Fused Token Offering (FTO)

Arman Abgaryan*, Utkarsh Sharma*, Joshua Tobkin

Supra DeFi Research

June 2025

Abstract

This paper introduces *Fused Token Offering* (FTO), a novel mechanism for decentralised resource allocation that enables blockchain networks to sustainably invest in their ecosystems while directly enhancing the utility and value of their network tokens. Instead of relying on inflationary grant models that dilute token holder value, FTO allows a host blockchain to allocate its native infrastructure resources to a governance-curated portfolio of protocols in exchange for a portion of those protocols' tokens, which are locked into a specialised vault-based vehicle (*Fusion Vaults*). These deposits create a deterministic financial linkage between the network and its ecosystem protocols, allowing the host network to incubate ecosystem protocols whilst inheriting proportional utility from them. This mechanism can also serve as an alternative business model for networks, where sustainability is achieved not only through selling resources but also by investing them. It transforms the network into a resource allocator, positioning its token as a dynamic access instrument to a growing portfolio of services. The allocation process can be modelled as an optimisation problem with mean-variance utility, enabling governance-driven, risk-aware portfolio construction across ecosystem projects. FTO presents a new paradigm for aligning incentives between protocol builders, service providers (e.g., node operators), and token holders, in which the host blockchain network's token evolves into a diversified, asset-backed index of ecosystem claims, complementing the value it already derives from core network operations and organic use of the network's resources.

Keywords: On-chain vaults; blockchain network business models; decentralised resource allocation; token utility; portfolio optimisation.

1 Introduction

Blockchain networks today serve as the foundational infrastructure for decentralised applications, offering computational and storage resources. These networks function as digital marketplaces, where users pay service providers (e.g., node operators), typically with native tokens, which serve not only as a medium

*Lead co-authors

of exchange, but frequently also as instruments for incentivising participation and governing network evolution. The long-term viability and value of a blockchain network are often correlated with the strength of its ecosystem: the more applications and users actively utilise the network's resources, the greater the revenue for the network, and higher the demand for its native token. As such, a network whose ecosystem isn't well-developed may lead to the network's resources being underutilised, creating inefficiencies and eventually compromising the network's ability to function as a sustainable marketplace. To drive ecosystem growth, many networks allocate grants, often inflationary, to attract developers for ecosystem development. While such mechanisms can catalyse short-term activity, they may erode token value and create misalignments between short-term growth strategies and sustainable network development.

From a protocol developer's perspective, the challenges are equally pronounced, as building decentralised protocols requires both infrastructural resources and R&D funding, which are in addition to the necessity of building a vibrant community and user base. Many blockchain startups use token-based fundraising so that VCs, and sometimes even retail investors, receive large early allocations at heavily discounted prices during the initial stages of development to seed early project growth. This can put the project at existential risk if token unlocks under a vesting schedule occurs before the protocol achieves product–market fit, as significant sell pressure at these early stages can undermine community confidence and, ultimately, lead to the project's failure. Additionally, protocols are required to build commuties and user base, which is generally achieved through airdrops, which can be ineffective, as distributing tokens to a large number of verifiably unique users is operationally difficult, and recipients are often short-term participants who quickly exit, contributing to significant sell pressure. As such, there is a need for a new model which promotes sustainable ecosystem development, while also providing a more compelling approach for protocols to access resources (financial and infrastructural) and develop user communities. To achieve sustainable ecosystem development, networks can embed ecosystem growth into their core operational model, rather than relying solely on grant distribution. This entails strategically allocating both infrastructural resources and treasury capital to ecosystem protocols in a manner that directly couples each protocol's success with the utility and market value of the host blockchain's native token, a linkage operationalised in the Fused Token Offering framework.

This work introduces the Fused Token Offering (FTO), a new mechanism for blockchain networks to allocate both infrastructural and financial resources to ecosystem protocols, not merely as subsidies or grants, but in exchange for those protocols depositing a verifiable stake in specialised vaults. This arrangement socialises the network's exposure to each protocol's success and entitles participating protocols to network resources such as execution space, access credits, R&D funding, and developer support. The submitted stake determines *fusion ratio*, which defines the fraction of protocol token backing each host network token, effectively creating a deterministic, verifiable link between protocol token deposits and network token value. From the perspective of the network's native token, it inherits proportional utility and gains risk-limited exposure to a basket of "assets", adding a new layer of value to the network token on top of what it already captures through core network operations and ecosystem participation. Rather than replacing commonly applied incentive structures, FTO extends them by transforming the network from a passive platform into an active portfolio allocator, and its token from a pure utility asset into a diversified index of ecosystem value. This approach of systematically allocating the network's finite resources can be framed as a portfolio optimisation problem, across different protocols, incorporating risk-awareness through mean-variance utility and enabling dynamic, governance-driven rebalancing. The result is a system that supports early-stage protocols by helping them sustainably access resources they require to build their application, promote productive utilisation of network's resources, and deepens tokenholder alignment.

