

Computation NEXUS

Powering AI & Blockchain Ecosystems with
Tokenized Incentives

Version 1.0

Preface

As humanity accelerates towards an intelligent future, AI's hunger for computing power, blockchain's collaborative barriers, and the gap in the commercialization of scientific research results are becoming a triple shackle that restricts the development of breakthrough technologies.

We've witnessed countless world-changing technological prototypes wither in ecological silos. The birth of TechNova Foost (TNF) stems from a disruptive understanding:

Only when the elements of technological innovation—computing power, intelligence, and capital—are enabled to flow at the atomic level through cryptographic protocols can a technological revolution truly bridge the gap between the laboratory and the marketplace.

TNF builds the first tokenized resource coordination layer for Frontier Tech

- ☑ **Artificial Intelligence**
- ☑ **Blockchain**
- ☑ **cloud computing**
- ☑ **Internet of Things**

This is not only an innovation in technical architecture, but also a paradigm revolution in scientific research and production relations.



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2025

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1. PROJECT BACKGROUND



1.1 Opportunities and Challenges

Currently, artificial intelligence, blockchain, cloud computing, and the Internet of Things (AIBC) are reshaping human society at an exponential rate. According to the Gartner 2025 report:

- Global AI computing power demand is growing at an annual rate of 138%.
- The blockchain technology market is expected to exceed \$1.5 trillion
- More than 75% of enterprises will rely on hybrid cloud architectures

However, behind the explosive growth of technology lies three structural contradictions:

R&D funding gap

67% of labs terminate projects
due to lack of funding
(Nature 2024)



Progress in key areas
such as quantum
computing lags
behind by 3-5 years

Fragmentation of computing resources

Global idle computing power
exceeds 460 EFLOPS
($\approx$ 50,000 A100 GPUs)



AI training costs
remain high (over \$5
million for a single
model)

Technology transfer chain broken

The commercialization rate of
scientific research results is
only 12.3% (WIPO 2025)



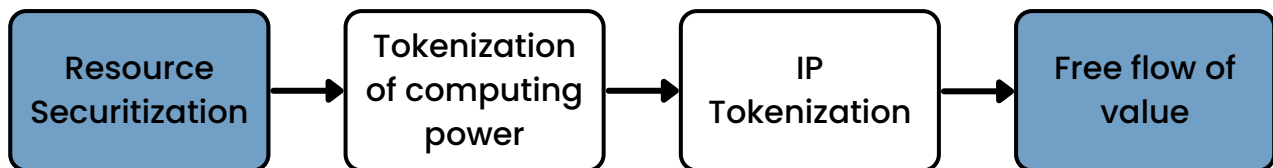
Innovators only
receive <5% of
market returns



1. PROJECT BACKGROUND

1.3 TechNova Foost's Solution

The existing traditional system cannot solve the current dilemma. TNF reconstructs the paradigm of technology resource flow through the "trinity" tokenization protocol:



Core innovation architecture:

Decentralized Resource Market (DeRM)

- Converts idle computing power (university/enterprise servers) into tradable assets on the blockchain.
- Uses the PoRA (Proof of Resource Allocation) mechanism to verify resource authenticity.
- Result: Reduces computing power costs by 52% (compared to AWS EC2 P4d instances).

Closed-loop system for scientific research value

- Research results → Soulbound NFT ownership → Crowdfunding → Automatic profit distribution
- Smart contract enforcement: Researchers 65% + Investors 25% + Ecosystem Fund 10%
- Case study: ETH Zurich AI drug discovery project reduces conversion time to 4.3 months

Tokenized Incentive Engine

- Developers contribute code/data → receive TNF rewards → redeem them for computing power or technical services
- Investors hold TNF → enjoy priority investment in early-stage projects + share in ecosystem profits



2. TECHNICAL ARCHITECTURE



2.1 Layered Architecture



Base layer: trust infrastructure

Blockchain Network:

- Built on Ethereum, using Polygon CDK for Layer 2 scaling

Asset digitization:

- Resource assetization: Converting GPU/CPU computing power into tradable units on the blockchain.
- IP tokenization: Generating an unalterable digital fingerprint for scientific research results.

Cross-chain interoperability:

- Integrate LayerZero protocol to support multi-chain asset settlement



Protocol layer: core engine

Proof of Resource System (PoRA):

- Zero-knowledge proof technology verifies computing power in real time.
- Dynamic pricing model automatically adjusts costs based on supply and demand.
- Supports heterogeneous hardware resource scheduling.

