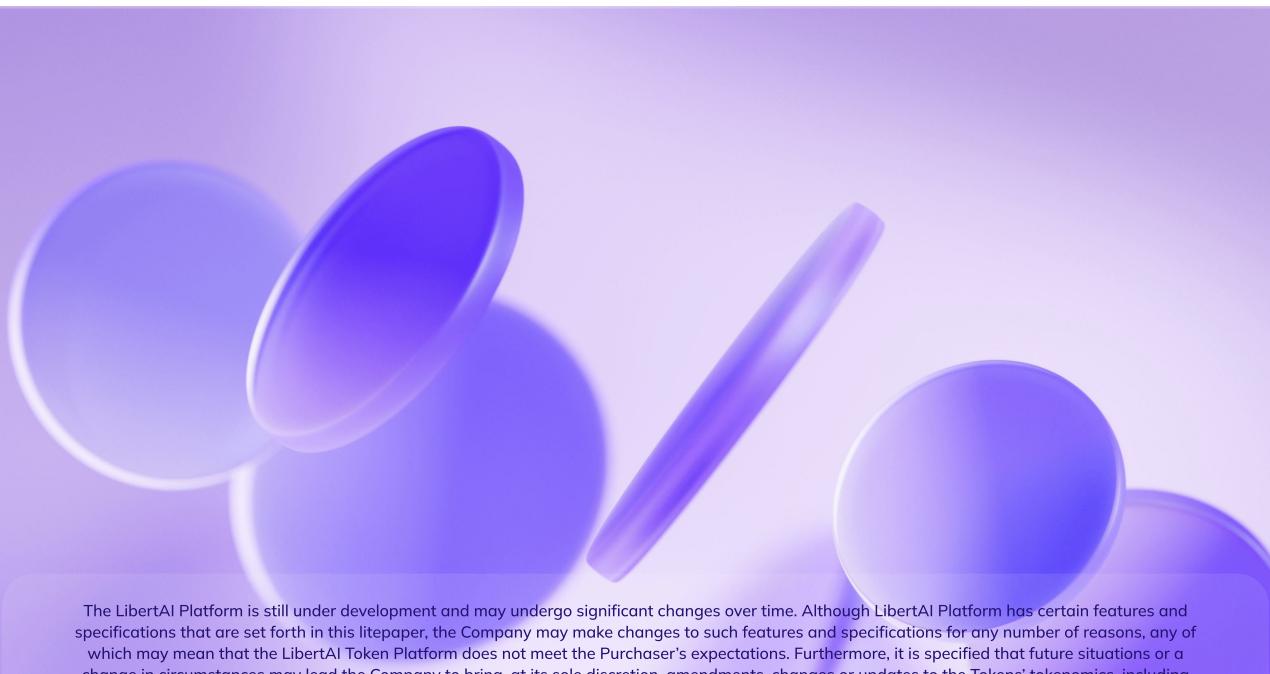


Litpaper June 2024

Confidential AI on DePin

# LibertAI

# Litpaper

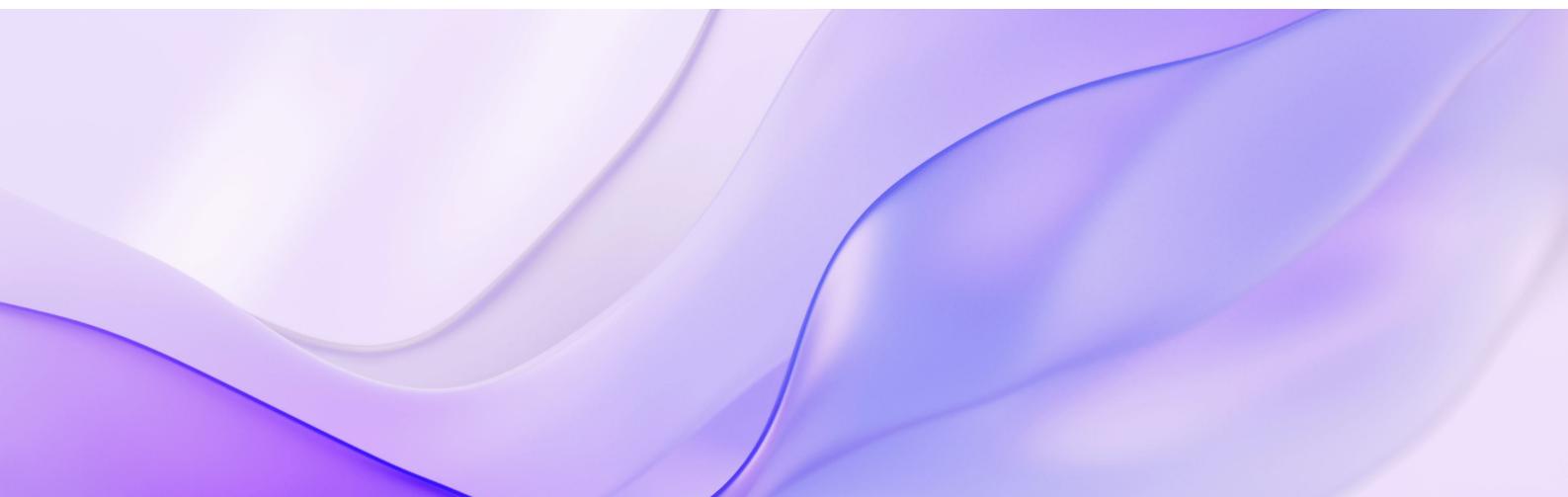


The LibertAI Platform is still under development and may undergo significant changes over time. Although LibertAI Platform has certain features and specifications that are set forth in this litpaper, the Company may make changes to such features and specifications for any number of reasons, any of which may mean that the LibertAI Token Platform does not meet the Purchaser's expectations. Furthermore, it is specified that future situations or a change in circumstances may lead the Company to bring, at its sole discretion, amendments, changes or updates to the Tokens' tokenomics, including without limitation the maximum supply, vesting schedules or token distribution ratios, allocation or timings.

# Table of Contents

- 02 Introduction
- 03 Overview
- 04 Confidential AI Inference
- 05 Decentralized AI agents
- 06 LibertAI Architecture
- 07 Aleph.im DePin Role
- 08 Market Figures
- 09 Token details
- 10 Team background
- 11 Contact details

# Introduction



A verifiable confidential AI you can trust. Experience the power of decentralized AI with LibertAI running on Aleph's confidential DePIN cloud. Keep your AI models and data secure within trusted execution environments.

We interact daily with algorithms and AI technologies controlled by large companies whose interests and incentives often conflict with ours. Current AI platforms harvest our private data and work in a black box where verifiability isn't granted and alignment is controlled externally. AI platforms are limited by resources such as computing power and centralized payment rails, where systems need to rely on companies that control the data and the computing power.

This centralization raises concerns about privacy and security and limits the potential benefits of AI technologies. To ensure a more equitable and transparent future, it is crucial to explore decentralized alternatives that empower individuals and communities.

