PHYRA

Liquid Staking Protocol for Pharos Network

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The composable, restaking-ready liquid staking primitive built natively for Pharos RealFi.

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Abstract

Phyra is a liquid staking protocol designed natively for the Pharos Network, a financial-grade Layer-1 blockchain purpose-built for RealFi and tokenized real-world assets. Phyra issues sPROS, a reward-bearing liquid staking token (LST) representing staked $PROS, the native token of Pharos. Holders of sPROS continue to earn validator rewards while maintaining full liquidity and composability across the Pharos DeFi ecosystem.

With Pharos Network entering mainnet on April 28, 2026, an immediate gap exists in the ecosystem: there is no production-grade, native liquid staking primitive. Without an LST available from the earliest stages of the network, capital deposited into native staking becomes economically illiquid and disconnected from DeFi, lending, and RWA-backed strategies. This is the same friction observed historically on Solana, where the late emergence of LSTs slowed the migration of stake from native to liquid staking and prevented years of compounding capital efficiency.

Phyra solves this by launching as the first-mover LST on Pharos, with a minimalist Phase 1 architecture optimized for safety and time-to-market: reward-bearing token model, curated permissioned validator set, restaking-ready architecture, and a 5% protocol fee designed to be competitive with the rest of the LST market. The protocol roadmap progresses toward native restaking activation in Phase 2 and full decentralization with a permissionless validator set and DAO governance in Phase 3.

This document describes Phyra's technical architecture, smart-contract design, validator selection model, security framework, tokenomics, and the multi-phase roadmap leading from concept to a fully decentralized, governance-driven liquid staking ecosystem on Pharos.

1. Introduction

1.1 The Pharos Network

Pharos Network is a financial-grade, asset-native Layer-1 blockchain built to bridge over $50 trillion in real-world assets (RWAs), traditional finance (TradFi), and cross-chain capital into a unified onchain economy. The network's Pacific Ocean Mainnet went live on April 28, 2026, after a high-volume testnet that processed more than 4.3 billion transactions across 209 million wallets.

Pharos employs a modular architecture composed of a Base layer, Core layer, and L1-Extension. Its consensus mechanism, AsyncBFT, achieves sub-second finality. The execution environment supports both EVM and WASM through a dual virtual machine, with deep-parallel execution via the Pharos VM (PVM) reaching throughput of approximately 2 Gigagas per second on mainnet. The native restaking module enables validators to extend stake into Special Processing Networks (SPNs), customizable execution environments that share Pharos security.

The native asset of Pharos, $PROS, is used to pay gas, secure the network through delegated Proof-of-Stake, govern protocol parameters, and serve as collateral in RWA-backed financial primitives. With a fixed genesis supply of 1 billion PROS, a 12-month cliff and 36-month linear vesting on team and investor allocations, and active staking from day one, the staking economy of Pharos requires a liquid staking layer to function efficiently from the very beginning.

1.2 The Liquid Staking Primitive

Liquid staking is a foundational DeFi primitive that decouples the time-locked, validator-bonded nature of native staking from the liquid, composable nature of fungible tokens. By depositing the native asset into a liquid staking protocol, users receive a tokenized claim, the LST, that accrues staking rewards while remaining fully transferable and usable across DeFi: lending markets, decentralized exchanges, perpetual venues, RWA-backed strategies, and stablecoin collateralization.

LSTs have proven to be one of the most capital-efficient primitives in DeFi. On Ethereum, Lido's stETH alone has historically captured over 30% of all staked ETH, demonstrating both the demand for liquidity and the network effects accruing to the dominant LST. On Solana, the late entry of LSTs such as mSOL and jitoSOL caused several years of stake to remain trapped in native staking, where it could not compose with lending, trading, or yield strategies, slowing overall ecosystem growth.

1.3 Why Phyra, Why Now

Pharos mainnet has been live for nine days at the time of this writing. The window to establish a native, production-grade LST is open and closing. Once retail and institutional stake settles into

native staking, the friction of migrating to a liquid staking solution becomes a structural barrier, as observed on every chain that delayed its LST infrastructure.

Phyra exists to ensure that on Pharos this delay does not occur. By launching as the native LST primitive in alignment with the Pharos ecosystem, the protocol enables PROS holders to access staking yield from day one without sacrificing liquidity, while providing the rest of the Pharos DeFi ecosystem, including Morpho lending markets, native DEX liquidity, and yield aggregators routing into RWA-backed strategies, with a yield-bearing collateral asset that compounds throughout the financial stack.

2. Problem Statement

2.1 The Liquidity Trap of Native Staking

Native staking on Proof-of-Stake networks creates an inherent capital efficiency problem. Stakers must lock their tokens with a validator to receive yield and contribute to network security. This bond creates two simultaneous costs: the unbonding period during which capital is fully illiquid, and the opportunity cost of foregone DeFi participation. For an active capital allocator, this means choosing between earning protocol-level yield and participating in the broader onchain economy.

On Pharos specifically, this trade-off is more acute than on a general-purpose chain. The Pharos thesis is RealFi: real-world assets onchain, composing with DeFi infrastructure. PROS holders that lock into native staking exit the very ecosystem the network is built to enable. Without an LST, every PROS staked is a PROS that cannot be deployed as Morpho collateral, supplied to native DEX liquidity, contributed to RWA-backed yield strategies, or routed through the next generation of asset-native applications building on Pharos.

2.2 The Cold-Start Friction

Empirical evidence from Solana, Cosmos, and Avalanche shows a consistent pattern: when LSTs are introduced after a network has been live for an extended period, they capture a smaller share of total staked supply, regardless of how strong the LST design is. The reason is behavioral and economic, not technical.

- Stakers who have already bonded with a specific validator face cognitive friction in deciding to migrate.
- Re-bonding cycles incur opportunity cost: the unbonding period is spent earning no yield, and during this period the user must execute multiple manual transactions.
- Tax implications differ across jurisdictions; switching from native staking to LST may trigger taxable events in some accounting models.
- Validators who have built relationships with stakers actively or passively discourage migration.
- Late LST adoption directly throttles DeFi growth: capital locked in native staking cannot serve as collateral, liquidity, or yield-bearing base layer in protocols, resulting in a structural slowdown of TVL expansion across the ecosystem's DeFi stack.

