

VERV

Sovereignty Without Isolation. Cooperation Without Surrender.

A framework for human agency, polycentric institutions, Organic Efficiency, and navigation under uncertainty

Publication Note

This document is VERV's cultural-philosophical, institutional, and research whitepaper. It is not an offer of securities, tokens, or other financial instruments, nor is it investment, legal, tax, or financial advice. References to VRV, Programmable Promises, and future institutions describe a direction of design. As of August 2026, the structure and legal classification of VRV are not final; any real financial mechanisms must be launched only through an appropriate legal wrapper and in compliance with applicable regulation.

Version 1.0 records VERV's current intellectual architecture without presenting it as final. Institutional mechanisms that have not yet accumulated sufficient operating history are treated as testable hypotheses and may change in response to observed system behavior.

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Abstract

Modern society faces a structural contradiction. Individuals have more technological capacity to act independently than ever before, yet a substantial share of collective coordination still relies on institutions in which authority is concentrated, exit is costly, and efficiency is judged primarily by current output.

VERV proposes to examine this problem not through the binary of “individualism versus collectivism,” but through the interaction of culture, institutions, and four independent problems: **agency**, **coordination**, **viability**, and **navigation**. VERV’s corresponding answers are **Relational Sovereignty**, **Polycentric Institutions**, **Organic Efficiency**, and **Contour Navigation**. VERV does not assume that a society can be fully designed in advance: culture and institutions are treated as co-evolving components of a complex adaptive system.

This document is deliberately structured in two layers. It first explains the philosophical and institutional logic in ordinary language; only where useful does it introduce testable models and formal notation. The mathematical notation for the early institutional principles is moved to an appendix so that formalization does not substitute for meaning.

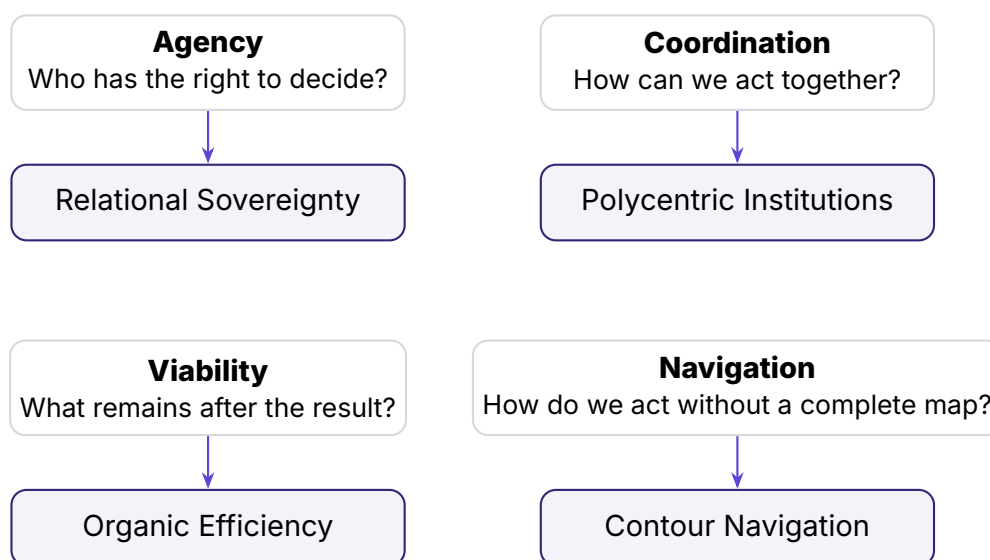


Figure 1: Four fundamental problems and four VERV responses.

The document distinguishes three levels of claims: established research, VERV’s normative positions, and VERV’s own testable hypotheses. In particular, VERV does not claim that autonomy, polycentrism, or sustainability are new ideas. The originality of the research programme should be judged by whether their synthesis produces new concepts, models, and testable consequences.

1 Introduction: Freedom as Infrastructure

VERV does not begin with the question of which ideology should prevail. It begins with a more practical problem: *how can autonomous people live and act together in a society where coordination is necessary, knowledge is distributed, and institutions inevitably create power?*

In the twentieth and early twenty-first centuries, political and economic debate has often been organized around opposing pairs: individual or collective, market or state, freedom or order, efficiency or well-being, centralization or decentralization. Each axis describes a genuine tension, but none by itself provides an adequate architecture for a complex technological society.

VERV starts from four intuitions.

Sovereignty without isolation. A person can be deeply connected to other people and institutions without ceasing to be an autonomous subject.

Cooperation without surrender. Strong collective capacity does not require the collective to acquire unlimited authority over its participants.

Value without depletion. A current result cannot be considered fully efficient if producing it systematically destroys the ability of people or the system to create value in the future.

Navigation without pretending to know everything. In a complex environment, it is more rational to build a testable map, act, observe feedback, and revise the model than to pretend that a final plan already exists.

VERV is therefore not a project for a society without institutions. It is a project for institutions in which power has boundaries, exit remains real, cooperation does not require conformity, and the system itself can discover and correct its own errors.

2 Culture and Institutions: A Co-evolutionary View

VERV does not assume that society can first be fully specified, then implemented as an architecture, and finally populated by suitable people. Institutions can define rights, constraints, and procedures, but the actual social system emerges through repeated interaction, expectations, conflict, trust, and adaptation.

Institutional research has long emphasized two-way causality: rules structure incentives and behavior, while organizations and participants acting within those rules gradually reshape the institutions themselves (North 1990). Economic institutions can affect not only choices made under fixed preferences, but also the formation of preferences, norms, and dispositions (Bowles 1998). VERV therefore treats culture and institutions not as sequential stages, but as mutually changing layers.

An institution is a snapshot; society is a process. A rule records a particular state of coordination, while a living society continues to alter meanings, norms, trust, and functions around that rule.

2.1 Scaffold and Emergent Institutions

It is impossible to wait for every social function to emerge spontaneously. An early system needs minimum guarantees of safety, identity, dispute resolution, accounting, and limits on power before a long shared history exists. VERV calls these **scaffold institutions**: mechanisms that create a sufficiently safe space for interaction without claiming to represent the final social order.

A second category is **emergent institutions**. These become appropriate when a recurring social function has already demonstrated itself in practice: people repeatedly rely on a particular mechanism, role, or norm, and the problem becomes how to preserve that function over time, make it transferable, and reduce dependence on specific individuals.

Institution as codified social memory. A good institution does not always need to manufacture a human relationship from nothing; often its task is to preserve a useful function that has already emerged so that it can outlive its original carriers.

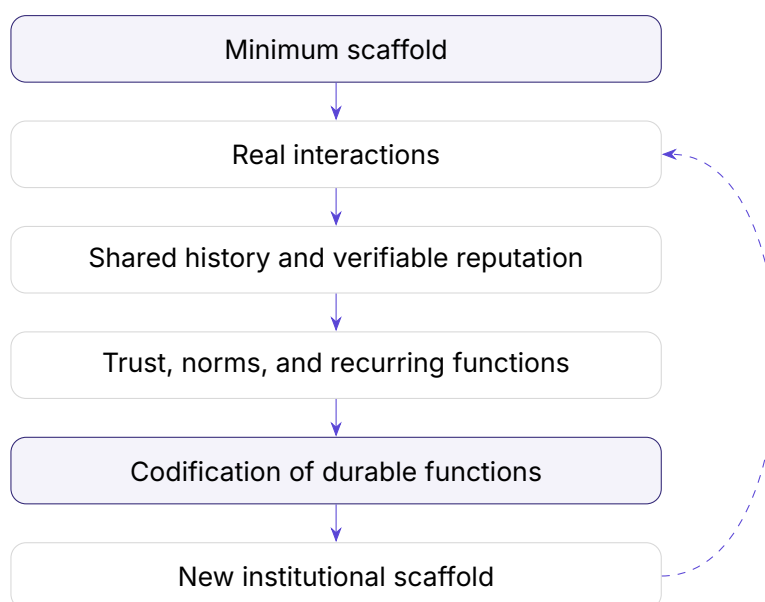


Figure 2: A co-evolutionary cycle: institutions create conditions for interaction; interaction produces history, norms, and functions; durable functions reshape the next institutional layer.

2.2 Trust Is Historical and Relational

A universal score is a poor representation of trust. The same person may be a reliable engineer, a poor financial counterparty, an effective mediator, and a weak manager. VERV therefore prefers contextual reputation and treats trust primarily as a property of relationships with history.

VERV does not romanticize personal trust. Scalable institutions matter precisely because they allow cooperation among people who have never met: escrow, verifiable credentials, contractual procedures, insurance, and dispute resolution replace part of personal trust with institutional assurance. The objective is not to make everyone become friends before cooperating, but to reduce the cost of safe interaction and allow trust to emerge where it is actually supported by experience.

