

**NEUROLOV**

**Democratizing AI Compute**

**White Paper v3.0**



## 1. Abstract

Neurolov presents a novice On browser computing ecosystem that democratizes access to GPU resources through browser-based technology. By seamlessly integrating Web-GPU, blockchain, and advanced resource allocation algorithms, we enable anyone to participate in and benefit from distributed computing.

## 2. Executive Summary

In our current landscape which is rapidly evolving, access to high-performance and cheap computing resources remains a critical bottleneck. We are trying to address this challenge by building a decentralized exchange and marketplace for GPU resources, enabling efficient sharing of computational power while ensuring fair compensation for providers.

### 2.1 Key Statistics

- Active GPU Nodes: 200
- Total Computing Power: 85,000 TFLOPS
- Operational Hours: 400+
- Average Resource Utilization: 78%

### 2.2 Key Innovation

- Browser-based GPU access without installation
- Decentralized node architecture with auto-discovery
- Zero barrier to entry for users and providers

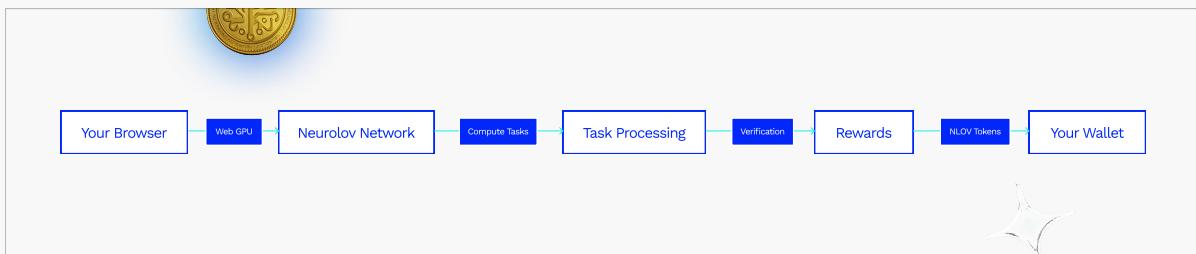
### 2.3 Core Features

- AI model marketplace with pre-trained models
- Seamless Telegram micro-app integration
- Advanced proof of computation system



### 3. Vision and Mission

Our vision is to push the limits of artificial intelligence (AI) and spearhead the shift towards artificial general intelligence (AGI). We envision a future where AI agents are effortlessly incorporated into routine activities, boosting human potential and raising standards of living.



Our mission is to completely transform the way cutting-edge AI technologies are used and integrated. We aim to provide developers and businesses with state-of-the-art resources and tools they need to build scalable, secure, and intelligent artificial intelligence solutions. By utilizing the latest large language models (LLMs) and GPU plug-in compute technologies, we strive to increase the efficiency, affordability, and accessibility of AI development, fostering innovation and improving capabilities.

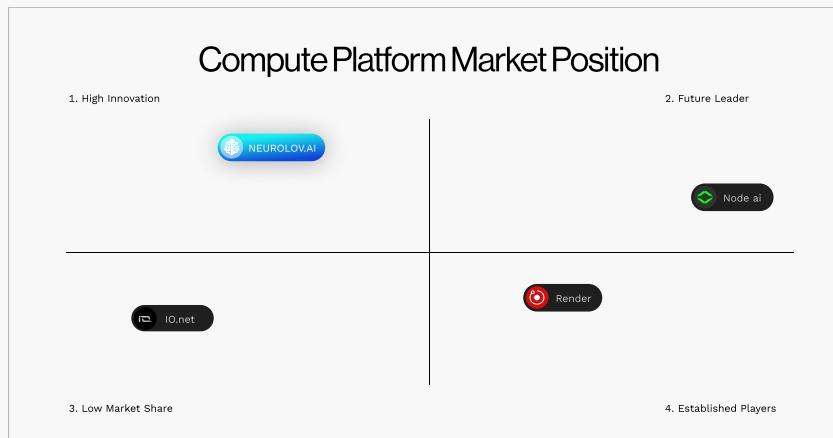
### 4. Market Analysis

#### 4.1 Market Size

The global GPU computing market is projected to reach \$388 billion by 2025, with a CAGR of 50.5% [1].

##### **Key drivers include:**

- Increasing demand for AI/ML applications
- Growth in cloud gaming
- Rise of decentralized computing





## **4.2 Market Challenges**

### a. Resource Accessibility

- High hardware costs
- Geographic limitations
- Supply chain constraints

### b. Technical Barriers

- Complex deployment requirements
- Integration challenges
- Scalability issues

### c. Economic Factors

- High operational costs
- Unpredictable pricing
- Limited monetization options

## **4.3 Competitive Analysis**

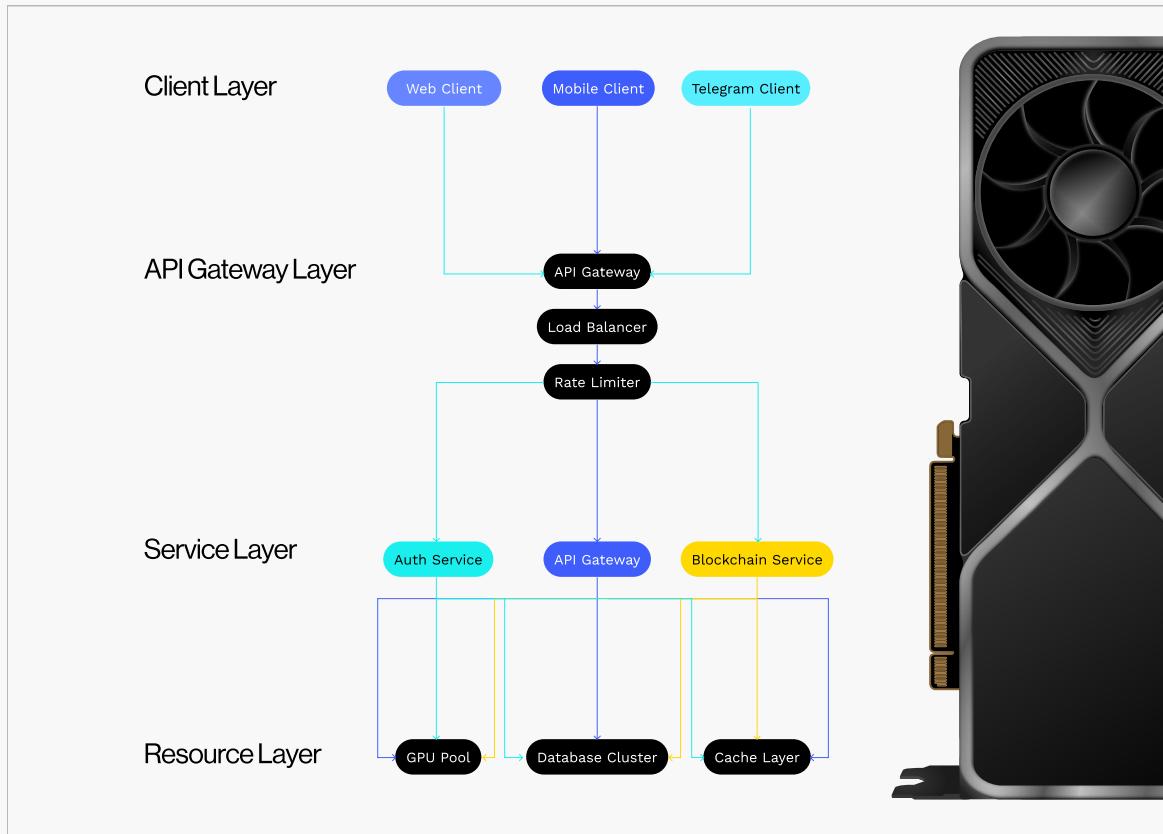
Feature	Neurolov	Traditional Cloud	Other Decentralized
Setup Time	Minutes	Hours/Days	Days
Cost/Hour	\$0.30	\$2.50	\$0.80
Access Method	Browser	API	Software
Decentralization	Full	None	Partial
Token Economics	Yes	No	Some

