

OSNIAS Token — Technical White Paper & Audit Reference

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Prepared by Denis Bouzon · ORCID 0009-0007-8894-8902

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DOCUMENT SCOPE

This white paper is a technical document describing the OSNIAS token architecture, deployment model, smart-contract behavior, governance boundaries, security invariants and audit expectations. Legal, regulatory, contractual and compliance matters are addressed separately in dedicated Osnias Clearing documentation. This document is intended for public technical archiving and DOI publication.

AUDIT SCOPE PRINCIPLE

OSNIAS is a governance and strategic-reserve token. It shares the Sei execution layer with clearing-register tokens, but the governance/reserve and clearing-accounting economic domains must remain strictly isolated.

1. Public Reference Deployment — Sei Testnet

OSNIAS is publicly deployed on Sei Testnet (Atlantic-2) as the current technical reference implementation. The deployment uses the Sei EVM environment and LayerZero V2 OFT infrastructure. The public testnet instance is intended for integration testing, governance validation, OFT testing, explorer inspection and pre-audit review. It is not the future Mainnet production address.

Field	Sei Testnet reference
Network	Sei Testnet (Atlantic-2)
EVM Chain ID	1328
RPC	https://evm-rpc-testnet.sei-apis.com
Explorer	https://testnet.seiscan.io
Contract address	0x129C294D476748E5b4D67B6EC403c97c399b756d
Creation transaction	0x65d21cec2d6c75748be2e3a65d6f95ef96a40835bf9dbf90f8541b8e606ddaa9
Block	268336844
Deployment date	31 August 2026 · 07:44:16 UTC
Deployer	0xEAcc9B9e1f18AaE5879e9259684578903d09C4CC
Gas used	4,527,233 / 8,000,000
Gas price	55 Gwei
Deployment fee	0.248997815 SEI

DEPLOYED REFERENCE STATUS

The Sei Testnet address above is the current public OSNIAS reference for this document. Any future Sei Mainnet deployment must be independently identified in the Osnias Clearing production registry.

2. Contract Identity and Compilation

Property	Value
Solidity contract	OSNIAS
Source reference	osnias-sei-testnet-flat.sol
Token name	Osnias Clearing Governance Token
Symbol	OSNIAS
Decimals	6
Genesis supply	100,000,000 OSNIAS
Compiler	solc v0.8.22+commit.4fc1097e
Optimizer	Enabled · 200 runs
EVM version	Paris
vialR	true
License	UNLICENSED

The genesis supply is fixed at 100,000,000 OSNIAS with six-decimal precision. The audit objective is to verify that no arbitrary management path can create post-genesis supply outside the intended OFT accounting model.

3. LayerZero V2 OFT Configuration

Field	Value
Protocol	LayerZero V2 OFT
Sei Testnet endpoint ID	40455
Endpoint address	0x6C7Ab2202C98C4227C5c46f1417D81144DA716Ff
_lzEndpoint constructor parameter	0x6C7Ab2202C98C4227C5c46f1417D81144DA716Ff
_delegate constructor parameter	0xEAcc9B9e1f18AaE5879e9259684578903d09C4CC

OSNIAS may use OFT functionality for economic mobility across supported EVM networks. Cross-chain mobility does not extend governance rights. The canonical Sei state remains the sole governance domain.

4. Canonical Sei Governance State

OSNIAS governance is intentionally chain-local. Sei is the canonical governance domain for Osnias Clearing. On the current public reference deployment, Sei Testnet is the canonical test voting state; in production, the independently deployed Sei Mainnet instance is intended to become the canonical production governance state.

OSNIAS on canonical Sei state = economic value + governance eligibility. OSNIAS outside Sei = economic value only.

Governance eligibility is restored only when OSNIAS returns to the canonical Sei chain and is held in a form recognized by the applicable voting mechanism. The protocol does not aggregate governance power from remote chains, external staking systems, farms, custodial representations or other off-Sei environments.

SECURITY / GOVERNANCE PRINCIPLE

Sei is the single source of truth for OSNIAS voting eligibility. An OSNIAS token may circulate economically outside Sei, but it cannot exercise Osnias Clearing governance rights until it returns to the canonical governance chain.

5. Observable and Deterministic Electorate

Because governance is confined to Sei, the protocol maintains a single observable governance state. At any point in time, the governance system can derive the set of governance-eligible OSNIAS balances and the addresses entitled to exercise or receive delegated voting power from the canonical Sei state, subject to the applicable voting rules and checkpoints.

This design avoids cross-chain vote aggregation, remote vote synchronization, bridge-dependent voting messages and reconciliation of duplicated or stale voting power. It also provides auditors with a single canonical ledger against which governance eligibility can be tested.

