

Equator (ETR)

White Paper

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Core Positioning: A Specialized Cross-Border
Settlement Currency for the RWA Track

Abstract

Equator (ETR) is a dedicated settlement currency focused on the tokenization track of Real-World Assets (RWA). It aims to break the settlement barriers of global RWA assets through blockchain technology and build a neutral, efficient, and secure cross-chain and cross-border settlement network. With the core concept of the "Digital Equator", the project connects traditional finance with the Web3 ecosystem, addressing the core pain points in the current RWA market such as over-reliance on a single stablecoin, high cross-chain friction costs, low settlement efficiency, and prominent compliance risks.

ETR adopts an extremely deflationary issuance model: the total fixed supply is 200 million tokens, of which 95% (190 million tokens) are permanently locked in the black hole mining pool, and only 5% (10 million tokens) are injected into the LP liquidity pool with no additional issuance mechanism. Through the economic incentive design of "staking mining + instant settlement", users staking ETR can obtain token rewards with a daily yield of 0.3%-0.6% (annualized 109.5%-182.5%), and the settlement cycle is only 24 hours, forming a positive ecological cycle of "holding - staking - appreciation - settlement".

Relying on triple cross-chain security protection, a compliance adaptation engine, and standardized RWA on-chain technology, ETR has achieved compatibility with mainstream public chains and RWA protocols. In the future, it will gradually cover core scenarios such as supply chain finance, green assets, and cross-border real estate, becoming a core settlement infrastructure for the global RWA track. This project strictly abides by the global regulatory principle of "Strictly Prohibited in China, Strictly Regulated Overseas", conducting business only in compliant judicial jurisdictions and providing no services to any Chinese domestic entities.

I. Project Vision and Positioning

1.1 Vision

To become the "Digital Equator" connecting global RWA assets, build a borderless, high-efficiency, and low-risk global settlement network, empower the digital transformation of the 16 trillion US dollar-scale RWA market, and make the value flow of real-world assets freer, safer, and more efficient.

1.2 Core Positioning

- **Specialized RWA Settlement Currency:** Focus on the cross-border and cross-chain settlement needs of all RWA categories (private credit, real estate, bulk commodities, green assets, etc.), providing a value exchange medium neutral to a single fiat currency.
- **Global Asset Connection Hub:** Leveraging the geographical symbolic meaning of the "Equator", it breaks through the asset circulation channels between traditional finance and the Web3 ecosystem, and solves the barriers of multi-chain

fragmentation and regional regulation.

- **Deflationary Value Storage Carrier:** Realize the dynamic optimization of token circulation through extreme lock-up and staking mechanisms, providing users with an asset option that combines profitability and value stability.

1.3 Core Mission

- **Reduce RWA settlement costs:** Cut the handling fees of cross-border RWA transactions by more than 70% and increase settlement efficiency by 30 times.
- **Resolve compliance risks:** Build a compliance engine adapted to the global regulatory framework to achieve "compliance upon transaction".
- **Activate asset liquidity:** Unlock trillions of dollars in illiquid RWA assets through tokenized settlement and fractional holding.

II. Current Status and Core Pain Points of the RWA Track

2.1 Explosive Growth of the Track

RWA tokenization has moved from proof of concept to a period of large-scale explosion. As of the end of 2025, the total value of on-chain RWAs worldwide (excluding stablecoins) reached 35 billion US dollars, a year-on-year increase of 150%. The Boston Consulting Group (BCG) predicts that the global scale of RWA asset tokenization will reach 16.1 trillion US dollars by 2030, accounting for 10% of the global GDP, among which the scale of tokenized fund management will exceed 600 billion US dollars, becoming a core growth driver in the asset management field.

Driving factors include: the entry of institutional capital (layout by giants such as BlackRock and JPMorgan Chase), the clarification of regulatory frameworks (EU MiCA, Hong Kong Virtual Asset Sandbox), technological maturity (standardization of RWA on-chain standards), and diversified allocation needs against the backdrop of asset scarcity.

