

# Intelli-Cater

The Algorithmic Blueprint for Zero-Waste Catering

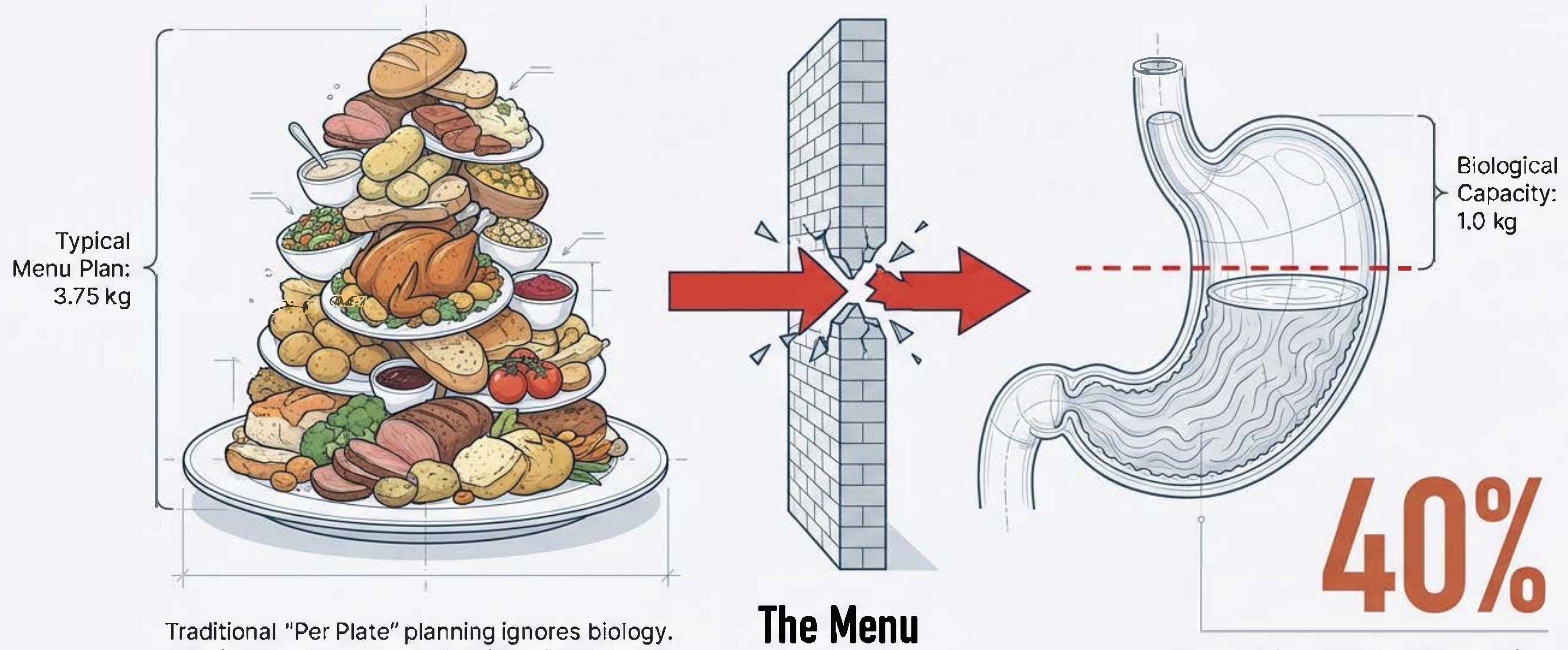
Transforming event food production from intuitive  
chaos to Data-Driven Resource Orchestration.