2.3 Latent Culture and Recognition

VERV should not try to manufacture the “right kind of person.” A more plausible hypothesis is that people already exist who have independently arrived at similar orientations: they want to remain authors of their own lives, reject treating people as expendable material for a system, and prefer creating alternatives where possible rather than endlessly competing for control of an existing order.

The first cultural function of VERV is therefore not conversion or conformity, but **recognition**: making this latent affinity visible so that people can discover one another and begin real joint action. This selection is not neutral. VERV creates a cultural attractor and must acknowledge its own effect on who enters the community. Emergent culture should therefore not be misdescribed as entirely spontaneous or objectively “natural.”

2.4 The Cost of Saying No

Formal freedom is especially misleading when refusal carries a destructive price. A more practical question is: *how much does it cost a person to say no?* What does it cost to reject a bad job, an unfair agreement, a particular intermediary, a place of residence, or an action that violates one’s convictions?

Practical freedom increases when the artificially inflated cost of legitimate refusal decreases.

This does not imply a right to break voluntarily accepted commitments without consequences. Freedom to refuse must coexist with responsibility for promises already made. VERV’s task is to reduce dependence created by the absence of alternatives, not to destroy the possibility of credible commitment.

This yields the **ordinary-participant test**: what does a VERV mechanism actually change for a person with an ordinary job, limited capital, one citizenship, and little spare time? If the system merely creates a new premium exit for people who already possess capital and mobility, it fails its stated function as infrastructure for freedom.

2.5 Design Conditions, Not the Final Person

The gardener metaphor is useful only with a qualification. System founders can choose initial conditions, protect early experiments, and remove some barriers without being able to construct the final social outcome. But power over initial conditions is still power. Actions by founders, the Foundation, PEN, and other early institutions must therefore be bounded, observable, and subject to mandate expiration.

Design conditions without prescribing the final social outcome. VERV architecture should create room for safe experimentation rather than turn the founders’ initial model into the mandatory final form of the community.

This gives the Genesis rules a clearer justification: they are scaffolding for the emergence of a real political community, not evidence that the founders know its final constitutional form in advance. The automatic expiration of the Genesis mandate after the system reaches a defined scale is therefore not merely a technical detail, but part of VERV’s

theory of institutional development.

3 Four Problems

3.1 Agency

Every system of collective action must answer the question: *who has the right to make a decision whose consequences extend to others?* A monarchy, parliament, corporation, co-operative, market, and decentralized autonomous organization (DAO) answer differently, but the underlying problem is the same.

3.2 Coordination

A person does not exist outside society. We depend on language, infrastructure, division of labour, institutions, and other people. Freedom is therefore not equivalent to minimizing relationships. A more useful question is: how can we increase a person's ability to cooperate without transferring more power to others than is necessary for the specific interaction?

3.3 Viability

A system can demonstrate strong current results while simultaneously damaging the mechanism that produces them. A company can increase output by burning out employees, an economy by depleting natural capital, a team by accumulating technical debt. Contemporary OECD and World Bank approaches already distinguish current flows of well-being from assets that support future well-being (OECD 2026; World Bank 2024).

3.4 Navigation

A real decision-maker does not possess complete information or unlimited computational capacity. Herbert Simon's bounded rationality explains why actual decision-making differs from optimization within a complete model of the world (Simon 1997). Action should therefore be treated not only as execution of a plan, but also as a way to acquire new information.

4 Epistemic Status of This Document

4.1 Three Types of Claims

Empirical grounding. Claims for which independent scientific or institutional evidence exists. For example, the Job Demands–Resources literature links chronically high demands combined with insufficient resources to exhaustion and burnout (Bakker and Demerouti 2007).

Normative position. A value judgment adopted by VERV. For example: an institution should not acquire undefined authority over a person merely because that person once entered into a relationship with it.

VERV hypothesis. A claim that must be open to testing, refinement, and rejection. For example: changes in future system capacity should be included within the efficiency function itself rather than treated as an external adjustment.

The central methodological constraint is simple: VERV should not present a value judgment as scientific fact, and it should not rename established knowledge as its own discovery.

5 Relational Sovereignty

5.1 Autonomy Is Not Isolation

VERV begins with the person, but not with an isolated person. Language, knowledge, culture, and much of the opportunity available to an individual are socially produced. Interdependence therefore does not equal subordination.

VERV normative position. The person is the primary moral subject of an institutional system, but autonomy exists within relationships rather than outside them.

Amartya Sen’s Capability Approach shifts attention from the formal possession of resources to a person’s actual opportunities to achieve meaningful ways of acting and being (Sen 1999). Self-Determination Theory, in turn, shows that autonomy and relatedness are not mutually exclusive human needs (Ryan and Deci 2000). The global relevance of social connection remains clear: in 2025 the World Health Organization elevated social connection as a distinct public-health concern (World Health Organization 2025).

5.2 Formal Freedom and Effective Agency

A person may have the formal right to change employers yet lack the financial ability to do so. A person may have the right to delete an account yet lose reputation, history, and social graph with it. VERV therefore distinguishes **formal freedom** from **effective agency**.

Effective agency requires three things at once: the **right to act**, the **capacity to exercise that right**, and **genuinely accessible alternatives**. These elements are not fully substitutable. If a person formally has a right to leave but lacks both resources and a viable alternative, the practical value of that right falls sharply.

A minimal formal representation appears in Appendix A. The substantive point is more important than the notation: freedom should be evaluated not only by what is permitted, but also by what a person can actually do.

5.3 Definition

Relational Sovereignty is the capacity of a person to determine which relationships of dependence they enter, what authority they delegate to others, in which domain and for how long, and under what conditions that relationship can be changed or terminated.

Its cultural shorthand is:

Cooperate without ceasing to be a subject.

6 Sovereignty and Collective Capacity

The conventional spectrum of “individualism versus collectivism” collapses several different properties into one axis. VERV separates at least **individual sovereignty** and **collective capacity**.

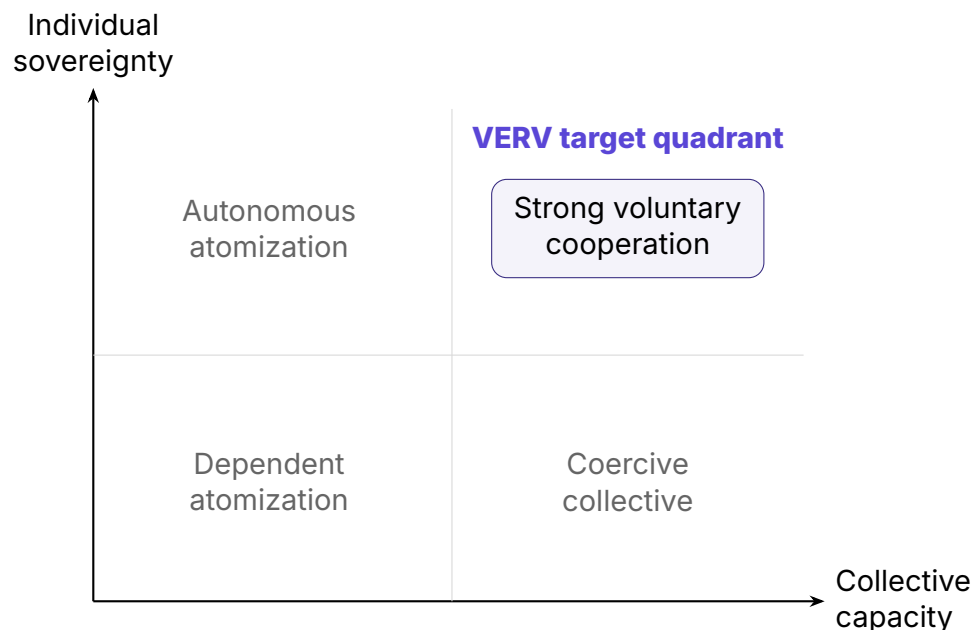


Figure 3: VERV does not maximize individualism. The objective is to combine high sovereignty with high collective capacity.

The cultural formula of this quadrant is **belonging without conformity**. A person can be part of a strong community without becoming a copy of its other members.

7 Bounded Explicit Authority

Most discussions of governance begin with the question “who should govern?” VERV proposes starting one step earlier: *what exactly counts as authority, and where are its boundaries?*

Authority in VERV is not treated as an abstract status, but as a bounded bundle of proper-

ties. Its source, holder, domain, scope, procedure, duration, constraints, and conditions of revocation should all be knowable. A minimal formal representation appears in Appendix A.

