algorithms used in blockchain provide a certain level of data security, the rise of computational power, especially with the emergence of quantum computing, poses a risk that these cryptographic methods may be compromised in the future. Additionally, the computational bottlenecks and scalability issues of blockchain make it inadequate for processing large-scale data and high-frequency transactions.

The breakthrough advancements in quantum technology bring new hope for addressing these issues. The powerful computational capabilities of quantum computing can crack traditional cryptographic algorithms, but they also present new opportunities for blockchain. Quantum computing can provide stronger security for blockchain through quantum encryption technology, while quantum communication technology can offer more efficient and secure data transmission between distributed ledger nodes. Therefore, the trend of integrating blockchain with quantum computing is particularly important, as it can not only enhance the security and efficiency of blockchain but also promote its leapfrog development, addressing current performance bottlenecks.

1.2 Vision and Mission

This project aims to build the next generation of secure, efficient, and scalable quantum blockchain ecosystems through the deep integration of quantum encryption, quantum communication, and blockchain technology. Our goal is to achieve widespread application of quantum technology in the blockchain field, providing

stronger security guarantees for blockchain networks through quantum computing, optimizing existing consensus mechanisms, and promoting the application of quantum communication technology in distributed ledgers.

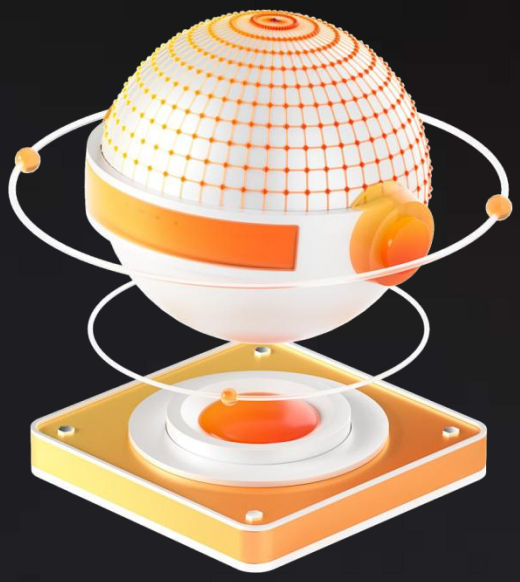
Specifically, our mission is to create a closed loop from research and development to commercial application by promoting the industrialization of quantum technology. We are committed to researching and developing quantum technology, and leveraging the decentralized characteristics of blockchain to promote the widespread application of quantum encryption and quantum communication technologies globally, becoming a leader and standard setter in quantum blockchain technology.

1.3 Core Values

Security: By leveraging quantum encryption technology, the project can effectively resist attacks from both classical and quantum computers, providing unprecedented security for the blockchain network. Advanced quantum encryption technologies such as Quantum Key Distribution (QKD) will ensure absolute security of data during transmission.

Efficiency: Through the optimization of quantum algorithms, the project will enhance the consensus mechanism and data processing efficiency of blockchain, especially in computationally intensive application scenarios, where quantum computing can significantly improve processing speed, thereby increasing the overall throughput and response time of the network.

Ecosystem: This project aims to establish an open, transparent, and fair community for quantum blockchain developers and users, promoting the development of quantum blockchain technology and providing rich incentive mechanisms for developers and users to foster a healthy ecosystem.



2. Technical Architecture and Core Innovations

In constructing the infrastructure for quantum blockchain, we will organically combine advanced quantum computing technologies with the decentralized philosophy of blockchain, aiming to design a blockchain system with high security, efficiency, and scalability. The rapid development of quantum computing brings opportunities to blockchain but also poses new challenges. We have adopted innovative solutions in our technical architecture to fully leverage the advantages of quantum technology and address the security, scalability, and efficiency bottlenecks faced by traditional blockchain. Below are our core technological innovations in the design and implementation of quantum blockchain.

2.1 Basic Design of Quantum Blockchain

The infrastructure of quantum blockchain is key to its success. To achieve deep integration of quantum and blockchain, we have made core technological designs in the following areas:

Quantum-Resistant Cryptographic Algorithms

The security of blockchain has long relied on cryptographic techniques, particularly predefined encryption algorithms. With the rapid development of quantum computing, classical encryption algorithms (such as RSA, ECC, etc.) face the risk of being compromised. Quantum computing capabilities can easily handle large-scale data breaches that traditional computers cannot, effectively cracking the cryptographic algorithms currently used in blockchain. Therefore, quantum blockchain systems must possess sufficient quantum resistance. To this end, we have introduced Quantum Key Distribution (QKD) protocols and quantum-safe signature technologies.

Quantum Key Distribution (QKD) Protocol: QKD is based on the principles of quantum mechanics, particularly the properties of quantum no-cloning and entanglement, ensuring that the key generation and transmission processes are unaffected by eavesdroppers. Through QKD, both parties can establish a highly secure key exchange protocol, allowing quantum blockchain to maintain data security even when under quantum computing attacks. We will deploy QKD protocols between network nodes to ensure secure communication.