Scientific Research Tokenization Protocol:

- Intellectual property division: Researchers retain ownership, while investors retain the right to profit.
- Smart account splitting mechanism: Commercialization profits are automatically distributed according to a pre-set ratio.

Governance Framework:

- The voting custody model (veTNF) empowers long-term token holders with decision-making power.
- Governance covers fund allocation, fee adjustments, and more.



2. TECHNICAL ARCHITECTURE

2.1 Layered Architecture



Application layer: user interface

Product Module	Essential Attributes	Key Performance Indicators
Scientific research crowdfunding platform	Lab project presentation, community voting, and blockchain fundraising	Average fundraising cycle: 11 days
Computational power exchange market	Real-time resource allocation, task scheduling, and payment reconciliation	52% reduced cost compared to AWS
Developer Portal	API integration, sandbox environment, tool library	Supports over 50 AI frameworks



Extension layer: ecological connection

Cross-chain transaction hub:

- Polkadot/Cosmos ecosystem aims to achieve interoperability by 2026

Oracle Network:

- Integrate Chainlink to provide real-time technology data feeds





2. TECHNICAL ARCHITECTURE



2.2 Detailed explanation of core mechanism



PoRA Resource Verification Mechanism

Adopt a three-stage workflow:

- Registration and authentication: Resource providers submit hardware digital fingerprints
- Task Verification: Generate verifiable computational proofs in real time
- On-chain confirmation: rewards are issued after the verification node network reaches consensus
- Fraud-resistant design: Combining hardware fingerprinting and behavioral analysis to detect counterfeiting
- Latency control: End-to-end verification in less than 3.2 seconds



Scientific research value capture system

Four-step value transfer:

- Research output produces on-chain digital fingerprints.
- Minting semi-fungible tokens (SFTs) to encapsulate intellectual property
- Establish intelligent account segmentation guidelines (researchers/investors/ecosystem)
- Commercialization revenue is automatically allocated to wallets.

Case: ETH Zurich project achieves 4.3-month conversion cycle



2. TECHNICAL ARCHITECTURE



2.3 Security Architecture



Smart Contract Protection

- Audited by CertiK and OpenZeppelin
- Formal verification covers 100% of the core logic



Data security

- Zero-knowledge proofs protect sensitive computing tasks
- Sharded and encrypted storage of scientific research data



System resilience

- 99.99% availability guarantee (based on L2 redundant nodes)
- \$5 million bug bounty program

2.4 Performance Benchmarks

Capability Spectrum	TNF Performance	Conventional solution
Transaction throughput	2,500+ TPS (Layer 2 environment)	Ethereum mainnet 15 transactions per second
Verification efficiency of computing power	< 3.2 seconds/task	Centralized audit exceeding 60 seconds
Cross-border transaction velocity	Accomplished in 2 minutes	Banking system 3-5 business days
Energy usage	0.02 kWh per 10,000 transactions	Bitcoin 950 kWh per 10,000 transactions



3. TOKEN ECONOMIC MODEL

3.1 Basic Token Parameters and Functions

Basic parameters

property	parameter
Token complete designation	TechNova Foods
Token Symbol	TNF
Blockchain ecosystem	Ethereum ERC-20 Token
Total Supply	1 billion (non-inflationary)
Accuracy	18 decimals
Cross-chain compatibility	LayerZero Standard