This work makes the following contributions:

- *Introduces FTO as a strategic business model*, to integrate ecosystem building into the fundamental business of a blockchain network, by linking network tokens to ecosystem protocols, through fusion ratios and smart contract vaults. It enables token integration and a borrowing mechanism to extend network token utility, while embedding ecosystem growth into the network's core operations by deploying resources and capital in ways that directly tie protocol success to native token utility and value.
- *Enhances network sustainability*, by aligning resource allocation with both increased service utilisation and native token value appreciation.
- *Provides a sustainable funding model*, allowing protocols to access infrastructural and financial resources, while potentially protecting protocols from the unsustainable sell pressure on their tokens that is often inherent in other fundraising approaches, and thereby making it more likely to be economically viable in the long run.
- *Paves a sustainable path to building communities*, by providing an alternative to airdrops with incentive-aligned access to the network's user base, fostering user bases invested in long-term protocol success.
- *Diversifies risk*, by socialising ecosystem growth among the host network's token holders, thereby allowing the network token to evolve into an index token that encapsulates a diversified portfolio of ecosystem protocol tokens, and embeds real option value through redemption.

2 Mechanism

The FTO mechanism enables protocols to access network resources by locking a portion of their token supply in special vaults. In return, the network gains a verifiable stake in each participating protocol, allowing its network token to inherit a fractional share of those protocol tokens' utility and value. This exchange is governed by a transparent and deterministic structure built around the concepts of Fusion Vaults and Fusion Ratios.

We consider a blockchain network that controls a finite set of resources (e.g., decentralised services, treasury capital, etc.) allocable towards incentivising ecosystem development and aligning stakeholder incentives. Let Z_r denote the total supply of each resource type r, and let $\alpha_r \in [0, 1]$ represent the portion of resource r dedicated to ecosystem support. After determining the vector $\boldsymbol{\alpha}$, the network's objective becomes the optimal allocation of the effective resource budgets $(\alpha_r \cdot Z_r)$ across external protocols, in a manner that both fosters ecosystem growth and enhances the utility of the network token. Each candidate protocol $\mathcal{P}_p$, for $p = 1, \ldots, N$, where $N \in \mathbb{N}_+$, is assumed to have tokens T_p that produce utility $\mathbb{E}[U_p] \in \mathbb{R}_{\geq 0}$ when granted incentivised access to host network resources. The utility $\mathbb{E}[U_p]$ refers to the economic value (incl. functional) of a token within a protocol (e.g., enabling access to services, governance participation, transaction payments, staking, or incentive mechanisms), and we assume it is integrable with a finite covariance. The host network's goal is to allocate resource weights $w_{r,p}$, such that $\sum_{p=1}^{N} w_{r,p} = 1$, with $w_{r,p} \in [0, 1]$ $\forall p$, where the vector $\mathbf{w}^r \in \mathbb{R}^N$ denotes the distribution of resource r across protocols. Note, that this allocation must also ensure that the inflationary pressure from provisioning resources and potential revenue loss is counterbalanced by the utility accrual to the native token.

To participate in this allocation process, protocols are required to deposit a portion of their native token supply into a *Fusion Vault*.

Definition 1 (Fusion Vault)**.** *The fusion vault is a smart contract enabling ecosystem protocols to lock a portion of their native tokens' supply, thereby signaling their participation in the host blockchain network's FTO program, and securing access to resources and functionalities.*

The first step in the process is the submission of a fusion intent, where the protocol deposits a portion of its tokens into the Fusion Vault and specifies the resources it seeks from the host network (e.g., execution space, funding, developer support). This vault serves a dual purpose: it qualifies the protocol to receive network resources and incentives, enabling it to bootstrap its ecosystem and community, while also providing a mechanism to enable network tokens to inherit utility from protocol tokens, in return from provisioning those resources. Once the fusion intent is submitted, it is made available for voting by the network's token holders through network governance. Upon reaching a pre-defined voting threshold, fusion of an ecosystem protocol is said to be completed. The project receives resources or a commitment of resource allocation, and the host blockchain network's tokens confer a pro-rata redemption entitlement of the tokens deposited in the fusion vaults, inheriting the utility functions of the ecosystem protocol's native tokens. Utility inheritance can be achieved using either of the following distinct, yet interrelated mechanisms:

- Network token integration: The protocol integrates the host network's token as a functional asset, granting it post-fusion utility comparable to its own token. To ensure equitability, the utility inheritance is limited to the portion of the protocol token's supply that is locked in the Fusion Vault. The mechanism ensures that before a user performs any operation in the protocol with network token as another privileged asset, it checks the fusion ratio to determine how many network tokens qualify as one protocol token.

- Borrowing mechanism: If the protocol has not deeply integrated the host network's token into its system, users can still access the utility of the protocol token by using the host network's token through the borrowing mechanism. The FTO mechanism implements a borrowing framework whereby ecosystem protocol's tokens can be borrowed (at no cost), using the host network's token as collateral. The borrowed protocol tokens can be used to perform protocol-specific operations by the users, thereby extending the operational scope of the host network's tokens indirectly through asset proxying. The Loan-to-Value (LTV) ratio for this borrowing is determined by the fusion ratio.

This inheritance effectively transforms the host network's tokens into multi-contextual utility instruments, embedding access rights to external protocol services. The cumulative utility of network tokens thus evolves as a function of protocol fusion events, with each integration expanding the tokens' operational domain and value representation. Most notably, this mechanism allows the host network's token economy to internalise demand for ecosystem services, creating a direct linkage between ecosystem growth and network token utility accrual.

Definition 2 (Fusion Ratio). *The fusion ratio ($R_p \in \mathbb{R}_{\geq 0}$) is defined as a ratio of the number of protocol $\mathcal{P}_p$'s tokens locked in the fusion vault S_p, and the total supply of the network token $S_s \in \mathbb{R}_{>0}$:*

$$R_p = \frac{S_p}{S_s}, \tag{1}$$

which can be interpreted as number of the ecosystem protocol's ($\mathcal{P}_p$) tokens locked[a] per unit of the network token, effectively creating a synthetic fractional exposure from the network token to each participant protocol's utility and service footprint.

[a]Collateralised borrowing of protocol tokens from the Fusion Vault does not reduce S_p for the purposes of calculating R_p

In the proposed mechanism, each protocol $\mathcal{P}_p$ locks $S_p \in \mathbb{R}_{\geq 0}$ of its tokens into a Fusion Vault to gain access to the host network's resources (compute, bandwidth, funding, etc.), in return for targeted ecosystem support that benefits all network token holders. For holders of the host network's tokens, they have two distinct ways to access the locked project tokens:

1. Redemption (Burning): Any holder may burn a quantity Q_H of network tokens H to redeem a proportional share of all protocol tokens $\{\mathcal{P}_p\}$ locked in the Fusion Vaults, based on the fusion ratio R_p for each token. This action permanently reduces the supply of H and releases the corresponding protocol tokens back into the market. The total nominal value received is given by: $V_Q = \sum_{p=1}^{N} Q_H \cdot R_p \cdot V_p$, where V_p is the market value of protocol $\mathcal{P}_p$'s token.

2. Borrowing (Collateralised Access): Any holder may lock (not burn) their network tokens as collateral in the vault smart contract to borrow project tokens from the Fusion Vaults, which must later be returned (by the same borrower) to unlock the submitted collateral, preserving the integrity of the Fusion Vault. Specifically note, that even though the Fusion Vault may contain multiple protocol tokens, a borrower can use their network tokens as collateral to borrow only one type of protocol token at a time. The same collateral cannot be used to borrow multiple protocol tokens simultaneously, within a single position.

This combination ensures that if the network token's market value is below the combined value of protocol tokens submitted to Fusion vaults, reflecting both their functional utility, can be corrected by arbitrage. For the host network's token holders, this design creates an arbitrage-enforced redemption floor value for the network token and additional optionality in accessing protocol tokens without needing to sell the network token. For protocols, it enables a more sustainable way to access resources.

