

Scenario A

Scenario B

enmovil

PRECISION MANUFACTURING · DEMAND PLANNING & S&OP

Scenario-Driven Demand Forecasting and S&OP Consensus Planning for a Global Precision Manufacturer

Baseline Forecasting, What-If Scenario Analysis, S&OP Consensus Push, and Multi-Division Planning across a global SKU portfolio

INDUSTRY

Precision Manufacturing

FLOWS

Multi-Division Demand Planning

COMPLEXITY

24 Machines · 2 – Shift Operation

SCALE

Global · 3 Divisions

PREVIOUS

Manual Spreadsheet S&OP



IMPACT AT A GLANCE

| | | | |
|---|--|---|---|
| <p>~30%</p> <p>Forecast Accuracy Improvement</p> <p>MAPE improvement across product lines and divisions</p> | <p>3x</p> <p>Faster S&OP Consensus Cycle</p> <p>From multi-week manual rounds to structured review</p> | <p>~22%</p> <p>Excess Inventory Reduction</p> <p>Driven by scenario-informed demand shaping</p> | <p>~18%</p> <p>Stockout Event Reduction</p> <p>After consensus forecast adoption across divisions</p> |
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BACKGROUND & SITUATION

The Operating Environment

A global precision manufacturer operates across multiple product divisions with distinct demand profiles. Some product lines are influenced by seasonal cycles, enterprise refresh programmes, and distributor stocking patterns. Others are driven by end-market production schedules and raw material availability, while certain categories are shaped by project-based procurement and long cycle tender processes.

With thousands of active SKUs across three divisions and a global distribution network, the company's planning team struggled to reconcile statistical forecasts with commercial, marketing, and supply realities within a single S&OP process. Multiple versions of forecasts existed in parallel with no structured mechanism to evaluate the impact of demand drivers or push a validated consensus plan to execution.

TRIGGER FOR CHANGE

The Need for Change

The client engaged Enmovil to deploy a scenario planning and demand forecasting platform that would connect statistical baseline forecasts with structured what-if scenario analysis enabling the S&OP team to build, compare, and push consensus plans with full traceability.

Multiple parallel forecasts, 3–5 week consensus cycles, and unquantified demand drivers meant slow-moving SKUs accumulated excess inventory while fast-moving lines stocked out both symptoms of the same broken forecasting process.

THE CHALLENGE

Key Barriers to Operational Excellence

Compounding operational barriers across the planning workflow that slowed cycles, eroded service, and inflated cost.

Disconnected Statistical Forecasts

Statistical baseline forecasts were generated in isolation – disconnected from commercial inputs such as marketing campaigns, new product launches, channel promotions, and price changes.

Spreadsheet Scenario Sprawl

Demand planners maintained separate spreadsheet models for different scenarios, with no version control, no common baseline, and no structured comparison mechanism between scenarios.

3–5 Week Consensus Cycle

S&OP consensus rounds took 3–5 weeks due to manual consolidation of inputs from Sales, Marketing, Supply, and Finance often resulting in stale decisions by the time consensus was reached.

No Driver Quantification

No ability to quantify the demand impact of external factors industry production indices, competitor activity, raw material price movements on the forecast at SKU or division level.

Coexisting Excess + Stockouts

Excess inventory in slow-moving SKUs and frequent stockouts in fast-moving categories coexisted indicating systematic over- and under-forecasting by segment.

Inconsistent Accuracy Tracking

Forecast accuracy was not tracked consistently; different teams used different metrics, making accountability and improvement measurement impossible across cycles.

THE SOLUTION

Scenario Planning & S&OP Consensus Platform

Enmovil deployed a structured scenario planning module built on top of the statistical baseline forecast engine. The platform enables planners to create named scenarios by layering demand drivers, marketing events, and external factors onto the baseline then compare scenario outputs quantitatively before pushing a validated plan to S&OP consensus.

01**Create Scenario**

Name the scenario, select the baseline forecast, choose planning phase, and assign demand drivers, marketing events, and external factors that will shape the demand projection.