As a result, the dominant LST in any given ecosystem is almost always the one that ships first with sufficient quality. Phyra's strategic positioning is exactly this: ship a production-grade LST before stake hardens around native staking, while Pharos is in its first months of mainnet life.

2.3 Composability Gap in Pharos DeFi

Pharos has launched mainnet with a growing ecosystem of dApps, including lending infrastructure deployed natively in partnership with Morpho — the official lending infrastructure provider for Pharos — alongside RWA-backed strategies and DEX venues. None of these can currently use a liquid representation of staked PROS as collateral, because no such representation exists. This creates a structural inefficiency: the most capital-rich asset on the network, native PROS, cannot fully participate in the financial infrastructure built around it.

Phyra's sPROS resolves this by becoming the canonical yield-bearing collateral asset of the Pharos ecosystem. A user holding sPROS earns native staking rewards and can simultaneously: borrow stablecoins against it on Morpho, supply it to DEX liquidity pools, deploy it into RWA-backed yield strategies, or use it as base collateral within yield aggregators. Each of these integrations compounds the value of sPROS and reinforces the network effect of having a single dominant LST.

This composability gap is sharpest in the institutional segment of Pharos's roadmap. Pharos embeds zk-KYC and programmable AML at the protocol layer, positioning itself as the compliant L1 for tokenized RWAs and institutional-grade DeFi. As that segment matures, lending markets, RWA vaults, and yield strategies serving regulated capital will require yield-bearing collateral that is itself native to the chain—not a wrapped or bridged representation. A chain-agnostic LST cannot occupy this position because it cannot integrate at the protocol layer with Pharos's compliance primitives or its native restaking module. Phyra is built to be that asset: the staked-PROS primitive that flows freely through the regulated, RWA-aligned segment of the Pharos economy alongside its retail DeFi composability.

2.4 Restaking and the L1-Extension Opportunity

Pharos's L1-Extension layer introduces native restaking through Special Processing Networks (SPNs). Validators can opt to extend their stake into SPNs to earn additional rewards in exchange for taking on additional slashing conditions. While SPN restaking is a powerful primitive, it requires validators with the technical capacity to operate across multiple networks and the operational maturity to manage additional slashing exposure. Most PROS holders delegate to validators precisely to avoid this operational complexity.

Phyra is designed from day one with a restaking-ready architecture. While Phase 1 does not activate restaking to keep the initial protocol surface minimal and auditable, Phase 2 introduces a Restaking Adapter that integrates with Pharos’s L1-Extension restaking module. Through this adapter, Phyra’s curated validators participate in selected SPNs, with the additional yield (net of fees) flowing through to sPROS via the exchange rate. This positions Phyra to channel SPN

restaking yield to sPROS holders transparently and proportionally, without requiring holders to manage individual SPN positions or operational complexity.

3. Solution Overview

3.1 Protocol Summary

Phyra is a smart contract protocol that pools $PROS deposits from users, delegates them to a curated set of high-quality validators on the Pharos Network, and issues a fungible reward-bearing token, sPROS, that represents a proportional claim on the underlying staked PROS plus accrued rewards. Phyra does not custody assets in the off-chain sense; all PROS is held in audited smart contracts and delegated transparently on-chain.

3.2 sPROS Token Design

sPROS is implemented as a standard ERC-20 token. It is reward-bearing rather than rebasing: the user's sPROS balance does not change over time, but its underlying value in PROS increases as the protocol accrues staking rewards. The exchange rate between sPROS and PROS is calculated as:

```
exchangeRate = totalPooledPROS / sPROStotalSupply
```

This design has three concrete advantages over rebasing alternatives. First, it preserves full ERC-20 composability: every DEX, lending market, vault, and bridge that supports ERC-20 tokens supports sPROS without requiring a wrapper contract. Second, it simplifies accounting for integrators and auditors. Third, it removes a class of potential bugs related to rebasing logic interacting with third-party protocols.

3.3 Validator Set Model

Phase 1 of Phyra operates with a permissioned and diverse curated validator set. Validators are selected and maintained by the Phyra multisig council, composed of founders and a rotating set of independent advisors with operational expertise. Selection follows publicly published criteria:

- Sustained validator uptime of 99.5% or higher across the previous 90 days.
- Geographic and infrastructure diversity, including both data center and bare-metal operators across multiple jurisdictions.
- Validator commission rate at or below 10% to preserve user yield.
- No history of slashing events on Pharos or other Proof-of-Stake networks operated by the same entity.
- Demonstrated operational maturity: monitoring, on-call rotation, incident response procedures.

This permissioned model is a deliberate choice for Phase 1. It minimizes the surface area requiring external audit, allows rapid response in the event of validator misbehavior, and sets a strong baseline of security while the ecosystem matures. The roadmap explicitly progresses to a permissionless validator set with bond and reputation systems in Phase 3.

3.4 Restaking-Ready Architecture

Although Phase 1 does not activate restaking, the Phyra core contracts include a RestakingAdapter interface that defines the future integration with Pharos's L1-Extension restaking module. In Phase 2, the adapter is activated: Phyra's curated validators begin participating in selected SPNs, with the additional yield flowing through to sPROS holders via the exchange rate. Governance over SPN selection (which SPNs the validator set participates in, and the slashing exposure budget) is initially exercised by the Phyra council and transitions to DAO control in Phase 3. This forward-compatible architecture means activating restaking does not require a full migration of user funds.

3.5 Fee Structure

The Phyra protocol charges a 5% fee on staking rewards generated by the validator set. The principal stake is never touched. This rate is deliberately set below the market median for liquid staking protocols: Lido on Ethereum charges 10%, Rocket Pool's effective rate is approximately 14%, and Marinade on Solana charges 6% on its liquid staking product. Marinade is the most architecturally comparable benchmark, as its DPoS model and validator delegation structure mirror Pharos's.

By starting at 5%, Phyra prioritizes user yield and adoption velocity in its early phase, with the understanding that DAO governance in Phase 3 may adjust the rate based on protocol economics and operational sustainability.