**Framework:** Custom - Standard MRP

**Presenter:** Venkat Rao Yenikapati

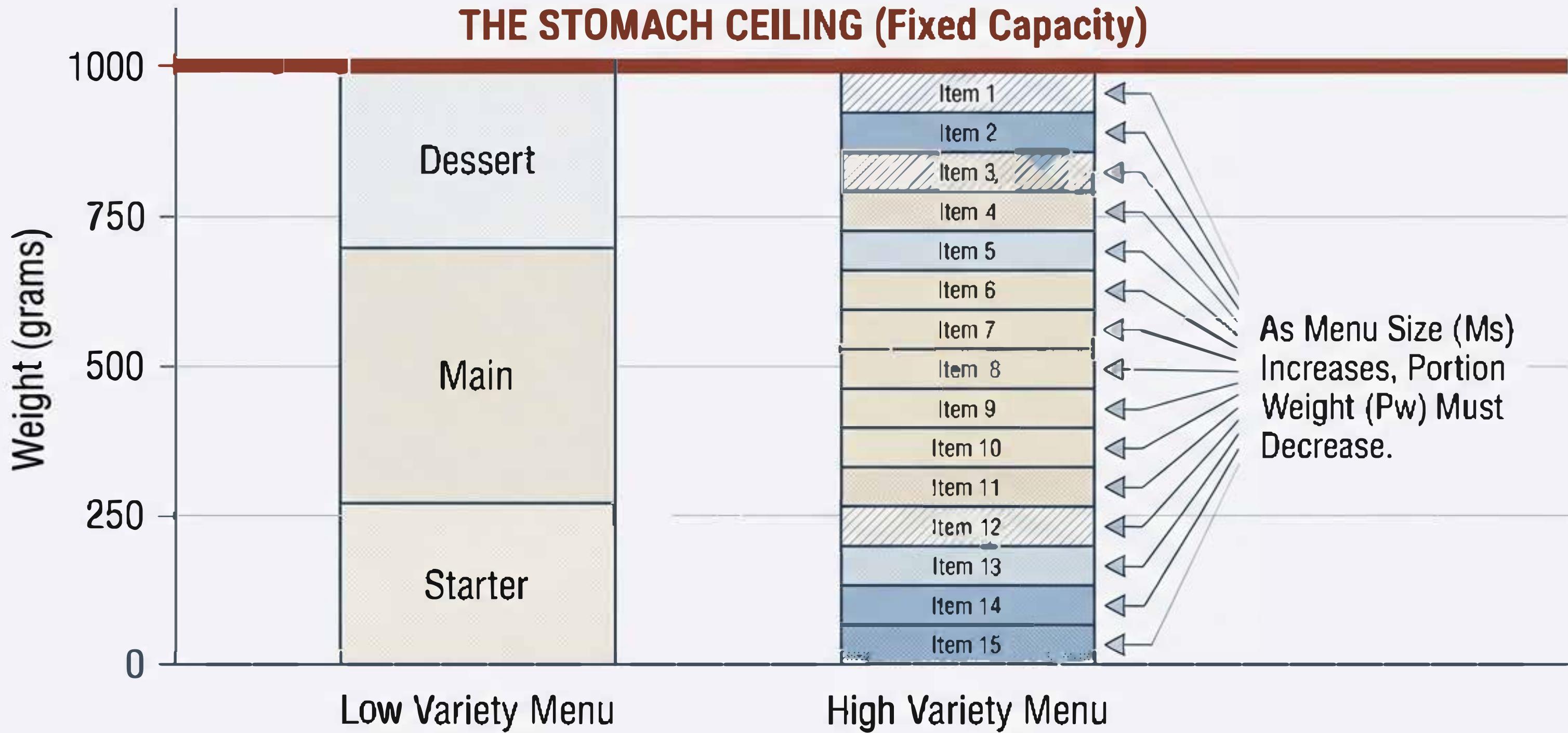
**Status:** Technical Blueprint

# The Business Deficit: The “Menu Density” Trap



# The Axiom: The 'Stomach Ceiling' Constraint in DIN Pro

The sum of all Bill of Materials (BOM) items must be  $\leq$  Patron Capacity.



# Logic Engine I: Demographic Profiling (Dm) in DIN Pro

Refining Headcount into Metabolic Capacity.



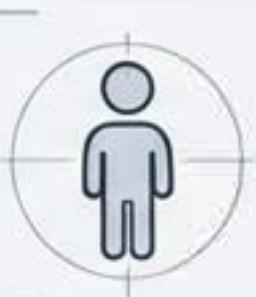
Adult Male

High Consumption Coefficient. Dm = 1.0



Adult Female

Medium Consumption Coefficient. Dm = 0.85



Child (<12)

