TASK BOUNDARY FRAMEWORK

Unlock AI potential with governance-first clarity.

Purpose

- This task boundary framework under Project Ahi Fin is a governance-first system for AI-human task allocation.

How

- Anchored in reasoning-first logic:
  - Cognitive tiers (Why–How–What).
  - Data structurality (Structured–Semi-structured–Unstructured).

Standard

- Designed for auditability, compliance, and ethical oversight.

Goal

- Embed trust and clarity into every AI-human workflow.

Integrity at scale. Governance at the atomic level.

WHAT GLOBAL GOVERNANCE PAIN POINT DOES IT ADDRESS?

Why Current AI Governance Falls Short

Unclear Human–AI Role Boundaries

- OECD, EU AI Act, ISO standards focus on principles and risk categories—not task-level allocation logic.
- Organisations lack a systematic way to decide:
  - Which tasks remain human-led?
  - Which can be automated safely?
  - Under what conditions and oversight?

Fragmented Workforce Planning

- Current strategies rely on job titles and skill taxonomies—ineffective in AI-integrated environments.
- No universal, reasoning-first model for decomposing work into atomic units and mapping suitability for humans vs machines.

Governance Blind Spots in Automation

- Automation decisions often ignore fragility, ethical ambiguity, and oversight needs.
- Systemic risk: low-complexity but high-consequence tasks (e.g., medication administration) automated without safeguards.

Lack of Explainability

- Regulators and boards demand transparency in AI-human workflows.
- Existing frameworks cannot show why a task was allocated to AI or a human in a traceable, auditable way.

STRATEGIC VALUE OF THE TASK BOUNDARY FRAMEWORK

How the Framework Closes the Governance Gap

Universal Cognitive Classification System

- Moves beyond role-based models to reasoning-first classification.
- Anchors allocation in:
    - Cognitive tier (Why–How–What)
        - Task type (Analytical–Emotional–Creative)
    - Data structure (Structured–Semi-structured–Unstructured).

Atomic Tasking for Governance

- Decomposes work into auditable units:
    - One input → one transformation → one output.
- Enables explainability, compliance, and ethical oversight.

Human–AI Boundary Logic

- Principled allocation based on reasoning depth and data complexity.
- Reinforces human-centric governance for strategic, ethical, and emotionally sensitive tasks.

Fragility & Oversight Integration

- Governance overlays: fragility score, condition sensitivity, ethical modifiers.
- Prevents catastrophic misclassification.

Future-Proof Workforce Design

- Applicable across sectors as AI capabilities evolve.
- Foundation for adaptive workforce planning and organisational resilience.

UNIVERSAL ATOMIC CATEGORY OF REASONING TASKS

- Reasoning is information transformation
- Every white-collar task is an information transformation
  - Input → Reasoning → Output.
- Level of reasoning depth is illustrated in three tiers >>

Why–How–What: Cognitive Tiering

Why – 5% of all tasks

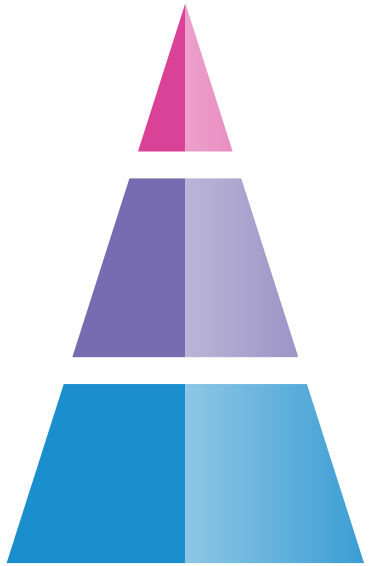
Strategic reasoning
- purpose, ethics, improvisational

How – 20% of all tasks

Adaptive reasoning
- process, optimisation

What – 75% of all tasks

Operational reasoning
- rule-based execution



Enables atomic decomposition for auditability.
Proportionalise oversight with reasoning complexity.

DATA STRUCTURALITY CONTINUUM

Data complexity determines governance risk. The more ambiguous the data, the harder it is for AI to reason reliably—and the greater the need for human oversight.

Structured

Highly predictable
low ambiguity →
AI-ready.

Semi-structured

Mixed signals,
partial patterns →
AI can assist but
needs oversight.

Unstructured

High ambiguity
context-dependent →
Human-only space

Data complexity drives risk of misclassification.
Level of oversight must inversely scale with structurality.

HOW TO USE THE FRAMEWORK

Applying the Framework: From Input to Governance

Step 1: Break Down Tasks to Atomic Level

- One input → one transformation → one output.
- Each unit represents the smallest reasoning work.

Step 2: Classify Input and Output by Structurality

- Structured → predictable → AI-ready.
- Semi-structured → partial ambiguity → AI assist + oversight.
- Unstructured → high ambiguity → human-only.

Step 3: Identify Reasoning Transformation Tier

- Why (strategic), How (adaptive), What (operational).

Step 4: Record and Aggregate into a risk profile:

- Reasoning risk = Why-tier > How-tier > What-tier
- Data structurality risk = Unstructured > Semi-structured > Structured
- Look at both likelihood of AI making a mistake and the impact

Step 5: Apply Governance Approach Based on Risk

- Task execution
  - Human only vs AI ready
- Oversight strength
  - Human only vs AI ready vs No oversight required

Risk = Likelihood of AI error × Impact of error. Documenting this enables proportional governance.