Of the 5% fee captured, 100% accrues to the Phyra Treasury during Phase 1. Once the governance token is launched in Phase 3, fee distribution becomes subject to DAO decisions, with a default split between operational sustainability, validator support, insurance fund, and token-holder rewards.

3.6 Validator commission

Because Pharos operates a DPoS consensus where stakers delegate to validators, validators charge their own commission on rewards independently of the Phyra protocol fee. This is the same pattern observed on Solana (with Marinade) and Cosmos-family chains, and differs from Ethereum's Lido, where node operator fees are bundled into the 10% protocol fee. Phyra's validator selection criteria include commission caps published at validator onboarding (target: ≤ 7% in line with Solana ecosystem norms), and the effective net yield to sPROS holders is calculated as: `gross staking APR × (1 − validator commission) × (1 − 5% Phyra fee)`. This number will be published transparently in the Phyra dashboard at all times.

4. Technical Architecture

4.1 System Components

Phyra is composed of seven core smart contracts, deployed on Pharos and operated as a unified protocol. All contracts are written in Solidity and target the EVM execution environment provided by Pharos.

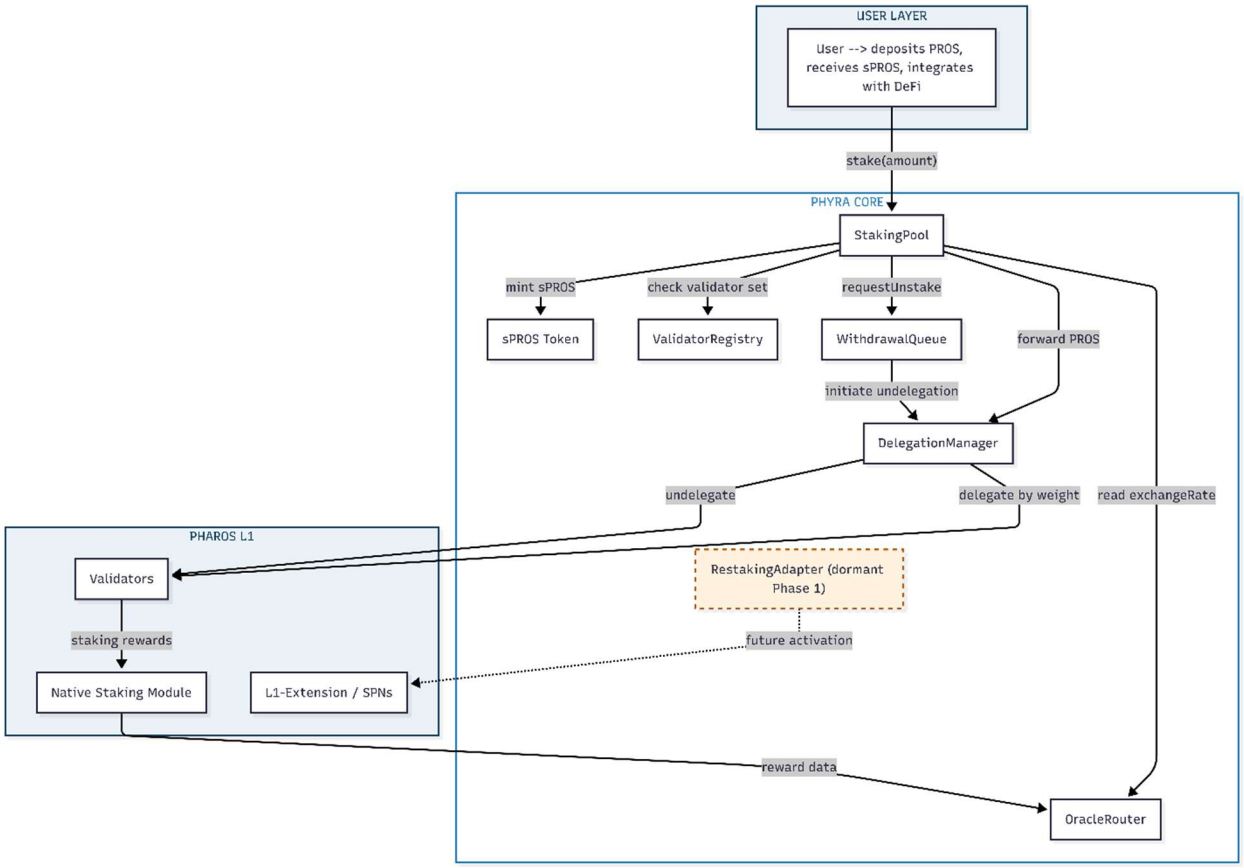

Figure 1: Phyra system architecture — three-layer model with seven core contracts.

4.1.1 StakingPool

The StakingPool contract is the user-facing entry point. It exposes the primary methods for depositing PROS to receive sPROS, requesting unstakes, and querying the current exchange rate. It maintains a small liquidity buffer (target: 5% of total value locked) to enable instant unstake of small positions without queuing.

```
function stake(uint256 amount) external returns (uint256 sPROSminted);
function requestUnstake(uint256 sPROSamount) external returns (uint256 ticketId);
function exchangeRate() external view returns (uint256);
```

4.1.2 sPROS Token

The sPROS contract implements the ERC-20 standard with minor extensions for protocol-controlled mint and burn. Only the StakingPool may invoke mint and burn, enforced by an access

control modifier. The token includes optional ERC-2612 permit functionality to enable gasless approvals for DeFi integrations.

4.1.3 ValidatorRegistry

The ValidatorRegistry stores the active validator set and per-validator metadata: address, target weight, operational status, and historical performance metrics. Modifications to the registry, including adding, removing, pausing, or re-weighting a validator, require multisig approval and are subject to a 48-hour timelock to allow community review.

4.1.4 DelegationManager

The DelegationManager is responsible for distributing newly staked PROS across the active validator set according to current weights, and for orchestrating undelegations in response to user unstake requests. Periodic rebalancing logic adjusts allocations when a validator's metrics deviate from target thresholds. All delegation transactions are auditable on-chain.

4.1.5 WithdrawalQueue

Pharos PoS has an unbonding period during which undelegated PROS becomes claimable. The WithdrawalQueue contract issues a non-fungible withdrawal ticket to the user upon unstake, representing their claim to a specific amount of PROS at a specific block height. The ticket is freely transferable, allowing secondary markets to develop for unbonding sPROS positions, similar to Lido's withdrawal NFTs and Rocket Pool's mechanism.

