

Aurora Research Initiative (ARI)

Roadmap (v1.0.0)

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Aurora Research Initiative — Roadmap (v1.0.0)

This roadmap defines the strategic evolution of the **Aurora Research Initiative (ARI)** across multiple phases. It establishes how ARI grows from its foundational architecture into a fully mature institution governing reproducible AI-human scientific workflows and tooling.

The roadmap ensures long-term structural integrity and prevents governance drift.

1. Phase I — Foundational Architecture (Current Phase)

Objective: Establish ARI as an independent institutional layer.

Deliverables: - ARI repository creation

- README.md
- ARI_ARCHITECTURE.md
- GOVERNANCE_MODEL.md
- INIT_LOG.md
- roadmap creation
- initial folder structure

Criteria for completion: - Governance baseline stable

- Architecture baseline established
- Provenance chain active
- No major structural inconsistencies remain

2. Phase II — Metadata & Epistemic Foundations

Objective: Define the epistemic rules and metadata structures that govern the entire Aurora ecosystem.

Planned documents: - epistemics/EPISTEMIC_DOCTRINE.md

- epistemics/METADATA_POLICY.md
- epistemics/PROVENANCE_SPEC.md

Outcomes: - audit-first epistemology codified

- metadata structure standardized
- documentation invariants defined
- provenance schema formalized

Dependencies:

Requires Phase I to be complete.

3. Phase III — Integration with AWO v4.2+

Objective: Ensure the Aurora Workflow Orchestration (AWO) method is fully aligned with ARI governance.

Deliverables: - governance compliance criteria for workflows

- metadata enforcement expectations
- role separation boundaries for AWO
- integration guidelines between AWO and ARI provenance

Goals: - AWO adopts ARI policies

- governance and method boundaries clarified
- non-deterministic governance removed from AWO
- execution pipeline operates under ARI-defined epistemic rules

Dependencies:

Requires metadata & epistemic documents from Phase II.

4. Phase IV — CRI-CORE Alignment & Onboarding

Objective: Transition enforcement and deterministic execution from AWO into CRI-CORE.

Deliverables: - governance requirements for deterministic tooling

- identity-binding rules
- attestation-independence criteria
- provenance verification expectations
- CRI-CORE onboarding guidelines

Goals: - clear separation between method (AWO) and engine (CRI)

- governance constraints formalized for tooling
- deterministic execution fully delegated to CRI-CORE

Dependencies:

Requires AWO integration (Phase III).

5. Phase V — Governance Maturity & Public Transparency

Objective: Formalize ARI as a public-facing, reproducible governance institution.

Deliverables: - public governance documentation

- licensing strategy
- ARI website section
- maturity model for governance
- transparency dashboards
- versioned public releases

Outcomes: - public trust

- transparent accountability
- governance reproducibility
- institution-level clarity

Dependencies:

Phases I-IV completed.

6. Phase VI — Certification & Ecosystem Expansion

Objective: Establish ARI as the governing standard for reproducible scientific workflows.

Key initiatives: - reproducibility certification model

- multi-agent governance expansion
- collaboration guidelines
- case study expansion
- governance-based validation pathways

Long-term outcomes: - institutional credibility

- widespread adoption of ARI-aligned governance
 - AWO and CRI-CORE recognized as reproducible research infrastructure
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7. Revision & Governance

All roadmap changes must be logged in `logs/GOV_LOG.md` with:

- version increments

- rationale
- dependencies noted
- backward linkage

No silent changes permitted.

This roadmap defines the path toward institutional maturity for the Aurora Research Initiative.

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