Decentralized AI platforms leverage blockchain technology and distributed computing to create systems where data ownership is returned to the users. These platforms operate on transparency, verifiability, open-source, and community governance principles. By distributing computing power across a network of nodes, they eliminate the reliance on single entities and reduce the risk of data monopolies.

Today, developers and researchers worldwide are building agentic frameworks where AI agents can divide tasks and run simultaneous AI workloads to accelerate workflows with fewer human interactions. With decentralized AI systems on top of crypto rails, knowledge graphs, data and computing power become available in networks with shared resources, encouraging self-improvement advancements and autonomy.

# Our Solution

LibertAI combines AI inferences on top of compute network decentralization for true DePIN privacy, and user feedback incentivized LLM development, aligning open-source AI models with transparent parameters and datasets for verifiability.

Decentralized AI emerges as a viable alternative to OpenAI. LibertAI prioritizes enhanced privacy by offering confidential decentralized inference and connectivity to knowledge bases. This method leverages open-source models with transparent parameters and datasets. AI agents can independently scale and fund their computing requirements on a decentralized network like the Aleph.im network, removing human limitations such as the need for credit cards or KYC procedures. The design of LibertAI provides verifiable AI decision-making within a Trusted Execution Environment in confidential VMs, particularly beneficial for DAOs. This model may potentially lead to AI entities that need to generate revenue to sustain themselves by managing their computing costs, setting the stage for the development of AGI.