4.1.6 OracleRouter

The exchange rate between sPROS and PROS depends on the total amount of PROS staked plus rewards accrued at the validator level. The OracleRouter aggregates this information and exposes the up-to-date totalPooledPROS used by the StakingPool. In Phase 1, the oracle is implemented as a multisig-signed off-chain feed published on-chain at a high frequency made possible by Pharos's sub-second finality. In Phase 2, the oracle migrates to a decentralized mechanism: either a dedicated operator-set publishing signed validator-state reports (following the Lido and Rocket Pool model), or fully on-chain computation reading staking state directly from the L1 module where Pharos's interfaces support this.

4.1.7 RestakingAdapter (Dormant in Phase 1)

The RestakingAdapter defines the interface and storage layout for the future activation of restaking via Pharos SPNs. In Phase 1, the contract is deployed but its core functions are gated and disabled. This design allows Phase 2 to activate restaking through a parameter change rather than a contract migration.

4.2 User Flows

4.2.1 Stake Flow

A user deposits PROS into Phyra by calling StakingPool.stake. The contract reads the current exchange rate from the OracleRouter, calculates the corresponding sPROS amount, mints sPROS to the user, and forwards the deposited PROS to the DelegationManager for distribution. The transaction is atomic; in the event of any failure in delegation, the entire transaction reverts.

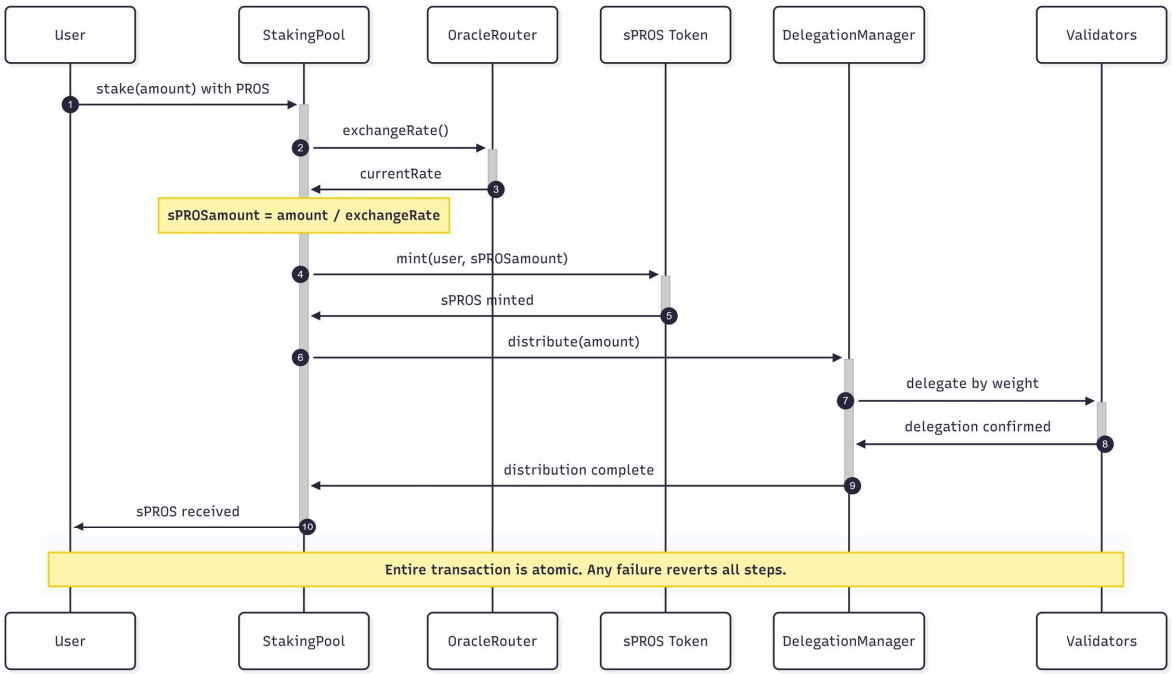

Figure 2: Stake flow — atomic transaction across user, protocol, and validator set.

4.2.2 Reward Accrual

Reward accrual is passive from the user's perspective. As validators earn staking rewards, the OracleRouter increases the reported totalPooledPROS, which in turn increases the exchange rate. The user's sPROS balance does not change, but each sPROS becomes redeemable for a larger amount of PROS over time. No user action is required to compound rewards.

4.2.3 Unstake Flow

To exit a position, a user calls StakingPool.requestUnstake. The contract burns the user's sPROS, calculates the corresponding PROS amount at the current exchange rate, and issues a withdrawal ticket NFT recording the claim and the earliest claim block. The DelegationManager initiates an undelegation from the validator set proportional to the request size. After the unbonding period elapses, the user calls WithdrawalQueue.claim with their ticket to receive the PROS.