However, the market is hampered by restricted availability, which is exacerbated by production limitations and geographical differences. Neurolov is strategically positioned to capitalize on these market dynamics by offering a decentralized, efficient, and accessible solution to high-performance computing needs.



## 5. Technical Architecture

Neurolov's technical architecture is a sophisticated blend of cutting-edge technologies, designed to create a robust, scalable, and efficient decentralized computing platform. At its core, the architecture leverages blockchain technology, Web-GPU, and advanced distributed systems to enable seamless GPU resource sharing and AI model deployment.

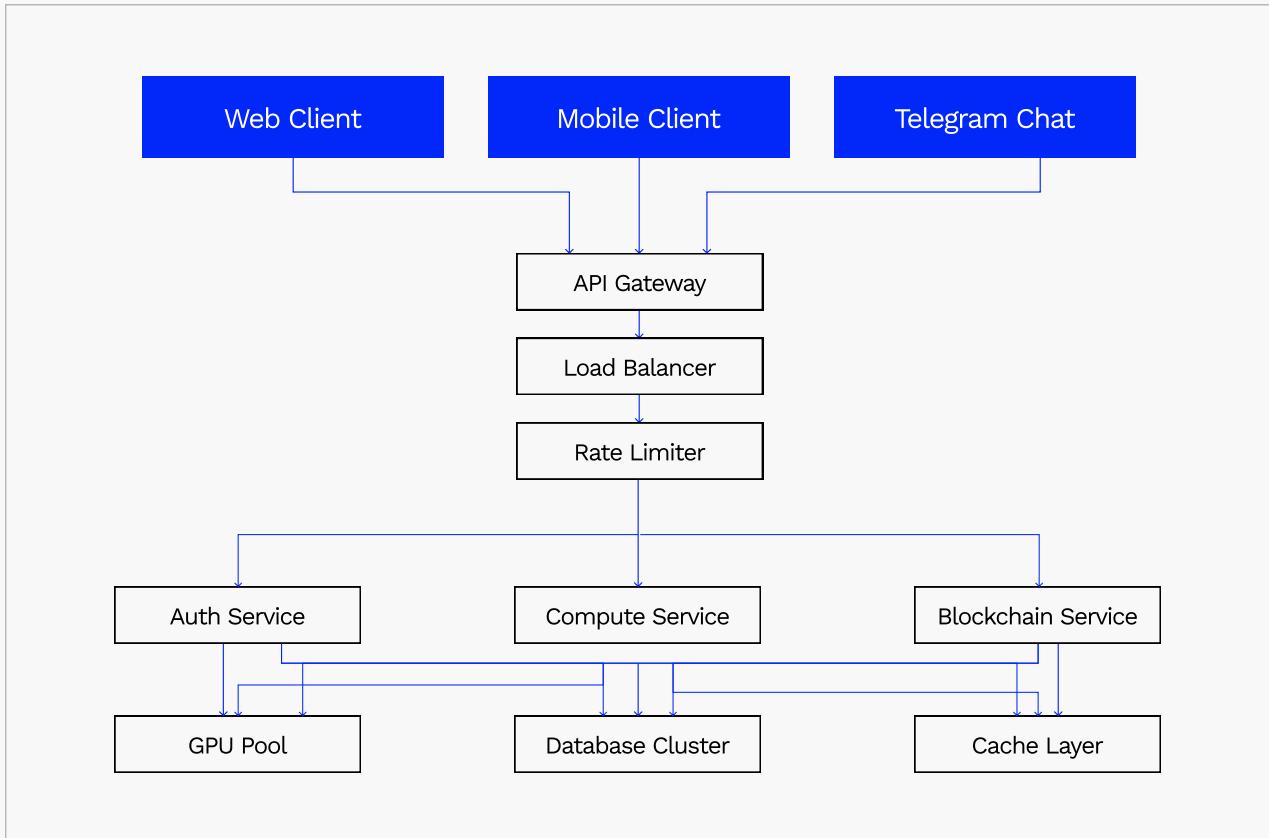


### Core System Components

#### 5.1 Blockchain

Solana serves as the primary blockchain for Neurolov due to its high throughput and low transaction costs.

1. Smart Contracts: Written in Rust using the Solana Program Library (SPL)
2. Transaction Processing: Capable of handling 65,000 TPS with sub-second finality
3. Proof of Computation(PoC): Enables efficient time-stamping of transactions
4. Token Standard: SPL Token for \$NLOV and other platform assets