---

Decentralized AI

---

Confidential inference

---

Open-source / verifiable

---

Autonomous AI workflow

---

# Confidential Inference

LibertAI ensures data is always encrypted and privately stored on distributed computing networks. The platform's integration with Aleph.im computing DePIN secures the mapping and training of AI data, and offers distributed CPU and GPU for cost-effective AI. Aleph.im counts esteemed clients and partners like Ubisoft, Synaps, and Request Network.

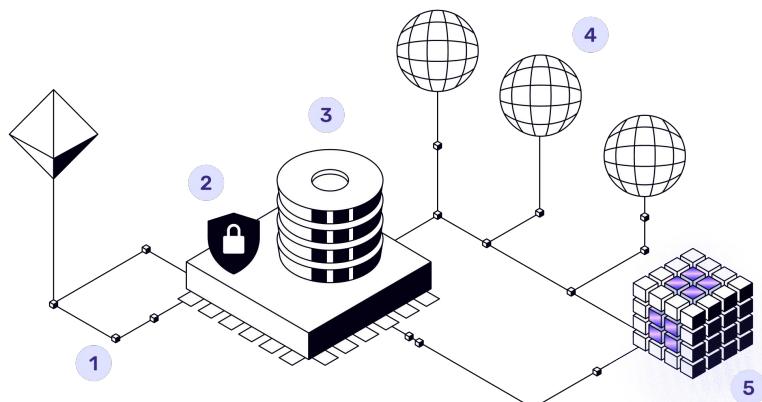
## LLMs are hosted in IPFS

IPFS enables decentralized storage & sharing of LLMs with data integrity & authenticity via cryptographic hashes. Resilient to node failures, supports large data, & allows sharing of IPFS hash for accessing LLMs.

## Encrypted data in Confidential VMs

Confidential VMs are cutting-edge virtual machines designed to provide a secure environment for processing sensitive data, particularly AI workloads. They use hardware-based encryption for data processing, ensuring that the hypervisor, which creates and runs VMs as well as other system components, cannot access the data. This creates a highly secure and isolated environment for AI workloads, significantly reducing the risk of data breaches. Confidential VMs can be used for sharing confidential datasets, collaborating on research, training and inferring AI models, and pre-processing sensitive data, all while keeping the data encrypted and de-identified.

- 1 Request
- 2 Encryption for the VM
- 3 Encrypted Storage and RAM on the CRN
- 4 External sources
- 5 Model loaded from IPFS



# Decentralized AI agents

**We build the path for Autonomous AI Agents  
Diverse personalized entities, each dedicated to distinct task.**

Decentralized AI enables the development and deployment of autonomous AI agents, leveraging blockchain technology and cryptographic economic incentives. Decentralized AI agents require efficient resource allocation to ensure optimal performance, which can be challenging in decentralized environments.

## Decentralized AI Infrastructure

Libertai aims to create a decentralized network of nodes that can run AI and ML models, enabling a more secure, transparent, and community-driven approach to AI development and deployment.

## Data graph access

Agents can access vast amounts of data graphs, enabling them to make informed decisions and learn from complex patterns and relationships.

## Crypto rails

Native payment rails enable AI agents to access capital, perform complex actions, reducing the need for intermediaries and increasing efficiency.