The network token's market value has a verifiable floor defined by the redeemable assets in the Fusion Vaults, as if the market value of V_H ever falls below $\sum R_p V_p$, arbitrageurs can profit by purchasing T_H and redeeming it for the underlying fused tokens, thereby pushing V_H back up. Therefore, we can write:

$$V_H \geq \sum_{p=1}^{N} R_p \cdot V_p, \tag{2}$$

ignoring negligible transaction costs, and any deviation where $V_H < \sum R_p V_p$ creates a potential arbitrage opportunity through redemption. The inequality is not necessarily tight, as the network token may also derive additional value from the utility the network enables for its token, for e.g.,staking and governance rights, serving as a means of gas fee payment, etc. These sources of value are not captured in the redemption floor but contribute to its total market valuation.

Note that the host network's token possesses an endogenous market valuation which, under assumptions of rational pricing and market efficiency, should remain in equilibrium relative to the value of redeemable protocol tokens. This dynamic inherently disincentivises token holders from burning network tokens purely for redemption and arbitrage, thereby mitigating excess sell pressure on protocol tokens. As such, the mechanism offers a better way for protocols to raise resources for R&D and community development, compared with alternative funding sources and airdrops, because as holders may borrow protocol tokens using the network token as collateral, enabling early ecosystem participation and community formation, they are unlikely to liquidate these positions outright, as doing so would entail the loss of collateralised assets and other fused tokens. Compared to indiscriminate airdrop distributions, which often result in rapid token sell-offs and disengaged recipients, this structure promotes a more persistent and economically aligned user base, optimising for long-term engagement rather than transient incentives.

Furthermore, this formulation embeds diversification directly into the network token: as the number and heterogeneity of protocols increase, the variance of the aggregate value $\mathrm{Var}(V_H)$ decreases under mild assumptions of negative or low inter-protocol correlation. As a result, the network token becomes more robust to idiosyncratic failures, capturing systemic upside while limiting downside exposure. This financial structuring supports both investor confidence and ecosystem resilience, and positions the network token as a multi-contextual coordination asset, potentially functioning simultaneously as medium of exchange, governance instrument, and diversified claim on ecosystem-wide optionality.

Similarly, on a utility basis, one unit of the network token receives an aggregate utility, defined as:

$$\mathbb{E}[U_H] = U_H^0 + \sum_{p=1}^{N} R_p \cdot f_p(\mathbb{E}[U_p]) \tag{3}$$

where $U_H^0 \in \mathbb{R}_{\geq 0}$ denotes the stand-alone utility of the network token, $\mathbb{E}[U_p]$ represents the marginal utility of protocol T_p, $f_p(\cdot) : \mathbb{R}_{\geq 0} \to \mathbb{R}_{\geq 0}$ maps each protocol's utility into a normalised or comparable utility framework relative to the host network, and $\mathbb{E}[U_H] \in \mathbb{R}_{\geq 0}$ is the total expected utility of the host network token. Thus all incremental utility generated by the protocols flows directly to network token holders via the fixed fusion ratios.

And because T_H can always be redeemed into its proportional basket $\{\mathcal{P}_p\}$, its value floor is the "sum-of-parts"of the locked protocol tokens, such that any outperformance of the fused protocols over their redemption cost creates pure upside optionality for T_H holders, with no additional downside. Altogether, this ensures that network token holders obtain a pre-determined cost, diversified claim on ecosystem protocol tokens, while protocol teams efficiently obtain network resources and build communities without unsustainable selling pressure.

Here, incremental utility for the network token in any period t is the increase in expected functional value arising from: (a) newly fused protocols, and (b) arbitrage-driven value realignment.

$$\Delta U_H(t) := \underbrace{\sum_{p \in \mathcal{P}_t} R_p \cdot f_p(U_p)}_{\text{Protocol-driven utility}} + \underbrace{\phi\big(F(t) - V_H(t^-)\big)}_{\text{Arbitrage-driven utility}}, \tag{4}$$

where $\mathcal{P}$ is the set of fused protocols in t, $f_p(U_p)$ maps the protocol's internal utility metric to the network token comparable units, $\phi(\cdot)$ is a monotone function translating a valuation gap into expected network token utility gain (for e.g., $\phi(x) = \gamma \cdot x$ for some speed of adjustment $\gamma > 0$), $F(t) := \sum_p R_p(t)V_p(t)$ is the redemption value per network token; and t^- is the pre-adjustment timestep before the arbitrage action.

