# Venture Capital 2035

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A whitepaper looking at the future of a DAO-native and meritocratic model for funding innovation in a post-AI world.

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## Introduction

It is increasingly clear that venture capital must reinvent itself. Persistent under-performance, geographic concentration, and relationship-driven allocation had throttled the industry's ability to surface true outliers.

The proposed response is structural: institutions moving capital into Decentralized Autonomous Organizations (DAOs) operating on tokenized, stablecoin-denominated treasuries, with on-chain, auditable ledgers for every investing individual and entity.

In this whitepaper we describe the operating model, incentives, governance, and controls of this new system:

- **Coverage at scale.** DAOs federate thousands of independent and part-time General Partners (GPs) (especially early stage Originators embedded in every sector and geography) dramatically expanding deal discovery beyond the few legacy hubs.
- **Automation where it fits, humans where it counts.** Investment decisions follow a continuum: human-driven at inception, human-in-the-loop mid-stage, and algorithmically led (≈90%) at later stages where rich company data supports predictive models.
- **Meritocracy, not relationships.** Each GP's complete investment history, from angel checks to institutional allocations, is recorded on-chain as a single, portable ledger. Capital follows risk-adjusted, strategy-specific performance.
- **Efficient capital flow.** DAOs allocate directly from treasury to company. Fees stream to the GPs who originate and steward winning deals; large, fixed-cost VC firms disappear where automation removes their value.
- **Built-in guardrails.** Smart-contract constraints, independent later-stage selection, and auditable KPIs discourage "markup farming" and cronyism.
- **Open participation with accountability.** Individuals enter via a knowledge-based eligibility test, receive an identity-bound ledger, and can progress from small checks to managing DAO mandates as their measured skill compounds.

The result is a venture market that is more competitive, more egalitarian, more efficient, and better at finding outlier companies - precisely because it achieves transparent, distributed coverage and aligns incentives to performance.

# 1. Context & Problem

- **Return compression & opacity.** Performance drifted downward amid a proliferation of capital chasing similar networks and themes. Reporting hinged on self-marked NAVs and selective narratives.
- **Concentration risk.** Dollars clustered in a handful of ecosystems and categories, limiting exposure to the broader economy and under-served founders.
- **Misaligned cost structure.** "2 & 20" persisted even where data-rich decisions were automatable. Large firms optimized for fee scale rather than net DPI.
- **Barriered entry.** Capable angels and domain experts struggled to access institutional mandates; firm brands eclipsed individual skill.

# 2. Design Principles

1. **Transparency by default.** Decisions, cash flows, and outcomes are stateful on-chain objects (with privacy-preserving proofs for sensitive data).
2. **Meritocratic portability.** A person has one ledger across life, angel to GP, verifiably theirs (sybil-resistant), portable across DAOs.
3. **Automation-gradient.** Human judgment dominates when data is sparse; algorithms dominate when data is dense.
4. **Capital efficiency.** Treasury → Company direct, with streaming fees and event-based carry with no idle warehousing.
5. **Open yet responsible access.** Participation gated by a knowledge test and ongoing risk controls, not blunt wealth thresholds.
6. **Composability.** DAOs interoperate, merge/split programmatically, and support multi-homing of talent under disclosed terms.
7. **Regtech-native.** Compliance is embedded at the protocol edge (KYC/AML, jurisdictional restrictions, disclosures).

# 3. System Architecture

## Overview of Technological Structure

To implement this system, we'd build on Ethereum-compatible blockchains (e.g., Ethereum L2s like Polygon or Optimism for scalability and lower costs) with integrated privacy primitives and reputation mechanisms. The core goal is to enable on-chain investments with selective transparency: public visibility into invested entities, the sponsoring DAO, and aggregate performance metrics (DPI for return multiples, Sharpe ratio for risk-adjusted returns, and persistence for consistent outperformance), while keeping sensitive details like individual amounts or timings private. This leverages zero-knowledge proofs (ZKPs) for privacy-preserving computations, decentralized identifiers (DIDs) or soulbound tokens (SBTs) for portable attribution, and smart contracts for governance and recording.

