SEI PROJECT

White Paper

Liceria & Co.

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1.Overview

By launching the SEI AI PROJECT, we aim to create a safe place for everyone to build their blockchain-based solutions and
conduct transactions securely and efficiently.

The SEI AI PROJECT blockchain is designed to handle the scalability issues and poor user experience that currently hinder the mass adoption
of decentralized applications. It addresses challenges such as slow block confirmations, high transaction fees, and low scalability to
ensure a seamless user experience.

1.1 Scalability

One of the significant issues for blockchain technology is its limited ability to process a high volume of transactions per second. This
is especially important for public blockchains such as the SEI AI PROJECT blockchain, which must simultaneously process transactions from
many actors.

1.2 Security

Despite impressive results in performance, the SEI AI PROJECT blockchain maintains security and decentralization. It uses an advanced
consensus mechanism [Web3] and a distributed artificial intelligence network structure to maintain the decentralized nature and security of the network.

1.3 Regulation

More than technical security is needed for mass adoption. As practice has shown, even projects with impressive technical results are
at risk of collapse. A relatively nascent technology, blockchain has many questions surrounding its regulation. As a result, countries
have taken different approaches to regulate blockchain and cryptocurrencies. At the SEI AI PROJECT, we are dedicated to
promoting the widespread adoption of blockchain technology by creating a framework that upholds the rule of law and ensures a
safe environment for various users, including retail customers, institutions, and sovereign nations. We strive to maintain the highest
governance standards.
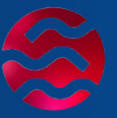
2. DYNAMİC SEI AI PROJECT PROTOCOL

2.1 Shardchain

A shardchain is a smaller slice of a blockchain state responsible only for a subset of accounts defined by a binary prefix. Each range
is validated by a group of validators responsible for processing a specific subset of transactions only for that range.

Initially, all transactions are processed by one group of validators belonging to a shardchain Ø. However, as the number of
transactions increases and the shardchain becomes overloaded, the network triggers a split event in which the shardchain is divided
into two shardchains. Then if the load on some shardchain is high, these shardchain may be further divided until the load is
appropriately distributed. If the load on the network decreases, the network can trigger a "merge event" in which the shardchains
are merged back into one shardchain.

SEI AI PROJECT CHAİN
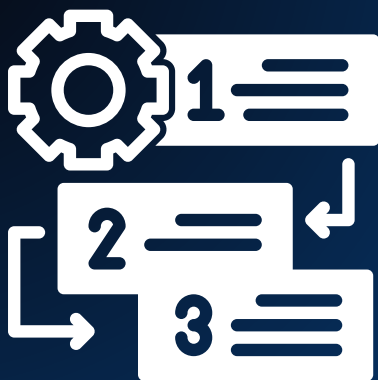
Jack Shannons   Daniel Dia
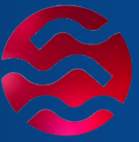
3. Workchains

Workchains are specialized layer-1 blockchains that, on the one hand, can work independently and have their state transition

function, virtual machine, cryptographic primitives, transaction or block structures, and native token. On the other hand, they have

the property of interoperability that allows transferring assets between workchains. It is able to meet a wide range of blockchain use

cases, such as CBDC and DeFi, NFT, and Gaming, among others. Workchains can take on different forms and implementations

depending on the specific function they are meant to serve.

3.1 Masterchain

The masterchain serves as the backbone of the SEI AI PROJECT blockchain, providing a high level of security for all workchains connected to

it. The masterchain validators are motivated to secure the network by staking their tokens. By being connected to the masterchain,

workchains also benefit from this security, as the masterchain validators' efforts protect them.