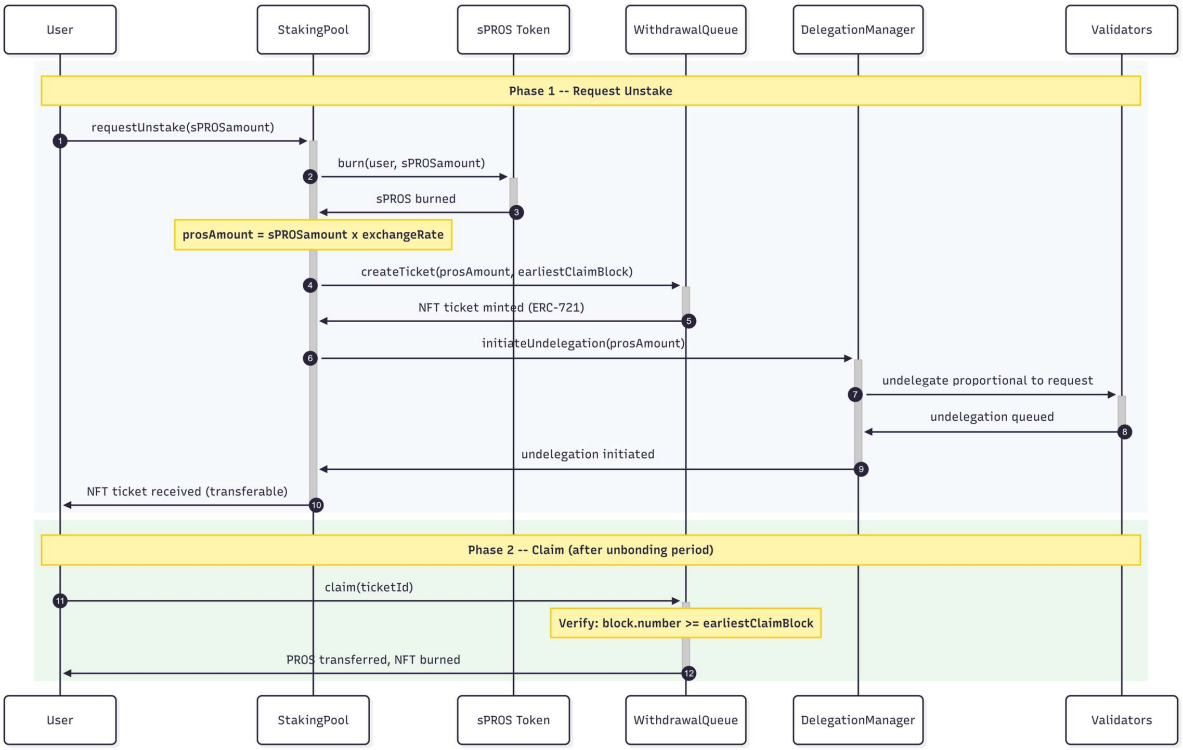

Figure 3: Unstake flow with transferable NFT-ticket — two-phase request and claim.

4.2.4 Instant Unstake (Liquidity Buffer)

For small unstakes within the buffer threshold, the StakingPool can fulfill the request immediately from the liquidity buffer without entering the unbonding queue. This provides a superior user experience for retail-sized exits while preserving capital efficiency: only a small percentage of TVL needs to be held in non-staking liquidity.

4.3 Sub-Second Finality and Oracle Frequency

Pharos's AsyncBFT consensus delivers sub-second finality, which has implications for sPROS oracle design. Modern LSTs on slower chains have evolved sophisticated mitigations for stale rate problems, including signed off-chain updates consumed at integration time. On Pharos, the cost-frequency tradeoff is materially better at the protocol layer: on-chain exchange rate updates can occur at much higher frequency without prohibitive cost. This simplifies integration for DeFi protocols that prefer to consume on-chain rates directly, and reduces the surface area where stale exchange rates contribute to liquidation inefficiencies in lending markets that use sPROS as collateral.

4.4 Composability with Pharos Ecosystem

Phyra is designed to integrate with the existing Pharos DeFi infrastructure from launch. Three primary integration paths are prioritized:

- Morpho lending markets: sPROS supplied as collateral, with PROS or stablecoins available as borrow assets. This enables leveraged staking strategies and stablecoin liquidity against staked positions.
- Yield aggregators and RWA-backed strategies: sPROS as the base yield-bearing asset within Pharos-native vaults that route capital into RealFi opportunities (tokenized treasuries, tokenized credit, structured RWA products), creating composed yield (staking + RWA) in a single position.
- Native DEX liquidity: sPROS / PROS incentivized liquidity pools to provide instant exit liquidity beyond the buffer threshold, with liquidity providers earning trading fees and rewards on top of the sPROS yield.

These integrations are pursued in parallel with Phase 1 development, targeting integration with Morpho’s Pharos deployment within the first months post-mainnet, and at least one DEX pool plus one yield aggregator integration by Month 9.

5. Security

5.1 Threat Model

Phyra holds user-deposited PROS in smart contracts that delegate to external validators. The threat model accordingly addresses three categories of risk: smart contract risk (bugs in Phyra contracts or in the contracts they integrate with), validator risk (slashing, downtime, or malicious behavior of delegated validators), and oracle risk (incorrect or manipulated exchange rate data).

5.2 Smart Contract Risk Mitigations

- All core contracts undergo a full security audit by a tier-1 audit firm prior to mainnet deployment. The audit budget is reserved as part of the seed funding (see Section 8).
- Critical contracts will be deployed using a transparent proxy pattern (OpenZeppelin standard for EVM-compatible chains), with all upgrades subject to a 48-hour timelock and multisig approval. The timelock allows the community to inspect any proposed change and exit the protocol if disagreed with.
- A pause function will be implemented across all user-facing contracts, invocable by the multisig in case of emergency. The pause is targeted: it halts new deposits and stake routing while preserving the ability for users to claim already-pending withdrawals.
- A bug bounty program is launched on Immunefi at mainnet, with an initial pool to be determined and scaling with TVL.

5.3 Validator Risk Mitigations

- Diversification across at least 5 validators at launch, expanding to 10+ during Phase 1 and 25+ during Phase 2.
- Real-time monitoring of validator metrics; automatic exclusion from new delegations when uptime drops below threshold.
- Slashing insurance mechanism funded from a portion of protocol fees, designed to cover up to a defined percentage of stake against slashing events.
- Public, on-chain transparency of all delegation and undelegation transactions, allowing third parties to audit the validator set in real time.

5.4 Oracle Risk Mitigations

In Phase 1, the OracleRouter relies on a multisig-signed off-chain feed. The risk of oracle manipulation is mitigated by:

- Multi-signature requirement: oracle updates require signatures from a quorum of independent signers.

- Bounded delta: oracle updates that propose changes in exchange rate beyond a published threshold are automatically rejected by the OracleRouter contract, requiring a manual override by multisig with timelock. The exact threshold is calibrated based on observed validator yield variance during testnet and finalized before mainnet.
- Decentralization migration: in Phase 2, the multisig-signed oracle is replaced by a decentralized mechanism. Two paths are under evaluation: (a) a dedicated operator-set following the Lido and Rocket Pool model, with multiple independent operators publishing signed reports of validator-side state; (b) where supported by Pharos, fully on-chain calculation reading staking state directly from the L1 module, eliminating off-chain dependencies entirely. Final selection depends on the staking interfaces Pharos exposes at the time of Phase 2 implementation.