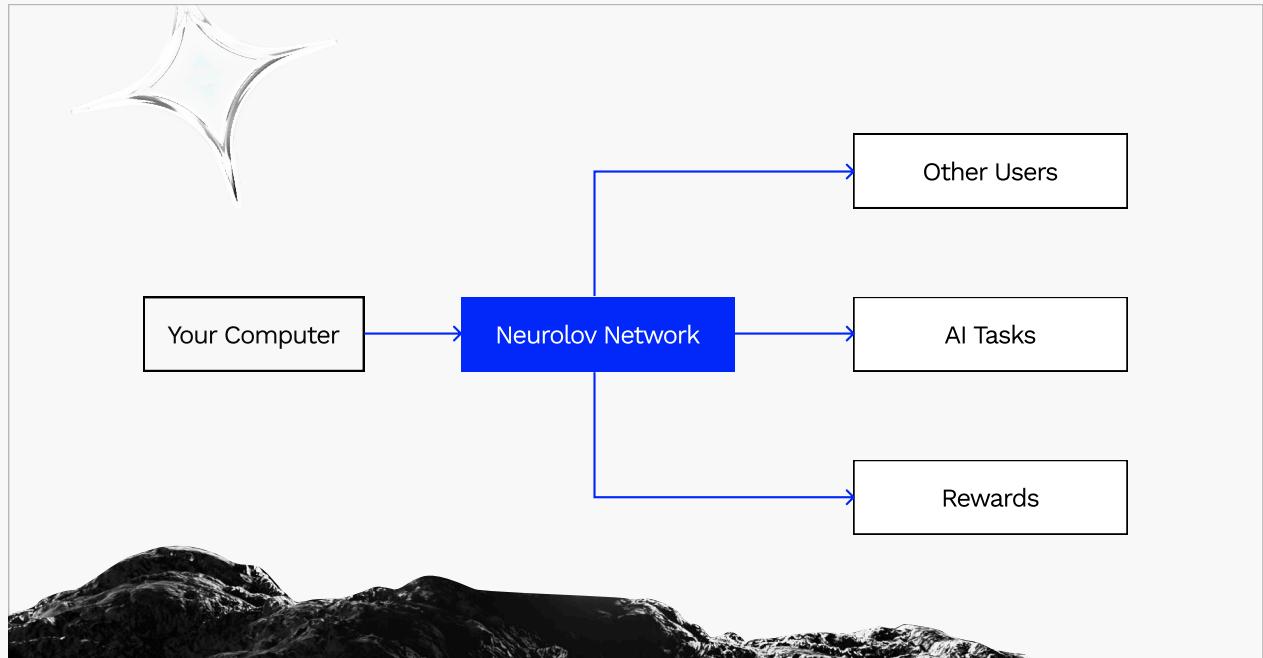
## 5.2 Resource Allocation Algorithm

- Neurolov's GPU allocation and management system is designed to optimize resource utilization, ensure fair distribution, and maximize performance for all users.
- The core of Neurolov's GPU management is a sophisticated allocation algorithm:
- Multi-factor Scoring System: Each GPU request is scored based on multiple factors:
  - “Score = (User\_Stake \* 0.4) + (Task\_Urgency \* 0.3) + (Task\_Complexity \* 0.3)”
- User\_Stake: Determined by the amount of \$NLOV tokens staked
- Task\_Urgency: Calculated based on user-defined priorities and deadlines
- Task\_Complexity: Estimated using model size, dataset volume, and computational intensity



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Task\_Complexity: Estimated using model size, dataset volume, and computational intensity



### 5.3 Dynamic Pricing Model

- GPU pricing adjusts in real-time based on supply and demand:
- “Price = BasePrice \* (1 + DemandFactor) \* (1 + CapabilityFactor) \* SeasonalAdjustment”
- BasePrice: Set by GPU providers
- DemandFactor: Increases during high-demand periods
- CapabilityFactor: Adjusts based on GPU specifications
- SeasonalAdjustment: Accounts for long-term usage pattern



## 5.4 WebGPU

Neurolov leverages WebGPU as the primary technology for GPU access, with WebGL as a fallback for broader compatibility:

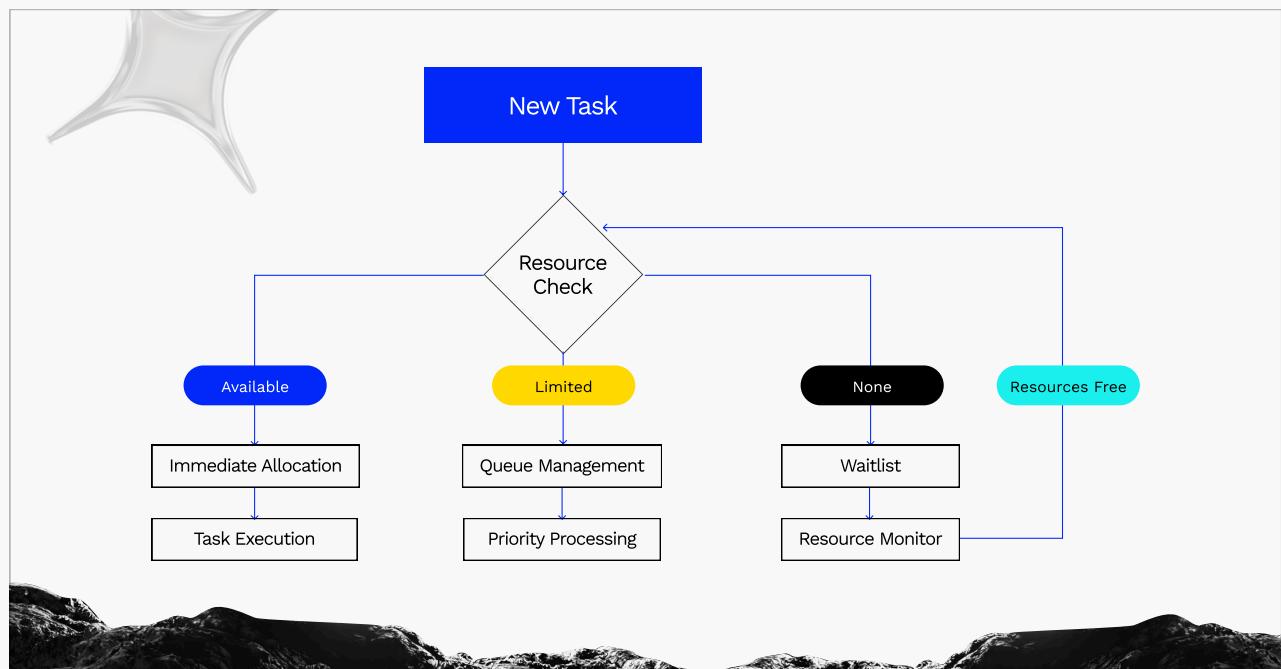
1. Compute Shaders: Written in WGSL (WebGPU Shading Language)
2. Resource Binding: Utilizes explicit binding model for efficient resource management
3. Multi-threaded Command Encoding: Enables parallel processing of GPU commands
4. Texture Compression: BC, ETC2, and ASTC formats supported for efficient data transfer

## 5.5 WebGL

1. Shader Language: GLSL ES 3.0 for compute operations
2. Extensions: Utilizes WebGL 2.0 Compute for general-purpose GPU computations
3. Texture Formats: Support for various formats including floating-point textures

## 5.6 Distributed System Architecture

The backbone of Neurolov's infrastructure is a robust distributed system:





## **Microservices Architecture**

1. Container Orchestration: Kubernetes for managing containerized services
2. Service Mesh: Istio for inter-service communication and traffic management