2.2 Core Industry Pain Points

2.2.1 Structural Imbalance of the Settlement System

- **Currency Dependence Risk:** 99% of RWA settlements rely on US dollar stablecoins, and non-US regional assets face exchange rate fluctuations and cross-border clearing losses, with an average exchange rate cost of 3.5% per transaction.
- **High Cross-Chain Friction:** Multi-chain ecosystem fragmentation leads to annual cross-chain settlement costs of 600-1300 million US dollars, transaction confirmation time of several hours, and state conflicts accounting for 42% of system failures.

- **Liquidity Fragmentation:** Liquidity cannot be interchanged between different RWA protocols and public chains, resulting in significant asset price spreads and prominent slippage risks for large transactions.

2.2.2 Compliance Risks and Regulatory Conflicts

- **Global Regulatory Fragmentation:** The regulatory policies for RWA in 23 major economies vary significantly, and cross-border transactions face multiple compliance reviews.
- **Clear Restrictions under Chinese Regulation:** Eight Chinese ministries and commissions jointly issued the *Notice on Further Preventing and Disposing of Risks Related to Virtual Currencies*, clearly stipulating the principle of "Strictly Prohibited in China, Strictly Regulated Overseas" for RWA tokenization, and conducting relevant businesses in China is suspected of illegal financial activities.
- **Challenges in Cross-Border Data Compliance:** The cross-border transmission of data such as asset ownership and valuation involved in RWA transactions needs to meet multiple requirements such as GDPR and China's *Data Security Law*, leading to high compliance costs.

2.2.3 Technical Standards and Security Hidden Dangers

- **Non-Unified On-Chain Standards:** The token standards (ERC-721/1155/3525, etc.) adopted by different RWA projects lack compatibility, resulting in low asset circulation efficiency.
- **Smart Contract Security Risks:** Vulnerabilities in RWA project smart contracts cause an estimated annual loss of 12 billion US dollars, with reentrancy attacks and permission control vulnerabilities accounting for more than 60%.
- **Quantum Computing Threat:** Traditional encryption algorithms face the risk of quantum computing attacks by 2030 (threat index of 8.2), posing a long-term challenge to asset security.

2.2.4 Inadequate Incentive Mechanisms and Liquidity

- **Weak User Participation Motivation:** The annualized yield of mainstream RWA projects is only 4%-9%, which is difficult to attract retail users to participate, and liquidity is concentrated on the institutional side.
- **Rigid Exit Mechanism:** Most staking products have long lock-up periods (3-12 months) and harsh penalties for early exit, affecting the flexibility of users' funds.

III. ETR Solutions: Technical Architecture and Economic Model

3.1 Technical Architecture Design

ETR adopts a three-layer architecture of "Layer0 Cross-Chain Layer + Layer1 Settlement Layer + Layer2 Application Layer" to ensure the unification of security, compatibility, and scalability.

3.1.1 Underlying Technology Selection

- **Blockchain Underlayer:** Deployed based on EVM-compatible public chains, supporting high-performance sidechains such as Polygon and BSC to meet the high-frequency transaction needs of RWA (**Throughput ≥ 1000 TPS, Confirmation Time ≤ 3 seconds**).
- **Token Standard:** The core settlement token ETR adopts the ERC-20 standard, compatible with mainstream RWA asset token standards (ERC-3525 fractional assets, ERC-3475 bond-type assets, ERC-3643 security-type assets).
- **Cross-Chain Solution:** Integrating the LayerZero cross-chain protocol, adopting a "Triple Protection System" to ensure security:
 - a. **Underlying Encryption:** Adopting the quantum-resistant encryption algorithm CRYSTALS-Kyber to resist quantum computing attacks;
 - b. **Intermediate Verification:** Zero-Knowledge Proof (zk-SNARKs) to verify transaction legality, reducing the risk of privacy leakage by 99.99%;
 - c. **Top-Level Audit:** Threshold signature mechanism for distributed audit nodes (3 primary and 2 standby), reducing the success rate of 51% attacks to 7.3%.