Workchain

Sharchain
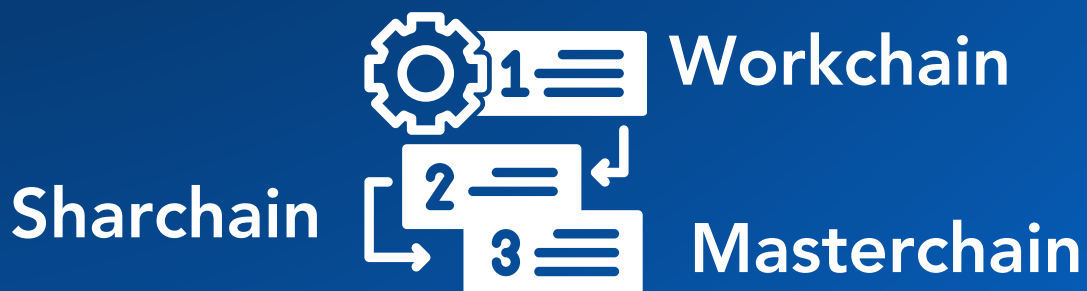
Masterchain

3.2 Basechain

At launch, The SEI AI PROJECT blockchain consists of two networks: the Masterchain and the Basechain. The Basechain is the first layer-1

workchain for end-users, supporting dApps and serving as the platform for executing smart contracts. Both networks employ the

Threaded Virtual Machine (TVM) for smart contract execution, with the Basechain offering lower storage and execution fees than the

Masterchain.

4. Consensus Protocol

In distributed systems, where multiple parties are involved, it is critical to ensure the security of an agreement process on specific
aspects of the system, such as the current state, which transactions should be included in a block, and who will update the
blockchain's state. Different parties may have various views of the same system or act maliciously or unreliable. Without consensus,
conflicts and inconsistencies can lead to forks in the chain.

The primary goal of the consensus protocol is to provide a mechanism for all the parties involved in the network to reach an
agreement on the current state of the blockchain and to ensure that all the transactions included in a block are valid and that the
blockchain state is updated consistently and securely on all levels (shardchains, workchains, and masterchain).

The SEI AI PROJECT blockchain utilizes a Proof of Stake (PoS) consensus mechanism with The Byzantine fault-tolerant (BFT) algorithm to
reach a consensus agreement between validators.

The validator maintains the network's security by staking its SEI AI PROJECT tokens and committing to participate in consensus with other
validators. The validator plays an essential role in maintaining the network's security through staking SEI AI PROJECT tokens and actively
participating in the consensus rounds with other validators. The validator proposes candidate blocks and votes on blocks proposed
by other validators.
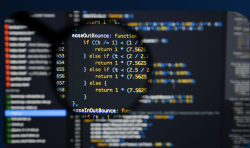
5. Virtual Machine

The SEI AI PROJECT blockchain provides a way for smart contracts to be executed on TVM (Threaded VirtualMachine), a Turing complete

machine on the basis of its ability to execution of machine- level instructions. Note Threaded Virtual Machine is used to execute

smart-contract code in the masterchain and basechain[9]. Other workchains on the SEI AI PROJECT blockchain may use other virtual

machines instead of the TVM (e.g.,EVM). By design, TVM has an asynchronous model of communication between accounts. Each

account can only affect the state of another account only by sending a message.

5.1 Initialization

A smart contract can be deployed by sending an external message [5.3] containing the code and initial data of a future account to

the network. Before sending that message, the sender should increase a balance of an account address of the deployable contract.

The deterministic derivation of an account address is a crucial aspect of distributed programming in TVM[5.2], as it enables

participants to calculate the same address given the same inputs independently. This allows for the pre-calculation of an address

before deploying a smart contract on the network, for example, enabling the transfer of tokens to a non-deployed contract. Another

smart contract also can initiate the deployment of a new smart contract by sending an internal deploy message [5.3].

5.2 Upgradability

The original idea behind smart contracts is that they are self-executing contracts with the terms of the agreement written directly

into code. The agreements and the code contained therein exist in a state that can not be altered. However, the immutability of

smart contracts can also be a problem if errors are discovered in the code or if the contract needs to be updated to reflect changes

in the real world. The upgradability of smart contracts allows for the improvement and maintenance of smart contract functionality

over time.

6. Threaded solidity (T-Sol)

Multiple high-level programming languages can be utilized in conjunction with the native "assembly "language on the TVM platform. One is T-Sol (Threaded Solidity): the asynchronous dialect of solidity programming language adapted to TVM's Actor Model.

The Actor Model is closely related to asynchronous programming, based on the same principles. Asynchronous programming is a paradigm based on non-blocking I/O and concurrency, where a program can perform other tasks while waiting for input or output operations to complete. As in the SEI AI PROJECT blockchain, calls to accounts have non-blocking nature and can be executed concurrency by shards.

