MDU Engine — Decision Architecture Overview
App: app.mduengine.com
Landing: mduengine.com
Engine Version: (paste your ENGINE_VERSION)
Ruleset Version: (paste your RULESET_VERSION)
Date: 15/01/2026

What the system is

MDU Engine is a decision-support system for paid media budget allocation. It evaluates Meta and Google Ads performance data and produces conservative, risk-aware guidance: **HOLD / SCALE / REDUCE**.
It does **not** execute spend or place bids. It generates auditable decisions for human operators.

Inputs

- **Meta Ads CSV** (Spend, Results/Conversions, CPA/Cost per result, Impressions, Clicks/CTR)
- **Google Ads CSV** (Spend, Conversions, CPA, Impressions, Clicks)
- **Decision window:** 7–30 days
  If data is insufficient or unsafe, the engine blocks decisions.

Decision flow

Data Upload → Validation Gates → Risk Simulation → Decision Logic → Confidence Tier → Audit Snapshot

Validation Gates: blocks unsafe datasets (short window, missing metrics, inconsistent spend)
Risk Simulation: models downside exposure under volatility/drift
Decision Logic: conservative thresholds produce HOLD/SCALE/REDUCE
Confidence Tier: communicates certainty of the decision
Audit Snapshot: stores engine version, ruleset version, inputs summary, risk + outcome

Safety model (loss-first)

- No decisions below minimum valid window (7 days)
- HOLD is the default under uncertainty
- Scaling is blocked under high volatility or negative drift signals
- Every decision is explainable and reproducible

Auditability

Each run generates a decision record with: timestamp, engine + ruleset version, validation outcome, risk outputs, confidence tier, and final decision.