5.5 Operational Security

- All multisig keys are held by independent signers across separate jurisdictions and hardware setups.
- Internal protocol changes require both multisig approval and timelock; no single party can unilaterally alter protocol parameters.
- Initial TVL caps applied post-launch limit downside exposure during the bedding-in period: $5M cap during the first 30 days, $25M cap from days 31-90, removed thereafter pending stability metrics.
- Quarterly external security reviews supplement the initial audit, with delta audits scheduled before each new feature deployment.

5.6 Tail-Risk Scenarios

Beyond the standard mitigations described above, Phyra explicitly addresses the two tail-risk scenarios most frequently raised in due diligence on liquid staking protocols.

Multisig compromise. The 48-hour timelock on critical operations is the primary defense: any malicious action initiated by a compromised multisig is publicly visible on-chain for at least 48 hours before it can execute, allowing users to exit positions and the wider ecosystem to coordinate a response. In an extreme scenario where a higher-severity event is suspected, the pause function can be invoked unilaterally by any single multisig signer, halting new deposits and stake routing while preserving the ability for users to claim already-pending withdrawals. The combination of timelock plus single-signer pause provides defense in depth without introducing single points of failure for normal operations.

Major slashing event. Pharos's PoS implements slashing penalties for validator misbehavior, with two trigger conditions documented by Pharos: double-signing (equivocation) and prolonged downtime. Slashing is adjudicated via Pharos's on-chain governance process rather than executed automatically, providing a window for response and contest. Phyra addresses slashing

risk in three layers. First, structural diversification: at least five validators at launch, expanding thereafter, ensures no single validator failure can cause catastrophic loss to the pool. Second, the slashing insurance fund (capitalized from a portion of protocol fees over time) absorbs losses up to a coverage threshold, to be finalized before mainnet and disclosed publicly. Third, for losses exceeding the insurance fund, which become materially possible only in multi-validator events, the residual is distributed across sPROS holders as a downward adjustment of the exchange rate, with full on-chain calculation and public disclosure as soon as the event is verified. The combination of validator diversification, insurance fund, and transparent socialized loss is the same model proven on Lido and Rocket Pool through actual slashing incidents. Specific slashing rates, appeals, and related parameters follow Pharos mainnet rules as published by the protocol.

Frontend and infrastructure compromise. A protocol's smart contracts may be fully audited and immutable, yet users remain exposed if the off-chain layer (website, domain, RPC endpoints, or social media accounts) is compromised. The canonical attack vector is DNS hijacking or a malicious frontend substitution prompting users to sign wallet-draining transactions. This class of attack has caused nine-figure losses industry-wide without any underlying smart contract vulnerability. Phyra commits as a protocol policy to never solicit fund movements or transaction signatures through social media or messaging channels; any such communication should be treated as fraudulent regardless of the account it originates from, including apparently official ones. Besides, a simultaneous compromise of all public channels, website, social media, and GitHub, is materially harder to execute than a single-channel attack; divergence between channels is itself an early warning signal. In the event an active social engineering attack is detected, any single multisig signer can invoke the pause function to halt new deposits before users are affected, applying the same safeguard described for multisig compromise above.

6. Tokenomics

6.1 sPROS

sPROS is the liquid staking token issued by Phyra. It is not a governance token; it is a pure receipt token whose value tracks the underlying staked PROS plus accrued rewards. There is no fixed supply: sPROS is minted on stake and burned on unstake, with the total supply always equal to the protocol's claim on the validator set divided by the current exchange rate.

sPROS does not have a token sale, an airdrop allocation, or any pre-mine. The token comes into existence only through user deposits.

6.2 Protocol Revenue

Phyra captures 5% of staking rewards as protocol revenue. This revenue is collected at the smart contract level on each reward distribution and accumulated in the Phyra Treasury. During Phase 1, all revenue is held in PROS and used to fund operations, audits, validator support, and the slashing insurance fund. From Phase 3 onward, revenue allocation becomes subject to DAO governance.

6.3 Phyra Governance Token (Phase 3)

A separate governance token, provisionally named PHYRA, is planned for launch in Phase 3. The governance token's purpose is exclusively to govern protocol parameters, validator set composition (post-decentralization), fee distribution, and treasury allocation. The governance token will not be used for staking, gas, or any other utility beyond protocol governance.

Token allocation principles for the Phase 3 launch include a meaningful community and early-user allocation tied to historical Phyra usage, a long-term-aligned team and contributor allocation with multi-year vesting and cliff, an ecosystem and incubator allocation reflecting the Pharos RealFi Alliance contribution, and a treasury allocation for ongoing protocol development.

Specific tokenomics, including total supply, vesting schedules, and exact distribution percentages, will be published in a dedicated tokenomics paper at the start of Phase 3, after at least six months of mainnet operating history have been accumulated. Designing tokenomics from real usage data, rather than projections, materially reduces the risk of misaligned incentives.

6.4 Why No Token at Launch

Launching with only sPROS, and deferring the governance token to Phase 3, is a deliberate design choice. It eliminates regulatory ambiguity around the LST itself (sPROS is unambiguously a yield-bearing receipt token, not a security), removes the distraction of a token launch from the early operational phase, and ensures that governance powers are transferred to a token that has

real protocol history and an aligned holder base, rather than to speculators. Lido's evolution, where the LDO governance token launched after stETH was already operational, validates this sequencing.

6.5 Phyra Loyalty Program

Deferring the governance token to Phase 3 creates an opportunity to design a distribution that rewards measurable, long-term contribution to the protocol rather than short-term mercenary capital. The Phyra Loyalty Program is a multi-season points system that accrues from mainnet launch (Month 6) through the PHYRA Token Generation Event (Month 15-16), with points convertible to PHYRA at TGE according to a transparent, on-chain formula.

The program is designed against the failure modes that have characterized airdrops in 2024-2025: pure stake-and-claim mechanics that attract sybils, points programs without behavior weighting that reward farmers over loyal users, and one-shot distributions that liquidate the day after TGE. Phyra's design addresses each of these directly.