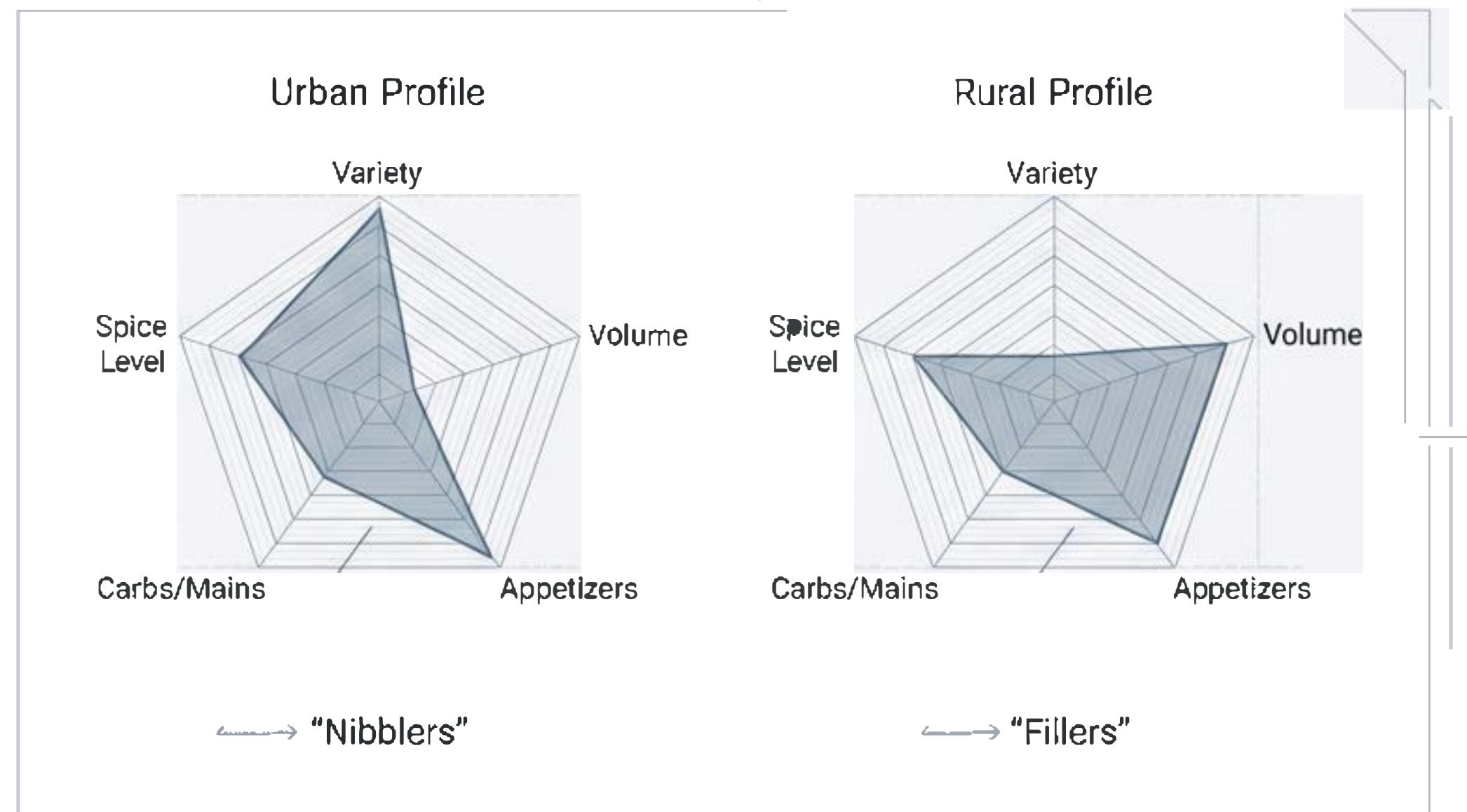
Low Consumption Coefficient. Dm = 0.5

Procurement is driven by the specific metabolic composition of the guest list, not just total ticket sales.

$$\text{Total Load} = \sum (\text{Count}_\text{Male} \times 1.0) + (\text{Count}_\text{Female} \times 0.85) + (\text{Count}_\text{Child} \times 0.5)$$

# Logic Engine II: Contextual Calibration

## Urban vs. Rural Tuning



## Regional Tuners (Hyderabad Factor)



**[ON] Spice Index:**  
Increases Chili/Tamarind BOM  
for Telangana profiles.

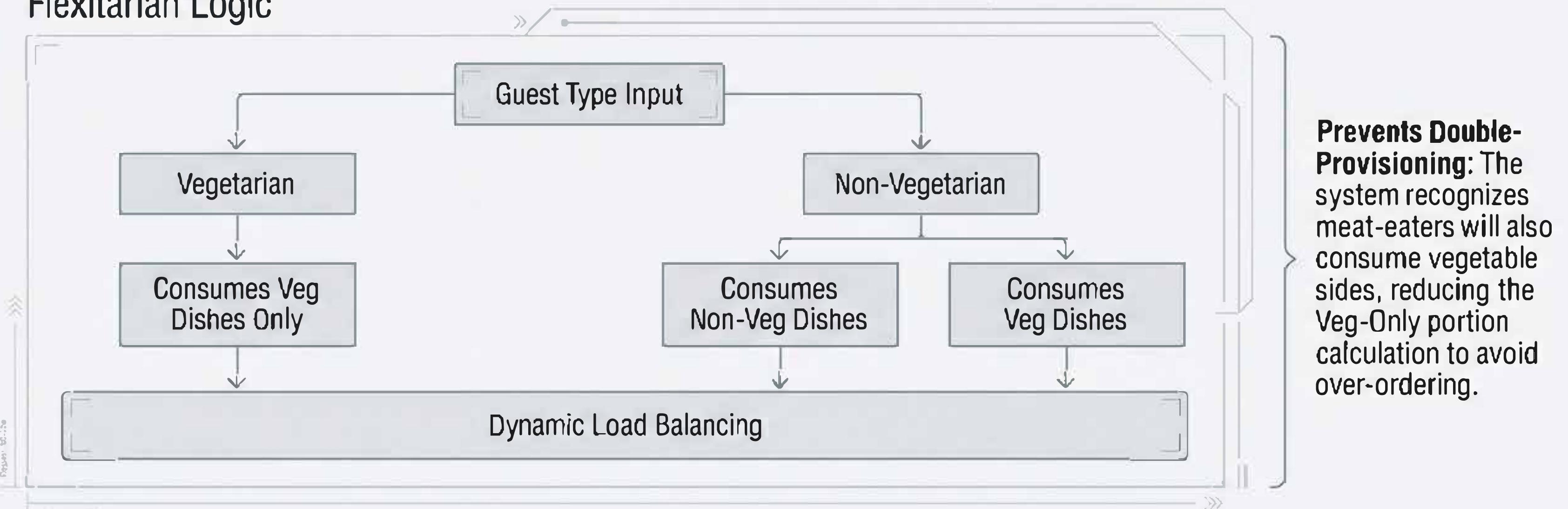
**[ON] Fat Index:**  
+15% Ghee procurement for  
Dum Biryani requirements.