## **5.7 API Gateway:**

Kong for routing, authentication, and rate limiting

## **5.8 Distributed Database:**

1. CockroachDB for globally distributed, consistent data storage
2. Caching Layer: Redis for high-performance data caching
3. Time-Series Data: InfluxDB for storing and querying performance metrics

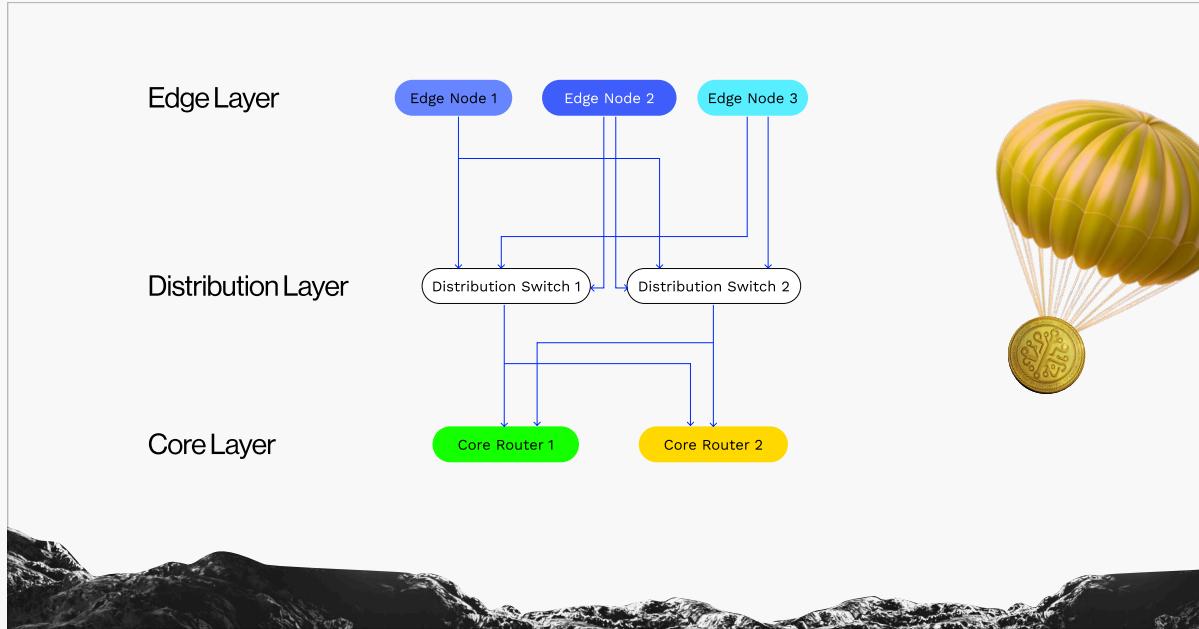
## **5.9 Message Queuing**

1. Event Streaming: Apache Kafka for high-throughput, fault-tolerant message processing
2. Task Queue: RabbitMQ for managing distributed computational tasks



# 6. GPU Network Management

## 6.1 Node Discovery Protocol



## 6.2 Proof of Computation (PoC)

The Proof of Computation (PoC) protocol ensures honest participation

0 0 0

```
function submitProof(  
    bytes32 taskId,  
    bytes32 resultHash,  
    bytes memory proof  
) external {  
    Task storage task tasks[taskId];  
    require(msg.sender == task.assignedNode, "Invalid node");  
    require(block.timestamp < task.deadline, "Task expired");  
    if (verifyComputation(taskId, resultHash, proof)) {  
        distributeReward(msg.sender, task.complexity);  
        task.verified = true;  
    }  
}
```



1. Task Commitment: GPU providers stake \$NLOV tokens as a guarantee
  2. Execution: The task is performed on the GPU
  3. Result Submission: Providers submit results with a zero-knowledge proof
  4. Verification: Multiple nodes verify the proof using a fraction of the original computation
- Consensus: Results are accepted if a majority of verifiers agree

## 7. Token Economics

The \$NLOV token is the cornerstone of the Neurolov ecosystem, designed to incentivize participation, govern the platform, and facilitate seamless transactions.