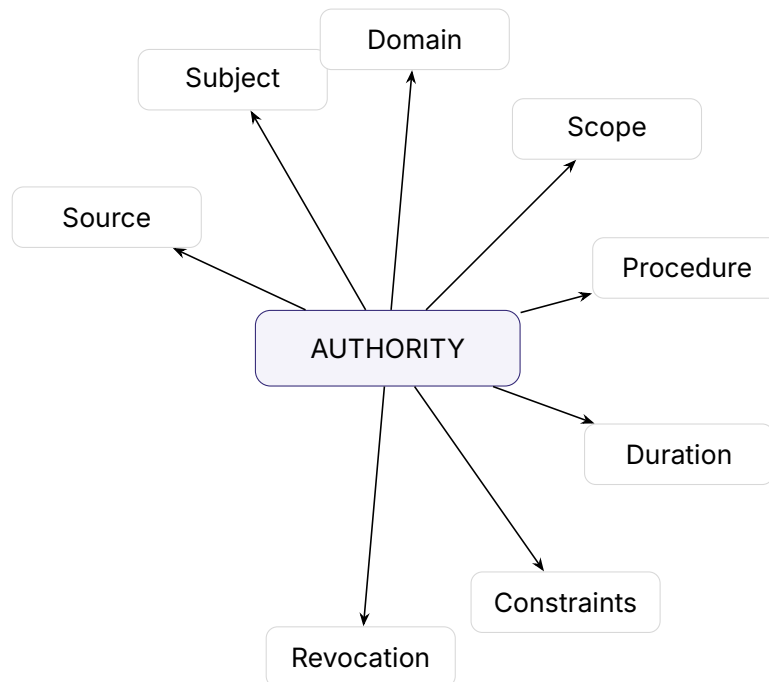


Figure 4: Authority is treated not as status, but as a bounded set of parameters.

Authority must be explicit, bounded, and auditable. Every binding decision should have an identifiable source, procedure, domain, and mechanism of review.

7.1 Silence Is Not Consent

A central VERV principle is that **the absence of objection does not constitute a grant of authority**. From this follows the broader principle **No Authority by Inertia**. It protects against the gradual expansion of power through precedent, custom, vague mandates, or temporary exceptions.

7.2 Voice and Exit

Following Albert Hirschman’s influential distinction, VERV treats **voice** and **exit** as independent mechanisms for correcting institutions (Hirschman 1970). Voice allows a participant to change an institution from within; exit allows the participant to change the institution in which they participate.

VERV further proposes treating **exit friction** as a property of institutional power. It includes, for example, the loss of data, reputation, identity, or capital, as well as legal, economic, and social switching costs. High retention may indicate high value, or it may indicate a high cost of leaving. A formal representation appears in Appendix A.

8 Polycentric Institutions

Elinor Ostrom’s research demonstrated that durable governance of common resources cannot be reduced to a choice between markets and centralized state control (Ostrom 1990; Ostrom 2010). A polycentric system contains multiple partially autonomous decision centres interacting within shared constraints.

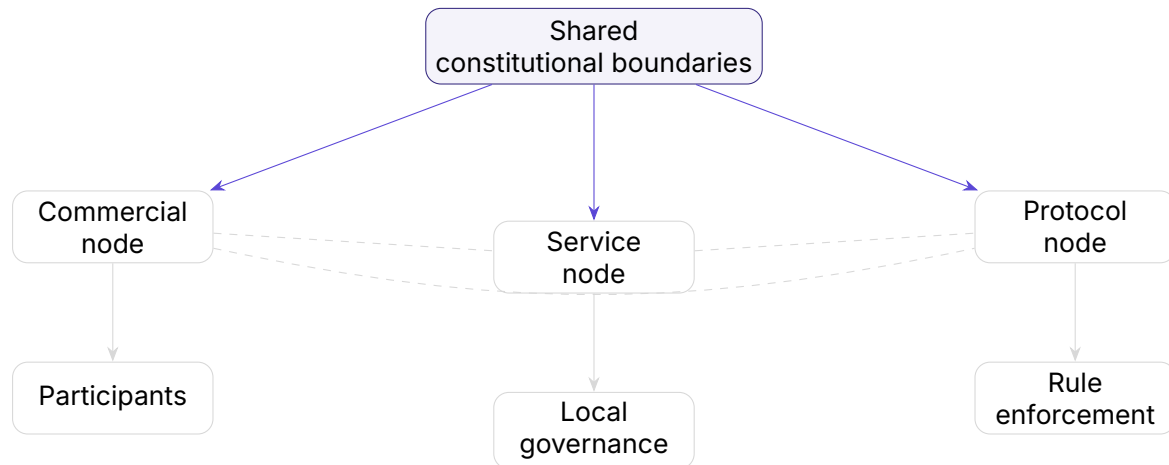


Figure 5: Polycentric architecture: local autonomy within shared constitutional boundaries.

VERV formulates a principle of functional subsidiarity: *a decision should be taken at the lowest level capable of competently managing its material consequences*. Locality is not an end in itself: systemic risks and externalities may require coordination at a broader level.

9 Constitutional Membership and Citizenship

VERV separates several concepts that digital communities often collapse into a single “account” or token balance.

Identity, membership status, capital, competence, and political voice are different layers of the system. They may interact, but none should automatically absorb the others.

In particular, holding or locking VRV does not by itself create citizenship, and citizenship does not by itself confer epistemic privilege on a specialized question.

9.1 VERV ID as the Base Layer of Participation

Participation in VERV’s constitutional system requires a VERV ID. Its purpose is to establish a persistent subject to whom membership status, credentials, decision history, and delegated authority can belong. This does not imply public disclosure of civil identity: persistence of a subject and public visibility of that subject’s legal name are different properties.

Persistent identity is not the same as public identity. The system should be able to verify properties that matter for participation without turning governance into a public registry of personal data.

VERV ID should also not be conflated with KYC. KYC is a separate compliance process for actions where it is required by applicable law or by the nature of a specific financial operation. Precise legal boundaries belong in a separate legal and tokenomic specification; this whitepaper establishes only the architectural separation of these layers.

9.2 Explicit Acceptance of Rules

A participant must explicitly accept the published canonical documents applicable to their status. Merely using an interface, failing to object, or following historical custom does not substitute for consent. Consent should be tied not merely to a person and “the rules” in general, but to a specific document, a specific version, and the moment of acceptance.

A consent record should answer four questions unambiguously:

- **who** gave consent – the relevant governance principal;
- **what** they consented to – the specific canonical document;
- **which version** of that document;
- **when** that consent was recorded.

This is a conceptual model of a consent record, not a specification of a cryptographic signature. It follows directly from the principle “silence is not consent”: an institution’s authority should not expand merely because a participant failed to notice a rules change.

9.3 Procedural Accessibility and AI Assistance

VERV formulates a principle of **procedural accessibility**: the form of participation should be as simple as the material risk of the procedure allows. Applications and forms should be completable in reasonable time, use ordinary language, and avoid creating artificial bureaucratic barriers.

Using AI to understand documents and prepare answers is permitted. However, **AI assistance is not a delegation of consent**. The final confirmation, declaration, or vote remains an act of the relevant principal or of an agent explicitly authorized by that principal.

9.4 Citizenship and Admission

VERV citizenship should not arise automatically from capital. In addition to VERV ID and explicit acceptance of the current canonical documents, a candidate completes an interview with a certified agent or certified node. The purpose of the interview is not ideological conformity, but confirmation of informed participation, understanding of basic obligations, and compliance with the formal requirements of citizenship.

Such a mechanism itself creates potential meta-power for those who admit new citizens. The **admission architecture** should therefore be polycentric: multiple independent certified actors, a defined interview protocol, reasoned outcomes, conflict-of-interest rules, a

right to appeal, and observable aggregate decision statistics.

The roles Partner, Resident, and Citizen should be understood as increasing levels of institutional commitment rather than as human rank. Exact VRV thresholds are intentionally not fixed in this whitepaper because the tokenomic structure of VRV remains unresolved as of August 2026.

9.5 Genesis Mandate Sunset

Genesis documents are necessary before a full political community exists, but their legitimacy should not be permanent merely because they were first. VERV therefore adopts a **Genesis Mandate Sunset**: the Genesis constitutional regime remains the operating baseline until VERV reaches 1,024 Citizens; crossing that threshold automatically initiates a 90-day constitutional transition period.

Founders can initiate an institution, but should not possess perpetual constitutional legitimacy simply because they came first.

The detailed mechanics of the 90-day transition – the membership snapshot, sequence of reviews, ratification thresholds, and fallback state if the transition ends without a complete settlement – must be specified **before** the 1,024-Citizen threshold is reached. Rules governing a transition should precede the transition itself.

