# Design Phase 2 PRD – Institutional Decision Intelligence

## 1. Objective

Phase 2 elevates TERMINAL.AI from **analysis** to **decision intelligence**.

While Phase 1 answers *"What is happening?"*, Phase 2 answers: - *Is price aligned with business reality? - Where is risk asymmetric? - What deserves attention now?*

The goal is **context, confluence, and timing** — without issuing explicit buy/sell calls.

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## 2. Core Principles

1. **No Predictions** – Only regime, alignment, and risk framing
2. **Institutional Language** – Diagnostics > Opinions
3. **Confluence First** – Technical + Fundamental must be evaluated together
4. **Actionable Without Advice** – Highlight what matters, not what to do

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## 3. Phase 2 Feature Set (High Level)

### A. Tech–Fundamental Confluence Engine (Mandatory)

**Problem Solved**
Users currently see technical and fundamental regimes separately. Institutions always ask:

> *Are price and business saying the same thing?*

**Solution**
Introduce a **Confluence State** derived from: - Market Structure (Accumulation / Distribution / Failed Breakout) - Fundamental Regime (Strong / Neutral / Weak)

**Confluence Matrix**

| Technical \ Fundamental | Strong | Neutral | Weak |
| --- | --- | --- | --- |
| Accumulation | Aligned Strength | Early Opportunity | Structural Risk |
| Neutral | Fundamentals Leading | Indecision | Drift Risk |
| Distribution / Failure | Valuation Risk | Exhaustion | Aligned Weakness |

**Output** - Confluence label - Confidence - One-line institutional explanation

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## B. Composite Regime Score (0–100) (Mandatory)

**Purpose**
Provide a single **portfolio-ranking signal** without reducing nuance.

**Inputs** - Technical Score (existing) - Fundamental Score (Phase 1) - Regime Stability (duration + consistency)

**Output** - Composite Score (0–100) - Band: Strong / Neutral / Weak - Score attribution (Tech %, Funda %, Stability %)

**UI** - Small dial or horizontal bar - Tooltip: exact composition

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## C. Regime Duration & Stability Metrics (Mandatory)

Institutions care about **how long** a condition persists.

**Metrics** - Current regime duration (quarters / bars) - Volatility of regime changes - Historical persistence vs failure rate

**UI** - Displayed inside banners:

"Fundamental Regime active for 7 quarters"

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## D. Risk Map & Constraint Panel (Mandatory)

Shift focus from upside to **risk containment**.

**Risk Dimensions** - Earnings quality risk (Other income dependency) - Capital efficiency risk (ROCE < cost of capital) - Price risk (distribution / failed breakout)

**Output** - Risk flags (Low / Medium / High) - Clear constraint statements

**Example Copy**

"Capital returns remain below cost of capital, limiting valuation expansion."

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### E. Event-Aware Timeline Overlay (Optional but Recommended)

Overlay **fundamental events** on technical charts: - Earnings releases - EPS breakout quarters - Margin inflection points

**Purpose**
Link **cause (fundamentals)** to **effect (price)**.

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### F. Institutional Watchlist Signals (Optional)

Replace alerts with **monitoring conditions**.

**Examples** - "Watch for EPS sustaining above prior peak for 2 quarters" - "Monitor ROCE crossing cost of capital" - "Risk if accumulation fails into distribution"

No notifications — only stateful conditions.

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## 4. UI Changes Summary

### New Components

- `ConfluenceBanner.jsx`
- `CompositeScoreIndicator.jsx`
- `RiskConstraintPanel.jsx`

### Modified Components

- MarketStructureBanner
- FundamentalHealthBanner
- RegimeTimeline

### UX Enhancements

- Tooltips focus on *reasoning*
- Badges show *state*, not advice

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## 5. Backend Architecture Changes

### New Services

- `ConfluenceService`
- `CompositeScoringService`
- `RegimeStabilityService`

**Data Contracts**

- `/api/analysis/summary`
- technical_state
- fundamental_state
- confluence_state
- composite_score
- risk_constraints

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## 6. Success Criteria

Phase 2 is successful if: - Users can explain *why* a stock is risky or attractive in one sentence - Tech + fundamental disagreement is immediately visible - No section feels like a "recommendation"

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## 7. What Phase 2 Explicitly Avoids

❌Buy / Sell labels
❌Price targets
❌DCF or valuation modeling
❌Overfitting scores

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## 8. Phase 3 Preview (Not Included)

- Portfolio-level regime exposure
- Screening & ranking
- Scenario stress testing

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**Phase 2 transforms TERMINAL.AI from an analysis tool into a decision framework — without crossing into advisory territory.**