**[ON] Tier Ratio:**  
Enforces fixed Meat-to-Rice  
ratio

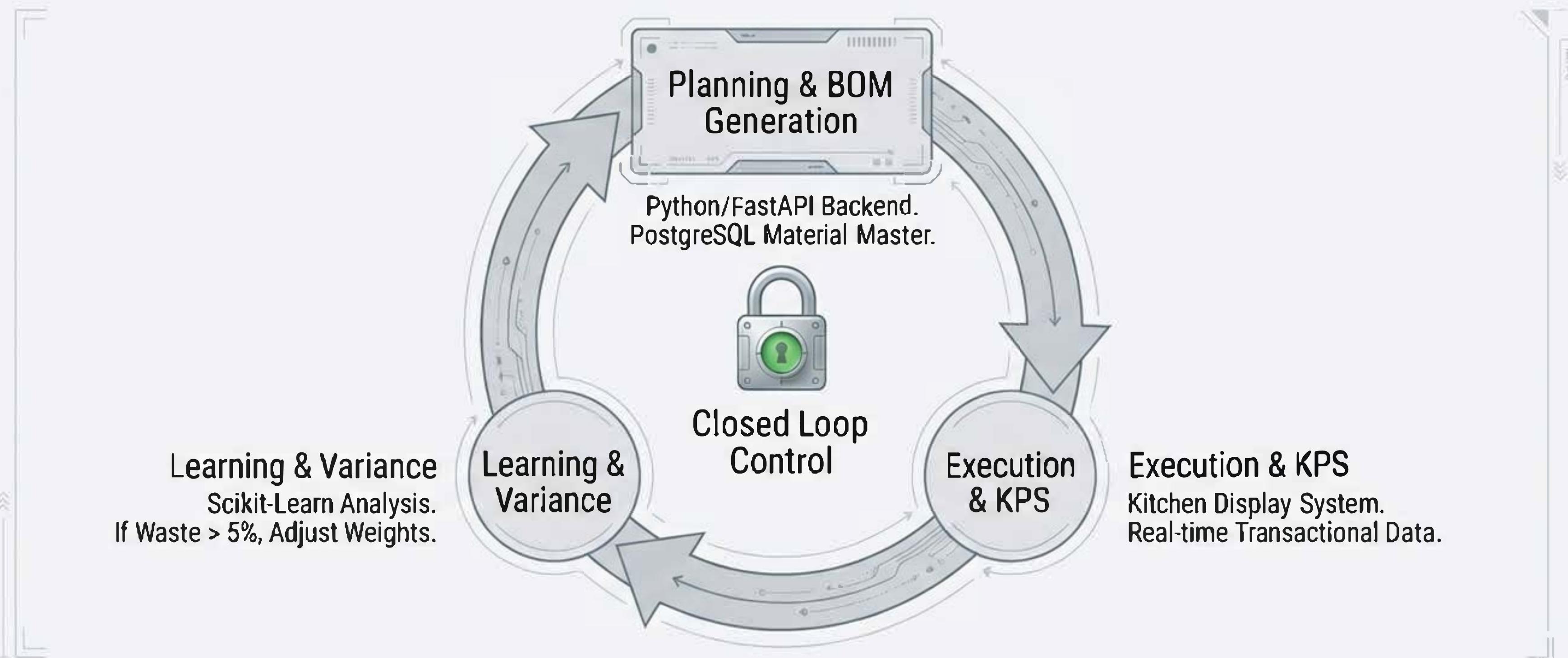
# Logic Engine III: The Master Algorithm