Quantum-Safe Signature Technology: To ensure the immutability of blockchain transactions and data integrity, we have introduced quantum-safe signature algorithms. These algorithms can mitigate the risks posed by quantum computing to signature verification, ensuring that blockchain transaction validation remains secure and reliable in a quantum environment. By incorporating quantum-resistant signature technologies, blockchain can guarantee the security and credibility of transactions in the future quantum era.

Consensus Mechanism (Optimized PoS/PoW with Quantum Random Number Generator)

The decision-making mechanism of blockchain is central to ensuring the security and consistency of decentralized systems. However, traditional Proof of Stake (PoS) and Proof of Work (PoW) mechanisms face significant computational challenges, particularly in terms of resource consumption and efficiency. In quantum blockchain, we adopt an innovative hybrid consensus mechanism that combines quantum random number generators (QRNG) to optimize PoS/PoW algorithms.

Quantum Random Number Generator (QRNG): Traditional random number generators typically rely on computer algorithms to generate pseudo-random numbers, while QRNG can generate true random numbers using the principles of quantum

mechanics. Quantum randomness is unbiased and unpredictable, making the consensus mechanism fairer and immutable. We use QRNG to optimize the PoS and PoW algorithms, enhancing their resistance to attacks. Additionally, the random numbers generated by QRNG can also be used to improve the security of the blockchain, preventing attackers from exploiting pseudo-random numbers.

Through this hybrid consensus mechanism, quantum blockchain can not only improve transaction speed and reduce resource consumption but also increase the network's resistance to interference, ensuring the decentralized nature and security of the network.

2.2 Quantum Communication and Data Transmission

Quantum communication technology plays a crucial role in quantum blockchain, as it can enhance the system's security and improve data transmission efficiency. Our innovative solutions in quantum communication and data transmission effectively address the privacy leakage and data tampering issues faced by traditional blockchain during data transmission.

Node Communication Network Based on Quantum Entanglement

Quantum entanglement is a fundamental principle in quantum mechanics that allows two quantum systems to instantaneously affect each other's states, even when separated by large distances. Based on this phenomenon, we have designed a node communication network based on quantum entanglement, where various nodes of the blockchain transmit data securely and rapidly through quantum entanglement.

Quantum communication networks not only improve data transmission speed but also effectively prevent man-in-the-middle attacks, eavesdropping, or data tampering. Traditional encryption technologies often rely on complex algorithms and key management, while quantum communication achieves natural eavesdropping and tampering prevention through the properties of quantum entanglement, providing greater security for quantum blockchain.

Privacy Protection: Combining Quantum Teleportation with Zero-Knowledge Proofs: Privacy protection is a significant challenge in blockchain technology, especially in public chains where user data is easily exposed. To protect user privacy, we combine quantum teleportation technology with zero-knowledge proofs (ZKP).

Quantum Teleportation: Quantum teleportation utilizes the properties of quantum entanglement to transmit information from one location to another, effectively carrying information without a physical medium. This technology makes the information transmission process highly secure and difficult to eavesdrop on, which is crucial for privacy protection in quantum blockchain, especially when protecting user transaction information.

Zero-Knowledge Proofs (ZKP): ZKP is a cryptographic protocol that allows one party to prove the authenticity of certain information without revealing the specific data. In quantum blockchain, combining quantum teleportation with zero-knowledge proofs allows users to complete transaction verification and identity authentication without disclosing personal information, thereby enhancing the privacy protection capabilities of the blockchain network.

2.3 Scalability and Cross-Chain Compatibility

In the development of quantum blockchain, scalability and cross-chain compatibility are critical technical requirements. As blockchain technology continues to evolve, the performance of single chains is increasingly inadequate to meet the demands of large-scale applications, and interoperability between different blockchains has become an important factor in enhancing the overall system.

Multi-Layer Smart Contract Framework

Quantum blockchain's smart contracts need to possess high flexibility and customizability. To this end, we have designed a multi-layer quantum smart contract framework that allows developers to select suitable modules based on different application needs and quickly build and configure smart contracts.

This framework allows for the expansion of smart contract functionalities, fully utilizing the powerful customization capabilities of quantum computing while improving the efficiency of smart contract execution. Developers can quickly implement the integration of quantum computing and blockchain applications through this framework, providing support for various industry applications.

Cross-Chain Protocol Supporting Interoperability between Multiple Quantum Blockchains:

The interaction between different quantum blockchains and the interoperability between different blockchains are important indicators of the expansion of the

blockchain ecosystem. To achieve interaction and data sharing between multiple quantum blockchains, we have designed a cross-chain protocol that supports interoperability between different quantum blockchains.

Through this protocol, quantum blockchains can break the isolation of chains, enabling value flow and data sharing between different chains, thereby promoting broader applications of blockchain technology. The cross-chain protocol not only enhances the scalability of quantum blockchain but also improves the overall performance of the system in various scenarios, allowing quantum blockchain to play a role in more consensus applications.

SolaraCoin (SCG) network blockchain not only addresses the security, efficiency, and scalability issues faced by traditional blockchain but also prepares for the future quantum era. The combination of quantum-resistant encryption, quantum communication, quantum consensus, and cross-chain technologies makes the SCG network blockchain a highly efficient, secure, and scalable system, promoting the integrated development of quantum computing and blockchain technology.