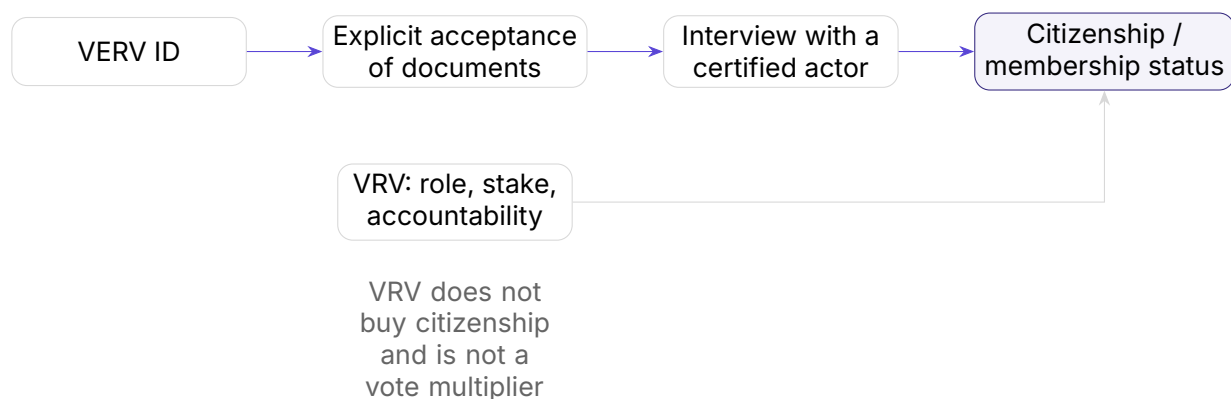


Figure 6: Separation of identity, consent, admission, and economic commitment.

10 VERV Governance as an Institutional Experiment

VERV's current governance architecture starts from a constitutional principle: the organization acts only through recorded decisions and has no separate will apart from them. The only path to a binding act runs through deliberation, voting, tallying, and enactment. No founder, administrator, operator, or officer should have an informal right to cancel, rewrite, or refuse to execute an outcome produced through a valid procedure.

All binding changes should form an append-only rather than retrospectively rewritten decision history: a decision is linked to the proposal that produced it, the voting conditions, and the outcome. This implements **public authority traceability**: for every active rule, it should be possible to reconstruct the legitimate source from which it arose.

This property is referred to as **decision–execution integrity**. It does not imply that every external effect can be automated. A protocol can directly modify only state under its control. A contract with an external organization, a bank action, a court decision, or physical execution still requires a separate legal or operational layer.

VERV organizes work through nodes with their own charters, local procedures, and, where necessary, treasuries. Commercial nodes may conduct economic activity; service nodes may maintain shared infrastructure. Their authority remains bounded by common constitutional rules. Protocol nodes differ in that they guard system rules and require a materially stricter creation procedure.

The **Protocol Enforcement Node (PEN)** separates rule creation from rule enforcement. PEN may be tasked with determining or appointing the executor of an adopted decision and with protecting protocol compliance, but it does not acquire an independent legislative will.

PEN serves the protocol; PEN does not own the protocol. A role in PEN should not by itself confer additional political voice.

10.1 Higher Assurance Requirements for PEN

The closer a role is to actual execution of binding decisions, the higher its assurance burden should be. This does not follow from an assumption that PEN has greater political legitimacy; the logic is the opposite: execution capability increases the potential damage from error, conflict of interest, or capture.

A minimum **assurance model** for PEN should combine periodic recertification, an auditable action log, disclosure of conflicts of interest, separation of duties, an appeal process, technical audits, and, if an economic bond is adopted, sanctions only through a pre-defined procedure. No single signal or check should automatically create a presumption of guilt or a right to impose unlimited sanctions.

The closer a role is to enforcement, the higher the assurance requirements and the narrower its independent discretion should be.

10.2 Decision Thresholds and Deliberate Friction

In the current reference implementation, thresholds and procedural duration depend on the impact class of a proposal. Ordinary operational matters may use a simple majority with a lower participation requirement; policy and canonical documents require a two-thirds supermajority; creating a new protocol node is among the heaviest decisions and requires 75% support with participation representing at least half of all eligible voting power.

A proposer declares the impact class, which determines a deliberation period of 3–14 days. Additional **deliberate procedural friction** includes a cooldown between proposals, a period before polls close during which votes can no longer be changed, and a waiting period before unstaking completes. These constraints are not treated as values in themselves. Their purpose is to raise the cost of impulsive capture and give participants time

to identify consequences.

VERV has no discretionary “emergency ruler” able to skip a vote. A technical circuit breaker is permissible only where its scope, trigger, and maximum duration were authorized in advance by a recorded decision. It may temporarily stop a pre-defined function, but it may not create new policy.

10.3 The Role of VRV: Access and Accountability, Not Vote Purchase

The **VRV** token is intended as a mechanism of role eligibility and economic commitment to the system. Locked VRV may participate in determining a participant’s class or role, the duration of obligations, and the set of actions available to that role. VRV does **not** enter directly into the formula for vote weight.

A role may depend on the size and duration of a stake and on other conditions defined by active VERV documents. Exact thresholds are deliberately not specified here: **as of August 2026, the tokenomic structure of VRV has not been finalized.**

VRV is therefore used for role, access, and accountability, but it is not a direct multiplier of political voice.

A stake may also provide an economic basis for **slashing**. In a potential model, a reputation event may trigger review or affect the severity of a sanction, but automatic slashing based only on an opaque rating would create a new source of arbitrary power. A final slashing mechanism should therefore require evidence of the event, a defined procedure, proportionality, a right to appeal, and a recorded outcome.

10.4 Two Voting Modes

VERV distinguishes at least two classes of collective questions.

General questions. For questions where specialized subject-matter expertise should not create political privilege, the rule is **one eligible governance principal, one base vote**. In the formal model, the voting budget belongs to the **governance principal**: creating or connecting additional delegated AI agents does not create additional base votes. A delegated agent acts within the voting budget and explicit mandate of the principal.

Specialized questions. For a question that belongs to a specific domain – for example medicine, cryptography, law, or engineering safety – VERV uses **domain-weighted voice**. Weight is determined by verified skill and reputation in the relevant domain, not by a participant’s general social status.

In specialized mode, the base vote may be moderately amplified by verified skill and domain reputation. The amplification applies only in the relevant domain and is hard-capped. The amount of VRV staked does not itself increase vote weight. The exact domain-weight function, the balance between skill and reputation, the maximum multiplier, and the rules for multi-domain proposals remain open. A formal model appears in Appendix A.

10.5 Tally and Thresholds

The tally includes votes of eligible participants and, for specialized questions, the applicable domain weight. A positive tally alone does not make an outcome binding. For each proposal class, the following should be specified in advance:

- approval threshold;
- participation or quorum requirement;
- deliberation duration;
- the point after which a vote can no longer be changed;
- conditions for enactment;
- whether and how the decision may later be reviewed.

In other words, binding force depends both on the voting result and on procedural validity. The formal tally and enactment notation appears in Appendix A.

10.6 Why Procedure Depends on the Type of Question

The distinction between general and specialized modes is not an attempt to declare experts universally more legitimate. It rests on a narrower hypothesis: **the relevance of subject-matter knowledge varies between questions**. Contemporary literature also examines hybrid forms between democracy and epistocracy and suggests matching procedures to the specificity of information, technical complexity, and cost of error (Chirat and Hédoin 2026).

VERV takes a more limited position: expertise may amplify voice only where a proposal genuinely falls within a verifiable domain of competence. Expertise should not become a universal political status.

10.7 Comparison with Alternative Mechanisms

The mechanisms below are presented as separate cards because their strengths and risks do not compress well into a single universal table.

One governance principal – one base vote.

Strength: formal equality of basic political voice and relatively simple interpretation of the result.

Primary risk: does not account for differences in relevant knowledge and requires strong Sybil resistance.

Token-weighted voting.

Strength: directly expresses economic exposure and is easy to measure.

Primary risk: capital converts directly into political influence; empirical studies of DAOs show high concentration of influence in some token-weighted systems (Fritsch, Müller, and Wattenhofer 2022).

Quadratic voting.

Strength: allows participants to express preference intensity while making additional influence progressively more expensive (Lalley and Weyl 2018).

Primary risk: complexity, the need for a voting resource, and sensitivity to the information structure; benefits are not universal under incomplete information (Ben-haim, Falk, and Tsoukalas 2025).

Delegated / liquid voting.

Strength: reduces the cognitive cost of participation and allows voice to be delegated to a more engaged participant.

Primary risk: delegation chains can themselves concentrate influence; this trade-off remains material in DAO systems (Weidener et al. 2025).

Epistocratic voting.

Strength: can take relevant subject-matter knowledge into account in technical questions.