If Menu Size ( $M_s$ ) ↑ THEN Portion Weight ( $P_w$ ) ↓

## Flexitarian Logic

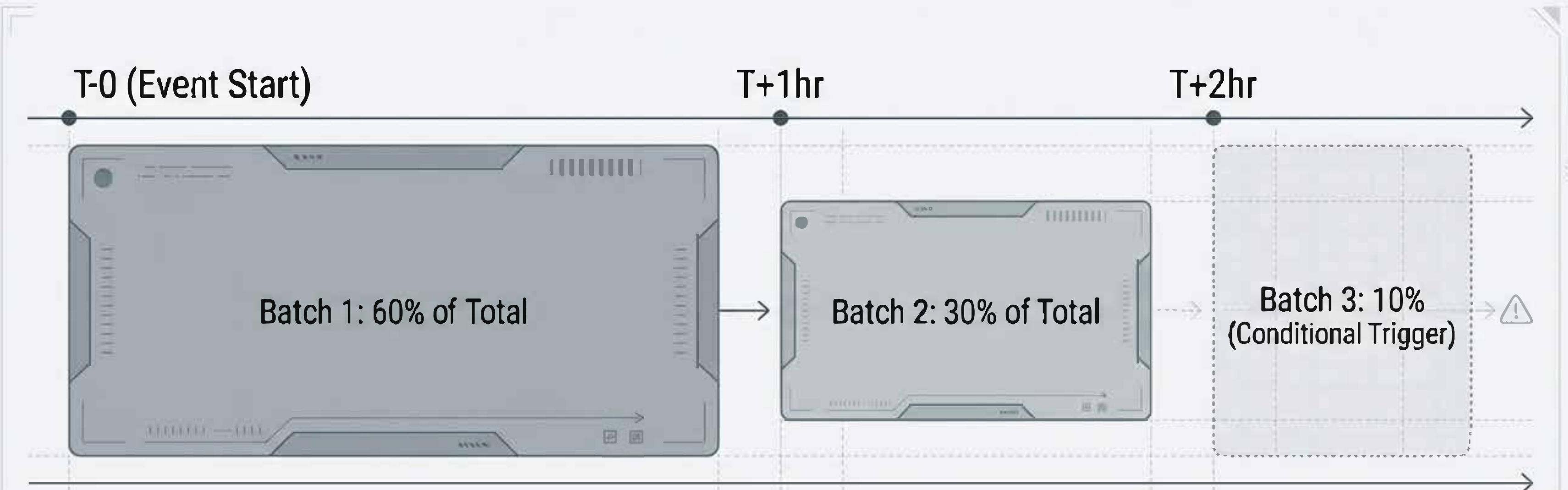


# System Architecture: The 'SAP-Lite' Core



A robust technical stack designed for rapid, iterative calculation and continuous feedback.

# Operational Strategy: JIT Production Batching



## The 60-30-10 Rule

Replacing 'Cook All at Once' with a manufacturing-style production line eliminates terminal leftovers.

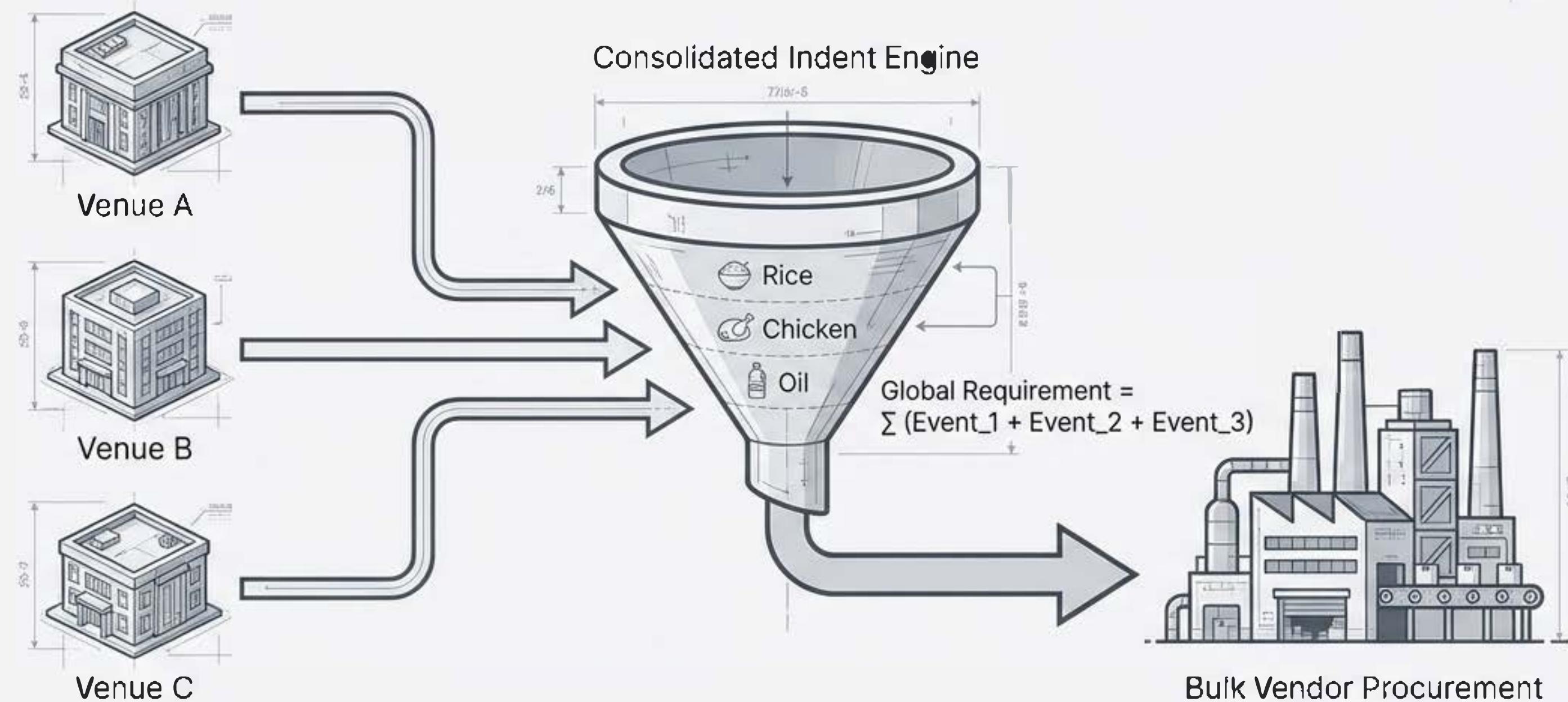
# User Experience: Planner & Kitchen Interfaces