## Knowledge access

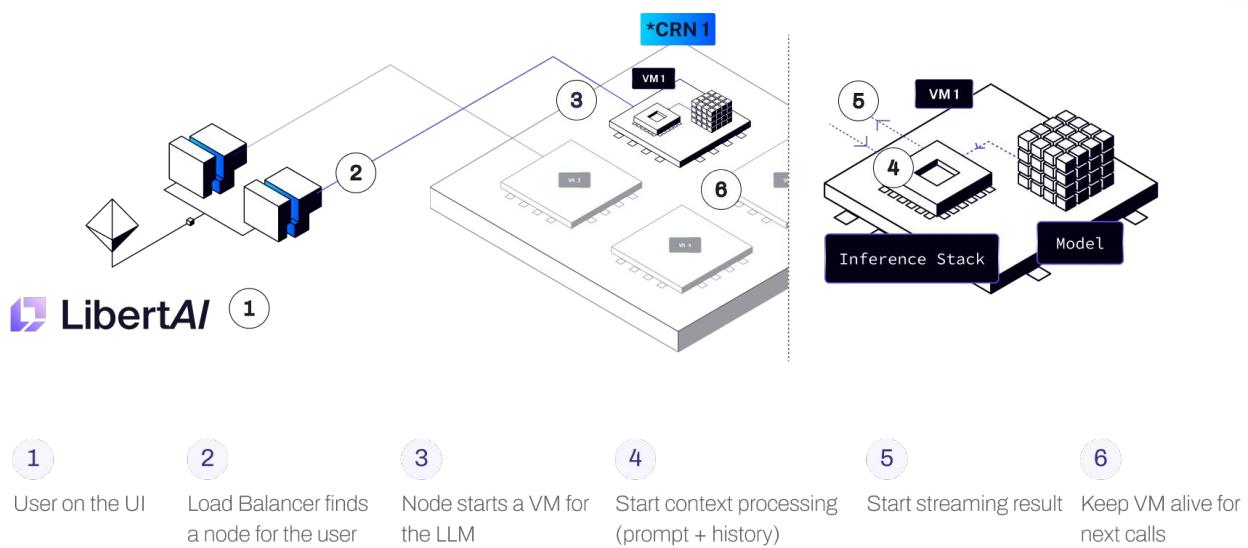
Agents can tap into a decentralized network of knowledge, allowing for rapid dissemination of information and collective intelligence.

## Private AI

Decentralized AI agents can operate privately, ensuring that sensitive data remains secure and protected.

# LibertAI

# Architecture

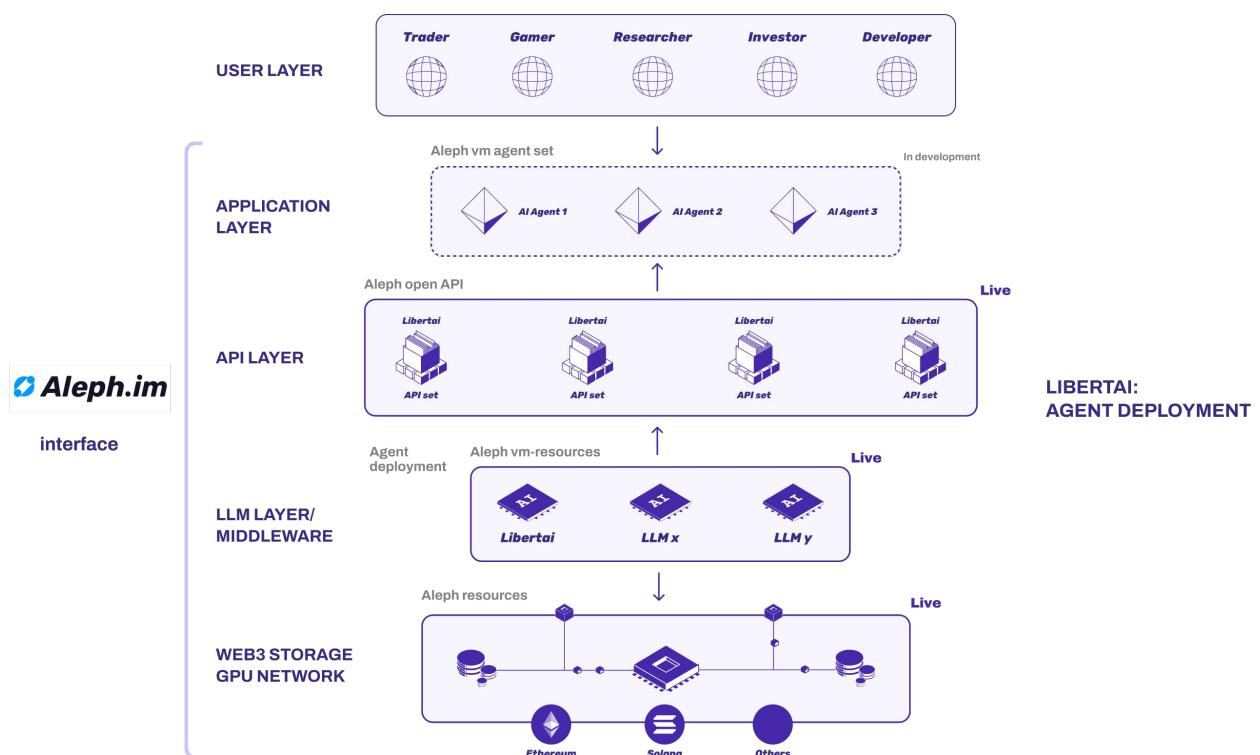


LibertAI is the core network powering various AI functionalities with open-source models for creating personalized AI personas and native web3 applications. Thanks to its native crypto rails and programmability this AI engine can fully automate workflows, access computing power more easily and even empower AI agents to pay for their computing resources.