Primary risk: whoever defines “competence” acquires meta-power; systematic bias and exclusion of competing schools of knowledge are possible.

VERV hybrid. General questions preserve equal base voice among governance principals. Specialized questions may permit bounded amplification based on verified skill and domain reputation. VRV does not buy votes. The main risks are domain-classification error, credential-system capture, reputation manipulation, and an incorrect definition of the political subject.

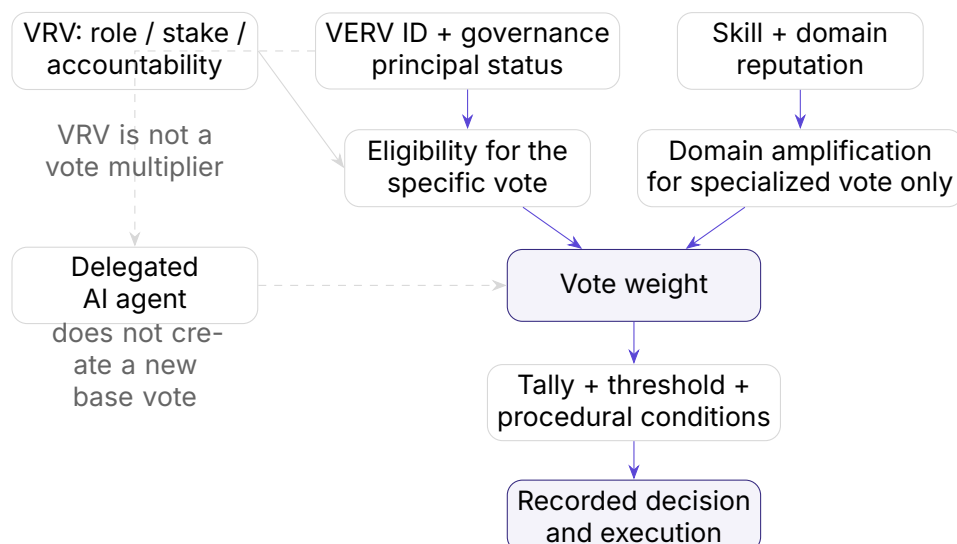


Figure 7: Separation of identity, VRV, domain competence, and delegated AI in VERV’s voting architecture.

11 Open Design Questions as of August 2026

The elements below are intentionally **not presented as finished**. Their uncertainty is part of the current state of the system and should remain visible.

11.1 Governance Principal and Delegated Agent

The principle “one agent – one vote” requires a strict definition of the unit of participation. The current design direction distinguishes a **governance principal** from delegated AI agents: an additional AI agent should not create an additional voting budget. Open questions include rules for joint control, account recovery, temporary transfer of mandate, and future cases in which an independent machine or organizational entity might claim separate subjecthood.

11.2 Admission and Citizenship Certification

The citizenship interview creates useful friction, but also creates **gatekeeping power**. The system still needs to define how interviewers and nodes are certified, whether a candidate may choose or change the reviewer, admissible grounds for rejection, the form of the decision record, appeal, reapplication periods, and statistical audits of rejection patterns. Admission should be strict enough to protect uniqueness and informed participation without becoming an ideological examination.

11.3 Transition After 1,024 Citizens

The 1,024 threshold and automatic 90-day transition establish the direction, but critical details must be fixed in advance: the **membership snapshot**, the procedure for reviewing Genesis documents, ratification thresholds, the sequence of votes, protection against accelerated admission immediately before the threshold, and the state of the system if the transition period ends without a complete constitutional settlement.

11.4 Domain Classification of Proposals

Domain weighting exists only after answering the question: to which domain does a proposal belong? A medical policy can simultaneously implicate medicine, law, economics, and data security. Possible approaches include one primary domain, multiple domains with separate coefficients, or disabling domain amplification for irreducibly interdisciplinary questions. A procedure is also needed to challenge domain classification before voting begins.

11.5 Skill Model

Skill may be demonstrated by credentials, examinations, professional practice, work outcomes, or a combination of these. Contemporary credential-based trust systems demonstrate substantial architectural diversity and also highlight difficulties in evaluating issuer quality and trustworthiness (Jiang et al. 2025). VERV still needs rules for skill expiry, mutual recognition of credentials, and protection against monopoly by a single certification centre.

11.6 Domain Reputation

Reputation should remain contextual. Strong performance in medicine should not automatically create influence in cryptography. The following remain unresolved:

- which events change reputation;
- how quickly old events decay;
- the relationship between positive and negative signals;
- portability of reputation between nodes;
- procedures for correcting erroneous or malicious signals;
- whether hidden or anonymous feedback is permissible.

11.7 Domain-Weight Function

A domain amplification function should satisfy four conditions simultaneously: it should grow with credibly verified competence, have a hard ceiling, avoid giving a small reputation error a disproportionate political effect, and remain understandable to participants. It is not yet decided whether the function should be linear, stepwise, logarithmic, or otherwise. A possible conceptual model appears in Appendix A.

11.8 VRV and Role Stake

As of August 2026, the final supply, distribution scheme, precise role thresholds, lock durations, transfer regime, economic incentives, and legal classification of VRV remain unresolved. This document fixes only the architectural principle: **stake may open a role and provide accountability, but should not directly purchase political voice.**

11.9 Slashing and Reputation Sanctions

It remains open under what conditions a reputation event can lead to a financial sanction. One safer architecture separates three stages: a reputation signal arises; an independent review procedure follows; only then is a separate sanction decision made. Direct automatic VRV slashing merely because a rating fell would be technically simpler, but would create a powerful incentive to attack the reputation system itself.

11.10 Multi-Domain and Conflicting Questions

Experts can disagree not because one side is incompetent, but because disciplines optimize different values and model risk differently. For such questions, VERV must decide whether domain weights should be added, normalized across domains, or replaced by a base vote after expert analysis.

11.11 PEN Assurance and Periodic Review

The exact admission and recertification procedures for PEN remain open. One architectural requirement can already be fixed: assurance should not revolve around a single test, but around multiple independent mechanisms – technical and procedural audits, action logs, separation of duties, conflict-of-interest controls, appeal, recertification, and pre-defined conditions of accountability. The greater the potential harm from a role's action, the higher its assurance level should be.

11.12 Emergency Governance

Refusing emergency authority that can bypass a vote protects procedural supremacy but creates the risk of slow response to vulnerabilities. A permissible mitigation direction is limited to pre-authorized **circuit breakers**: their trigger, scope, maximum duration, and permitted action must be approved through ordinary governance before an emergency occurs. A circuit breaker may stop a limited function, but cannot create new policy or expand its own authority.

11.13 What Must Be Measured from Day One

Testing the model requires more than vote results. VERV should measure the actual distribution of influence: the share of general and specialized proposals, distribution of domain coefficients, concentration of weight, frequency of domain-classification challenges, rate of overturned reputation signals, slashing events, appeals, admission decisions and reversals, concentration among certifying nodes, movement toward the Genesis threshold, PEN actions, and the gap between adopted decisions and executed state. Without this telemetry, VERV can narrate its governance history but cannot rigorously test its own hypotheses.

12 Organic Efficiency

12.1 The Problem of Local Efficiency

In simple form, efficiency can be written as:

$$E_t = \frac{V_t}{I_t},$$

where V_t is value created and I_t is input consumed. This model is useful as long as production does not materially change the system's own ability to produce the next result.

VERV hypothesis. If producing a current result reduces the system's future capacity to create value, that reduction is part of current efficiency rather than a separate external adjustment.

Define a capacity-change factor:

$$R_t = \frac{C_{t+1}}{C_t}.$$

The baseline model is then:

$$OE_t = \frac{V_t}{I_t} \times \frac{C_{t+1}}{C_t}.$$

If $R_t < 1$, the system operates in an **extractive mode**; if $R_t = 1$, in a **maintenance mode**; if $R_t > 1$, in a **regenerative mode**.

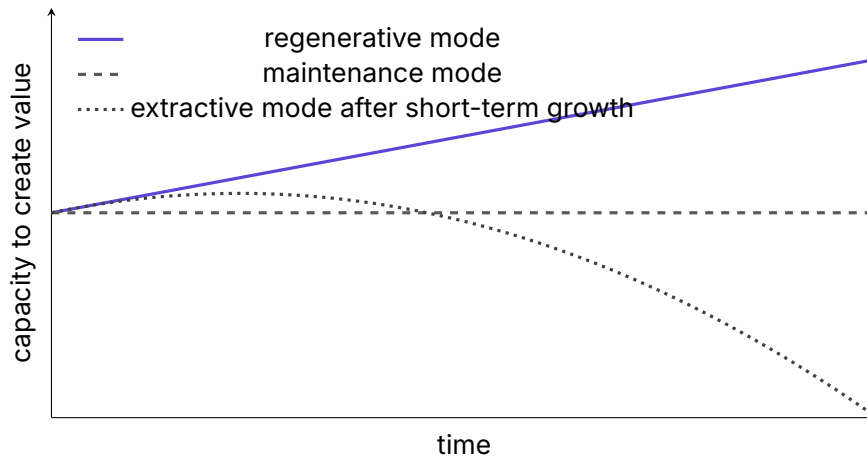


Figure 8: Current growth can conceal declining future capacity. The figure is illustrative, not empirical.

