

FINAL TRANSVERSAL ARCHITECTURAL AND METHODOLOGICAL ALIGNMENT

MENS-SCCA × APEX — Final integration note

1. SCOPE AND EPISTEMIC STATUS

This note closes the architectural alignment of the proposal. It does not introduce a new research line, replace the established protocol, or alter the two parallel research paths. It specifies the common transversal structure through which the existing methodology is interpreted. MENS-SCCA remains research infrastructure and methodological instrumentation; APEX remains the external professional-agent evaluation environment and benchmark.

2. TWO PARALLEL PATHS AND ONE TRANSVERSAL CONDITION

PARALLEL PATH A — EXTENSION OF APEX	Research directly aligned with Mercor's line of advancing knowledge about evaluation of professional agents. The contribution is an experimental layer for investigating whether structured longitudinal representation yields incremental, reproducible information beyond existing outcome- and trajectory-based evaluation signals.
PARALLEL PATH B — KNOWLEDGE FOR INTERSECTORAL ADAPTATION	Research uses the same infrastructure to generate generalizable knowledge about transfer of procedures, evidence, and execution characteristics across professional domains. The scientific product is the benchmark/protocol and empirical knowledge generated by the research, not MENS-SCCA as a Mercor software product.
TRANSVERSAL LINE — TRACEABILITY AND REPRODUCIBILITY	Every relevant experimental claim must remain linkable, subject to authorization and confidentiality, to task, version, trajectory, evidence, rubric, evaluation, and provenance.

3. COMMON TRANSVERSAL EXECUTION CHAIN

Task → Environment → Agent → Actions/Tools → State Changes → Evidence → Trajectory → Recovery → Final Output → Evaluation

This is an analytical mapping, not a claim that Mercor lacks any of these objects. Mercor's current public methodology explicitly evaluates final work and trajectories and describes analysis of intermediate actions, tool use, external changes, error recovery, and constraints. The research question is therefore incremental: whether an additional structured representation of these observable elements can expose reproducible information not fully captured by existing evaluation signals.

4. ROLE SEPARATION

APEX / Mercor	Professional benchmark, realistic tasks/environments, authorized executions, existing outcome/trajectory evaluation, expert criteria, and benchmark governance.
MENS-SCCA	Research instrumentation and analytical representation for longitudinal states, transformations, provenance, evidence, failure propagation, recovery, consistency, and transfer.
Research	Empirical test of whether the added representation provides incremental, stable, reproducible, and interpretable information.

5. CENTRAL RESEARCH FORMULATION

Given that APEX-Agents already evaluates final deliverables and agent trajectories, the proposed research investigates whether an additional structured representation of trajectory, state, provenance, transformation, recovery, and longitudinal dependencies can yield incremental and reproducible information beyond the existing evaluation signals.

6. NON-CHANGES / FINAL BOUNDARIES

- No replacement or superiority claim is made regarding APEX, Mercor, or existing evaluation infrastructure.
- No claim is made that trajectory evaluation is absent from APEX.
- No new hypotheses, metrics, or research program is introduced by this note.
- Prior MENS-SCCA architecture is treated as methodological antecedent, not as external validation.
- Confidentiality, authorization, provenance, contamination control, and separation of research infrastructure from Mercor materials remain governed by the established data plan.
- The two parallel paths remain distinct while sharing the same traceability and reproducibility condition.

7. CLOSURE

This alignment is the final transversal closure of the proposal. It preserves the established methodology while making explicit the coherent common structure connecting the APEX extension path, the intersectoral knowledge-generation path, and the traceability/reproducibility condition.