The Planner Dashboard interface is shown on a laptop screen. It features a sidebar with navigation links like Home, Events, Materials, and Reports. The main area has several sections: 'Male/Female Ratio' with a slider from Low to High, 'Urban/Rural' with a slider from Low to High, and 'Projected Waste Savings' with a bar chart showing values for Jan through Dec. There are also 'Material Forecast' and 'Emergency Score' cards, and a table for 'Event Attendance'.

Complex backend math  
hidden behind simple,  
role-specific interfaces.

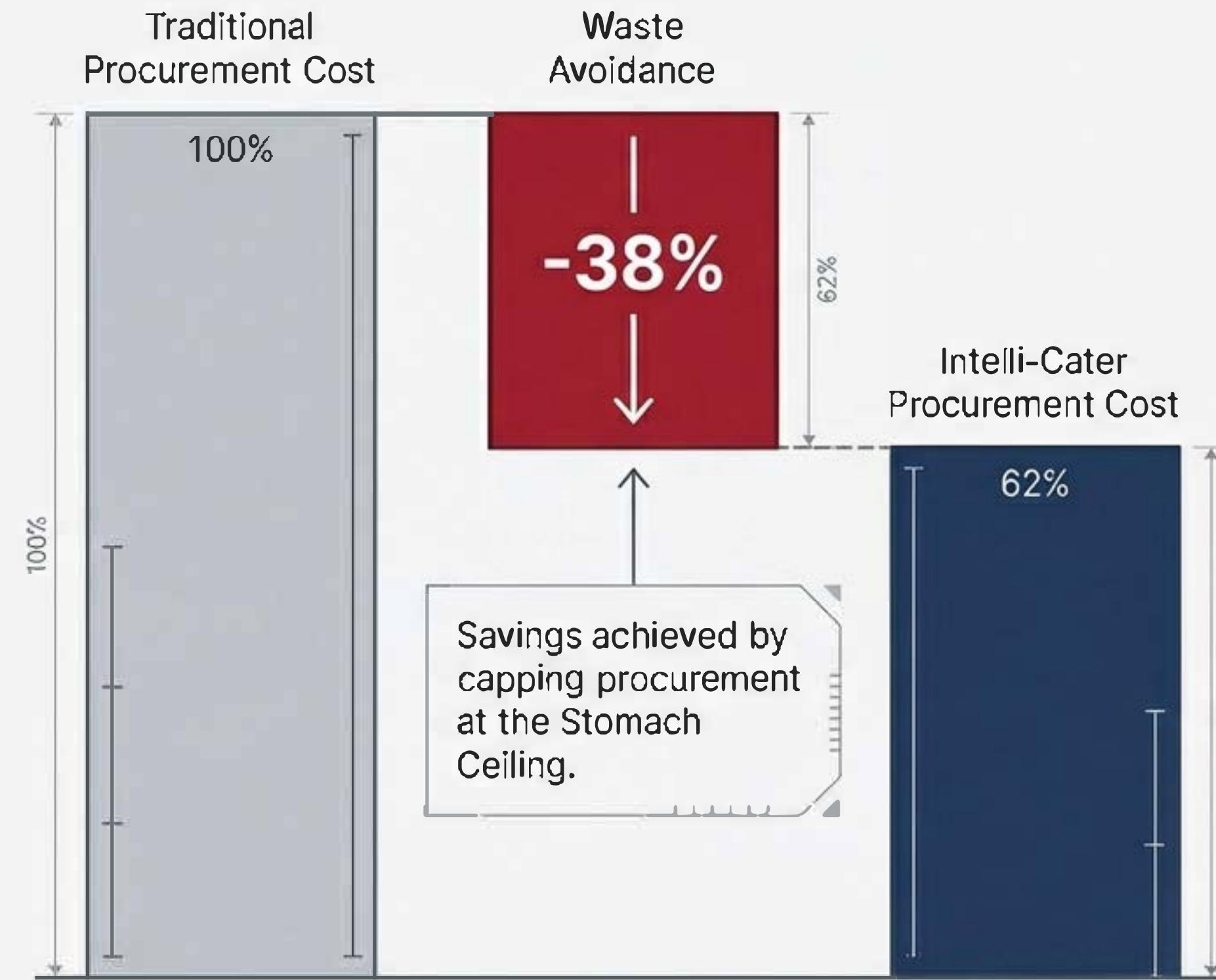
The Kitchen KPS interface is shown on a tablet screen. It has a header with the date '2023-10-05 08:28 AM' and a status indicator 'Satisfied'. The main section is titled 'COOK NOW: Chicken Curry - Batch 2 (15kg)'. It includes a green 'Confirm Batch' button, a progress bar at '23:39 PM', and a queue table with two entries: 'Batch 3: Vegetable Stir-Fry (5kg)' and 'Batch 4: Rice (20kg)'. A black stylus pen is resting on the right side of the tablet.