The system balances decentralization, compliance, and usability, drawing from existing privacy-focused DAOs and reputation protocols. It assumes investments are in on-chain entities (e.g., tokens, DeFi protocols, or other DAOs) to enable verifiable performance tracking.

## Layers

- **Capital Layer** (**Treasury Vaults**): Tokenized share classes representing LP interests, denominated in regulated stablecoins. Strategy-segmented vaults (e.g., Pre-Seed, Seed, Growth, Special Situations), each with its own mandate and risk budget.
- **Identity & Ledger Layer:** Decentralized identifiers (DIDs) + verifiable credentials for LPs, GPs, and portfolio companies. Investment Ledger (ILF-35): a canonical, person-bound record of all private-market transactions. Zero-knowledge attestations to prove track record metrics without disclosing counterparty sensitive details.
- **Allocation Layer:** Early-stage Originators (human-led) submit Proposals with diligence packets. Mid-stage Managers (human-in-the-loop) use ML-assisted underwriting. Later-stage Allocators (algorithmically led) receive scored pipelines and approve within defined confidence bands.
- **Governance Layer:** Bicameral voting—Capital tokens (LPs) + Reputation tokens (active contributors)—governs mandates, risk limits, fee schedules, and guardrails.
- **Compliance & Risk Layer:** Embedded KYC/AML, sanctions screening, geographic gating; policy engines enforcing diversification and related-party checks; oracle framework for off-chain financials hashed on-chain.

**Key Components and Technologies**

1. **Blockchain Layer and Privacy Foundation:**
   - **Base Chain:** Use an EVM-compatible L2 like Polygon zkEVM or Aztec Network for native ZKP support. This allows private transactions where data (e.g., investment amounts) is shielded but verifiable. Aztec, for instance, uses zk-SNARKs to enable programmable privacy, where transactions are encrypted but proofs confirm validity without revealing details.
   - **Privacy Mechanism:** Employ a Multi-Asset Shielded Pool (MASP) or similar for pooling investments anonymously. Individual transaction details are encrypted using homomorphic encryption or zk-SNARKs, ensuring only aggregates are computable. For selective disclosure, use viewing keys that investors can share with verified DAOs (e.g., via threshold encryption for multi-party approval).
   - **Why This?** Prevents front-running or manipulation while allowing public reads of non-sensitive data via on-chain proofs.

2. **DAO and Investment Management Contracts:**
   - **DAO Framework:** Build on established tools like Aragon or Safe (for multi-sig treasuries) to manage capital allocation. The DAO contract holds funds in a multi-sig or smart wallet, delegating investment authority to the investor's address via governance proposals.
   - **Investment Contract:** A custom smart contract (written in Solidity) handles allocations. Each investment emits public events for the entity invested in and sponsoring DAO, records private data in shielded storage, and attributes the action to the investor's DID or SBT.
   - **Treasury Management:** Use encrypted on-chain records for allocations, with ZKPs verifying totals without exposure. For anti-rug protection, implement multi-sig controls where DAOs retain veto rights.

3. **Portable Attribution and Reputation System:**
   - **Investor Identity:** Use Decentralized Identifiers (DIDs) or ERC-721/ERC-1155 NFTs as soulbound tokens (SBTs) to represent the investor's profile. These are minted/updated per investment, linking to the investor's wallet and carrying verifiable claims.
   - **Portability:** The on-chain SBT/DID is cross-compatible with other DAOs via standards like Verifiable Credentials (VCs). Investors apply by presenting ZKP proofs of their track record, which other DAOs verify without accessing raw data.
   - **Reputation Scoring:** Integrate a reputation protocol where the SBT accumulates scores based on metrics. This is portable across ecosystems, as DIDs can map to multiple chains.