3. Token Economic Model (SCG)

3.1 Token Distribution and Use

Token name: SCG

Total Supply: 1 billion tokens

The total supply of SCG is set at 1 billion tokens to ensure the scarcity and long-term value growth of the tokens while supporting the healthy development of the ecosystem.

Distribution Ratio:

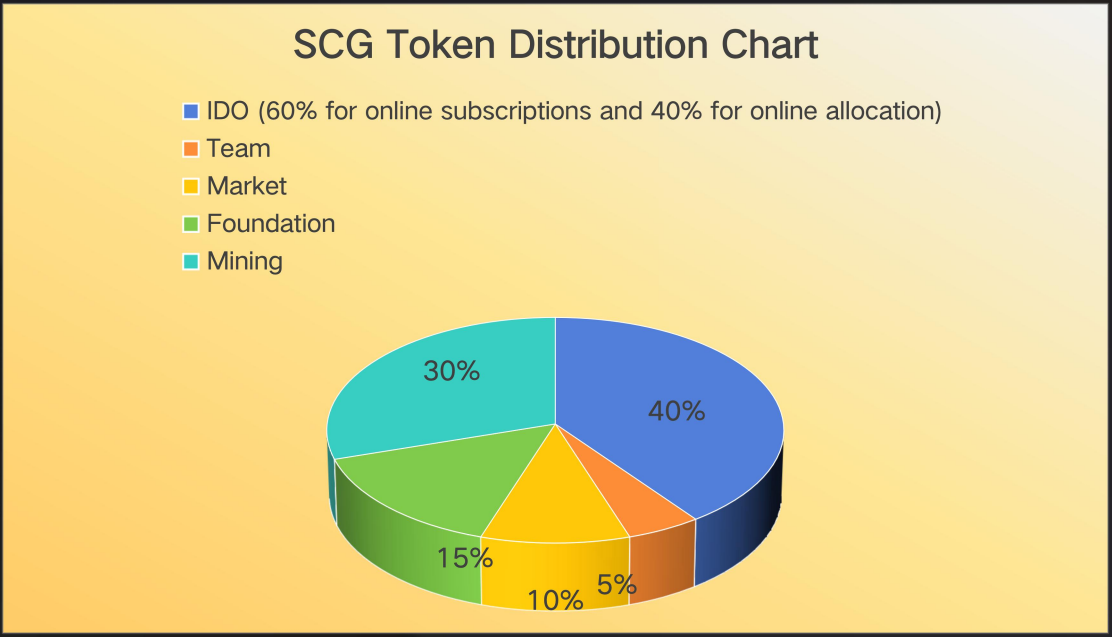
IDO (40%): For the Initial DEX Offering, 60% for online subscriptions and 40% for online allocation. This portion of tokens will be distributed through public sales and participation from strategic investors to raise initial funds for the project and establish a broad user base.

Team (5%): Allocated to core team members to incentivize long-term commitment to the project's development. Team tokens will have a lock-up period to ensure alignment of interests between the team and the project.

Market (10%): For market promotion, user incentives, and partnership development. Through multi-channel marketing activities, we aim to enhance SCG's brand influence and market penetration.

Foundation (15%): Establishing a foundation to ensure the long-term development and ecological construction of the project. The foundation will be responsible for funding research and development, community building, strategic partnerships, and emergency expenditures.

Mining (30%): Allocated to miners and users participating in network maintenance, incentivizing more participants to join the ecosystem and ensuring the security and stability of the network.



Token Uses:

Payment of Network Fees: SCG tokens will serve as the primary payment tool within the ecosystem, used for transaction fees, smart contract execution fees, etc., promoting the circulation of tokens in practical applications.

Governance Voting: Holders can participate in governance voting by staking SCG, deciding on the project's development direction, technological upgrades, and major decisions, achieving decentralized governance.

Staking Rewards: Users can stake SCG tokens in the network to earn staking rewards, incentivizing long-term holding and support for network stability.

Ecosystem Incentives: Used to reward developers, content creators, and community members, promoting innovation and collaboration within the ecosystem and building an open and active community environment.

3.2 Deflationary Transaction Fees and Ecosystem Returns

Deflationary Transaction Fees:

SCG adopts a deflationary mechanism by destroying a portion of the tokens through transaction fees to reduce the total supply and enhance the scarcity and value of the tokens. The specific mechanism includes:

A certain percentage of transaction fees will be charged for each transaction, with part of the fees used for network maintenance and another part for token destruction.

The token destruction process will be transparent and traceable, ensuring community trust and support for the deflationary mechanism.

As transaction volume increases, the amount of token destruction will also gradually rise, further driving the appreciation of token value.

Node Rewards:

To ensure the security and efficient operation of the network, SCG will provide generous rewards to node operators, including:

Block Rewards: Nodes that successfully generate new blocks will receive a certain number of SCG tokens as a reward.

Validation Rewards: Nodes participating in transaction validation and consensus mechanisms will receive corresponding token rewards based on their contribution.

Service Incentives: Nodes providing efficient and stable services will receive additional incentives to encourage continuous optimization of network performance.