Offers open source models and custom models on top of serverless GPUs and CPUs for fast confidential inferences. Leverages open-source models (using fast CPU inference) Cryptoeconomics security incentives for data providers, model developers, network operators and training contributors / AI alignment. Facilitates confidential AI tasks and workflows. No need for huge GPU farms.

# Aleph.im

## DePIN Role



Aleph.im is integral to the LibertAI decentralized AI inference process by providing Computing Resource Nodes (CRN) for text generation. This decentralized system ensures security and integrity. DePIN technology offers confidential computing for private information security, crucial for AI models handling private keys. Aleph.im enables a secure, private, and decentralized AI system for text generation in LibertAI.

- The global AI market size was valued at USD 515.31 billion in 2023 and is projected to grow from USD 621.19 billion in 2024 to USD 2,740.46 billion by 2032, exhibiting a CAGR of 20.4%.
- Tech giants like Amazon.com, Inc.; Google LLC; Apple Inc.; Facebook; International Business Machines Corporation; and Microsoft are investing significantly in research and development (R&D) of AI, thus increasing the artificial intelligence market cap.
- The global blockchain AI market is expected to grow from \$297.62 million in 2021 to \$384.44 million in 2022, at a compound annual growth rate (CAGR) of 29.2%. The market is expected to reach \$973.6 million by 2027, exhibiting a CAGR of 23.6% during the forecast period.

## Key Applications

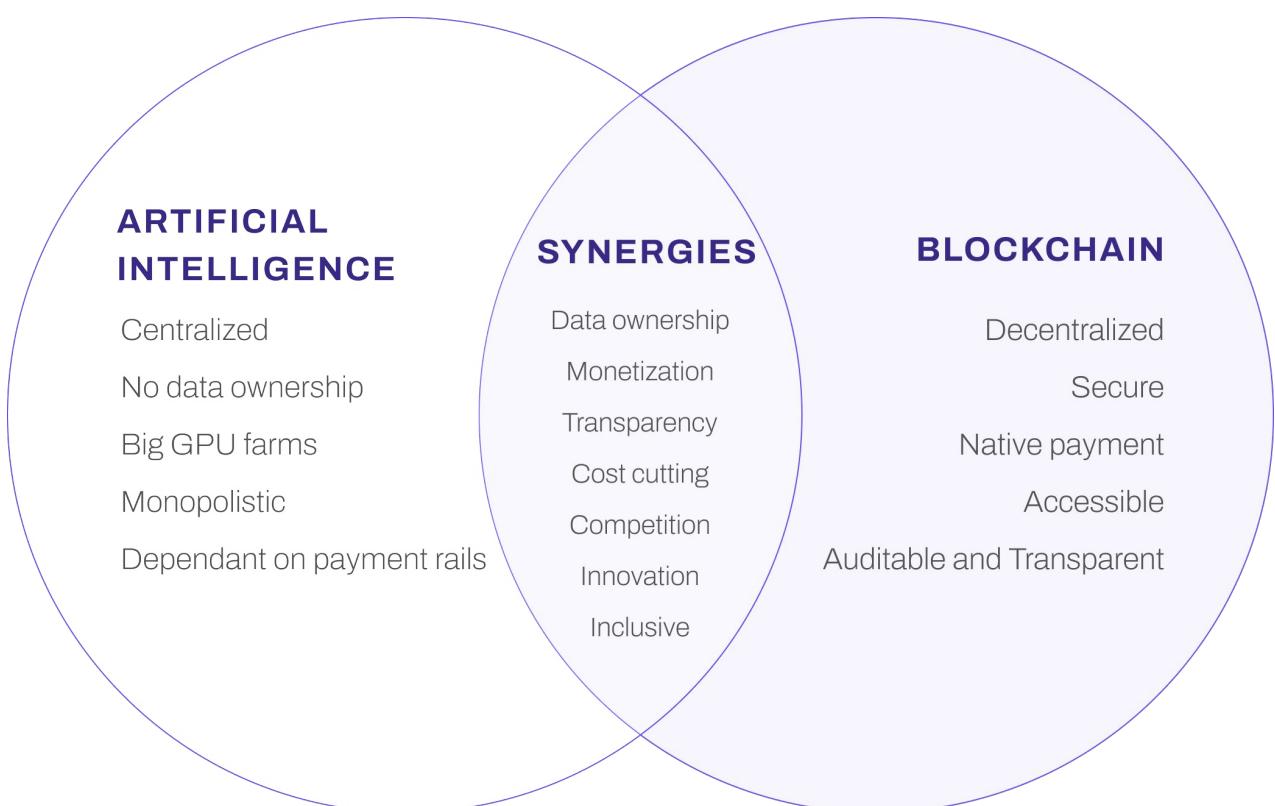
- Computer Vision: The Computer Vision market covers applications that enable computers to interpret and understand digital images and video data.
- Machine Learning: The Machine Learning market covers the use of algorithms to enable computer systems to learn from data.
- Artificial General Intelligence (AGI): AGI is a type of AI that enables machines to perform any intellectual task that a human can.