"Classic" Solidity, used in EVM-like blockchains, does not have built-in support for concurrency. Still, it has quickly gained popularity as the primary language for developing smart contracts on the BSC blockchain. Because of this popularity, many resources are available for learning Solidity, including tutorials, documentation, and example code.

The SEI AI PROJECT blockchain utilizes T-Sol, a programming language designed explicitly for the TVM Actor Model, and uses the same syntax as the Solidity language. It provides built-in support for message-passing, state management, and creating, updating, and deleting actors (accounts). And the language is widely adopted by developers, making it easy to use and understand.

T-Sol supports several features to support the Actor model:

1.Actor management: Managing actors, including creating new actors and deleting existing ones;

2.Message passing: Message passing, such as sending messages to other actors and receiving messages from other actors;

3.State management: Managing the state of actors, including reading and modifying the state of an actor;

4.Access control: Functionality for access control, such as defining which actors can read or write to another actor's state;

5.Interoperability: Sending messages between actors on different shardchains and workchains as well;

6.State isolation: Actors should be isolated from each other so that the failure of one actor does not affect the execution of other actors.

(T-Sol)

Classic solidity

EVM-like blokchains
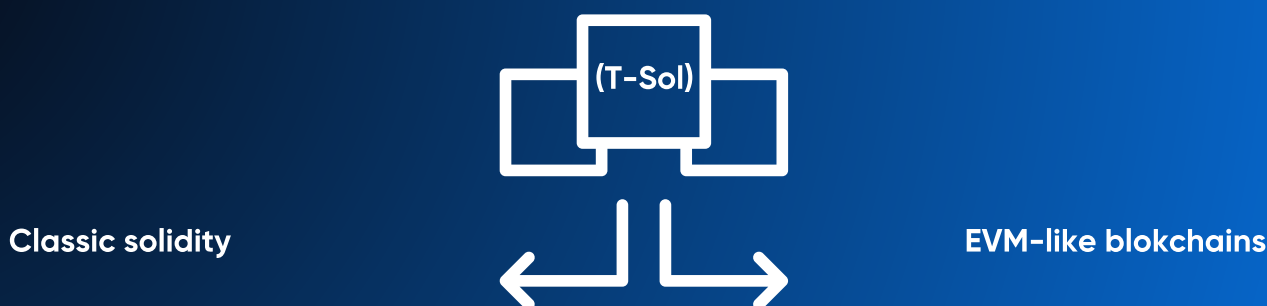
7. The SEI AI PROJECT Blokchain

SEI AI PROJECT blockchain is a decentralized network built on innovative technology that provides fast, secure and scalable solutions.
various industries. The technology behind the SEI AI PROJECT blockchain has been tested and proven in the real world, starting from R&D.
It's 2023 and we're moving towards the first stable network called AI PROJECT with a bandwidth of 24,000+ transactions in a near-live environment 2,000 in the periphery and mainnet. The community and core development teams have contributed to the development of the network.
Improvement by applying concepts, fixing bugs, and increasing security.