4. **Aggregate Performance Metrics:**
   - **Computation:** Use zk-SNARKs or zk-STARKs to compute metrics from private data. Examples include DPI, Sharpe Ratio, and Persistence (consistent alpha).
   - **Data Inputs:** Fetch off-chain performance data via oracles like Chainlink, then compute privately on-chain. Publish only the ZKP-verified aggregate to a public registry contract.

- ○ **Update Mechanism:** Periodic ZKP submissions by the investor or an automated oracle, verifiable by anyone.
5. **Interoperability and Security:**
   - ○ **Cross-Chain:** Use bridges like Chainlink CCIP for multi-chain DAOs, ensuring attribution travels securely.
   - ○ **Security:** Encrypt calldata with TEEs (Trusted Execution Environments) or MPC (Multi-Party Computation) for added protection. Implement revocation keys for DAOs to delink attribution if needed.
   - ○ **Compliance:** Selective disclosure for audits (e.g., share viewing keys with regulators via quorum approval).

## High-Level Flow & System Flow Table

The investment process follows a structured, on-chain flow from capital provision to realization.

High-level flow (text diagram):

```
LP Capital → Treasury Vaults → (Mandate Budgets →) Allocation Engine

  └Identity/KYC→ Participants (LPs/GPs/Companies)

GP Proposal → Diligence (off-chain data + on-chain proofs) → Policy Checks

 → Approval (governance thresholds) → Stablecoin disbursement to Company

 → On-chain position token minted → Ongoing data feeds → Performance settlement

 → Carry + Fees streamed to GP(s) per realized outcomes
```

System Flow Table:

| Step | Component | Technology | Public/Private Aspects |
|---|---|---|---|
| 1. DAO Delegates Capital | DAO Contract | Aragon/Safe multi-sig | Public: Delegation event; Private: Amount details |
| 2. Investor Makes Investment | Investment Contract | zk-SNARK shielded tx on Aztec/Polygon zkEVM | Public: Entity, DAO; Private: Amount, timing |
| 3. Attribute to Investor | Reputation SBT/DID | ERC-721 with VCs | Public: Link to investor profile; Portable across DAOs |
| 4. Compute Metrics | ZKP Circuit | zk-SNARKs + Chainlink oracles | Public: Aggregate performance; Private: Underlying data |
| 5. Apply to New DAO | Verification Contract | ZKP proof submission | Public: Verified metrics; Private: No raw history revealed |

# 4. The Automation Gradient

- **Early stage (Pre-Seed/Seed):** Data sparse → human skill dense.
  - **Role:** Originators with refined judgment on teams, problem timing, and formative traction.
  - **Tooling:** AI assists with market mapping, competitor scans, diligence checklists. Lightweight, non-deterministic inputs.
- **Mid stage (A/B):** Data growing → human-in-the-loop.
  - **Role:** ML models score revenue growth, retention, unit economics; humans arbitrate intangibles and catalyze syndication.
- **Later stage (C+/Growth):** Data dense → algorithm-first (≈90%).
  - **Role:** Models ingest the "financial brain" (GL, payroll, billings, churn cohorts), external benchmarks, and macro sensitivities. Human steward focuses on exceptions: culture risks, governance red flags, leadership transitions.

# 5. Portable, On-chain Track Records

- **One person, one ledger.** Each investor holds a sybil-resistant identity bound to a unique ILF-35 ledger capturing: deal IDs, timestamps, check size, instrument, follow-on role, realized cash flows, residuals, and attestations.
- **Comparability.** Records normalize to strategy, stage, and time; performance is measured risk-adjusted, not by raw MOIC alone.
- **Privacy.** Sensitive data remains off-chain; public chain holds commitments, hashes, and proofs.

# 6. GP Onboarding, Mandates & Ranking

## Onboarding

1. Candidate submits ILF-35 ledger and verifiable credentials (KYC, conflicts).
2. DAO computes a Manager Score (M-Score) per mandate.
3. If above threshold, the GP receives an evergreen streaming mandate with a starting budget and review cadence.