Ecosystem Returns:

Participants in the SCG ecosystem will receive returns based on their contributions, including:

Developer Incentives: Providing SCG token rewards to developers to encourage them to develop innovative applications and tools, promoting the diversification of the ecosystem.

Community Contribution Rewards: Token rewards for users actively participating in community building, content creation, and promotional activities, enhancing community cohesion and activity.

Partner Dividends: Sharing ecosystem returns with strategic partners, benefiting from the growth of the ecosystem through successful collaborative projects.

3.3 Mining and Incentive Mechanism

Quantum Computing Contribution Reward Mechanism:

SCG introduces a quantum computing contribution mechanism to incentivize users to contribute computational resources, supporting the efficient operation of the quantum blockchain. The specific mechanism includes:

Computational Contribution: Users can contribute their quantum computing resources to the network, participating in block generation and transaction validation.

Reward Distribution: SCG tokens will be distributed periodically based on the proportion of computational resources contributed by users, incentivizing continuous resource provision.

Dynamic Adjustment: The reward ratio will be dynamically adjusted based on network demand and computational distribution to ensure network stability and fairness.

Airdrop Plan for Early Developers and Community Contributors:

To reward early supporters and active contributors, SCG has established an airdrop plan, including:

Early Developer Airdrop: SCG token airdrops for developers who participated in early project development and technical contributions, recognizing their significant contributions.

Community Contributor Airdrop: Token airdrops for members who excel in community building, promotional activities, and content creation, encouraging more users to participate in ecosystem development.

Long-Term Holding Incentives: Through lock-up and phased release mechanisms, ensuring the long-term value of airdropped tokens and incentivizing users to continue participating in the ecosystem's development.

Transparency and Fairness of the Incentive Plan:

SCG is committed to creating a transparent and fair incentive mechanism to ensure that every contributor's efforts are reasonably rewarded. Specific measures include:

Smart Contract Management: Implementing reward distribution through smart contracts to ensure transparency, fairness, and traceability of rewards.

Community Oversight: Opening the reward distribution process for community oversight and feedback to enhance the credibility of the incentive mechanism.

Continuous Optimization: Continuously optimizing the incentive plan based on the needs of ecosystem development and community suggestions to adapt to the project's growth and changes.

In the IDO offline allocation, 8% (6.4 million tokens) is reserved for cooperation with compliant market makers to provide initial liquidity on mainstream exchanges. Market makers must commit to a lock-up period of at least 18 months and maintain a bid-ask spread of ≤1.5%. Violations of the agreement will result in the forfeiture of the deposit.

Note: The parameters of the token economic model may be adjusted according to technological upgrades or community governance resolutions, with the final interpretation rights belonging to the SCG Foundation.

4. Ecosystem and Application Scenarios

The SCG ecosystem is driven by quantum technology at its core, creating a secure, efficient, and scalable quantum blockchain network through the deep integration of modular infrastructure and multi-domain scenarios. This ecosystem aims to empower multiple industries, including finance, enterprises, and research, transforming the revolutionary potential of quantum computing into scalable commercial solutions, thereby redefining the boundaries of data security and collaborative trust. Below, we will detail the core components of SCG and their specific applications in various scenarios.

4.1 Core Ecosystem Components

The SolaraCoin (SCG) ecosystem consists of several key components that work together to enhance the overall performance and functionality of the system. The main

core components include the Quantum Developer Kit (QDK), Decentralized Storage Network (QSN), and Quantum Bridge Protocol.

Quantum Developer Kit (QDK)

Function Overview: The QDK aims to provide developers with a comprehensive quantum application development environment, integrating quantum-resistant signature algorithm libraries (such as XMSS, SPHINCS+), quantum circuit simulators, and cross-chain API interfaces. This toolkit simplifies the development process of quantum applications and improves development efficiency.

Q-IDE: Supports multiple quantum programming languages (such as Q#, Quil) and traditional smart contract languages (such as Solidity, Rust), facilitating multi-language collaborative development and allowing developers to perform hybrid programming on a single platform.

Quantum Sandbox: Simulates the operating environment of real quantum hardware, enabling developers to test and validate the security of quantum-resistant encryption protocols under controlled conditions, ensuring robustness in quantum environments.

Decentralized Identity Authentication: A developer identity verification system based on Quantum Key Distribution (QKD), effectively preventing code tampering and unauthorized access, ensuring the security of the development process.

Incentive Program: Developers whose applications deployed through the QDK are adopted by the ecosystem can receive SCG token rewards based on user traffic, incentivizing active participation in ecosystem construction and innovation.

Decentralized Storage Network (QSN)

Technical Architecture: The QSN combines quantum entanglement-based data sharding technology with the classic IPFS protocol to achieve data storage that is resistant to quantum cloning. This design enhances the security and reliability of traditional storage networks through quantum technology.

Quantum State Sharding: Files are split into multiple quantum state shards and distributed across nodes worldwide, ensuring that no single node can reconstruct the complete data, thereby enhancing data security.

Node Staking: Storage nodes must stake SCG tokens to participate in the network. If data availability verification fails, the staked tokens will be forfeited to ensure node integrity and high data availability.

Application Scenarios: The QSN is suitable for fields requiring high security and reliability, such as hosting medical genomic data and storing defense-grade confidential documents, ensuring the secure storage and transmission of sensitive data.