The physiological concept of **allostatic load** provides a useful analogy: adaptive short-term mobilization can become destructive when sustained chronically (McEwen 1998). In organizational psychology, a related dynamic is described by the Job Demands–Resources framework (Bakker and Demerouti 2007).

12.2 Capacity as a Vector

A single scalar C_t is too crude for a complex system. It is more useful to treat capacity as a vector:

$$\mathbf{C}_t = (C_{human}, C_{social}, C_{economic}, C_{institutional}, C_{knowledge}, C_{natural}).$$

These components represent human, social, economic, institutional, knowledge/technological, and natural capacity.

Some components should not be treated as fully substitutable. A mature version of OE therefore needs viability constraints of the form

$$C_i \geq C_i^{min},$$

so that nearly destroying a critical capacity cannot be treated as “compensated” by extraordinary performance on another dimension.

12.3 Extractive Depletion

VERV proposes a working definition: **Extractive Depletion** occurs when one level of a system obtains current value through persistent reduction of the future capacity of another level without sufficient informed consent, compensation, or recoverability.

This definition deliberately does not equate every reduction in capacity with exploitation. Consent, information, compensation, recoverability, and the existence of real alternatives matter.

13 Contour Navigation

Contour Navigation asks: how should we act when a complete model of reality does not and will not exist? It replaces the idea of a single pre-computed route with a cycle of observation, action, feedback, and model revision.

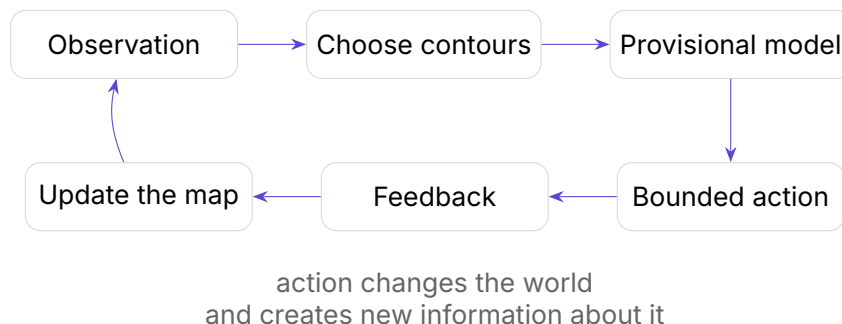


Figure 9: The Contour Navigation cycle.

13.1 Contour

A **contour** is the boundary of a system model selected for a specific decision. It determines which actors, states, resources, constraints, relationships, and feedback loops are treated as internal to the analysis.

Contour = (boundary, actors, state, resources,
constraints, relationships, feedback).

13.2 Contour Error

VERV hypothesis. A decision can be perfectly optimized within a model and still be systemically wrong if the boundary of the analyzed system was chosen incorrectly.

Contour Navigation connects directly to Organic Efficiency. Organic Efficiency asks what happened to future capacity; Contour Navigation asks which elements of capacity were included in the model in the first place.

The cultural term **Next Honest Step** means an action consistent with the best available model while explicitly acknowledging that the model is incomplete:

Honest action ~ available evidence + acknowledged uncertainty
+ accepted responsibility.

14 Technology as Infrastructure for Agency

Freedom is infrastructure. A political right becomes practically meaningful when the ability to exercise it is embedded in real institutions and technologies.

VERV ID implements the principle **identity precedes institution**: a person should not

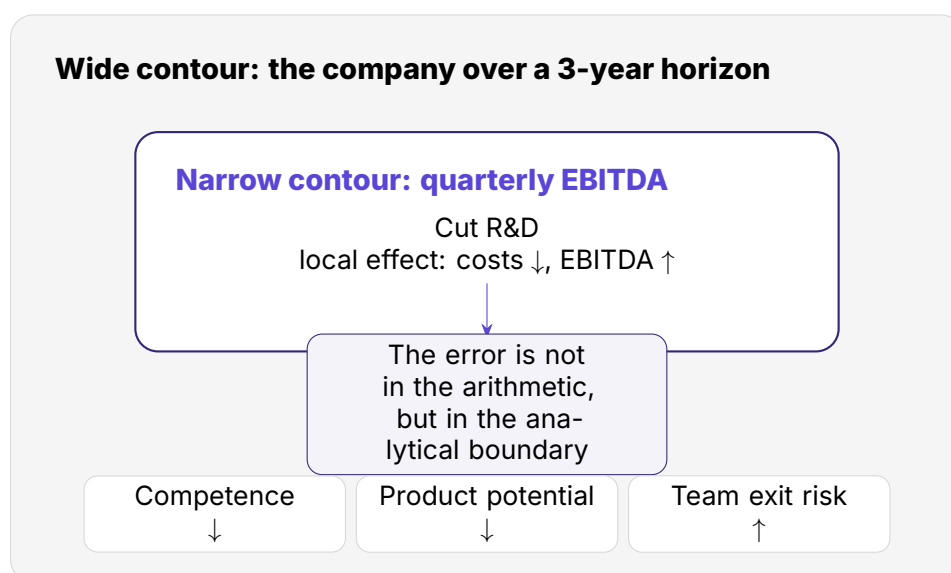


Figure 10: Contour Error: a locally optimal decision can be systemically inefficient when material future consequences lie outside the chosen analytical boundary.

exist solely as a record inside a particular platform. The public VERV ID implementation describes holder-controlled keys, encrypted storage, verifiable credentials, and selective disclosure (VERV 2026). This direction is aligned with the open W3C Verifiable Credentials 2.0 model (W3C 2025).

Using DIDs, blockchains, or cryptographically verifiable credentials does not by itself make a system sovereign. Actual dependencies still matter: who controls recovery, identifier resolution, credential revocation, and critical endpoints?

14.1 AI as Navigator, Not Oracle

Most AI interfaces are built around a “question – answer” pattern. VERV proposes a different normative ideal: AI should increase human agency, improve the quality of the user’s model, make uncertainty visible, and expand the set of available alternatives rather than replace human judgment with a confident answer. The 2025 Human Development Report likewise places human choices and capabilities, rather than only model capability, at the centre of the AI era (United Nations Development Programme 2025).

15 Institutional Deployment Roadmap

This roadmap describes not calendar promises but a **capacity-building sequence**. Each successive layer should rely on already-functioning resource sources, legal wrappers, reputation, and governance procedures. Some tracks may develop in parallel where their dependencies are already satisfied.

15.1 Stage I. Commercial Nodes as a Resource Base

The first practical layer is the formation of VERV commercial nodes capable of generating revenue, operating experience, and an auditable execution history. Their purpose is broader than profit: they should create the resources required for a durable legal and

protocol layer, including VERV Foundation and the necessary protocol institutions. At the same time, these are the first environments of real interaction: shared history, observable reliability, conflict, recurring functions, and trust should begin here and later provide material for more durable institutions.

The protocol should not begin by claiming self-sufficiency. The system must first learn to create the resources on which its legal and protocol institutions can survive.

15.2 Stage II. VERV Foundation and Physical Public Presence

After a sufficient resource base exists, VERV Foundation becomes one of the ecosystem's primary legal interfaces. In parallel, the Foundation begins organizing offline events to introduce people to VERV, discuss its principles, and create real horizontal relationships. Their function is not ideological conditioning, but recognition of a latent culture and the creation of interactions that cannot be replaced by a digital declaration of values. This moves the community beyond purely digital coordination into a mixed digital and physical environment.

15.3 Stage III. Public Programmable Promises

The next layer is public **Programmable Promises (PP)**: transparent project structures through which participants can direct funds peer-to-peer within an appropriate legal form. Beyond finance, PP create a shared history of risk and execution: a promise, verifiable delivery, failure, and the way a dispute is resolved become material for future reputation and institutional learning.

Projects may be commercial or social. Each project should have a defined legal wrapper, rules for movement of funds, applicable compliance, regulatory constraints, measurable obligations, and a way to verify performance. User-facing words such as “donation” must not substitute for legal classification: depending on the project, an operation may legally be a donation, purchase, loan, investment, or another regulated construct.

