# Distribution Analytics Architecture

## First Phase: Governance & Retooling KPIs

Begin by defining and creating tools to monitor all basic production metrics/data points

1. Identify potential meaningful KPIs
2. For each, establish the data footprint needed, excluding all unnecessary data, to compute that KPI
   * Collect all columns & calculated fields into a connection file and/or query
3. Validate calculations: meet with domain expertise (operations, systems, etc.) to verify metric, review code
4. Combine with other metrics and decide on reporting medium, if necessary, & schedule

### First Tier Metrics: The Baseline

#### Order Fulfillment Production Metrics

##### Receiving & Replenishment • Picking • Small Pack • Multi-Tote • Bulk • International

##### Ancillary Messages

Rollback, Cancel etc.

##### Unit Quantity

Orders, Lines, & Units

##### Activity

PTL Pick, Bulk Pick, Ship etc.

##### Labor Quantity

Direct & Indirect Hours

#### Other First Tier Categories

* Cycle Time
  + Several cycles from all relevant timestamps of an order
* SKU Profile
  + Move rates per SKU by datetime
* Slotting Monitor
* General Order Profile
  + All relevant information on an order contained on a single line
* DC Cube/Space Reporting
* Financial data

### Second Tier Metrics: Higher Order, Composite Calculation

* Budgeting & Linear forecasting
  + Generating FTE from production metrics and comparing to throughput and financial data
  + Cost per unit & Cost to serve
* Wave details & trends
* Kit production reports
* Advanced order profile
  + Estimated cycle time by order profile

## Second Phase: Data Exploration & Trends

## Third Phase: Proposals & Hypothesis Testing