Quantum Bridge Protocol

Quantum Random Number Generator (QRNG): Used to validate cross-chain transaction signatures, preventing Sybil attacks and enhancing the security of cross-chain transactions.

Multi-Chain Support: Plans to support asset mapping between mainstream blockchains (such as BTC, ETH, Polkadot) and the quantum network, ensuring efficient and low-latency cross-chain transactions (targeting under 3 seconds).

Quantum Hardware Security Module (Quantum HSM): Bridge nodes are equipped with quantum HSMs that update private keys every 60 seconds based on quantum entropy sources, ensuring high security for private keys.

Zero-Knowledge Proof (ZKP) Verification: When malicious behavior is detected, the ZKP verification mechanism is triggered to destroy the staked tokens of the violators, maintaining fairness and security in the network.

4.2 Application Scenarios

SCG technology demonstrates its powerful potential in multiple fields, covering finance, business, and research, showcasing the broad applicability and innovative capabilities of the SCG ecosystem. Below are some typical application scenarios:

Finance: Quantum-Resistant DeFi Protocols and Quantum-Safe Payment Systems

・Quantum-Safe Decentralized Finance Protocols (DeFi):

Lending Platforms: Utilizing lattice-based signature technology to ensure that even if quantum computers crack private keys, on-chain contracts cannot be tampered with, safeguarding the security of lending agreements.

Oracle Data Streams: Encrypting oracle data transmission through quantum tunneling to prevent man-in-the-middle attacks, enhancing the security and reliability of data transmission.

・Quantum-Safe Payment Systems:

Cross-Border Settlement Network: Building a low-cost, efficient cross-border settlement network using quantum teleportation technology, significantly reducing interbank settlement costs and improving transaction efficiency.

Enterprises: Quantum Traceability in Supply Chains and Encrypted Medical Data Transmission

End-to-End On-Chain Data: All product flow data from raw materials to end consumers will be recorded on-chain, combined with quantum-resistant collision hash algorithms to prevent historical record tampering, ensuring transparency and traceability in the supply chain.

Secure Sharing: Hospitals can share encrypted patient data through the Quantum Bridge Protocol, allowing authorized parties to decrypt using quantum keys, avoiding vulnerabilities in traditional RSA algorithms and ensuring patient privacy and data security.

Expected Applications: Global pharmaceutical companies can utilize QSN to store vaccine cold chain data, significantly improving audit efficiency and ensuring the safety and reliability of vaccine transportation.

Research: Quantum Computing Resource Sharing Platform

·Shared Computing Power Platform:

Resource Access: Connecting idle quantum computing resources from universities and enterprises, researchers can pay for computing power using SCG tokens to access advanced quantum devices (such as IBM Q and D-Wave), promoting scientific research progress.

Incentive Mechanism: Contributors of computing power will receive 85% of SCG token rewards, with the remaining 15% injected into the ecosystem fund to incentivize more users to contribute quantum computing power and promote the platform's sustainable development.

·Collaborative Research Agreements:

DAO-Initiated Tasks: Launching quantum algorithm optimization tasks through a decentralized autonomous organization (DAO), enabling global teams to collaborate on solving scientific challenges such as materials simulation and drug development. Results and intellectual property will be shared among contributors, promoting research collaboration and innovation.

4.3 Collaborative Development of the Ecosystem

SCG adopts a three-tier collaborative development model of "Technology-Tools-Scenarios," transforming the revolutionary potential of quantum computing into scalable commercial solutions. This model is specifically reflected in the following aspects:

Technical Layer: Building a solid technical foundation through quantum-resistant encryption algorithms, quantum communication technologies, and efficient cross-chain protocols, ensuring the security and efficiency of the entire ecosystem.

Tool Layer: Providing core ecosystem components such as the Quantum Developer Kit (QDK), Decentralized Storage Network (QSN), and Quantum Bridge Protocol to offer convenient development tools and service interfaces for developers and users, lowering participation barriers and promoting rapid expansion of the ecosystem.

Scenario Layer: Covering multiple application fields, including finance, enterprises, and research, ensuring the widespread application of quantum blockchain technology in real scenarios and promoting digital transformation and innovative development across industries.

Although SCG is currently in the development stage and lacks actual cases, by establishing an open, transparent, and fair community for developers and users, SCG is committed to stimulating the creativity and enthusiasm of participants, forming a self-driven and self-improving ecological network. In the future, SCG will continue to explore more application scenarios, expand the boundaries of the ecosystem, and achieve widespread adoption and deep application of quantum blockchain technology.

5. Governance and Decentralization

SCG emphasizes not only the construction of technology and applications but also the governance and development of the ecosystem. Through a decentralized autonomous organization (DAO) framework, SCG ensures that community members have a voice and decision-making power in the project's development, promoting the healthy and sustainable development of the ecosystem.

5.1 DAO Governance Framework

Governance Hierarchical Structure:

Proposal Layer:

Any user staking ≥10,000 SCG can submit proposals, including types such as technical upgrades, ecological fund usage, and partner introductions.

Proposals must pass a smart contract pre-review (e.g., format compliance, budget rationality) and pay a 100 SCG deposit (refunded upon proposal approval).