3.1.2 Standardized RWA On-Chain Process

In accordance with the *RWA Technical Specification (T/SZBA-2025)* of the Shenzhen Blockchain Association of Information Service Industry, a full-process standardized on-chain mechanism is established:

1. **Asset Screening:** Only access RWA assets with clear ownership, third-party evaluation, and meet the divisibility requirements;
2. **Information Verification:** Licensed law firms issue ownership compliance opinions, and third-party evaluation institutions provide value reports;
3. **Data Collection:** Directly collect dynamic asset data through IoT devices and cross-verify with operational data to ensure authenticity;
4. **Encrypted On-Chain:** Encrypt data using national cryptographic algorithms, transmit through compliant cross-border channels, and oracles synchronize valuation data daily;
5. **Smart Contract Deployment:** Modular architecture design, separating core logic from auxiliary functions, and undergoing CertiK formal verification before deployment with a **vulnerability detection rate $\geq 98.7\%$** .

3.1.3 Security and Risk Prevention

- **Smart Contract Security:** Adopting a triple mechanism of "formal verification +

multi-signature control + emergency pause", with **vulnerability repair time limit ≤24 hours**;

- **Dynamic Circuit Breaker Mechanism:** Setting three levels of abnormal transaction thresholds, automatically initiating isolation when the proportion of abnormal transactions exceeds 5% to prevent the spread of attacks;
- **On-Chain Monitoring System:** Based on the MIT Media Lab threat intelligence model, early warning of abnormal behaviors 30 minutes in advance, with **attack detection accuracy ≥98.5% and false positive rate ≤0.7%**;
- **Data Security:** Dynamic desensitization of sensitive data, abiding by the principle of least necessity, cross-border transmission approved by cyberspace administration departments, and **100% traceability of data tampering**.

3.2 Token Economic Model

3.2.1 Issuance Mechanism (Extreme Deflation)

Item	Quantity	Proportion	Usage and Lock-Up Rules
Total Supply	200 million tokens	100%	No additional issuance, permanently fixed
Black Hole Mining Pool Lock-Up	190 million tokens	95%	Permanently locked, private keys destroyed by smart contracts, non-unlockable
LP Liquidity Pool	10 million tokens	5%	Open for direct user purchase, providing basic liquidity

Deflation Logic: Through an ultra-high lock-up ratio of 95.24%, a natural value anchor is built. With the growth of RWA settlement demand, the scarcity of circulation is further highlighted, forming a value closed loop of "demand growth + supply contraction".

3.2.2 Staking Incentive Mechanism

Following the core logic of "lock-up - contribution - reward", a staking system that balances profitability and security is designed:

- **Staking Target:** Only single-currency staking of ETR is supported, with no multi-

asset staking threshold to reduce participation difficulty;

- **Yield Rules:** Daily yield of 0.3%-0.6% (annualized 109.5%-182.5%);
- **Reward Sources:** ① 70% of RWA settlement fee sharing; ② 20% of ecological fund subsidies; ③ 10% of confiscated assets from non-compliant nodes;
- **Settlement Mechanism:** 24-hour automatic settlement by smart contracts, real-time crediting of rewards, and support for on-demand withdrawal to enhance user experience;
- **Exit Rules:**
 - Flexible Exit: Exiting before reaching the tiered lock-up period only deducts the current period's rewards without confiscating the principal;
 - Punitive Exit: Maliciously attacking nodes or conducting fake transactions results in confiscation of 10%-50% of staked assets, which are transferred to the ecological fund;
- **Anti-Speculation Mechanism:** The maximum staking limit for a single wallet address is 5% of the total circulation to prevent monopoly by large holders, with marginal diminishing staking yields.