### 7.1 Token Specification

Name: NEUROLOV

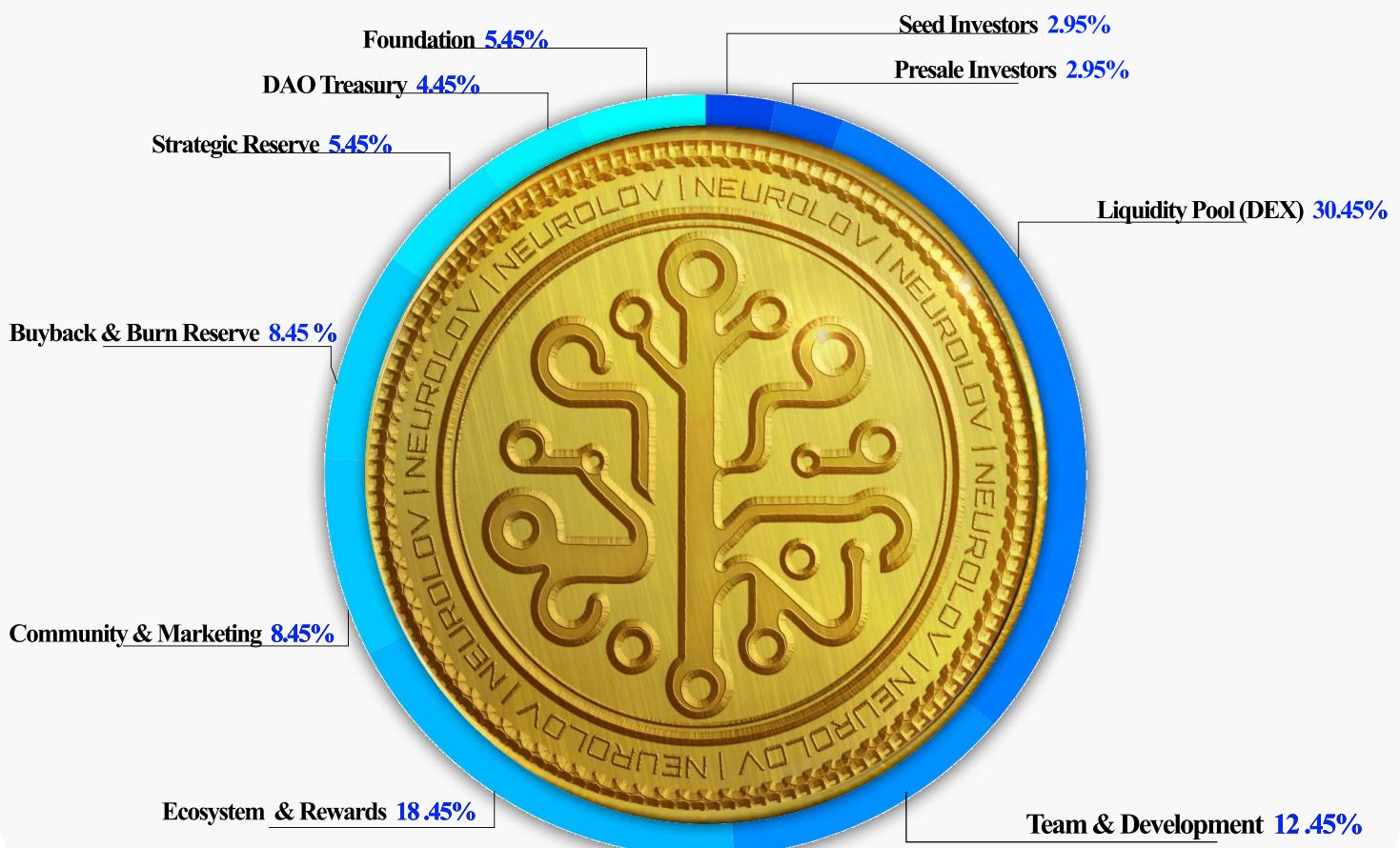
Symbol: \$NLOV

Total Supply: 500,000,000

Network: Solana

Token Type: SPL

### 7.2 Token Distribution





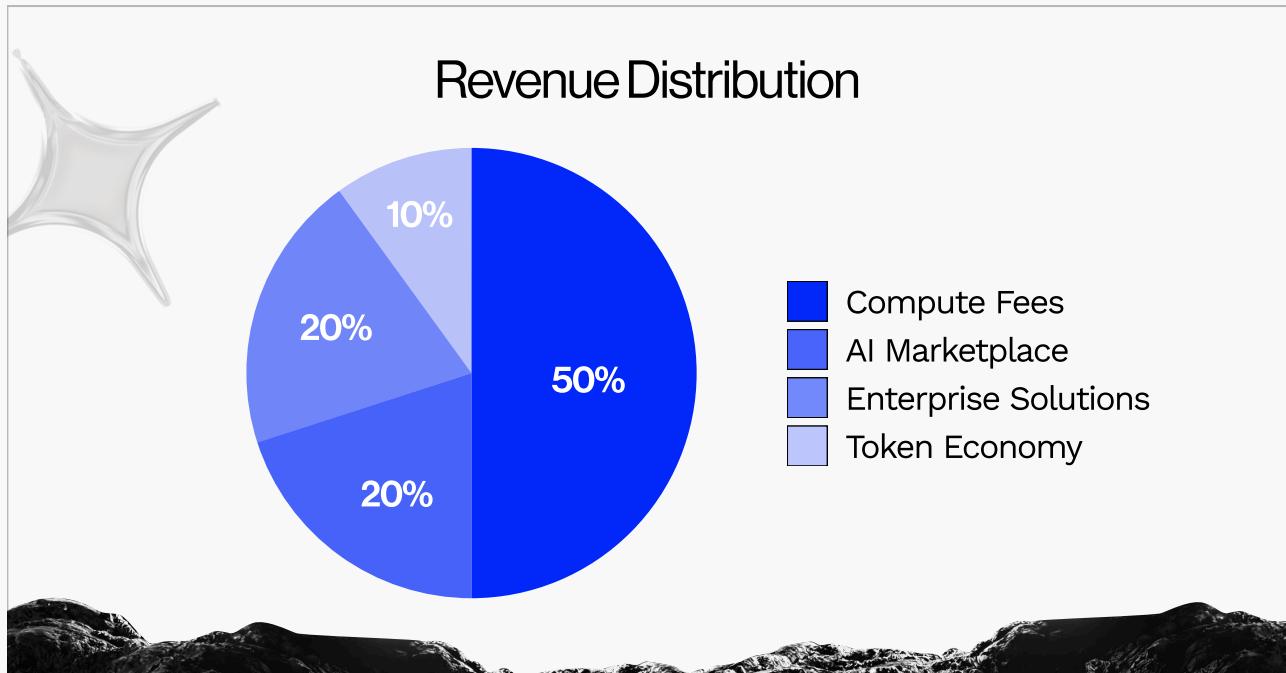
## 7.3 Token Utility

I. Compute Credits

II. Staking Rewards: The annual percentage yield (APY) for stakers is calculated as:

## 7.4 Token Allocation

- Seed Investors : 2.95% (14,750,000 tokens)
- Presale Investors: 2.95% - 2.5% (14,750,000 tokens)
- Liquidity Pool (DEX): 30.45 % (152,250,000 tokens)
- Team and Development: 12.45 % (62,250,000 tokens)
- Ecosystem and Rewards: 18.45% (92,250,000 tokens)
- Community and Marketing: 8.45 % (42,250,000 tokens)
- Buyback and Burn Reserve: 8.95 % (44,750,000 tokens)
- Strategic Reserve: 5.45% (27,250,000 tokens)
- DAO Treasury: 4.45% (22,250,000 tokens)
- Foundation: 5.45% (27,250,000 tokens)





## **7.5 Vesting Schedules:**

### **A. TGE Circulating Supply: 13,150,000-14,125,000 \$NLOV (2.63-2.83%):**

- Seed: 200,000.
- Presale: 250,000-625,000 (5% of 5M-12.5M).
- Liquidity: 5,000,000. ○ Team: 0 (18-month cliff).
- Ecosystem: 4,500,000. ○ Community: 2,000,000.
- DAO Treasury: 1,000,000.

### **B. Monthly Unlocks (Starting Month 2):**

- Seed: 408,333 \$NLOV/month.
  - Presale: 263,889-659,722 \$NLOV/month.
  - Team: 0 (until Month 19), then 1,666,667/month.
  - Ecosystem: 2,375,000 \$NLOV/month.
  - Community: 1,583,333 \$NLOV/month.
  - DAO Treasury: 527,778 \$NLOV/month.
  - Foundation: 694,444 \$NLOV/month (starting Month 13).
  - Total: 5,852,777-6,919,277 \$NLOV/month (1.17-1.38% of supply).
- Liquidity Release: 170M \$NLOV released over 24 months starting Month 13 (7,083,333/month).