SEI AI PROJECT is a non-profit project responsible for managing the development of the SEI AI PROJECT blockchain and
to encourage adoption. It aims to bring new life to the technologies and core concepts born from Everscale by combining them with:
smart management and compliance. The foundation aims to facilitate the development of robust and decentralized networks
It is a company that offers efficient solutions for various industries. is committed to constantly improving the functionality of the main network and
It ensures safety while ensuring compliance with international laws and regulations.
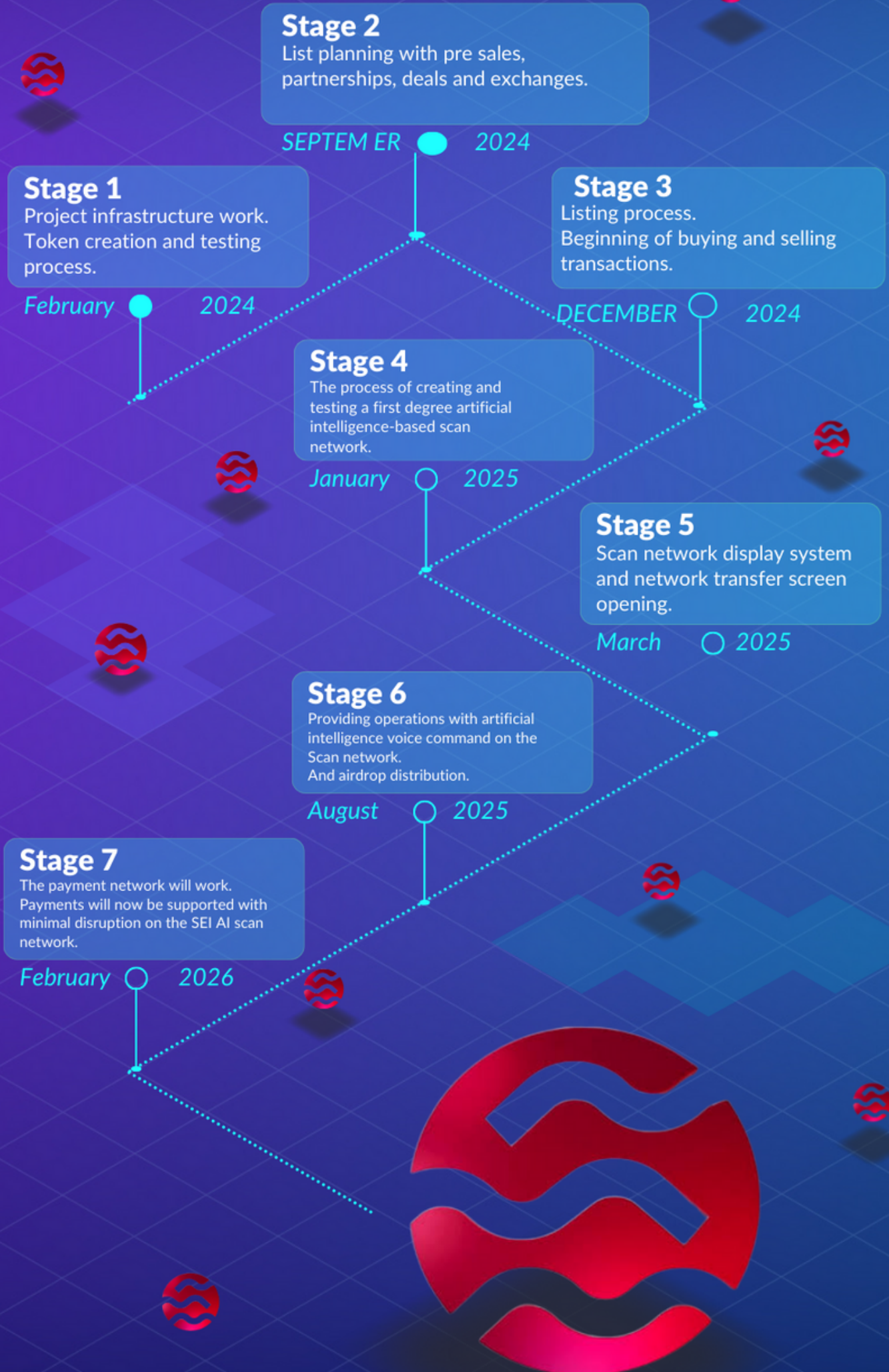
Research   **Experiment**   **Optimize**

Launch Roadmap

Stage 2
List planning with pre sales, partnerships, deals and exchanges.

SEPTEM ER ● 2024

Stage 1
Project infrastructure work. Token creation and testing process.

February ● 2024

Stage 3
Listing process. Beginning of buying and selling transactions.

DECEMBER ○ 2024

Stage 4
The process of creating and testing a first degree artificial intelligence-based scan network.

January ○ 2025

Stage 5
Scan network display system and network transfer screen opening.

March ○ 2025

Stage 6
Providing operations with artificial intelligence voice command on the Scan network.
And airdrop distribution.

August ○ 2025

Stage 7
The payment network will work. Payments will now be supported with minimal disruption on the SEI AI scan network.

February ○ 2026

TOKENOMICS

Ecosystem: 23%

Team & development: 10%

Marketing : 5%

Staking: 10%

ICO: 32%

Exchange Liquidity: 10%

Rewards: 10%

Project promotion: 5%