Incentive Logic: Attract initial users through high yields, reduce secondary market selling pressure through staking lock-up, and provide sustained liquidity for RWA settlement; as the ecosystem matures, gradually reduce the annualized yield to a reasonable industry level (15%-25%) to achieve the sustainability of the economic model.

3.2.3 Fee and Allocation Mechanism

- **Settlement Fees:** RWA transaction settlement fee rate of 0.1%-0.3%, decreasing tiered by transaction amount (preferential treatment for large transactions);
- **Allocation Ratio:**
 - Staking User Dividends: 70% (distributed according to the proportion of staking volume);
 - Ecological Development Fund: 20% (used for technological R&D, compliance certification, and cooperation expansion);
 - Security Audit Fund: 10% (used for smart contract audits, bug bounties, and security protection upgrades).

IV. Core Application Scenarios

ETR focuses on high-frequency RWA settlement scenarios, prioritizing breakthroughs in three core fields and gradually expanding to all asset categories:

4.1 Supply Chain Finance Settlement

- **Application Scenario:** Tokenization of accounts receivable of small and medium-sized enterprises (SMEs), cross-border supply chain payment settlement;
- **Core Value:** Solve the problem of high financing costs for 70% of SMEs, compress cross-border supply chain settlement time from 3-5 days to minutes, and reduce handling fees by 70%;
- **Cooperation Model:** Connect with leading supply chain RWA platforms such as Synertone and Centrifuge, access their ecosystems as a dedicated settlement currency, and realize full-process on-chain settlement of loan disbursement and interest recovery.

4.2 Green Asset Trading and Settlement

- **Application Scenario:** Trading and dividend settlement of green RWAs such as carbon credits, photovoltaic power station income rights, and cash flow of wind power projects;
- **Core Value:** Relying on IoT device data on-chain and real-time valuation by oracles, realize precise settlement of every kilowatt-hour of electricity and every unit of carbon emission reduction, in line with the 120% annual growth rate trend of global new energy asset tokenization;
- **Technical Adaptation:** Adopting the ERC-3525 semi-fungible token standard to support fractional holding of green assets and lower investment thresholds.

4.3 Cross-Border Real Estate Circulation and Settlement

- **Application Scenario:** Tokenized Real Estate (TNFT) trading and rent dividend settlement in compliant regions such as Hong Kong and Europe;
- **Core Value:** Solve the pain points of cumbersome traditional real estate transaction processes and slow cross-border settlement, support instant transfer of property rights shares, and automatically settle rental income to investors' wallets within 24 hours;
- **Compliance Guarantee:** Only access real estate assets completed overseas regulatory filing, verify investor qualifications through on-chain KYC/AML, and comply with the EU AMLD6 and FATF Travel Rule.

4.4 Future Scenario Expansion

In the medium and long term, it will cover RWA categories such as private credit, bulk commodities, artworks, and government bonds, realizing "full asset, full scenario, full region" settlement coverage.

V. Ecological Development Plan (Three-Step Strategy)

5.1 Short-Term Phase (1-2 Years): Foundation Construction Period

- **Core Goal:** Complete technical implementation and initial ecosystem construction, achieve more than 10,000 staking users, and LP pool liquidity of 500 million US dollars;
- **Key Tasks:**
 - a. Complete cross-chain protocol docking (Ethereum, Polygon, BSC), smart contract security audit and deployment;
 - b. Access 3-5 leading RWA protocols (supply chain finance + green asset fields) to realize the landing of the first batch of settlement scenarios;
 - c. Complete EU MiCA compliance registration and Hong Kong Virtual Asset Sandbox filing, and build a global compliant operation architecture;
 - d. Launch community building and establish the prototype of DAO governance (staking users have the right to propose and vote).