### **SC Params:**

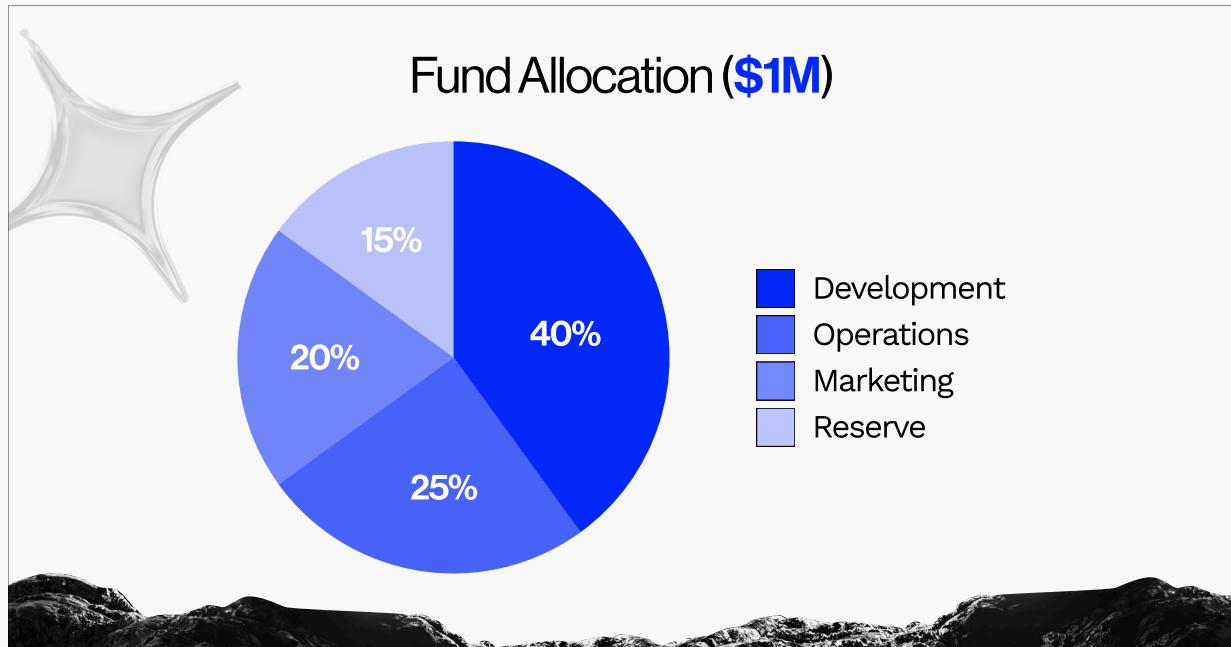
- TGE Timestamp: May 20, 2025, 00:00 UTC (assumed).
- Vesting Start: Month 2 (June 20, 2025, 00:00 UTC).
- Monthly Vesting Function: Linear release per category (e.g., tokensPerMonth = totalVested / vesting Months).

### **Cliff Periods:**

- Team: 18 months (Nov 20, 2026).
- Foundation: 12 months (May 20, 2026).
- Strategic Reserve: 24 months (May 20, 2027).



**Use of Funds** Fund's raised through token sales will be allocated as follows:

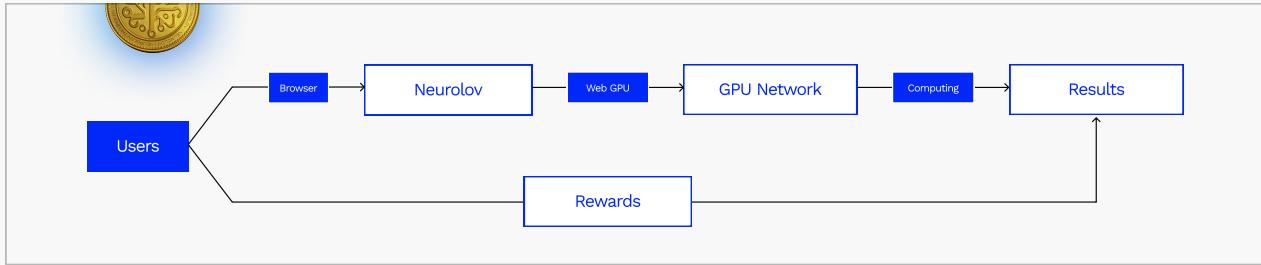


Current Tokenomics balances the needs of various stakeholders while providing mechanisms for long-term value accrual and community-driven development. The governance system ensures that token holders have a say in the platform's future, while the staking and liquidity incentives encourage long-term participation and support

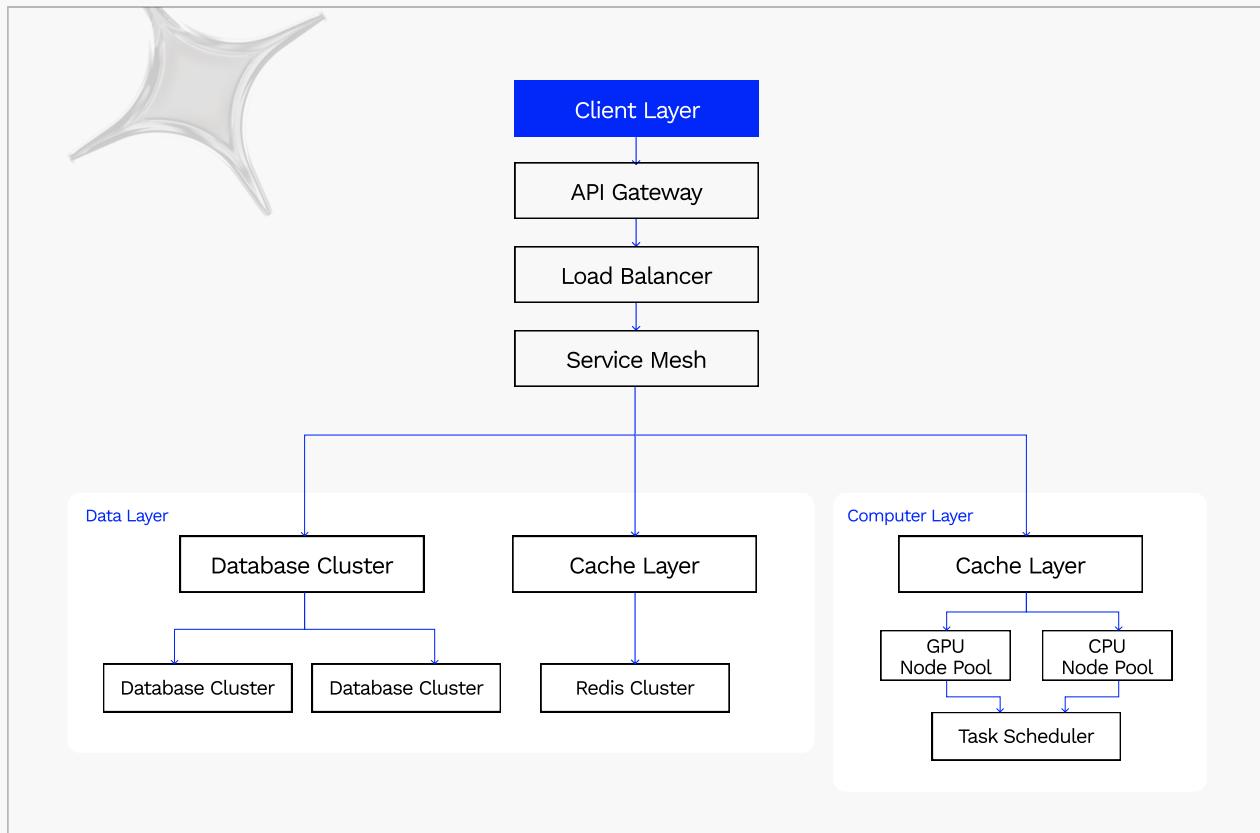


## 8. Performance and Security

Neurolov is designed to deliver high performance and seamless scalability as the network grows.