The first PPs require especially high quality because their outcomes affect trust in the wider system. During the bootstrap phase, PEN may, under a **separate pre-authorized mandate**, coordinate manual review and admission of the first projects. That mandate should have published criteria, a decision log, an appeal process, and an explicit condition for transferring selection to a more polycentric mechanism. PEN does not acquire authority to decide which social or commercial goals are intrinsically “correct.”

15.4 Stage IV. VERV Nomads

VERV Nomads is the track for people whose work, family, or lifestyle regularly crosses national borders. It begins with practical legal help with documents and navigation through local administrative procedures.

The next stage is a P2P network of local companies, professionals, and service nodes in countries where VERV operates. Legal, household, financial, educational, and other services can be delivered by local participants rather than by a single global operator. Contextual VERV reputation follows a participant or provider across compatible nodes and is

protected by protocol procedures, but does not become a universal social score.

In a more mature form, VERV Nomads may support and organize offline events itself and provide both digital and physical infrastructure for modern nomads. It is therefore not only a service layer, but also a mechanism for accumulating cross-border shared history between people and local nodes.

15.5 Stage V. Currency-Agnostic Payments and VRV

VERV's strategic direction is to allow services to be paid for in multiple supported currencies and in VRV, without forcing a user to adopt a specific monetary instrument merely to participate in the ecosystem. The actual set of currencies and payment rails depends on applicable law, available infrastructure, and compliance.

VERV Foundation, directly or through subsidiaries and authorized institutions, should operate those VRV functions that require a legal operator. This whitepaper does not fix the final supply, distribution, economic model, or legal classification of VRV as of August 2026.

VRV should expand the available modes of coordination, not become a mandatory price of belonging.

15.6 Stage VI. VERV Living

VERV Living extends the polycentric model into physical residential infrastructure. Housing can be provided under different arrangements: conventional rent, purchase, combinations of monetary payment and agreed labour contribution (work-for-housing), or other legally permissible models.

The form of the property is not fixed globally: it may be a cottage community, an apartment complex, part of a hotel, or another format. Each property should be governed by a separate node with its own charter, local rules, economics, and decision processes. VERV's shared constitutional boundaries remain, but day-to-day rules should be determined by the node and the people directly affected by them.

The roadmap should be evaluated by the same criteria as other VERV institutions. Rapid growth achieved through opaque compliance, reputation capture, non-portable dependency, or chronic subsidization of a non-working model is not success merely because it scales. Each stage should increase the future capacity of the next layer – in other words, it should pass an Organic Efficiency test.

16 VERV as a Research Experiment

VERV is meaningful not as a set of slogans, but as a cycle:

Philosophy → Institution → Protocol → Observed Behaviour → Revision.

The existence of an implementation does not prove the theory correct. If governance produces concentration of power, voter apathy, or credential capture, those outcomes are inputs for revision. If Organic Efficiency provides no additional predictive value, the model

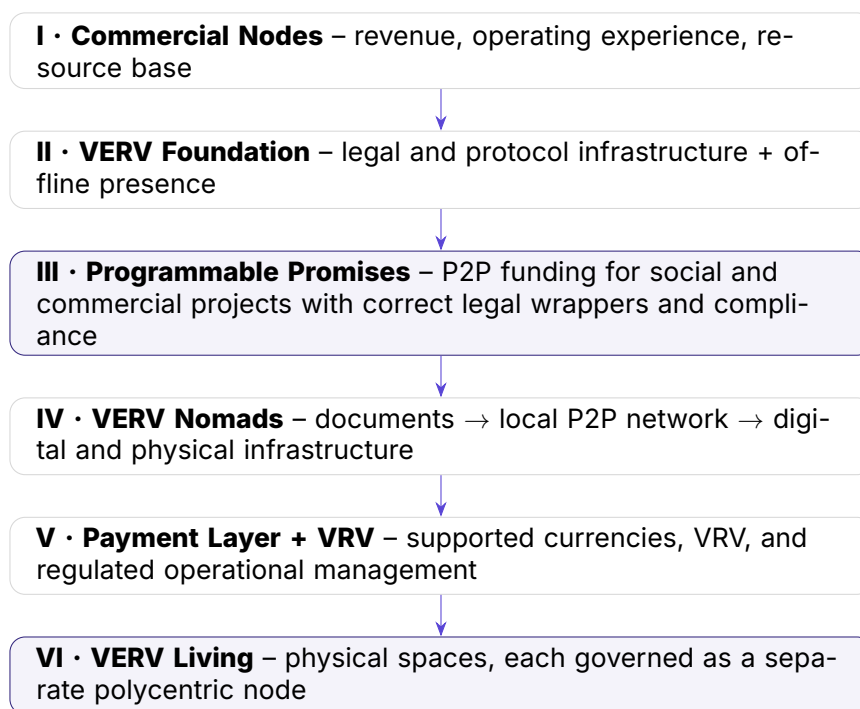


Figure 11: The roadmap as a sequence for expanding VERV from digital coordination into financial, legal, and physical infrastructure.

should be changed or rejected.

17 Principal Risks, Counterarguments, and Mitigation

Below, **mitigation** means a design mechanism that may reduce the probability or severity of a failure mode, not a proven solution.

Risk	Why it matters	Possible mitigation
Economic capture	Even if VRV is not a vote multiplier, capital can affect access to roles, the ability to maintain a long-term stake, and coalition stability.	Separate role from vote; publish the distribution of roles and stake; limit the consequences of participation classes; measure actual influence concentration rather than only VRV distribution.
Epistocratic capture	Domain-weighted voice requires defining domain, skill, and reputation. Power may migrate from voters to those who control the credential system.	Multiple independent credential sources, appeal, open criteria, strict domain limitation, and a hard cap on vote amplification.
Sybil capture of the “agent” unit	If one principal can create many voting agents, one-agent-one-vote becomes meaningless.	Distinguish governance principal from delegated agent; do not expand the voting budget when delegation occurs; use verifiable uniqueness where necessary.

Risk	Why it matters	Possible mitigation
Admission capture	Certified interviewers or nodes may effectively control the inflow of citizens and therefore the political composition of the system.	Multiple independent certifiers, open interview protocol, reasoned rejection, appeal, conflict-of-interest rules, and aggregate admission statistics.
Genesis transition capture	The 1,024 threshold creates an incentive to accelerate, delay, or manipulate the citizen set immediately before the 90-day transition.	Fix transition and snapshot rules in advance; use VERV ID uniqueness; monitor admission anomalies; prevent one node from controlling threshold attainment.
Enforcement capture	PEN is closer than other roles to actual execution and may acquire de facto power despite lacking legislative authority.	Separation of duties, auditable action logs, periodic recertification, appeal, conflict-of-interest controls, and no additional political weight merely for holding a PEN role.
Local tyranny	Polycentricity may reduce central domination while intensifying pressure within a small node.	Minimum baseline rights, external complaint mechanism, portable credentials and reputation, and meaningful exit.
Emergency vulnerability	Refusing discretionary emergency authority may slow response to a critical technical failure.	Preventive security, narrowly pre-authorized circuit breakers, short maximum duration, and mandatory subsequent ratification.
Majority error	A recorded vote does not turn a decision into truth; automation accelerates both good and bad decisions.	Mandatory deliberation, delays for high-impact decisions, reversibility where possible, review procedure, and post-execution outcome analysis.
Expert error	High subject-matter competence does not guarantee correct forecasts, absence of conflicts, or knowledge of affected groups' values.	Restrict expert weight to factual domains of competence; distinguish factual from normative questions; disclose conflicts; retain base voice on value questions.
Exit inequality	The practical value of a formal exit right differs with capital, mobility, and accessible alternatives.	Reduce exit friction: portable credentials and reputation, clear data export, and minimal platform lock-in.
Metric capture	Organic Efficiency or reputation may become a KPI and measure behavior optimized for the metric rather than the underlying system.	Use a family of indicators, non-compensatory thresholds, external checks, and regular review of proxies and analytical boundaries.

Risk	Why it matters	Possible mitigation
Procedural exclusion	Complex forms, legal language, and costly procedures can turn formally open citizenship into a de facto closed system.	Procedural accessibility: short forms, ordinary language, permitted AI assistance, published timelines, and measurement of actual completion time.
Conflating VERV ID and KYC	Using a single identity process for every interaction can turn a sovereign identity layer into an unnecessary surveillance layer.	Keep identity and compliance separate; require KYC only where legally necessary; use selective disclosure and data minimization.
AI concentration	AI may amplify personal capacity but also surveillance, manipulation, and dependency on one model provider.	Scoped delegation, revocable authority, local keys, agent action logs, multiple model providers, and least-privilege access.