GOVERNANCE LOCALITY INVARIANT

A token cannot simultaneously provide Osnias Clearing voting power on Sei and on another blockchain. Economic mobility is omnichain; governance authority is not.

6. Economic Firewall — OSNIAS vs Clearing Register Tokens

OSNIAS is deployed on the same Sei execution layer as ORUSD and OEURO for infrastructure consistency and architectural coherence. This co-location must never be interpreted as an economic, functional, liquidity or collateral relationship between the governance/reserve token and the clearing-register tokens.

CORE SEPARATION INVARIANT

OSNIAS must never become directly or indirectly convertible into a clearing-register token through an Osnias Clearing protocol-native mechanism. Likewise, clearing-register tokens must never become directly or indirectly convertible into OSNIAS through protocol-native mechanisms.

OSNIAS	Clearing Register Tokens
Governance	Internal clearing representation
Strategic reserve	Register accounting
Externally composable EVM asset	Clearing settlement logic
OFT-enabled economic mobility	Network-local restricted circulation
External market integrations technically possible	No protocol-supported DeFi/market routing

- No protocol-native OSNIAS ↔ ORUSD/OEURO swap or conversion path.
- No protocol-authorized OSNIAS / clearing-token liquidity pair.
- No protocol-created farming relationship combining OSNIAS and clearing-register tokens.
- No OSNIAS market-value dependency for issuance or settlement of ORUSD/OEURO.
- No OSNIAS privileged role automatically grants administrative authority over ORUSD/OEURO.
- No clearing-register balance grants OSNIAS governance rights.

SHARED EXECUTION LAYER, SEPARATE ECONOMIC DOMAINS

The shared Sei execution environment provides common infrastructure and tooling. It does not create economic interoperability

between OSNIAS and the clearing-register economy.

7. External EVM Composability

OSNIAS is intentionally transferable and technically composable outside the canonical Sei governance domain. On supported EVM networks, third-party protocols may choose to integrate OSNIAS for custody, staking, farming, lending, escrow, liquidity provision, collateral arrangements, DEX trading, CEX custody or other compatible applications.

TECHNICAL COMPOSABILITY ONLY

External integrations are third-party technical possibilities. They do not constitute a promise by Osnias Clearing of yield, liquidity, listing, market depth, price support or price appreciation. External use must not synthesize or extend Osnias Clearing voting rights outside Sei.

8. Governance-Constrained Management Model

OSNIAS governance is designed to supervise strategic use of the token without replacing day-to-day management. Smart contracts enforce non-negotiable safety invariants; governance defines strategic mandates and material limits; operational management retains discretion within those approved boundaries.

Decision class	Typical scope	Vote required	Manager authority
Routine management	Technical administration, execution, partner coordination, ordinary asset management within approved policy	No	Full discretion within protocol invariants and approved policies
Management under mandate	Execution of an approved strategic framework, allocation envelope or partnership mandate	Framework vote only	Execution methods, timing and counterparties within mandate
Reserved governance matters	Exceptional reserve use, major strategic infrastructure, fundamental governance changes	Yes	Execution only after valid governance decision

AUDIT EXPECTATION

Management flexibility must not create hidden authority to mint arbitrary supply, seize third-party balances, bypass governance-reserved matters, break OFT supply conservation, extend voting power outside Sei or create an economic bridge between OSNIAS and clearing-register tokens.

9. Non-Negotiable Contractual Invariants

Invariant	Required property	Management override
Supply integrity	No arbitrary post-genesis supply creation beyond the intended contract/OFT design	Not permitted
Holder property rights	Management cannot seize or burn third-party balances merely by administrative decision	Not permitted
Governance locality	Off-Sei OSNIAS carries economic value but no Osnias Clearing vote	Not permitted
OFT conservation	Cross-chain movement preserves intended global supply accounting	Not permitted
Clearing-token firewall	No protocol-authorized swap, farming pair, LP, collateral relationship or conversion with ORUSD/OEURO	Not permitted
Reserved matters	Actions classified as governance-reserved require applicable vote	Vote required
Routine management	Execution within valid mandates and protocol invariants remains discretionary	Permitted
Single governance state	No remote voting power or cross-chain vote aggregation	Not permitted

10. Deployment Verification Status

Platform	Status	Interpretation
SeiScan — bytecode	Bytecode corresponding	Deployed bytecode corresponds to the expected compiled contract
SeiScan — source	Pending	Current explorer flow does not support the required vialR verification path
Sourcify	In progress	Verification effort affected by matching

VERIFICATION PRINCIPLE

Explorer source-verification tooling is distinct from the deployed bytecode. The audit record therefore distinguishes bytecode correspondence from full source publication on a third-party explorer.

11. Security Validation Pipeline

OSNIAS is intentionally compact at the token-contract level. It does not implement native staking, farming, escrow, liquidity pools or clearing-token conversion logic. This reduces native attack surface but does not remove the need for disciplined security validation.