## M-Score (stage-specific, risk-adjusted)

Let:

- $D$ = realized DPI (cash on cash returned to LPs) normalized by vintage.
- $P$ = PME-style public-market equivalent score.
- $s$ = illiquidity-aware Sharpe (based on downside semi-variance of NAV deltas vs. PME beta).
- $L$ = loss ratio inverse (weighted by check size).

- $C$ = consistency (year-over-year persistence).
- $A$ = attribution (value-add signals: sourcing vs. following, role in inflection rounds).

Then per-mandate **M-Score** = $w_D D + w_P P + w_s S + w_L L + w_C C + w_A A$ - penalties.

### Mandates

- **Evergreen:** Capital lines that expand/contract via programmatic reviews based on realized and expected performance.
- **Fee model:** Base fee (streamed) scales with active positions; Carry is paid from realized DPI; no carry on paper marks.
- **Mobility:** GPs may graduate to larger DAOs as M-Score persists; terms are disclosed, with optional exclusivity.

## 7. Investment Lifecycle & Direct Funding

1. **Sourcing & Proposal (Originator):** Submit thesis, diligence, instrument terms, and risk tags.
2. **Policy & Risk Checks:** Automated checks on mandate fit, concentration limits, related-party exclusion, jurisdictional gates.
3. **Approval:** Early committee quorum + reputation-weighted review. Mid/Late model-driven approval with human override within tolerance bands.
4. **Settlement:** DAO transfers stablecoins directly to the company; a position token is minted to the vault.
5. **Monitoring:** Data oracles stream KPIs; deviations trigger alerts, budget holds, or follow-on blocks.
6. **Realization:** Upon exit or distribution, proceeds return to the vault; carry auto-disburses to contributing GPs per pre-agreed split.

## 8. Guardrails Against Cronyism & Markup Farming

- **Separation of roles.** A GP who led the previous round cannot unilaterally approve the next; later-stage allocators choose from a blind roster of earlier-stage portfolio companies.
- **Proofs of independence.** ZK attestations confirm absence of financial entanglements beyond disclosed position tokens.
- **Markup weighting.** Interim marks are quality-weighted by the DPI history of the marking investor; marks from low-DPI actors contribute minimally to TVPI.
- **Deal auction windows.** For contested later-stage rounds, standardized auction windows and disclosure packets prevent favoritism.

## 9. Angel & Community Participation

- **Eligibility:** A knowledge test (risks, illiquidity, scenario losses) replaces blanket wealth thresholds.
- **Identity:** Participants receive a single ILF-35 ledger; all private transactions attach to it.
- **Bounded exposure:** Smart-contract caps limit total annual commitment and per-deal concentration based on experience tier.
- **Progression:** Demonstrated performance unlocks micro-mandates and potential GP onboarding.

## 10. Economic Model

Fees flow to Originators who find formative companies and Stewards who protect capital in later stages, moving away from fixed-cost structures replaced by automation.

**Illustrative schedule (example):**

| Component | Early | Mid | Late |
|---|---|---|---|
| **Base fee** (streaming) | 0.8-1.0% | 0.5-0.8% | 0.2-0.5% |
| **Carry basis** | DPI only | DPI only | DPI only |
| **Carry split** (team) | Originator-led (60-80%), Steward (20-40%) | Shared | Model-weighted stewarding GP (majority) |

## 11. Governance

- **Bicameral controls:** Capital House (LP tokens) sets treasury risk and fee bands; Reputation House manages contributor slates and operations.
- **Emergency brakes:** Multi-sig guardianship can pause disbursements on verified oracle or policy failures.
- **Amendability:** Parameter changes require time-locks and cross-house quorum; sensitive changes trigger opt-out/withdraw windows.

