Guide: Navigating the Probabilistic Delivery Suite

Fiduciary Governance for Software Capital

This suite is not a standard agile calculator; it is an **Actuarial Instrument** designed to quantify commercial risk in software delivery.

1. Choosing Your Entry Point

- **The Strategy (Pre-Project):** Use this for investment decisions. If you have a rough backlog range but no code yet, this calculates the "Can we afford this?" risk.
- **The Tactics (Active Project):** Use this during execution. It ingests "Actuals" to narrow the **"Cone of Uncertainty"** as the project progresses.

2. Pillar 2: The "Pulse" (Net Effective Throughput)

Most teams overstate capacity by ignoring rework. Like a shipping company calculating net delivery after returns, we apply a **Defect Tax** to raw output.

- **Severity-Weighted Throughput:** We apply a multiplier to the tax based on impact:
    - **P0 (Critical):** 5× Capacity Penalty.
    - **P1 (High):** 3× Capacity Penalty.
    - **P2/P3 (Standard):** 1.5×/1× Penalty.
- **Outlier Capping:** To prevent strategic "sandbagging," any weekly throughput falling 2 standard deviations below the mean is replaced by the **10th Percentile** of the team's historical mean.

3. The Molecular Gate

- **Pulse Data:** You can manually enter throughput or upload a CSV/Excel file of historical weekly data.
- **Data Integrity Audit:** The engine automatically monitors your data. If throughput is suspiciously high (>20 items/week), it flags an **"Atom Alert,"** indicating that the team may be counting trivial tasks (Atoms) rather than value-adding **Molecules**.

4. Pillar 3: Reading the Risk Menu

The engine replays **10,000 parallel futures** to provide three distinct commercial options based on the Monte Carlo distribution:

- **Aggressive (P50):** A coin-flip with a 50% chance of success. **Never** use this for a hard commercial commitment.
- **Commercial (P85):** The **Fiduciary Backbone**. This 85% statistical confidence interval is the industry standard for project governance and market announcements.
- **Safe (P95):** The "Insurance" date. Offering 95% confidence, it is used when the cost of failure is catastrophic or for fixed-price contracts.

5. Governance Artefacts

- **Project Actuals:** Real-world data of what has been completed, used to "ground" the simulation in current reality.
- **Risk Horizon:** A dynamic forecast projecting the current **Pulse** against remaining **Total Scope** to identify the exact week the "road" meets the "goal".
- **Probabilistic Delivery Audit:** Every simulation can be exported as a formal PDF report including the chart, the **Risk Menu**, and the **Data Integrity Score** for Board or Executive review.

Technical Glossary

- **Throughput Pulse:** The raw count of completed **Molecules** per unit of time. Unlike subjective "Story Points," the Pulse is an objective measure of system output.
- **Molecular Gate:** A data integrity filter distinguishing between value-add **Molecules** and task-level noise (Atoms).
- **Monte Carlo Simulation:** A mathematical technique that runs thousands of virtual projects using your historical Pulse to predict a range of possible future outcomes.
- **Cone of Uncertainty:** The visual representation of how a forecast narrows over time; as Actuals are recorded, the range of possible completion dates shrinks.
- **The DAG Model:** For multi-team integrations, downstream starts are gated by the **P85 landfall** of upstream dependencies to account for correlated risk.