Security objective	Primary validation	Audit interpretation
Contract exposure and visibility	Slither + manual review	Identify exposed functions, inheritance, modifiers and state-changing paths
Manager privilege boundaries	Slither + unit tests	Verify sensitive operations are restricted as intended
Supply integrity	Slither + invariant tests	Map mint/burn/OFT paths and exclude unintended supply creation
Burn permissions	Slither + unit tests	Confirm third-party balances cannot be administratively destroyed outside intended model
OFT external-call surface	Slither + integration tests	Review LayerZero-related paths and peer configuration
OFT global supply conservation	Invariant + cross-chain tests	Exercise debit/credit accounting end-to-end
Governance locality	Architecture + governance tests	Verify voting power only exists on canonical Sei state
OSNIAS / clearing-token firewall	Multi-contract review + tests	Verify no protocol-controlled conversion, swap, LP, farming or collateral path

Slither supports pre-audit static analysis; it is not an audit, formal proof or on-chain security mechanism. Unit tests, fuzzing, invariant tests, OFT integration tests and manual review remain required.

12. Recommended Pre-Audit Sequence

- Reproducible Solidity compilation with solc v0.8.22+commit.4fc1097e, optimizer 200, EVM Paris and viaIR=true.
- Slither static analysis focused on supply, privileges, external calls and clearing-token firewall boundaries.
- Unit tests for transfer, burn, governance, delegation and privileged operations.
- Fuzz and invariant testing for supply conservation and holder-property constraints.
- Sei Testnet integration testing against 0x129C294D476748E5b4D67B6EC403c97c399b756d.
- LayerZero V2 / OFT cross-chain tests using endpoint ID 40455 and the configured endpoint address.
- Governance-locality tests confirming no off-Sei voting power.
- Multi-contract review of OSNIAS, ORUSD and OEURO economic and administrative separation.
- Final Sei Mainnet deployment and privileged-key configuration review.

13. Mainnet Privileged-Key Security

The current Sei Testnet reference deployment uses a simplified administrative configuration appropriate to development and testing. The future Sei Mainnet production deployment is intended to replace sensitive single-key administration with a multisignature security architecture for critical roles.

- Production privileged OSNIAS administration controlled by multisignature rather than a single EOA.
- Cold / emergency keys stored separately and used only under defined recovery procedures.
- Quorum-based signer control to reduce single-key compromise and single-person dependency.
- External registry of production contract addresses, privileged roles, OFT endpoints/peers and recovery procedures.
- OSNIAS administrative roles remain separated from ORUSD and OEURO administrative domains.

ADMINISTRATIVE DOMAIN SEPARATION

Compromise of an OSNIAS privileged role must not, by design, grant manager, oracle, mint, burn or fee-recipient authority over ORUSD or OEURO.

14. Sei Testnet Three-Token Registry

Token	Role	Sei Testnet address
ORUSD	USD clearing register	0x0c3a19455b898913A1DaD93d724c24062293dB5F
OEURO	EUR clearing register	0x49A0D9D353e9b9860B137DFAA7f24ab83E14c7f7
OSNIAS	Governance / strategic reserve	0x129C294D476748E5b4D67B6EC403c97c399b756d

These three addresses identify the current public Sei Testnet reference deployments. Co-location on Sei does not create conversion, liquidity, collateral or shared administrative authority between the governance and clearing domains.

15. Auditor Acceptance Checklist

- Genesis supply is 100,000,000 OSNIAS with six decimals.
- No arbitrary post-genesis supply path exists outside the intended OFT accounting model.
- No administrative seizure or arbitrary burn of third-party balances exists.
- Only canonical Sei-state OSNIAS can contribute Osnias Clearing governance power.
- Off-Sei OFT representations have economic value but no governance rights.
- OFT transfers preserve intended global supply accounting.
- No protocol-native conversion, swap, LP, farming or collateral dependency exists between OSNIAS and ORUSD/OEURO.
- OSNIAS privileged roles do not grant administrative authority over ORUSD/OEURO.
- Sei Testnet deployment details, constructor parameters and LayerZero endpoint are reproducible.
- Mainnet privileged roles are migrated to the documented multisignature / recovery architecture before production.

FINAL TECHNICAL OBJECTIVE

OSNIAS should remain a fixed-supply governance and strategic-reserve asset with chain-local governance on Sei, OFT-enabled economic mobility, protected holder rights, auditable global supply accounting and a strict economic and administrative firewall from the Osnias Clearing register tokens.

Document revision: Version 2.0 — 31 August 2026. Sei Testnet deployment integrated, including contract address, creation transaction, block/date/gas data, compiler configuration, vialR, LayerZero V2 endpoint configuration, verification status and current ORUSD/OEURO/OSNIAS Testnet registry.

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