Further note that governance may periodically adjust or revoke resource allocations, as distributions may be structured into period-specific tranches, and as such, the fusion ratio R_p might evolve into $R_{p,t}$. If governance decides to discontinue support, future tranches are halted, and the corresponding protocol tokens locked in the Fusion Vault is returned to the originating protocol, adjusted for the amount already owned by the network, in exchange for the previously distributed resources. This ensures that resource allocation remains both accountable and reversible, aligning ongoing support with evolving governance preferences and protocol performance.

3 Optimal Allocation

Let $\mathbf{U} \in \mathbb{R}^{K \times N}$ denote the matrix of expected marginal utilities, where each entry $\mathbb{E}[U_{k,p}]$ represents the anticipated benefit from allocating resource k to protocol p. If utility were defined to only be a proxy for economic value generated from accessing protocol p using resource k, we'd have $\mathbb{E}[U_{k,p}] = \mathbb{E}[V_{k,p}]$. However, utility can be said to be broader than just generating economic value, through functional access, governance rights, and other forms of protocol-level benefits derived from integration with the host network. We reserve for future work the process of selecting, validating, and refining the appropriate form of the utility function, including how it captures both economic and non-economic dimensions.

We model the network's allocation problem in a mean–variance utility framework. Let $\mathbf{U} \in \mathbb{R}^{K \times N}$ be the matrix of expected marginal utilities, where each entry $\mathbb{E}[U_{k,p}]$ captures the benefit from allocating resource k to protocol p. The network selects an allocation matrix $\mathbf{W}^R \in \mathbb{R}^{K \times N}$, where each row corresponds to a resource and sums to one. In a first-order formulation, the network maximises expected utility subject to simplex constraints:

$$\begin{aligned} \max_{\mathbf{W}^R} \sum_{k=1}^{K} \sum_{p=1}^{N} w_{k,p} \cdot \mathbb{E}[f_p(U_{k,p})], \\ \text{s.t.} \quad \sum_{p=1}^{N} w_{k,p} = 1 \quad \forall k \in \{1, \ldots, K\}, \\ w_{k,p} \geq 0 \quad \forall k \in \{1, \ldots, K\}, \forall p \in \{1, \ldots, N\}. \end{aligned} \tag{5}$$

To account for uncertainty in realised utility, we extend this to a second-order model by incorporating a joint covariance matrix $\Sigma \in \mathbb{R}^{(K \cdot N) \times (K \cdot N)}$ over utility outcomes. Letting $\mathbf{w} = \text{vec}(\mathbf{W}^R)$ and $\mathbf{u} = \text{vec}(\mathbf{U})$, the optimisation becomes:

$$\max_{\mathbf{w} \in \mathbb{R}^{K \cdot N}} \quad \mathbf{w}^\intercal \mathbf{u} - \frac{\lambda}{2} \mathbf{w}^\intercal \Sigma \mathbf{w}, \tag{6}$$

where $\lambda \in \mathbb{R}_{\geq 0}$ is a risk-aversion parameter set through governance. This quadratic objective balances expected utility against network-wide risk exposure[1].

This objective is ratified by token-weighted votes at regular governance intervals, whereby holders collectively allocate, adjust, or revoke resource credits. This

[1]In practice, estimation noise or collinearity in Σ can hinder stability, and we may use techniques like Hierarchical Risk Parity to ensure robust covariance estimation under these conditions

decentralised governance-driven process helps assert incentive alignment, capital efficiency, and flexibility with unified access through a single token.

Theorem 1 (Fusion Optionality)**.** *Let $P_1, \ldots, P_N$ be protocols with scalar random marginal utilities $U_1, \ldots, U_N \in \mathbb{R}$, and let $K_p \in \mathbb{R}_{\geq 0}$ denote baseline utility thresholds. Define the fusion ratio $R_p = S_p/S_s$ for each protocol, and define the call-option-like payoff for each protocol, $R_p = \frac{S_p}{S_s}$, with the call payoff:*

$$C_p = (U_p - K_p)^+. \tag{7}$$

This formulation mirrors the structure of a real option, where the host network holds the right (at a cost), but not the obligation, to derive utility from protocol $\mathcal{P}_p$, conditional on U_p exceeding a baseline threshold K_p. And the aggregate optionality:

$$\Delta U = \sum_{p=1}^{N} R_p C_p. \tag{8}$$

Assuming finite second moments and linearity of expectation, the following properties hold:

1. *Non-Negativity & Additivity: The aggregate optionality from project tokens is always non-negative, and its expectation is the weighted sum of individual means.*

$$\Delta U \geq 0 \quad a.s., \qquad \mathbb{E}[\Delta U] = \sum_{p=1}^{N} R_p \mu_p, \tag{9}$$

   where $\mu_p = \mathbb{E}[C_p] = \mathbb{E}[(U_p - K_p)^+]$, which is always non-negative.