Voting Layer:

Weight Calculation: Voting power = staked token amount × staking duration coefficient (1-2 times, with the maximum value reached after 1 year of staking).

Dual Threshold Mechanism: Proposals must meet two conditions to pass:

The proportion of tokens participating in the vote ≥ 15% of the total circulating supply.

The approval rate ≥ 60% (for technical proposals) or ≥ 75% (for funding proposals).

Execution Layer:

Proposals are executed by triggering smart contracts through a quantum multi-signature committee (5/7 signatures), with committee members elected by the community for a term of 1 year, with a maximum of two consecutive terms.

Governance Scenario Examples:

Technical Upgrades: Iterations of quantum encryption algorithms must undergo a three-step process: "testnet stress testing → community bug bounty program → mainnet upgrade voting."

Ecological Fund Distribution: At least 30% of the annual budget must be allocated for developer incentives, 20% for security audits, and the remaining 50% is at the discretion of the DAO.

5.2 Community Autonomy Rules

Transparent Management of Ecological Funds:

Of the 15% tokens held by the foundation (75 million tokens), 50% will be locked in a smart contract, and expenditures must be authorized through DAO proposals.

Each transaction of the ecological fund will be publicly recorded on-chain in real-time, including the recipient's address, purpose summary, and budget number, supporting third-party auditing tools for tracking.

Decentralized Conflict Resolution Mechanism:

For disputed proposals (e.g., compliance risks, technical route disagreements), a "Quantum Jury" system will be initiated:

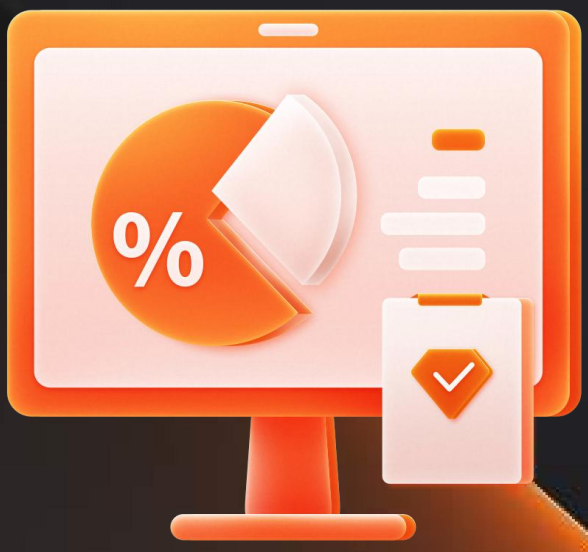
21 community members from the top 10% of staked amounts will be randomly selected to form the jury, voting anonymously through zero-knowledge proofs (ZKP).

The final ruling must receive over 70% approval, and the result is irreversible and automatically executed.

Anti-Centralization Control Clause:

No single entity (including related parties) may hold more than 5% of the total circulating supply; any excess will automatically lose voting rights.

If team tokens are sold during the release period, a 30-day prior announcement is required, and the sale will be subject to additional DAO review.



6. Development Roadmap

SCG follows an evolutionary path of “Quantum Security - Cross-Chain Interoperability - Ecosystem Expansion,” achieving technological breakthroughs and commercial implementation in phases.

6.1 Phase Goals

Q1 2025: Testnet Launch and Integration of Quantum Encryption Modules

Release the beta version of the Quantum Developer Kit (QDK), supporting quantum-resistant signature algorithms (XMSS) and Quantum Key Distribution (QKD) protocols.

Launch a global quantum node recruitment program, with the first 50 node operators receiving an early reward of 100,000 SCG.

Q3 2025: Mainnet Launch and Cross-Chain Protocol Release

The mainnet will support quantum-safe smart contracts and the Decentralized Storage Network (QSN), with a transaction per second (TPS) rate of ≥2,000.

Launch Quantum Bridge V1 to enable cross-chain asset transfers between BTC/ETH and the SCG chain, achieving a daily throughput of $100 million.

2026: Large-Scale Application of Quantum Intelligent Ecosystem

Implement over 10 enterprise-level use cases, including a cross-chain sharing platform for medical data and a quantum-safe supply chain finance network.

Connect the quantum computing market to 30% of commercial quantum computers globally, becoming the preferred computing power trading platform for research institutions.

6.2 Long-Term Vision

Technology Standard Setter

Lead the development of the Quantum Blockchain Communication Protocol (QBCP) and promote IEEE/ISO international standard certification.

Global Ecosystem Network

Establish quantum node clusters in North America, Asia, and Europe, covering 90% of mainstream internet infrastructure.

Collaborate with five central banks to develop Quantum Central Bank Digital Currencies (QCBDC), reshaping the cross-border payment system.

Sustainable Development Engine

Allocate 20% of ecosystem revenue to quantum computing fundamental research through the DAO, fostering original technological innovation.

By 2030, become a quantum-resistant blockchain infrastructure giant valued at over $10 billion.

Key Milestone Verification:

Q4 2025: Complete NIST (National Institute of Standards and Technology) certification for quantum-resistant algorithms.

Q4 2026: Achieve a profitable closed loop for the first decentralized quantum computing market.

