TRACE MARKETS — CURRENT SYSTEM STATUS

This document captures the factual, architectural state of TRACE MARKETS as of today. It is intended as a permanent internal reference for what exists, what works, and what is missing.

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1) CORE ARCHITECTURE

Raw Ingestion Layer

- Weekly price ingestion
- Fundamentals ingestion (financials, balance sheet, cashflow, info)
- Raw fundamentals persisted

Raw Introspection

- raw_profile
- raw_schema
- raw_field_inventory

Purpose: TRACE knows what data exists even if not yet used.

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2) PROCESSED FUNDAMENTALS

- quality_metrics
- valuation_metrics
- financials
- balance_sheet
- cashflow

RAW → PROCESSED separation exists.

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3) DATA QUALITY LAYER

- Coverage score
- Freshness score
- Confidence band

TRACE understands reliability of its own inputs.

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4) VALIDATION / FORENSIC ENGINES

- Fraud flags
- Earnings quality
- Unusual items persistence
- Tax volatility
- Capital allocation
- Balance sheet stress

Each engine returns: name, status, risk, explanation.

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5) GOVERNANCE SCORE

Aggregates forensic engines into: - governance_score - governance_band - top_risks

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6) STABILITY ENGINES

- Median ROE
- Median operating margin
- Revenue CAGR
- Free cash flow CAGR
- Consistency

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7) STABILITY SCORE

- stability_score
- stability_band
- weak_areas

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8) VALUATION SANITY

- valuation_sanity (REASONABLE / RICH / EXPENSIVE)

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9) MASTER SCORE

Weighted composite of: - Governance - Stability - Valuation

Outputs: - master_score - master_band

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10) DECISION ENGINE

Maps master + risk to: - ACCUMULATE - HOLD - REDUCE - EXIT

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11) RANKINGS SYSTEM

Produces: - top_master - bottom_master - low_governance - strong_stability - top_improving - top_deteriorating

File: rankings.json

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12) WATCHLIST ENGINE (TIERED)

- core
- candidates
- watch

File: data/watchlists/long_term.json

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13) NARRATIVE GENERATOR

Deterministic human-readable explanation per stock.

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14) HISTORICAL MEMORY

Per-stock history: - date - decision_zone - master_score - master_band - governance_band - stability_band

Files: data/history/<symbol>.json

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15) TREND ENGINE (PER STOCK)

Based on history delta: - IMPROVING - STABLE - DETERIORATING

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16) SECTOR AGGREGATION

- avg_master_score
- low_governance_pct
- strong_stability_pct

File: sectors.json

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17) SECTOR TRENDS

- avg_trend_delta
- trend (IMPROVING / STABLE / DETERIORATING)

File: sector_trends.json

WHAT TRACE CURRENTLY IS

A deterministic financial intelligence engine with: - Multi-engine forensics - Multi-year stability analysis - Composite scoring - Memory - Trend awareness - Market, sector, and stock-level outputs

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WHAT TRACE IS NOT YET

- No technical price analysis
- No portfolio management
- No alerts
- No macro layer
- No backtesting
- No UI

MAJOR GAPS (NEXT PHASES)

1) Technical / Price Action Layer 2) Portfolio Engine 3) Alerting System 4) Macro Inputs 5) Evaluation / Accuracy Tracking

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DESIGN PHILOSOPHY

- Deterministic > Predictive
- Explainable > Black box
- Long-term correctness > Short-term accuracy
- Engines > Indicators

(End of current status)