- Distributed GPU performance model
- Sharding and Layer-2 solutions for network growth
- Latency minimization techniques
- Proof of Computation (PoC) system





## **8.1 Distributed GPU Performance Model**

- The platform uses a sophisticated model to predict and optimize performance:
- $P = (N * G * E) / (1 + L/C)$

Where:

P = Overall performance

N = Number of GPUs

G = Individual GPU performance

E = Parallelization efficiency

L = Network latency

C = Computation time

- This model helps in predicting performance gains and optimizing resource allocation.

## **8.2 Scaling Strategies**

To accommodate network growth, Neurolov implements:

### **I. Sharding**

- a. Network Sharding: Divides the network into sub-networks for improved throughput
- b. State Sharding: Distributes the global state across multiple nodes
- c. Transaction Sharding: Parallelize transaction processing across shards

### **II. Layer-2 Solutions**

- a. **Solana Wormhole:** For cross-chain interoperability
- b. **TON Work chains:** Parallel processing chains for increased throughput

## **8.3 Dynamic Node Recruitment**

- a. **Automatic Discovery:** New GPU nodes are automatically discovered and onboarded
- b. **Reputation System:** Nodes build reputation over time, influencing task allocation

## **8.4 Latency Optimization**

To minimize latency:

- a. **Geo-Distributed Nodes:** Strategic placement of nodes to reduce network latency
- b. **Edge Computing Integration:** Leveraging edge nodes for latency-sensitive tasks

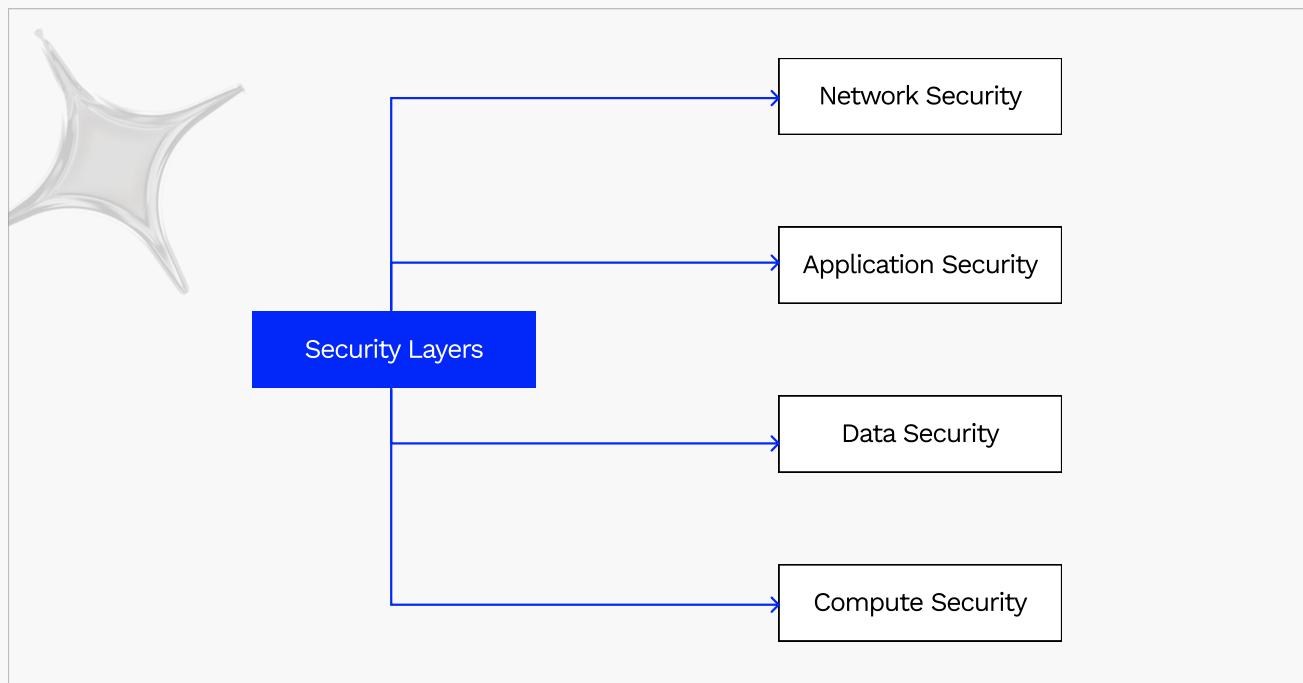


C. **Predictive Prefetching** : Using ML models to anticipate and preload required data

## 8.5 Efficiency Considerations

- a. **Adaptive Batch Sizing** : Dynamically adjusts batch sizes based on GPU utilization
- b. **Mixed Precision Training** : Utilizes lower precision formats where possible to increase throughput
- c. **Kernel Fusion** : Combines multiple small operations into larger, more efficient kernels

## 8.6 Security Architecture



### I. Data Protection

- End-to-end encryption
- Sandboxed execution
- Private computation

### II. Safe Computing

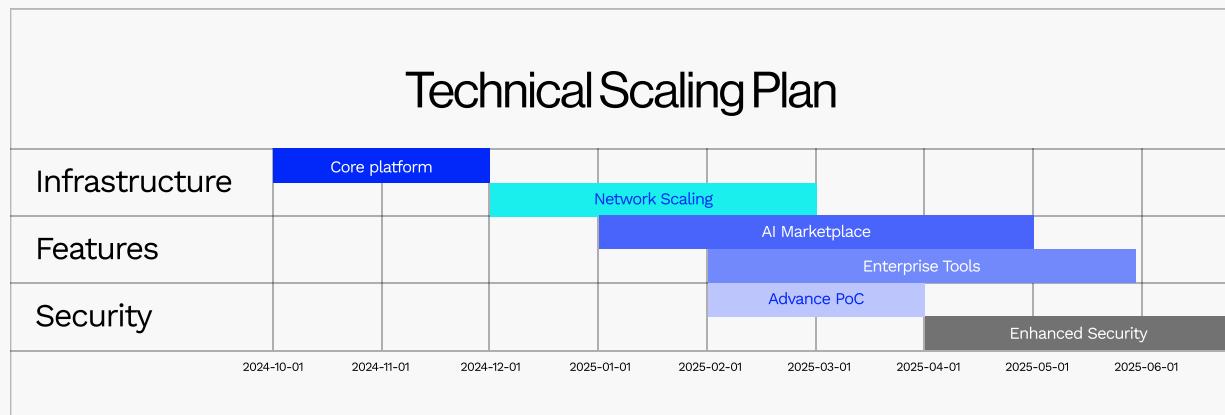
- Resource limits
- Temperature monitoring
- Automatic throttling