## 12. Risk, Compliance & Data Integrity

- **KYC/AML & Sanctions:** Mandatory at the participant edge; travel-rule compliance for stablecoin transfers.
- **Jurisdictional policy packs:** Vaults encode region-specific rules (disclosure, solicitation, retail limits).
- **Data oracles:** Signed read-only connectors to accounting, HR, billing, CRM; hash-anchored on-chain for auditability.
- **Model risk:** Back-testing and out-of-sample validation; drift monitoring; red-team challenges; human overrides logged and reviewed.
- **Operational security:** Keys in HSMs, role-segregated permissions, periodic third-party audits.
- **Conflicts registry:** On-chain disclosures (advisory roles, options, familial ties) with automatic policy checks.

## 13. Implementation Roadmap

- **Phase 1 - Foundations (0-12 months):** Stand up compliant treasury vaults and ILF-35 identity/ledger issuance; pilot early-stage mandates with a small cohort of vetted Originators.
- **Phase 2 - Data & Mid-Stage (12-24 months):** Integrate core financial oracles; deploy human-in-the-loop scoring; formalize review cadences.
- **Phase 3 - Later-Stage Automation (24-36 months):** Roll out high-confidence allocators; enforce separation-of-roles and auction windows.
- **Phase 4 - Inter-DAO Composability (36+ months):** Enable DAO mergers/splits and GP multi-homing; standardize cross-DAO settlement and reputation portability.

## 14. KPIs & Accountability

- **Coverage & Access:**
  - **Coverage Index:** share of regional GDP/industry codes with at least N active Originators.
  - **Time-to-Capital:** median days from proposal to funding.
  - **Founder Diversity Mix:** sector, geography, and demographic spread across funded companies.
- **Performance Quality:**
  - DPI (net) by mandate, PME, Loss ratio, Hit rate (>10x realizations), Follow-on quality.
  - **M-Score Persistence:** correlation of GP M-Score across review periods.
  - **Model Contribution:** realized alpha versus human-only counterfactuals at later stages.
- **Integrity:**
  - Policy Breach Rate, Override Justification Score, Oracle Uptime, Audit Findings

Remediation SLA.

## 15. Illustrative Scenarios

- **A. Part-time specialist → top Originator:** A practicing oncologist makes several successful angel investments in oncology tooling, proven by their ILF-35 ledger. A DAO grants them a $2M evergreen mandate, allowing them to leverage their domain expertise while remaining in their clinical career.
- **B. Late-stage anomaly detection prevents loss:** Oracle feeds flag a divergence between payroll growth and ARR gains in a portfolio company. The model halts follow-on funding, allowing a human steward to uncover governance issues and block capital, improving cohort DPI.
- **C. Amateur angel → full-time GP:** An experienced product manager builds a strong on-chain ledger of ~20 small angel checks over four years, demonstrating disciplined sizing and realized wins. Their M-Score earns them a modest evergreen line at a DAO, which expands enough to replace their salary after two successful review cycles.
- **D. Cross-DAO originator:** A sector scout takes non-exclusive mandates with multiple DAOs, routing opportunities to the best-fit vault subject to conflict disclosures. This multi-homing allows exceptional sourcers to widen coverage while DAOs share in the expanded surface area.
- **E. Late-stage steward specialist:** A former corporate development lead focuses on C-to-pre-IPO stewardship, managing a high-volume book where ≈90% of underwriting is model-led. Human attention is targeted at edge cases like culture risk, governance gaps, and exit path optimization, resulting in cleaner exits and higher DPI.
- **F. Geographic diversification:** A DAO expands its network to hundreds of independent scouts in secondary cities and emerging markets. This broadens the funnel, increases independent "draws," and lowers correlation, materially raising the probability of finding outlier winners.
- **G. Rankings-driven meritocracy:** With per-mandate, risk-adjusted M-Scores public on-chain, DAOs reallocate budgets toward top-quartile GPs, shrinking relationship-driven entitlements. This "skill tournament" dynamic increases competition and produces a measurable uplift in net DPI without raising aggregate risk.