**"To compete with the large monopolistic companies dominating the AI industry, we need more awareness around AI privacy and the right foundations to enable this vision. It's a big challenge that we're undertaking, and by leveraging some of the most thriving ecosystems like Base by Coinbase, we hope to achieve this level of awareness with a mainstream audience"**

**Jonathan Schemoul, lead contributor to LibertAI and co-founder of aleph.im.**

## AI and blockchain intersection

The convergence of AI and crypto



# \$LTAI Token

The \$LTAI token deployed on Base, facilitates native payment rails and extended decentralized financial applications (DeFi). \$LTAI grants access to advanced models and features, a personalized knowledge base, tiered API plans, rewards for hardware provisioning and model improvements, and the deployment of agents on the network.



## Unlock advanced models and features

Crypto-economics security incentives for data providers, model developers, network operators and training contributors / AI alignment.

User

Access to exclusive client-side encrypted knowledge database

User

Upgrade to advanced models, extended context, and confidential inference

User

Unlock personas and knowledge database sharing with revenue split

User

Earn \$LTAI tokens by sharing feedback on model answers

API

\$LTAI allows API calls to premium models or those exceeding the free daily limit

API

Run private AI inference

Agents

Deploy private AI agents onchain

Agents

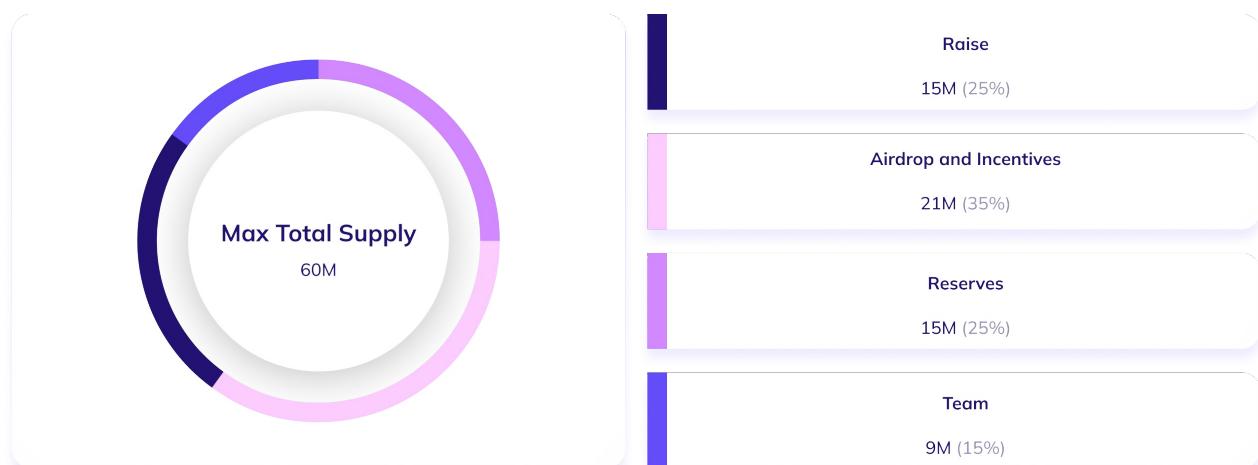
AI Agents can purchase their own computing power, TEE confidential or not, through Aleph.im DePIN network