2027: Lead the Global Quantum Blockchain Alliance (GQBA), with members including top institutions such as IBM and Google Quantum Lab.

7. Risk Management and Compliance

7.1 Technical Risk Management

The maturity of quantum technology directly impacts the project's R&D progress. To address this, SCG has established a dual-response mechanism:

Dual-Track R&D System

Primary Focus: Continuously optimize the Quantum Key Distribution (QKD) protocol and develop a hybrid quantum-classical computing architecture.

Backup Plan: Fully compatible with NIST post-quantum cryptography standards (CRYSTALS-Kyber/Dilithium algorithms).

Trigger Conditions: Switch technical routes when quantum computers achieve 2000+ stable qubits.

R&D Early Warning System

Establish technical coordination mechanisms with five major global quantum laboratories to share R&D milestone data in real-time.

Set up a quarterly technical assessment committee to dynamically adjust R&D resource allocation based on quantum computing progress.

7.2 Market and Regulatory Compliance

To address the differences in global regulatory environments, a scalable compliance framework has been constructed:

Dynamic Compliance Engine

Monitor policy changes in over 50 major jurisdictions and automatically generate compliance heat maps.

High-risk area operations must undergo a three-tier review process involving legal, technical, and risk control assessments.

AML/KYC Integration Plan

Identity Verification: Utilize zero-knowledge proof technology to achieve privacy-protecting KYC certification, with verification time <3 seconds.

Transaction Monitoring: Deploy an AI-driven anomaly detection system capable of identifying 12 types of money laundering patterns and automatically freezing suspicious accounts.

Data Retention: User information is encrypted and stored on a decentralized network, accessible only to regulatory authorities with legal authorization.

8. Team and Ecosystem Development

8.1 Core Team Structure

The interdisciplinary team consists of three major technical pillars:

Quantum Computing Team

Members include hardware experts and algorithm scientists who have led national-level quantum communication projects.

Core Achievement: Developed a noise-resistant quantum processor architecture, improving qubit stability by 35%.

Blockchain Team

Composed of engineers who have participated in the development of more than three mainstream public chains.

Core Achievement: Created a quantum-safe smart contract engine that supports over 2000 TPS concurrent processing.

Cryptography Team

Led by participants in the formulation of NIST post-quantum cryptography standards.

Core Achievement: Designed a dynamic key rotation system that automatically updates the signature scheme for each block.

8.2 Strategic Cooperation Network

Building an integrated cooperation ecosystem that combines industry, academia, and research:

Academic Cooperation

Jointly develop an attack-defense testing platform with the top 10 quantum laboratories globally.

Establish an open research fund to support 12 projects optimizing quantum-resistant encryption algorithms.

Industrial Implementation

Finance Sector: Provide quantum-safe cross-border payment solutions for three multinational banks.

Digital Infrastructure: Collaborate with cloud service providers to build a hybrid quantum computing resource pool.

Web3 Ecosystem

Reach compatibility agreements with mainstream public chains to support seamless migration of over 500 DApps.

Develop standardized cross-chain bridges to achieve asset transfers between BTC/ETH/SCG with a delay of <20 seconds.

8.3 Developer Program

Cultivating a quantum technology ecosystem through three major initiatives:

Global Hackathon Matrix

Annual quantum-safe application development competition: Total prize pool of 3 million SCG, with winning projects eligible for ecosystem fund support.

Quarterly special challenges focusing on cutting-edge fields such as quantum random number generation and quantum-resistant ZK-Rollups.

Open Source Incentive Program

Code Contribution Rewards: 500-5000 SCG rewards for merging core libraries into the mainnet.

Documentation Optimization Plan: Quality technical tutorials rewarded with 100 SCG per thousand views.

Educational Empowerment System

Launch quantum blockchain certification courses, covering 30,000 developers.

Establish university laboratory cooperation programs to create training platforms in 30 institutions across 15 countries.

9. Disclaimer and Legal Terms

This section outlines the disclaimer and legal terms for the SCG project. Before participating in the SCG project, please read the following carefully, understand the risks involved, and your responsibilities. SCG tokens are functional tokens designed to support the quantum blockchain ecosystem and do not constitute any form of investment advice or financial product.

9.1 Risk Warning

All users participating in the SCG project and its ecosystem should be fully aware of the following risks, and each individual participates at their own risk.

Technology Risks

Quantum computing technology is still in its development phase, and its breakthrough progress may affect the security of existing cryptographic algorithms. The SCG project relies on quantum-resistant encryption algorithms and quantum communication technologies to secure the network, but as quantum computing continues to develop, there may be technological challenges that could have unforeseen impacts on the system's security and stability.

Market Risks

The digital asset market is highly volatile, and the value of SCG tokens may be affected by various market factors, including macroeconomic conditions, changes in market demand, investor sentiment, and more. Investors should be fully aware of the risks associated with market volatility, as the price of SCG tokens may experience significant fluctuations, which could impact the project’s ecosystem incentives and market performance.