5.2 Medium-Term Phase (3-5 Years): Scale Expansion Period

- **Core Goal:** Become the mainstream option for RWA settlement in non-US regions, occupy more than 15% of the market share, and reach more than 100,000 staking users;
- **Key Tasks:**
 - a. Expand to scenarios such as real estate and private credit, access more than 20 RWA projects, and build a multi-category settlement network;
 - b. Achieve compatibility between cross-chain bridges and the SWIFT system, opening up settlement channels between traditional finance and Web3;
 - c. Improve the DAO governance mechanism, open the voting rights of the ecological fund, and introduce a node election system;
 - d. Complete the deployment of an AI-driven compliance review system to realize real-time adaptation to regulatory requirements.

5.3 Long-Term Phase (5-10 Years): Ecological Maturity Period

- **Core Goal:** Become the core settlement infrastructure for the global RWA track, covering more than 5% of the 16 trillion US dollar market;
- **Key Tasks:**
 - a. Build a complete ecosystem of "ETR Settlement Layer + RWA Asset Layer + AI Pricing Layer", integrating the full process of asset right confirmation, valuation, settlement, and risk control;

- b. Realize the upgrade of quantum security encryption technology to resist future technical risks;
- c. Promote the formulation of global RWA settlement standards and become an industry benchmark;
- d. Upgrade ETR from a settlement currency to an ecological governance token to empower value distribution across the entire chain.

VI. Compliance Framework and Regulatory Adaptation

6.1 Global Regulatory Compliance Principles

- **Chinese Regulatory Adaptation:** Strictly abide by the requirements of "Strictly Prohibited in China, Strictly Regulated Overseas", and do not provide any RWA tokenization-related services (including issuance, trading, staking, promotion, etc.) to any Chinese domestic entities; do not involve the tokenization issuance of domestic assets, and do not divert traffic for overseas projects to China;
- **EU Regulatory Adaptation:** Complete the registration of Crypto Asset Service Provider (CASP) in accordance with the MiCA Act, realize T+0 real-time synchronization of transaction data to regulators, with **anti-money laundering rule coverage ≥98.7%**;
- **Hong Kong Regulatory Adaptation:** Join the Virtual Asset Service Provider (VASP) Sandbox, implement the requirements of penetrating supervision, and adopt third-party trust custody for customer funds;
- **US Regulatory Adaptation:** Abide by the SEC's Reg D/S regulations, provide relevant services only to Accredited Investors, and complete FinCEN registration.

6.2 Compliance Guarantee System

- **Compliance Engine:** Build a "jurisdiction mapping table + smart contract compliance module" to automatically adapt to regulatory requirements in different regions, compressing the compliance review time from 72 hours to 4 hours;
- **On-Chain Regulatory Nodes:** Deploy regulatory nodes on the blockchain network (**proportion ≥30%**), realize 100% auditability of transaction data, and support regulators to retrieve data in real time;
- **KYC/AML Mechanism:** Access on-chain monitoring tools such as Chainalysis and Elliptic to realize user identity verification and transaction behavior monitoring, with a **100% suspicious transaction reporting rate**;
- **Cross-Border Data Compliance:** Adopt a model of "domestic filing + dedicated channels + desensitization processing", and cross-border data transmission complies with the requirements of GDPR and China's *Measures for the Security Assessment of Cross-Border Data Transfer*.

6.3 Legal Architecture

- **Entity Setup:** Establish a project foundation in the Cayman Islands responsible for ecological governance and fund management; set up operating subsidiaries in Hong Kong and Singapore responsible for regional compliance business;
- **Legal Due Diligence:** Freshfields Bruckhaus Deringer issues a global compliance legal opinion;
- **Dispute Resolution:** Agree to apply Hong Kong law and resolve cross-border disputes through international arbitration.

VII. Risk Warning

Investors participating in the ETR ecosystem must fully recognize the following risks:

7.1 Regulatory Risks

- Global RWA regulatory policies are in a period of rapid iteration, and some regions may introduce more stringent restrictive measures, leading to limited project operation scope;
- Any RWA tokenization-related activities are strictly prohibited in China, and domestic entities participating may face the risk of legal liability.