Agents

AI access to blockchain data using indexers and RPCs in the Base network

## Overall total supply and distribution

At launch, the LTAI token supply will be limited to 60 million (60,000,000), with initial allocations for the following ecosystem contributors:



## Initial Token Supply

The total token supply is 60 million, with 20.6 million available at the TGE. Over the next 24 months, 45.5 million tokens will be distributed among investors, the development team, and the community to ensure gradual and stable distribution.

### Raise

25% of the tokens (15M) are allocated for the pre-launch raise. These tokens are distributed at the Token Generation Event (TGE) and over 24 months to raise initial funds and ensure early supporters have a stake in the project. Any unsold tokens from the raise will be allocated to reserves. At the TGE, 50% of the tokens will be available, with the remainder being gradually vested.

### Reserves

25% of the tokens (15M) are available initially as reserves, with the total reserves reaching to 15 million over 7 years. A portion of these reserves will be dedicated to enhancing Uniswap V3 pools for liquidity, while the remainder will be accessible for future fundraising, market making, and other critical purposes.

### Team

15% of the tokens (9M) are allocated to the team, including early contributors and advisors, with a release schedule over 7 years. This incentivizes the team to continue developing the project. Initially, 1 million tokens are available at TGE, with the remainder distributed over 7 years.

### Airdrop and Incentives

35% of the tokens (21M) are reserved for community airdrops, including the Aleph airdrop and future campaigns to reward and engage community members. These tokens are released gradually over 10+ years to ensure stability and sustained community involvement.

# Pools

Gradual release

## Vesting Schedule

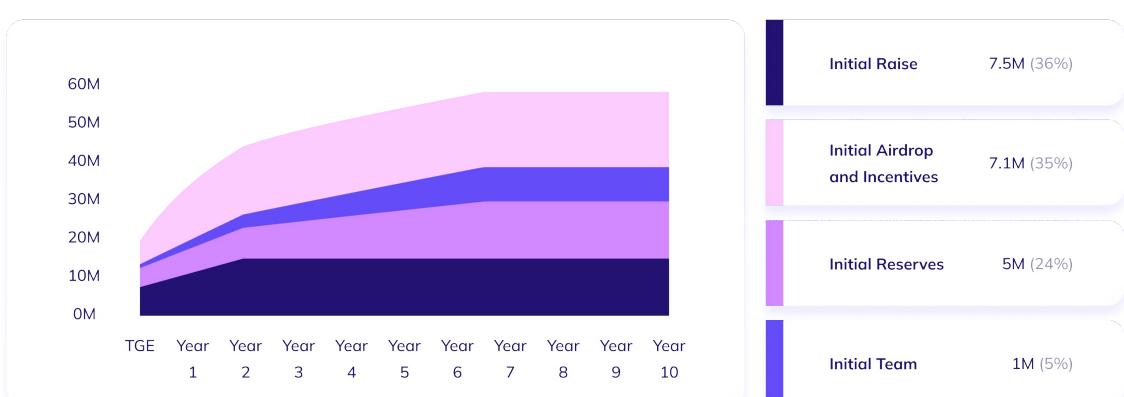
The token \$LTAI will be minted linearly with an initial supply of 60 million, and 21 million will be distributed gradually over a decade through an airdrop.

There will be a 25% raise at the Token Generation Event (TGE), with the remaining tokens released gradually over 24 months.

Community reserves will be vested for 7 years, and the team tokens will have 1 million tokens released upfront, with the rest vested over 7 years.

LibertAI's implementation of a linear vesting schedule ensures stability, long-term viability, and community trust.

Tokens are released gradually over specified periods, as described below:



Airdrop and Incentives Distribution



# Contact

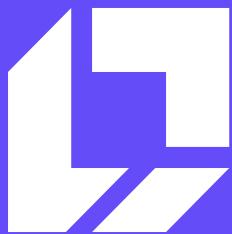
Feel free to contact us for any inquiries or to proceed with our proposal.

𝕏 @LibertAI\_DAI

✉️ hello@libertai.io

🌐 LibertAI.io





LibertAI