# Supply Chain: Multi-Event Aggregation



Aggregating Ingredient IDs across multiple venues creates bulk purchasing power for same-day delivery.

# Financial Impact: Raw Material Optimization

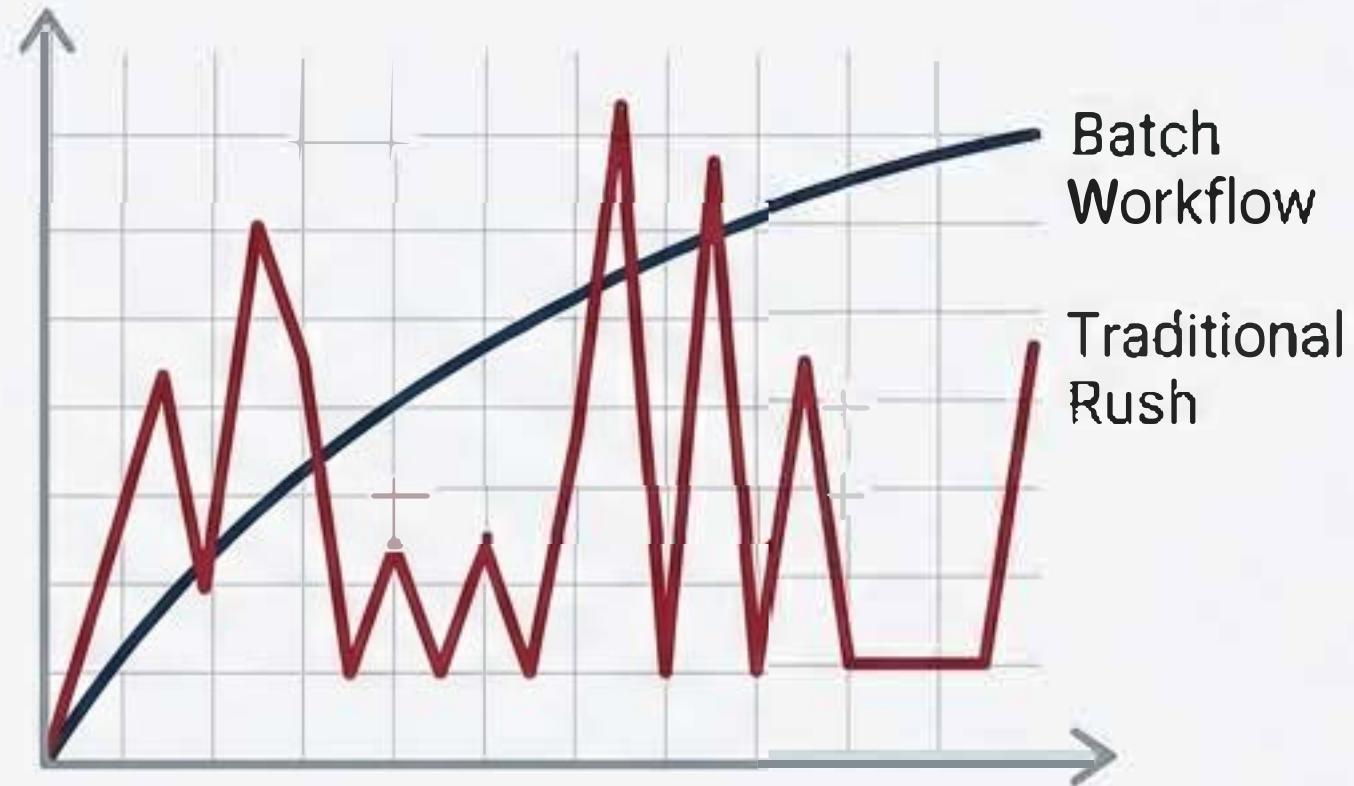


**25% to 38%**

Reduction in daily Raw Material (RM) procurement.