02**Analyse & Compare**

View total baseline vs scenario predicted quantities and absolute difference. Drill into SKU-level variance across product lines and time horizons before commit.

03**Push to Consensus**

Once a scenario is validated, push it to consensus forecast for S&OP sign-off. Baseline vs scenario trend visible in both quantity and cost views.

CAPABILITIES DELIVERED**1 Baseline Forecast Foundation**

- System-generated statistical baseline produced using historical sales data, seasonality decomposition, and product lifecycle curves separately calibrated per division.
- Baseline available at SKU, category, division, and total company level with configurable planning horizons from 3 to 18 months.
- Continuous accuracy tracking against prior forecast vintages enables systematic model improvement cycle over cycle.

3 Scenario Forecast Analysis

- Side-by-side comparison of total baseline vs total scenario predicted quantities, with absolute difference surfaced at summary and SKU level.
- Drill-down grid view allows planners to interrogate variance by product, region, and time bucket identifying where scenarios diverge most materially from baseline.

2 Scenario Configuration

- Planners create named scenario forecasts linked to a baseline and planning phase; each independently configures demand drivers, marketing events, and external factors.
- Multiple scenarios can be run in parallel optimistic, base, and pessimistic for the same planning horizon, enabling structured risk quantification.
- Channel sell-through rate, price elasticity, campaigns, launches, promotions, and macro indices are all configurable inputs.

4 Consensus Push & S&OP Integration

- Once a scenario is validated, planners push it to consensus forecast with a single action replacing or blending with the baseline for the relevant phase.
- Baseline vs scenario trend charts in both quantity and cost views enable Finance and

- Quantitative comparison replaces narrative debate during consensus rounds every override is traceable to a named driver or event.

Supply to align on financial and procurement implications before sign-off.

- Full audit trail of scenario versions, creators, inputs, and push-to-consensus history maintained for governance and retrospective accuracy analysis.

KEY VALUE DRIVERS

Forecast Quality & Accuracy

- MAPE improved from ~38% to ~27% as structured scenario inputs replaced ad-hoc commercial overrides ensuring demand drivers are consistently applied and traceable.
- Division-specific driver calibration corrected systematic over-forecasting in slow-moving SKU categories and under-forecasting in fast-moving consumable lines.
- Continuous accuracy tracking creates a feedback loop that compounds model improvement cycle over cycle.

S&OP Cycle Efficiency

- Consensus cycle compressed from 3–5 weeks to approximately one week eliminating manual spreadsheet consolidation and replacing it with structured scenario comparison.
- Up to 10 scenarios now evaluated per cycle vs 1–2 previously giving commercial, supply, and finance teams a quantified view of risk and upside before committing.
- Sales, Marketing, Supply, and Finance now align around one validated number rather than reconciling four parallel spreadsheets.

Inventory & Service Level Impact

- ~22% reduction in excess inventory as consensus forecasts now incorporate channel inventory levels and promotional lift reducing safety stock buffers built to compensate for forecast uncertainty.
- ~18% reduction in stockout events as demand spikes in fast-moving categories previously unmodelled are now captured as scenario drivers and factored into replenishment signals.
- Working-capital and service-level KPIs both improve from the same forecasting discipline.

Governance & Accountability

- Full scenario version history with creator, inputs, and consensus push record eliminates the 'which forecast are we using?' ambiguity that previously delayed sign-off.
- Baseline vs scenario cost trend view enables Finance to validate the P&L impact of each plan before consensus embedding financial discipline into the S&OP process.
- Multi-division planning rolls scenarios into an executive consensus view without losing division-level driver fidelity.

STRATEGIC IMPACT

Forecasting that ran across parallel spreadsheets and 3–5 week consensus cycles now runs as one structured process multiple scenarios evaluated quantitatively, demand drivers consistently applied, and a validated consensus plan pushed to execution with full audit trail. The conversation has shifted from debating which forecast to believe to deciding which scenario to commit to.

We used to spend weeks debating which forecast to believe. Now we spend that time deciding which scenario to commit to that is a fundamentally different and far more productive conversation.

— VP Supply Chain Planning, Global Precision Manufacturer