Policy Risks

Quantum technology and the cryptocurrency industry face a constantly evolving legal and regulatory environment. Governments may introduce new regulations and policies concerning quantum technology, blockchain technology, and digital assets. These policies could affect the operations, technological collaboration, and market promotion of the SCG project. For example, some countries may impose export controls on quantum technology or implement stricter regulatory requirements, limiting the expansion and application of the technology.

Liquidity Risks

As a digital asset, the liquidity of SCG tokens may be influenced by market conditions, especially in the early stages of the market or when market demand is low. This could result in insufficient trading liquidity for SCG tokens. Investors should understand this risk and make decisions based on their individual circumstances.

9.2 Legal Binding

· User Responsibility

All participants must ensure that their participation is in compliance with the laws, regulations, and rules of their respective jurisdictions. SCG project is not responsible for any legal consequences resulting from participants' violations of laws or local regulations. Users must comply with the relevant legal requirements while participating in the SCG project or holding SCG tokens.

· Rights of the Foundation

The SCG Foundation reserves the final interpretation rights of the project's technical roadmap, token distribution, and ecosystem governance rules, and may adjust these rules based on market changes, technological advancements, and legal changes. The foundation has the right to make necessary modifications to the project's operational model, token economic model, and other major decisions and will publicly communicate any changes to the community before implementation.

· Dispute Resolution

Any disputes arising from or related to this agreement should be resolved through arbitration at the Singapore International Arbitration Centre (SIAC). The arbitration award will be final and binding on all parties. Arbitration will be conducted according to the laws of Singapore, and the arbitration costs will be shared by the parties in a fair manner.

9.3 Geographic Restrictions

To ensure the SCG project complies with international laws and regulations and to lay a legal foundation for its global operation, the SCG project has set strict geographic restrictions. Users from the following regions will not be able to participate in the project:

Sanctioned Countries/Regions

Based on the sanctions lists from authoritative bodies such as the United Nations and the U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC), SCG project prohibits users from certain countries and regions from participating. Currently, the SCG project synchronizes with these sanction lists in real time to ensure that users from sanctioned countries/regions cannot access token purchases, trading, or governance rights.

Three-Layer Access Verification Mechanism

To ensure compliance, the SCG project will implement a three-layer access verification mechanism to prevent users from restricted regions from entering the project ecosystem. Specific measures include:

IP Address and Device Fingerprint Screening: Real-time monitoring and analysis of user IP addresses and device fingerprints to prevent participation from users in regions that do not meet the eligibility criteria.

Identification and Geolocation Verification: Users will be required to undergo identity verification and geolocation verification to ensure that their location complies with the legal requirements of the project.

On-Chain Behavior Analysis: Based on the transparency of the blockchain, the project will monitor on-chain transaction behavior to identify potential irregularities and violations.

Smart Contract Freezing Mechanism

If the project team identifies that a user account violates the rules or engages in illegal activities from a sanctioned region, the smart contract system will immediately freeze the account’s transaction rights. This freezing mechanism will trigger automatically within 15 seconds, preventing illegal transactions or fund inflows and ensuring the security and compliance of the network.

9.4 Disclaimer

SCG tokens are functional tokens within the SCG network blockchain ecosystem and should not be considered as investment tools, securities, or financial products. The project is not responsible for any financial losses or damages arising from the purchase, holding, trading, or transfer of SCG tokens.

Investment Risks

Users should assess the risks of investing in SCG tokens on their own and only invest if they can bear the corresponding risks. The value of SCG tokens will be affected by various factors, including but not limited to technological progress, market demand, government policies, and more. The price of SCG tokens may fluctuate significantly, and they should not be regarded as a stable investment tool.

Technology Risks

The SCG project relies on quantum computing technology and blockchain technology, both of which are evolving rapidly. The maturity and development speed of these technologies may affect the progress and stability of the project. While the project team is committed to ensuring the reliability of the technology, it cannot eliminate uncertainties caused by technological breakthroughs or bottlenecks.

Legal Risks

With the rapid development of quantum technology and blockchain technology, governments may introduce new laws and regulations that could affect technology, data protection, and digital asset transactions. The SCG project team will take necessary measures to ensure compliance, but it cannot fully eliminate the risks posed by external legal changes.

9.5 Legal Liability

User Compliance

Participants must ensure that all their actions within the SCG project comply with the applicable laws, especially within the legal framework of their residence or operating country. The project is not responsible for any illegal actions or behaviors that do not comply with these terms.

Limitation of Project Liability

Although the SCG project team strives to provide the highest quality service, it is not responsible for any losses caused by technical issues, market fluctuations, policy changes, or other reasons during the implementation of the project. All participants should fully understand and accept these risks before engaging in the project.

9.6 Updates and Modifications

The SCG Foundation reserves the right to update and modify these disclaimers and legal terms at any time. Any modifications will be published on the project's website or other official channels. All participants should regularly check for updates to ensure their actions comply with the latest policies. Once the updated terms take effect, they become an integral part of this agreement and are binding on all participants.

Summary

The SCG project is committed to providing innovative quantum blockchain technology solutions while ensuring compliance, security, and sustainability. Before participating in the SCG project, users should fully understand and accept these legal terms and disclaimers and assess the potential risks involved. The project will adjust its technology, ecosystem, and operational strategies as needed to ensure the long-term growth of the SCG token ecosystem.