## 16. Limitations, Challenges, and Mitigations

- **Identity & Sybil resistance:** Ensuring "one person, one ledger" globally without over-collecting PII demands continued advances in privacy-preserving identity.
- **Model bias and feedback loops:** Late-stage models trained on historical winners can entrench patterns; periodic "exploration budgets" are required.
- **Data rights:** Standardizing permissioned access to company systems while safeguarding commercial secrets remains a negotiated space.

- **Regulatory heterogeneity:** Cross-border harmonization will evolve; architecture must remain parameterized per jurisdiction.
- **Scalability:** ZKP computations are gas-intensive; this can be mitigated with L2 rollups and recursive proofs.
- **Oracle Dependency:** The system relies on external data feeds, which can be a single point of failure. Using decentralized oracles is crucial.
- **Adoption:** Gaining traction requires a successful pilot DAO and open-sourcing contracts for community audits.
- **Regulatory Scrutiny:** Privacy features like shielded pools may attract regulatory attention; designing with optional transparency modes is a potential mitigation.

## 17. Conclusion

In this model, venture capital works because structure follows truth: information density dictates automation; skill earns mandates; transparency routes capital to performance; and a broad, meritocratic surface area discovers more outliers. DAOs, stablecoin treasuries, portable track records, and codified guardrails together convert VC from a relationship game into a system of measurable, contestable skill. This represents a new social contract for innovation finance that expands who gets to invest, who gets funded, and where new category leaders are found.

## Appendix A - ILF-35: Investment Ledger Schema (**summary**)

- **Identity:** DID, sybil-resistant proof, jurisdiction tags.
- **Transaction:** tx_id, timestamp, role (originator/follower/steward), instrument (equity, SAFE, token warrant), check size, vault_id.
- **Company:** company_id, sector codes, geo, stage at entry, data-oracle endpoints (hashed).
- **Lifecycle:** follow-on links, conversions, pro-rata usage, board/advisory roles (attested).
- **Outcomes:** distributions (amount, date), write-offs, secondary sales, DPI contribution, PME mapping.
- **Attestations:** auditor verifications, counterparty signatures, ZK-proof bundles.

## Appendix B - Guardrail Policies (**examples**)

- **No back-to-back leads:** The same GP cannot lead consecutive rounds in a position without an external allocator vote.
- **Exposure caps:** Per-company and per-sector caps by vault.
- **Co-investment disclosures:** Automatic conflict checks against disclosures registry.
- **Auction windows:** Standard data room → sealed bids → transparent allocation.

# Appendix C - Pseudocode: Allocation Engine (simplified)

```
function proposeDeal (gp, deal):
  require isKYCed (gp) && hasMandate (gp, deal.vault)
  require policyEngine.passes (deal)
  store Proposal (deal) on-chain with hash (diligence_packet)
  emit ProposalCreated

function approveEarlyStage (proposal, committee):
  require committee.quorumReached()
  mint PositionToken (to vault, meta=proposal.meta)
  disburseStablecoin (from=vault, to=company, amount=proposal.amount)
  linkGP (proposal, role="originator")

function approveLateStage (proposal):
  score = model.score (proposal.data_oracles)
  if score >= threshold or humanOverrideApproved():
    executeFunding()
  else:
    reject()

function realize (position, proceeds):
  transfer (proceeds, to=vault)
  carry = computeCarry (position)
  stream (carry, to=linkedGPs(position))
  updateILF35 (position, proceeds)
```

# Appendix D - Glossary

- **DPI/TVPI/RVPI:** Standard private-market performance metrics.
- **PME:** Public Market Equivalent benchmarks private returns against public indices.
- **Originator:** GP specializing in earliest stages, primarily human judgment.
- **Steward/Allocator:** GP managing mid/late stages with model assistance or leadership.
- **Reputation token:** Non-transferable voting weight tied to verified contribution.
- **Position token:** On-chain receipt representing the vault's economic interest in a deal.

# Legal & Risk Notice

This document describes a conceptual architecture for DAO-based venture allocation. It is not investment, legal, or tax advice. Implementation must be tailored to applicable laws and undergo independent security and compliance reviews.