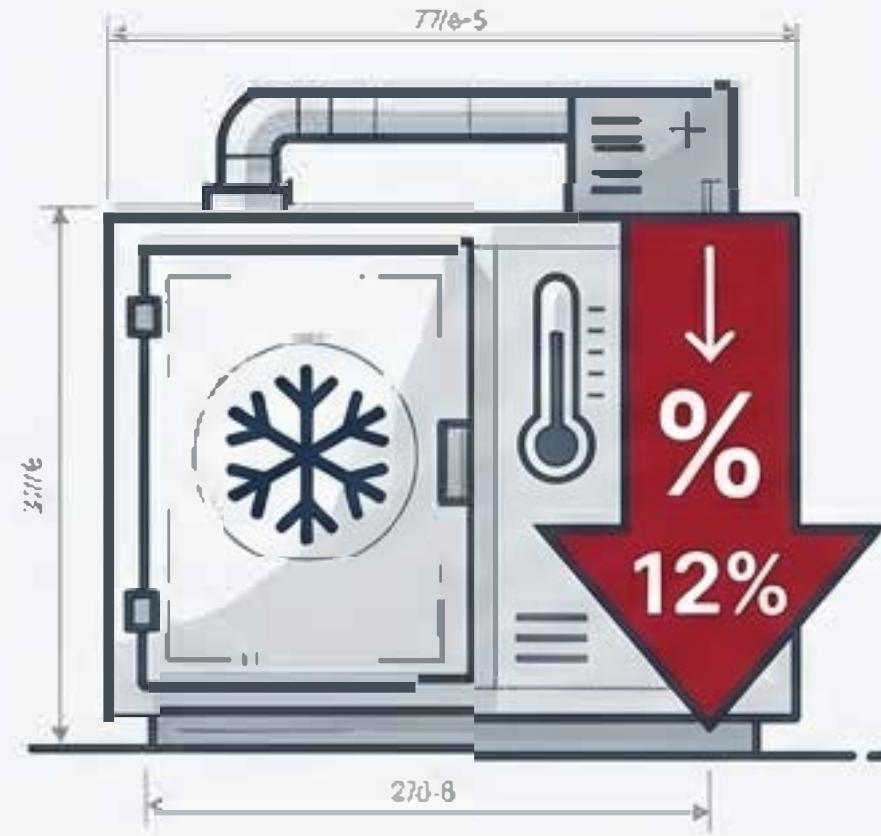
# Operational Efficiency: Labor & Energy

## Labor Optimization



Batch-cooking smooths workflow, preventing early-shift over-staffing and idle time.

## Energy Savings



12% reduction in cold storage costs due to JIT arrival of materials.

Net Profit Margin expansion of 5-8%.

# Case Study: The Hyderabad “Grand Wedding”

	Model	Food Prepared	Waste %
1	Traditional Prep Model	1200 kg Food Prepared	30% Waste <span style="background-color: red; border: 1px solid black; padding: 2px;">↓</span>
2	Intelli-Cater Model	880 kg Food Prepared	5% Waste <span style="background-color: green; border: 1px solid black; padding: 2px;">↓</span>

**Hard Cash Saved: ₹3.15 Lakhs**

Single event savings calculated at ₹250/kg avg cost.

# ESG & Sustainability: "Feeding People, Not Trash"

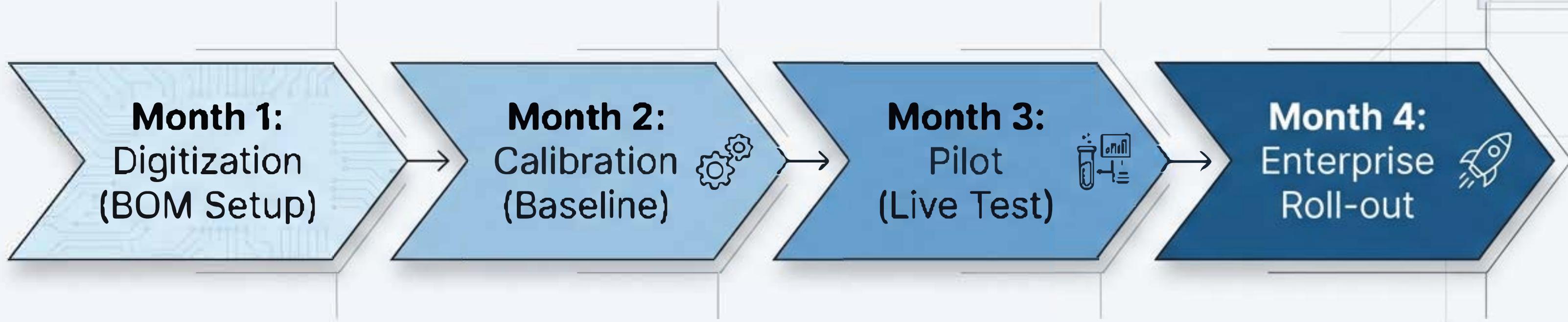


Reduction in carbon footprint from food waste decomposition.

- ✓ Modern Sustainability Standards.
- ✓ Eco-Conscious MNC Compliance.
- ✓ Responsible Consumption.

Shifting the industry metric from 'Abundance' to 'Responsibility'.

# Implementation Roadmap & ROI



## Payback Period: 6 to 8 Months

Based on Raw Material savings alone.

*The future of catering is not just tasty; it is intelligent.*