### III. Secure Rewards

- Verified computations
- Transparent earnings
- Protected withdrawals

## 9. Roadmap & Milestones



## Current Achievement Milestones (2024)

- 200 Active GPU nodes onboarded
- 85,000 TFLOPS computing power achieved
- 99.99% uptime maintained across 400+ operational hours
- 78% resource utilization efficiency
- WebGPU implementation completed
- Core infrastructure development finalized
- Basic marketplace features implemented

## Phase 1: Foundation & Market Entry (Q4 2024)

### Technical Development

- Project Ideation & Foundation Setup.
- Beta version of app launched(app.neurolov.ai) .
- Initial GPU Network Live.
- Launched with 200 GPUs onboarded for compute.
- Multiple AI Models Rolled Out .
- Community Growth Started .
- Organic ~2,500 registered app users.
- 36,000 total followers across all social platforms.



## Business Development

- Strategic partnerships with 2 major GPU manufacturers
- Initial enterprise pilot programs with 5 companies
- Community building initiatives launch
- Developer documentation portal release

## Target Metrics

- Network Power: 500,000 TFLOPS
- Active Users: 10,000
- Node Count: 1,000
- Platform Uptime: 99.99%

# Phase 2: Growth & Market Expansion (H1 2025)

## Q1 2025

### Technical Milestones

- Extended utility AI Model Ecosystem
- More models (e.g., text-to-video, 3D, music) introduced or in progress.
- App usage increased; performance stable.
- Swarm Network Test net
- Early platform utility for BETA ,Test net users

### Business Milestones

- Expansion to 10 enterprise clients
- Launch of developer grants program
- Regional expansion into Asia-Pacific
- Implementation of comprehensive marketing campaign

## Target Metrics

- Network Power: 1M TFLOPS
- Active Users: 50,000
- Node Count: 2,500
- Model Deployments: 1,000+



## Q2 2025

### Technical Milestones

- NLov Token Presale
- Final marketing push and FOMO creation.
- Token Generation Event (TGE)
- TGE and NLov token officially launched.
- Liquidity pool and DEX listings planned.
- Token Allocation & Vesting Begins
- Based on pre-decided vesting schedule.
- Early contributors and investors receive allocations.

### Business Milestones

- Partnered with Victus Capital (VC company )
- Crossed 200K+ AI images generated.
- Web3 presence established (X, IG, Discord).
- Brand identity & assets locked in.
- Global collab outreach initiated.
- GTM plan ready for \$NLOV launch.

### Target Metrics

- Network Power: 2.5M TFLOPS
- Active Users: 100,000
- Node Count: 5,000
- Enterprise Clients: 50+

## Phase 3: Scale & Innovation (H2 2025)

## Q3 2025

### Technical Milestones

- Final infrastructure moved from test net to main net.
- Production-level scalability & stability.
- Governance System Goes Live .
- NLov token holders can vote.
- Feature additions/removals .
- App upgrades .
- Utility changes .
- Token burns .
- Core team proposals .
- Governance via on-chain forum proposals.



## Business Milestones

- Global expansion initiatives
- Launch of institutional services
- Strategic acquisitions exploration
- Advanced partnership program
- Community DAO activation

## Target Metrics

- Network Power: 5M TFLOPS
- Active Users: 250,000
- Node Count: 10,000

## Q4 2025

## Technical Milestones

- Cross-chain interoperability expansion
- Advanced neural network deployment
- Distributed training optimization
- Enhanced privacy features

## Business Milestones

- Industry consortium leadership
- Global enterprise solution rollout
- Advanced institutional services
- Research partnership expansion
- Community governance activation

## Target Metrics

- Network Power: 10M TFLOPS
- Active Users: 500,000
- Node Count: 20,000
- Market Share: 0.5%



## Phase 4: Market Leadership (2026)

### H1 2026

#### Technical Innovations

- Global Expansion
- Scale community and partner network.
- Onboard 10K+ GPU contributors.
- Agentic AI Infrastructure
- Launch of self-operating AI agents.

#### Business Expansion

- Global market dominance strategy
- Advanced institutional services
- Industry standard establishment
- Research leadership initiatives
- Advanced partnership ecosystem

#### Target Metrics

- Network Power: 25M TFLOPS
- Active Users: 1M+
- Node Count: 50,000
- Market Share: 1.0%

### H2 2026

#### Technical Achievements

- Focus on autonomous trading bots, decentralized AI workers.
- Sustainable Buyback & Burn
- Dynamic token deflation through revenue-based buybacks.
- DAO & Ecosystem Grants
- Decentralized community treasury.
- Support ecosystem builders and projects via NLov DAO.



## 10. Conclusion

Neurolov represents a paradigm shift in distributed computing, making GPU resources accessible to everyone through an innovative browser-based approach. With our current traction of 170 nodes and 85,000 TFLOPS, we're well-positioned to capture a significant share of the \$87.5B market while democratizing access to computational resources.

## 11. Legal Disclaimer

This document is for informational purposes only and does not constitute financial advice or an offer to sell securities. The NLOV token is a utility token for the Neurolov platform and does not represent any ownership in the company.

## 12. References

- [1] Goldman Sachs. (2024). "Global GPU Computing Market Analysis"
- [2] IEEE. (2024). "Advances in Distributed Computing Systems"
- [3] Gartner. (2024). "The Future of AI Infrastructure"
- [4] Nature Computing. (2023). "Decentralized GPU Networks"
- [5] arXiv:2401.00000. "WebGPU: A New Era of Web Computing"



## Business Milestones

- Industry leadership position
- Global market presence
- Advanced service offerings
- Research breakthroughs
- Community ecosystem maturity

## Target Metrics

- Network Power: 50M TFLOPS
- Active Users: 2M+
- Node Count: 100,000
- Market Share: 1.5%

## Long-term Vision (2027-28)

- Establishment as leading decentralized compute platform
- Full AGI integration and commercialization
- Global enterprise solution standard
- Advanced quantum computing integration
- Market leadership in AI infrastructure

## Target Metrics 2027-28

- Network Power: 100M+ TFLOPS
- Active Users: 5M+
- Node Count: 200,000+
- Market Share: 2.0%+