7.2 Technical Risks

- Although smart contracts have undergone multiple audits, unknown vulnerabilities may still exist, leading to asset losses;
- Cross-chain bridge technology faces long-term risks such as state conflicts and quantum computing attacks, which may affect settlement security;
- Errors may exist in IoT device data collection and oracle price feeding, leading to inaccurate asset valuation.

7.3 Market Risks

- The initial LP pool scale is limited, which may face the risk of slippage in large transactions;
- The development of the RWA market falls short of expectations, leading to insufficient ETR settlement demand and affecting token value;
- Competition from US dollar stablecoins and similar settlement tokens may squeeze the market share.

7.4 Operational Risks

- The expansion of ecological cooperation falls short of expectations, and the progress of scenario landing is delayed;

- Disputes arise in community governance, affecting the project development direction;
- Concentrated withdrawal of staking users in extreme market environments may lead to a liquidity crisis.

Risk Response Measures:

1. Establish a dynamic regulatory tracking mechanism to timely adjust operational strategies to adapt to policy changes;
2. Set up a 10 million US dollar security fund for vulnerability repair and user loss compensation;
3. Introduce a market maker mechanism to improve LP pool liquidity and set a 24-hour cooling-off period for staking withdrawal;
4. Regularly release ecological progress reports to enhance community transparency and trust.

VIII. Conclusion

Equator (ETR) accurately cuts into the core settlement gap of the RWA track, and builds a solution with both technical feasibility and commercial value through the triple advantages of "extreme deflation + high-incentive staking + compliance adaptation". Under the explosive dividend of the 16 trillion US dollar-scale RWA market, ETR not only solves the current industry pain points such as settlement efficiency, compliance risks, and liquidity, but also provides users with a high-yield participation channel, forming a positive cycle of "ecological development - user growth - value enhancement".

The project strictly abides by global regulatory requirements, especially China's policy orientation of "Strictly Prohibited in China, Strictly Regulated Overseas", and lays a foundation for the sustainable development of the ecosystem through a multi-level compliance architecture and security protection system. With the continuous improvement of the technical architecture, the continuous expansion of application scenarios, and the in-depth advancement of global cooperation, ETR is expected to upgrade from a single settlement currency to the core value hub of the RWA ecosystem, empower the digital transformation of traditional assets, and create long-term value for global investors.

Equator, the Digital Equator, Boundless Value. We believe that in the wave of deep integration of Web3 and the real economy, ETR will become a key bridge connecting real-world assets and decentralized finance, writing a new chapter in the global settlement system.

Appendix

Appendix A: Core Technical Parameters

Technical Indicator	Parameter Value
Public Chain Compatibility	Fully EVM-compatible (Ethereum, Polygon, BSC, etc.)
Token Standard	ERC-20 (core), ERC-3525/3475/3643 (compatible)
Transaction Throughput	≥1000 TPS
Transaction Confirmation Time	≤3 seconds
Cross-Chain Transaction Cost	Reduced by more than 40% compared with traditional solutions
Smart Contract Audit Pass Rate	≥98.7%
Attack Detection Accuracy	≥98.5%
Cross-Border Data Compliance Rate	100%

Appendix B: Glossary

- **RWA (Real World Asset):** Real-World Assets refer to physical or financial assets with economic value and definable ownership;
- **ETR (Equator Token):** The core settlement token of the Equator project;
- **Black Hole Mining Pool:** A smart contract address for permanently locking tokens, with private keys destroyed and non-unlockable;
- **LP Liquidity Pool:** A fund pool that provides liquidity for secondary market transactions;
- **Staking Mining:** An ecological participation mechanism where users lock up ETR to obtain returns;
- **DAO (Decentralized Autonomous Organization):** A Decentralized Autonomous Organization responsible for ecological governance.