18 Research Programme

18.1 Organic Efficiency

- **OE-H1.** At comparable current productivity, systems with lower persistent depletion of critical capacity components should demonstrate more stable long-term output.
- **OE-H2.** Chronic use of emergency human capacity as the normal baseline should predict future losses through exhaustion, turnover, errors, and loss of institutional knowledge.
- **OE-H3.** Non-compensatory critical thresholds should explain some forms of systemic failure better than fully averaged composite indicators.

18.2 Governance

- **GOV-H1.** For general questions, one governance principal – one base vote should reduce direct conversion of capital into political influence compared with token-weighted voting.
- **GOV-H2.** For technically specialized questions, domain-limited amplification based on verified skill and reputation should improve the quality of some decisions compared with a fully unweighted vote, if verification quality is sufficiently high.
- **GOV-H3.** Domain-classification error and credential-system capture can eliminate or reverse the expected epistemic benefit in GOV-H2.
- **GOV-H4.** VRV role stake should create economic commitment and accountability without directly purchasing voting power.
- **GOV-H5.** Decision–execution integrity should reduce divergence between the adopted decision and the actual internal state of the system.
- **GOV-H6.** Delegating action to an AI agent without creating a new voting budget should preserve automation convenience without linearly increasing the principal’s political power.
- **GOV-H7.** Polycentric admission with appeal should reduce the risk of a single point of citizenship capture compared with a single-gatekeeper model, although it may increase

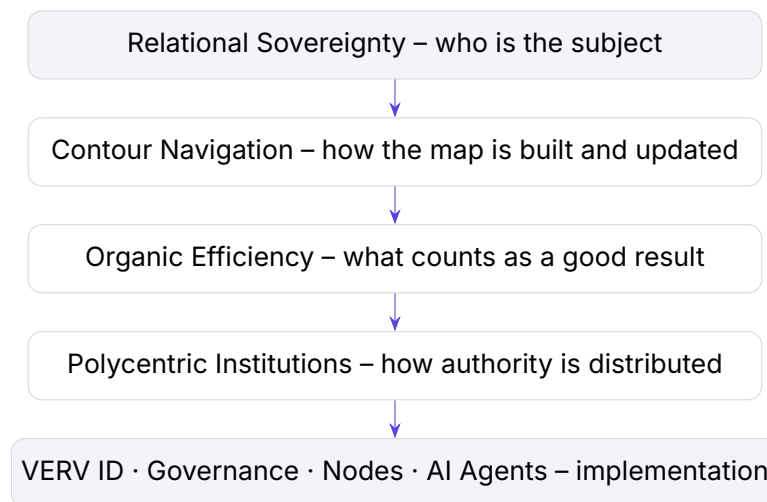


Figure 12: VERV as a stack of philosophical, institutional, and technical layers.

coordination cost.

- **GOV-H8.** Automatic expiration of the Genesis mandate after reaching a defined scale should reduce institutional entrenchment of the initial authors, provided the transition mechanism is protected from admission and snapshot manipulation.

18.3 Contour Navigation

- **CN-H1.** Explicitly listing system boundaries should reduce the probability of decisions that optimize local outcomes at the unintended expense of adjacent contours.
- **CN-H2.** Under high uncertainty, bounded reversible experiments should improve eventual decisions relative to a large irreversible commitment made from the same initial information.
- **CN-H3.** AI systems that expose assumptions and uncertainty should improve calibrated user understanding relative to oracle-like assistants that return only recommendations.

19 The Cultural Core of VERV

Person before institution. Institutions exist as mechanisms of human coordination; people are not material for institutional reproduction.

Cooperation without surrender. Strong cooperation does not require transferring the whole of one's agency to the collective.

Belonging without conformity. Belonging does not require becoming the same.

No authority by inertia. Authority must have a source; silence does not create one.

Value without depletion. A present result cannot be fully evaluated without knowing what happened to the capacity to create the next one.

Navigate; do not pretend to know everything. Incomplete models are normal; hiding uncertainty is more dangerous than acknowledging it.

The system must be able to prove us wrong. If no observation can falsify a theory, it ceases to be a research programme.

Genesis authority must expire. Rules created before a mature community exists should not acquire perpetual legitimacy merely because they came first.

Enforcement is service, not sovereignty. The closer a role is to coercion or execution, the higher its assurance burden and the weaker the case for deriving independent political power from that role.

AI may help a person understand and act, but it may not silently appropriate consent. Automation should expand human agency rather than obscure the source of a decision.

Culture and institutions co-evolve. Rules shape behavior, while the real history of interaction must be able to reshape the next layer of rules.

Reduce the cost of a legitimate no. Freedom becomes practical when leaving a harmful relationship does not automatically destroy a person's basic ability to continue living and acting.

Apply the ordinary-participant test. Infrastructure for freedom should expand alternatives not only for people who already possess capital, mobility, and technical sophistication.

Design conditions, not the final person. Founders may build safe scaffolding and incentives, but this does not grant them a mandate to determine the community's final cultural form.

20 Conclusion

Political and economic thought has often been organized around binary oppositions: individual or collective, market or state, freedom or coordination, efficiency or well-being,

centralization or decentralization. VERV argues that these axes are insufficient for a complex technological society.

A person can be autonomous and deeply interdependent at the same time. A community can be strong and voluntary. Culture and institutions can shape one another without assuming that either layer fully precedes the other. Authority can be effective and bounded. Economic activity can create present value while increasing the ability to create value again. Rational action is possible without claiming complete knowledge if the system can act, observe, learn, and correct itself.

VERV's central question is not how to build a system that people will obey correctly, nor how to free people from all dependencies. The question is different:

How can we build institutions in which participation increases the capacity of both people and the system to act – and in which no one receives more authority than is necessary for the specific form of coordination?

In brief:

Increase agency

Increase cooperative capacity

Constrain unjustified power

Preserve and grow future capacity

Keep updating the map

This is not a description of a final ideal state. It is a direction of travel and a research programme.

A Minimal Formal Notation

The main text deliberately introduces concepts before mathematical notation. This appendix collects compact notation useful for later academic analysis and simulation. It is not a final protocol specification.

A.1 Effective Agency

A simplified non-compensatory intuition can be written as

$$\text{Effective Agency} \sim \text{Rights} \times \text{Capabilities} \times \text{Accessible Alternatives}.$$

The sign $\sim$ denotes a conceptual dependency rather than a ready-to-use measurement function.

A.2 Bounded Authority

Authority can be represented as a tuple

$$A = (\text{source}, \text{subject}, \text{domain}, \text{scope}, \text{procedure}, \text{duration}, \text{constraints}, \text{revocation}).$$

A.3 Versioned Consent

A consent record can be written as

$$\text{Consent}(i, D, v, t),$$

where i is the governance principal, D is the specific document, v is the version of that document, and t is the time at which consent was recorded.

A.4 Exit Friction

Conceptually, exit friction can be represented as

$$E_f = f(L_d, L_r, L_i, L_c, C_l, C_s),$$

where the first four components represent potential loss of data, reputation, identity, and capital, and the final two represent legal and social costs of exit.

A.5 The Role of VRV

For participant i , role status may depend on stake x_i , lock duration ℓ_i , and other conditions:

$$\rho_i = \kappa(x_i, \ell_i, \dots).$$

The exact form of κ and its thresholds are not defined in this version of the document.

A.6 Two Voting Modes

Let $\mathcal{A}$ be the set of eligible governance principals, $\mathcal{D}$ the set of subject-matter domains, and p a proposal. Let proposal type be

$$\tau(p) \in \{B, S\},$$

where B is a general question and S is a specialized question. A specialized question is assigned a domain $d(p) \in \mathcal{D}$.

Let $e_i(p) \in \{0, 1\}$ indicate whether principal i is eligible to vote, $s_{i,d}$ be verified skill, and $r_{i,d}$ domain reputation. A possible conceptual vote-weight model is

$$w_i(p) = \begin{cases} e_i(p), & \tau(p) = B, \\ e_i(p) \min(W_{\max}, g(s_{i,d(p)}, r_{i,d(p)})), & \tau(p) = S. \end{cases}$$

All else equal, increasing VRV stake should not directly increase political weight:

$$\frac{\partial w_i(p)}{\partial x_i} = 0.$$

If $v_i(p) \in \{-1, 0, +1\}$ denotes a vote against, abstention, or vote in favour, the weighted tally can be written as

$$S(p) = \sum_{i \in \mathcal{A}} w_i(p) v_i(p).$$

Whether a decision becomes binding depends not only on $S(p)$ but also on thresholds, participation, and procedural validity:

$$\mathcal{E}(p) = F(S(p), \theta(p), q(p), \text{procedural validity}), \quad \mathcal{E}(p) \in \{0, 1\}.$$

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