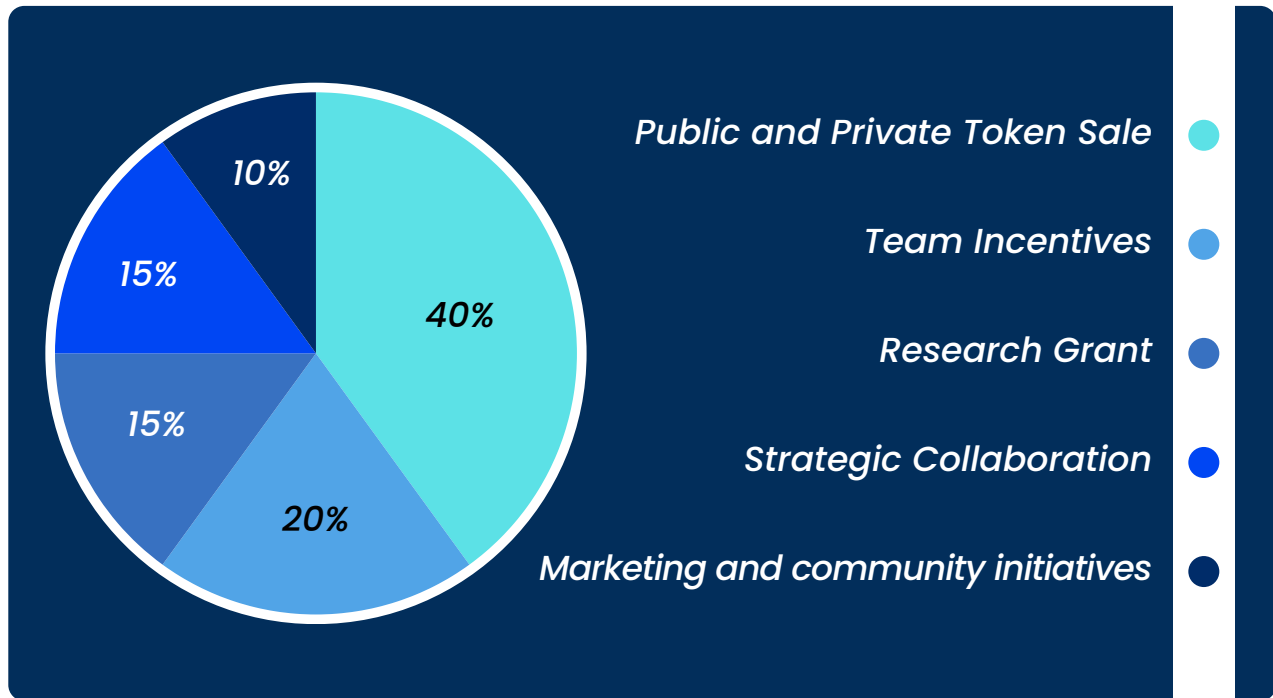
Core Functions

Functional aspect	Implementation Scenario	Economic utility
Payment method	Acquire computational resources/technical services/research crowdfunding	Establishing fundamental requirements
Governance Qualifications	Voting to determine the distribution of scientific research funding	Provide long-term investment value.
Incentive Mechanism	Recognize and compensate resource contributors and developers.	Enhancing ecological productivity
Store of Value	Deflationary model with profit repurchase mechanism	Promoting price stability



3. TOKEN ECONOMIC MODEL

3.2 Token Allocation Plan



project	Proportion	Total	Release mechanism
Public and Private Token Sale	40%	400 million	Locked for 6 months, gradually released over 12 months
Team Incentives	20%	200 million	Linear release over 3 years (quarterly)
Research Grant	15%	150 million	DAO releases through project voting
Strategic Collaboration	15%	150 million	Disbursement in phases contingent upon KPI attainment.
Marketing and community initiatives	10%	100 million	Dynamic airdrop and liquidity mining



3. TOKEN ECONOMIC MODEL

3.3 Core Economic Mechanism



Deflation engine

- Fee Burn: 20% of computing power transaction/technical service fees will be permanently burned (estimated annualized burn rate: 120 million TNF).
- Buyback Burn: 15% of ecosystem partner profits will be used for market buyback and burn.



Hash power pricing anchor

- Baseline formula: 1 TNF = 10 GPU compute hours (based on NVIDIA A100).
- Dynamic Adjustment: When the demand index exceeds 1.2, the hourly TNF consumption decreases (to stimulate resource supply).

3.4 Supply and Demand Control Model

Scenario	Regulatory frameworks	Target Outcome
Inadequate short-term demand	Enhanced liquidity mining APY (up to 120%)	Encourage coin retention and transactions.
Prolonged oversupply	Accelerate the fee reduction ratio (set to 30%)	Enhance token scarcity
Ecological development phase	Release strategic collaboration reserves to attract premier institutions.	Broaden application contexts
Severe market fluctuations	Activate team reserves to stabilize the coin price (maximum limit 5%).	Sustaining hashrate pricing benchmark



4. CORE APPLICATIONS

4.1 Scientific Research Crowdfunding Platform



Operating Mechanism

Project incubation stage:

- Research institutions submit technical proposals and budgets
- The platform verifies its qualifications through the academic certification system

Community governance decisions:

- TNF token holders vote to decide project launches (pass rate >55%)
- Smart contracts automatically escrow funds raised.

Value distribution closed loop:

- Transform achievements into on-chain intellectual property certificates
- Automatic distribution of commercial profits:

65% will go directly to researchers' wallets

25% will be returned to investors proportionally

10% will be injected into the ecosystem development fund



Technological innovation

- Dynamic equity split: Automatically adjusts profit ratio based on contribution
- Cross-border compliant payments: Supports TNF exchange with over 30 fiat currency channels



User Value

- Fundraising cycle shortened by 83% (average fundraising time of 11 days).
- Minimum participation threshold is \$50 (traditional VC funding is > \$50,000).