6.5.1 Earning Mechanics

Points accrue continuously from a user's on-chain activity, with weights designed to reward contribution rather than presence. The earning formula combines four factors:

- Stake size × duration: the base of point accrual. Longer-held positions generate disproportionately more points than short-term stakes through a duration multiplier that increases with holding time. The exact multiplier curve is calibrated against testnet and early mainnet behavior to penalize farming patterns while rewarding genuine alignment, and published in full ahead of each season start (see Section 6.5.5).
- Composability bonus: sPROS used in DeFi integrations (lending markets, DEX liquidity provision, yield aggregators, RWA strategies) earns a multiplier on top of the base rate. The intent is explicit: the protocol values users who deepen the sPROS DeFi network effect, not merely those who park tokens.
- Early-staker bonus: a permanent multiplier for users who staked during the initial TVL-capped phase (see Section 5.5), recognizing the asymmetric risk of early adoption. This multiplier persists across all subsequent seasons.
- Referral attribution: points-on-points to users who bring net-new stakers, capped to prevent referral chain abuse, and subject to the same sybil filters as direct earning.

6.5.2 Sybil Filtering

Aggressive anti-sybil mechanics are integrated into the points calculation to ensure the program rewards real users:

- On-chain history requirements: wallets must demonstrate a minimum on-chain footprint pre-staking (transactions, age) to qualify for full multipliers. Brand-new wallets earn at a reduced rate until they accumulate history.
- Behavior heuristics: clustering analysis flags wallets exhibiting coordinated patterns (synchronized actions, common funders, common destinations); flagged wallets earn at reduced rates pending review.
- Optional KYC boost: users may opt into a privacy-preserving identity proof (zk-attestation, leveraging Pharos's native compliance primitives) for a points multiplier. KYC is never required, but voluntary verification is rewarded.

6.5.3 Multi-Season Structure

The program is divided into three seasons of approximately equal duration between mainnet launch and TGE:

- Season 1 (Months 6-9): launch incentives. Focus on early staker capture during TVL-capped period; highest base rate; early-staker bonus active.
- Season 2 (Months 9-12): integration phase. Composability bonus becomes the dominant earning vector; rewards sPROS holders deploying into lending markets, DEXes, and yield aggregators.
- Season 3 (Months 12-16): pre-TGE phase. sPROS holders benefit from SPN restaking yield enabled by the Phase 2 Restaking Adapter; final mobilization period.

Each season has a defined PHYRA allocation, transparent at season start, preventing late-season dilution gaming. Total program allocation is targeted at 12-15% of PHYRA total supply, with final percentages set in the Phase 3 tokenomics paper.

6.5.4 TGE Distribution and Vesting

At TGE, accumulated points convert to PHYRA pro-rata. Distribution is structured to align long-term incentives:

Tier	% of earners	At TGE	Vesting schedule
Top earners	Top 10% by points	0%	100% linear over 12 months
Mid-tier earners	Next 40% by points	50%	Remaining 50% linear over 6 months
Smaller earners	Remaining 50%	100%	No vesting (immediate distribution)

Tier thresholds and vesting schedules above are indicative of the program's design intent: longer vesting for the largest allocations, immediate distribution for smaller participants. Final values are calibrated based on actual program data and published in the Phase 3 tokenomics paper, ahead of TGE.

- A retroactive allocation is reserved for testnet participants (Months 4-6 testnet incentive campaign), pro-rated against testnet activity quality, with vesting conditions matching mainnet earners.

6.5.5 Transparency Commitments

Three commitments make the program credible:

- Real-time on-chain leaderboard with full points formula published in code.
- All multipliers, weights, and season allocations published before each season starts. No retroactive changes to active-season parameters.
- Points earning logic is open-source and independently verifiable. The community can audit any user's points at any time.

7. Roadmap

Phyra's roadmap is structured in four phases over an 18-month horizon. Phase 0 covers foundation and incubator onboarding. Phase 1 prioritizes shipping a production-grade LST to mainnet within six months. Phase 2 focuses on growth, integrations, and restaking activation. Phase 3 progresses to full decentralization through governance and a permissionless validator set.

Phase 0: Foundation	Phase 1: Build & Ship	Phase 2: Grow & Integrate	Phase 3: Decentralize
Months 1–2	**Months 3–6**	**Months 7–12**	**Months 13–18**
RealFi Alliance onboarding	7 core contracts developed	TVL caps removed	PHYRA token launch (TGE)
Architecture & threat model	Security audit + testnet	Restaking Adapter activated	Permissionless validators
Team hiring & audit slot	Mainnet launch ($5M TVL cap)	Morpho + DEX integrations	DAO governance deployed

Figure 4: Phyra 18-month roadmap — four phases from concept to full decentralization.

7.1 Phase 0: Foundation (Months 1-2)

Pre-funding and incubator onboarding phase. Objectives:

- Acceptance into the RealFi Alliance incubator and closing of the seed allocation.
- Finalization of smart contract architecture, gas analysis, and threat modeling.
- Hiring multiple specialized roles.
- Audit firm pre-selection and engagement letter signing to reserve the audit slot.
- Public launch of Phyra X/Twitter, Discord, and Telegram presence.

7.2 Phase 1: Build & Ship (Months 3-6)

Mainnet launch phase. Objectives:

- Development of all seven core contracts, with continuous internal testing and invariant fuzzing.
- Public testnet deployment in month 4 with closed beta of approximately 50 users.
- Security audit during month 5, with audit fixes and re-review completing before mainnet.
- Frontend development and launch in month 5: stake, unstake, dashboard, integrations.
- Public testnet incentive campaign in months 5-6, targeting 1,000+ unique participants.
- Mainnet launch with TVL cap at $5M in month 6.
- Bug bounty program launch on Immunefi with initial pool to be determined.

7.3 Phase 2: Grow & Integrate (Months 7-12)

Adoption and expansion phase. Objectives:

- Progressive removal of TVL caps based on stability metrics.
- Integration with Morpho’s Pharos deployment as collateral asset (target: months 7-8).
- Integration with Pharos-native yield aggregators routing into RWA-backed strategies (target: month 8-10).
- DEX liquidity bootstrapping for sPROS / PROS pools.
- Activation of the Restaking Adapter: Phyra's curated validators participate in selected SPNs, with additional yield flowing through to sPROS holders via the exchange rate.
- Validator set expansion from 10 to 25 validators with broader geographic and operational diversity.
- Migration of OracleRouter from multisig to decentralized mechanism (operator-set or fully on-chain).
- Series Seed funding round (target $5M-10M) closed during this phase to fund Phase 3 build-out.