2. *Variance Decomposition: The variance of the aggregate optionality decomposes into individual variances and covariances.*

$$Var(\Delta U) = \sum_{p=1}^{N} R_p^2 \sigma_p^2 + 2 \sum_{1 \leq p < q \leq N} R_p R_q \sigma_{pq}, \tag{10}$$

   where $\sigma_p^2 = Var(C_p), \sigma_p^2 \in \mathbb{R}_{\geq 0}$ and $\sigma_{pq} = \mathrm{Cov}(C_p, C_q), \sigma_{pq} \in \mathbb{R}$. We assume finite second moments and linearity of expectation, such that $\mathbb{E}\left[\sum R_p C_p\right] = \sum R_p \mathbb{E}[C_p]$, even if C_p and C_q are correlated.

3. *Diversification: Adding a project with low or negative covariance to the mechanism strictly expands the network token's risk-return efficient frontier, since for any target mean $\bar{\mu}$, the minimum variance $\min\{Var(\Delta U) : \mathbb{E}[\Delta U] = \bar{\mu}\}$ is strictly lower when including an additional protocol P_{N+1} such that $\mathrm{Cov}(C_{N+1}, C_p) \leq 0$.*

Variance Decomposition. The total utility variance of the network token can be decomposed as:

$$\mathrm{Var}(U_H) = \mathrm{Var}(U_H^0) + \mathrm{Var}(\Delta U) + 2\mathrm{Cov}(U_H^0, \Delta U), \tag{11}$$

where $\Delta U = \sum_{p=1}^{N} R_p \cdot C_p$ denotes the aggregate optionality from fused protocols.

Using the fusion optionality framework, we derive governance-aligned selection criteria for allocating network resources to candidate protocols. The host network is more inclined to accept protocols whose payoffs $C_p = (U_p - K_p)^+$ satisfy the following properties:

1. *Positive expected optionality*:

$$\mathbb{E}[C_p] = \mathbb{E}[(U_p - K_p)^+] > 0, \tag{12}$$

   ensuring that the protocol offers non-trivial expected utility gains to the host network.

2. *Diversification benefit*:

$$\mathrm{Cov}(U_H^0, C_p) \leq 0, \tag{13}$$

   so that the protocol contributes to lowering aggregate volatility via negative or uncorrelated payoffs.

3. *Bounded risk exposure*:

$$|\mathrm{Cov}(C_p, C_q)| \leq M, \quad \left|\mathrm{Cov}(U_H^0, C_p)\right| \leq M, \tag{14}$$

   for some constant $M < \infty$, to ensure fusion dynamics remain well-behaved under uncertainty.

4. *Portfolio-level variance reduction*:

$$\mathrm{Var}(\Delta U) + 2\mathrm{Cov}(U_H^0, \Delta U) \leq 0, \tag{15}$$

   guaranteeing that the inclusion of the protocol does not increase, and ideally reduces, the network token's total utility variance.

4 Conclusion and Future Work

This work proposed the Fused Token Offering (FTO) as a novel framework for blockchain networks, where ecosystem building is embedded into the network's business model. By linking protocol token deposits to the allocation of network's resources through Fusion Vaults and deterministic fusion ratios, FTO transforms passive network token utility into active ecosystem exposure. The model replaces inflationary incentives provided for ecosystem development with a capital-efficient structure that embeds optionality and diversification directly into the network token. The framework reinterprets the problem of allocating resources for sustainable development of ecosystems, as a portfolio optimisation problem tackled through governance, enabling risk-aware, incentive-aligned support for early-stage protocols, while preserving long-term value for tokenholders. This sustainability stems from incentive alignment mechanism used to allocate resources, deployed to develop user base.

Future work will extend this model by proposing a framework for the network governance to conduct dynamic rebalancing of allocated resources under stochastic utility estimates, developing endogenous utility elicitation mechanisms, and analysing equilibrium behaviour in strategic (e.g., adversarial or cooperative) settings. More broadly, we aim to advance the FTO architecture as a general-purpose framework for decentralised resource allocation and a viable alternative business model for blockchain networks-supporting effective resource deployment and long-term token value accrual.