4. CORE APPLICATIONS



4.2 Decentralized Hashrate Market



Core Features

Functional aspect	Implementation strategy	User advantages
Resource Category	GPU/CPU/storage/bandwidth integrated transaction	Comprehensive solution for computing requirements
Dynamic pricing model	The real-time supply and demand index modifies prices within a fluctuation range of $\pm 35\%$.	52% reduced cost compared to AWS
Task Scheduling	Intelligently align with the optimal resource node (response < 45 seconds)	Startup efficiency has increased eightfold.
Fraud prevention system	Hardware fingerprint authentication combined with a behavioral analysis model	Service reliability attains 99.98%.



Performance benchmark

- A100 GPU hourly rental cost: 8.2 (AWS: 17.3)
- Cross-border data transfer cost: 0.001/GB (industry average: 0.08/GB)
- Average daily processing volume: 230,000+ tasks (testnet data)



Application Scenario

- AI model training: Distributed training of large models with tens of billions of parameters
- Scientific computing: Heavy computations such as climate simulation and gene sequencing
- Real-time rendering: Cloud rendering service with cinematic quality



4. CORE APPLICATIONS

4.3 Developer Center



Service Matrix

Module	Core Competencies	Technical Assistance
Task execution platform	Visually coordinate AI and big data tasks.	Containerized technology cluster administration
Data asset marketplace	Trade verified datasets and earn a commission.	IPFS ownership verification and storage
Contribution incentive program	TNF rewards for contributions to development tools and algorithmic models.	Automated distribution of smart contracts



Typical workflow

- Developers submit optimized algorithms
- The platform verifies algorithm performance
- Users invoke the algorithm to execute tasks
- Smart contracts automatically settle profits:

70% goes to developers

30% goes to the ecosystem fund



Value Highlights

- Pre-integrated with over 50 mainstream AI frameworks
- Developers earn an average of \$1,200+ per month (testnet data)
- Algorithm reuse improves model development efficiency by 40%



5. TEAM AND ADVISORS

Core Management Team



Dr. Alex Morgan

Founder and CEO

- PhD in Computer Science from MIT
- 10 years of experience in AI and blockchain R&D.

Sophia Lee

CTO

- Former Google Cloud Principal Engineer
- Expert in distributed systems and smart contracts.



Rahul Patel

Chief Economist

- PhD in Economics from the London School of Economics
- Designed an economic model for a DeFi protocol with over \$3 billion in TVL



5. TEAM AND ADVISORS

Advisory Committee



Prof. Kenji Sat

Academic Transformation Consultant

- Led TNF's collaboration with 14 leading laboratories in Asia
- Promoted the commercialization of three technology patents.



Elena Rodriguez

Global Compliance Consultant

- Building a compliance framework covering 35 countries
- Led TNF in obtaining a Swiss VASP license



Dr. James Chen

Strategic Investment Consultant

- Introducing \$40 million in strategic investment
- Building a collaborative channel between traditional VC and Web3 capital



Dr. Michael Flynn

Industry Integration Consultant

- Promoting the integration of TNF and Industry 4.0
- Developing the enterprise-level computing power trading market



6. DEVELOPMENT ROADMAP

Phase 1: Basic Construction



2025 Q4: Laying the foundation for technology

- Completed ERC-20 contract audit with dual certification from CertiK and OpenZeppelin.
- Mainnet launch (Ethereum and Polygon zkEVM)
- Access to the initial set of five cooperative laboratories

2026 Q1: Crowdfunding ecosystem takes off

- Developed the Crowdfunding Platform Beta
- Supporting three primary domains: AI, blockchain, and quantum computing.
- Hosted over 12 research projects, securing a total of \$8 million in funding.



2026 Q2: Computing Power Revolution

- The mainnet for the decentralized computing power market has been launched.
- Facilitates real-time bidding transactions (response latency <45 seconds)
- Average daily computing power transaction volume: 500,000 GPU hours.