7.4 Phase 3: Decentralize (Months 13-18)

Decentralization phase. Objectives:

- Publication of full PHYRA tokenomics paper based on twelve months of mainnet data.
- Implementation of the permissionless validator framework: bond requirements, slashing conditions, reputation tracking.
- PHYRA Token Generation Event with distribution across community, team, ecosystem, and treasury.
- Deployment of DAO governance contracts: voting, proposal lifecycle, treasury control.
- Launch of permissionless validator registration with bond requirements.
- Full transfer of multisig powers to DAO, marking the formal decentralization milestone.

7.5 Beyond Phase 3

Future expansion paths under evaluation include: cross-chain sPROS via canonical bridges from Pharos, integration with RWA-backed yield vaults to create composable yield strategies (PROS staking yield + RWA yield in a single position), and exploration of vault products targeting institutional users with compliance and reporting requirements aligned with Pharos's RealFi mandate.

8. Funding and Resource Allocation

8.1 Seed Allocation Request

Phyra is requesting a seed allocation of $200,000 from the Pharos RealFi Alliance incubator. This allocation funds the protocol from concept stage through Phase 1 mainnet launch, covering approximately six months of operating expenses.

8.2 Bridge Strategy and Series Seed

The $200,000 allocation funds Phase 0 and Phase 1. To execute Phase 2 (growth, integrations, restaking activation) and Phase 3 (decentralization, governance), Phyra plans to raise additional growth capital within 5–6 months post-mainnet based on execution and ecosystem traction. According to comparable infrastructure funding rounds and expected ecosystem growth, the team currently estimates this could range between $5M–10M.

This sequencing is intentional: by the time Phyra raises Series Seed, the protocol will be live on mainnet with audited contracts, real users, real TVL, and a clear path to integrations. This positions the round as a growth raise against demonstrated traction rather than a speculative bet on execution, which materially improves valuation and terms.

8.3 Use of Pharos RealFi Alliance Resources

Beyond the financial allocation, Phyra will leverage the broader resources of the Pharos RealFi Alliance to accelerate execution: technical guidance from the Pharos core team on validator interfaces and the L1-Extension restaking module, business development support to facilitate integrations with other Alliance projects (Morpho, yield aggregators, RWA partners), exposure to the Alliance's community and ecosystem channels for testnet and mainnet user acquisition, and proximity to other founders building on Pharos for shared learning and operational coordination.

9. Competitive Landscape

9.1 LST Sector Overview

The liquid staking sector across major Proof-of-Stake networks generates a clear pattern: the dominant LST in any ecosystem is the one that combines early launch, robust security, and deep DeFi integrations. Network effects are powerful; once an LST becomes the canonical collateral asset across an ecosystem's lending and trading venues, its market share is difficult to displace.

Protocol	Network	TVL Peak	Time to Mainnet	Key Lesson
Lido	Ethereum	$30B+	~12 months	First-mover + DeFi-first design captures dominant share.
Rocket Pool	Ethereum	$5B+	~48 months	Permissionless validators are valuable but slow to ship.
Marinade	Solana	$2B+	~5 months	Fast time-to-market on a new chain captures the LST seat.
Jito	Solana	$3B+	~8 months	MEV-aware design adds yield differentiation.
Stader	Multi-chain	$1B+	~5 months/chain	Replicable playbook scales across chains.

9.2 Threat Assessment for Phyra

The realistic threat to Phyra is not from existing Pharos-native projects (none are LST-focused at this writing) but from an established multi-chain LST operator (Lido, Stader, Jito-Restake) deciding to expand to Pharos. Phyra's strategy against this threat rests on three pillars:

- Speed: ship to mainnet first, capture the early stake flow before any external entrant can mobilize.
- Native depth: integrate deeply with Pharos-specific primitives (SPN restaking, native compliance hooks, dual-VM execution) in ways that cross-chain LSTs cannot easily replicate without dedicated engineering investment in the chain.
- RealFi alignment: position Phyra as the LST built specifically for the Pharos RealFi thesis, including future integrations with RWA-backed yield strategies that an Ethereum-or-Solana-first LST is not architected to support.

9.3 Differentiation Summary

- First-mover and Pharos-native: deep integration with Pharos primitives from day one.
- Reward-bearing token model: full ERC-20 composability without wrappers, simplifying every downstream integration.

- Restaking-ready: Phase 2 activation of native SPN restaking yields, available to sPROS holders as opt-in upgrade.
- Aligned fee structure: 5% protocol fee, lower than Lido and Rocket Pool, prioritizing user yield in early phase.
- Clear decentralization roadmap: explicit Phase 3 transition to permissionless validator set and DAO governance.

10. Conclusion

Pharos Network has launched mainnet with a vision: bring real-world assets, traditional finance, and onchain DeFi into a single, asset-native financial Layer-1. Realizing this vision requires foundational infrastructure that is composable, capital-efficient, and ready from day one.

Liquid staking is one of those foundational primitives. Without it, native PROS staking creates a liquidity trap that prevents the very capital efficiency Pharos is designed to enable. Every chain that has reached scale without an early LST has paid a measurable cost in fragmented capital and slowed DeFi growth.

Phyra exists to ensure Pharos does not pay this cost. By launching the first production-grade, native LST on Pharos within six months of mainnet, Phyra closes the liquidity gap, unlocks composability for every PROS holder, and positions itself as the canonical yield-bearing collateral asset of the Pharos ecosystem. The protocol's minimalist Phase 1 design, combined with a clear roadmap to native restaking and full decentralization, balances safety, time-to-market, and long-term alignment.

The window to establish Phyra as the dominant LST on Pharos is open today. Every week of delay narrows it. With $200,000 in seed allocation from the Pharos RealFi Alliance and the ecosystem support of the incubator, Phyra ships to mainnet in six months.

Phyra. *Liquid staking, native to Pharos.*