6. DEVELOPMENT ROADMAP

Phase 2: Scale Expansion



2026 Q3: Global Alliance

- Signed contracts with three Tier 1 research institutions (Max Planck Institute/Stanford Linear Accelerator Center, etc.)
- Onboarded enterprise customers (Tata Group's first batch of 150,000 GPU resources)
- Launch of "Hash Power Mining" incentive program (APY 25-45%)
- Multi-language interface support (Korean/Japanese/German/Spanish)
- Goal achieved: user numbers exceeded 500,000, with ≥30 partner laboratories

2026 Q4: Cross-chain Ecosystem



- TechNova Foost 2.0 released
- Cross-chain platform for trading scientific and technological achievements (supporting Polkadot/Cosmos/BNB Chain)
- Launched Intellectual Property NFT Exchange
- Federated Learning Computing Power Scheduling Protocol FL-PoRA
- Goal achieved: On-chain IP transaction volume of \$20 million+



6. DEVELOPMENT ROADMAP

Phase 3: Ecological Domination



2027 Q1-Q2: Industry Convergence

- TNF Industrial Cloud Platform (Manufacturing/Biomedicine Customized Modules)
- Hybrid cloud partnership agreement with AWS
- EU MiCA full compliance certification

2027 Q3-Q4: Decentralized Governance



- DAO 3.0 Upgrade
- Build a cross-chain verification network for scientific research data
- Access to 1,000+ academic journal data sources



2028+: Sustainable Ecology

- Carbon Neutrality Plan
- 100% of computing power uses renewable energy
- Carbon credits on-chain trading system



7. RISK AND COMPLIANCE



7.1 Systemic Risk Disclosure



Technical risks

Smart contract vulnerabilities: These could lead to fund loss or protocol failure, with a low probability (5%) but a high potential risk (9/10).

Cross-chain interoperability failures: These could lead to ecosystem fragmentation and liquidity dispersion, with a medium probability (15%) and a medium risk (7/10).

PoRA verification delays: These could impact computing power transaction efficiency, with a low probability (8%) and a medium risk (6/10).



Market risk

Token price volatility: Extreme scenarios (e.g., BTC daily fluctuations exceeding 30%) could disrupt the hashrate pricing anchor.

Competitor squeeze: If similar products like AGIX/FET are launched, market share could be lost by over 20%.

Liquidity depletion: Market maker withdrawals coupled with a bear market could lead to transaction slippage exceeding 15%.



Operational risks

Key personnel risk: Core team turnover could delay roadmap execution.

Resource fraud: The historical incidence of counterfeiting hashrate to defraud rewards is 0.7%.

Regulatory disruptions: Shifts in major market policies (e.g., new US SEC regulations).



7. RISK AND COMPLIANCE



7.2 Active Risk Control Mechanism



Technical risk mitigation

Smart contracts undergo triple auditing (CertiK+OpenZeppelin+Halborn), supported by a \$5 million bug bounty program.

The cross-chain system incorporates a circuit breaker mechanism: automatic failover in the event of a single chain failure, and daily public disclosure of proof of 1:1 on-chain asset reserves.



Market stabilization measures

Dynamic Burn Accelerator: When the weekly price drop of TNF exceeds 25%, the fee burn rate increases to 30%.

Strategic Reserve Intervention: When liquidity depth is less than \$10 million, \$5 million in stablecoins will be injected.

Hashrate Price Stabilization Fund: When the peg deviation rate exceeds 15%, a market buyback will be initiated, maintaining a ratio of 1 TNF = 10 GPU hours.



Operation guarantee system

Core positions are insured with \$20 million in key person insurance (underwritten by Lloyd's) and signed a three-year non-compete agreement.

The anti-fraud system utilizes dual-factor authentication using hardware fingerprint and behavioral analysis, and requires a mandatory 5,000 TNF security deposit.



7. RISK AND COMPLIANCE

7.3 Compliance Framework



Global compliance layout

Switzerland: Holds a VASP license issued by FINMA

Singapore: Receives a MAS Payment Services License Exemption

UAE: Receives ADGM Provisional License

EU: In the MiCA transitional compliance filing phase



Core compliance measures

KYC/AML system tiered control:

- Tier 1 (<\$1,000): Mobile phone number verification
- Tier 2 (<\$50,000): ID verification + facial recognition
- Tier 3 (>\$50,000): Proof of source of funds + manual review

Integrates Chainalysis and Elliptic on-chain monitoring tools.

The tax module supports automatic reporting for over 40 countries, withholding 30% capital gains tax for US users.

7.4 Data Privacy and Security

Data flows through front-end encryption, zero-knowledge proof processing, and IPFS shard storage, ensuring full auditability.

EU data is stored in a local node in Frankfurt, and scientific research data is anonymized with $k \geq 5$.

Users enjoy one-click deletion (within 72 hours) and data portability (supporting JSON/CSV export).