OptiU RLA Agentic Forecaster

Revolutionizing Supply Chain Management

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Agentic AI: The Core Technology

The OptiU RLA Agentic Forecaster revolutionizes supply chain forecasting through its advanced agentic AI core.

- **Autonomous evaluation** of demand data across multiple dimensions
- **Intelligent selection** of optimal forecasting algorithms from a diverse portfolio
- **Continuous learning** to improve accuracy with each forecasting cycle
- Delivers some of the **lowest RMSE** (Root Mean Square Error) in the market

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Core Differentiators

The OptiU RLA Agentic Forecaster stands apart from traditional forecasting solutions through these key differentiators:

Smart Model Selection

Automatically selects the best-fit model for each SKU from a diverse portfolio

Flexible Time Granularity

Dynamically adjusts forecasting periods (monthly, weekly, hybrid)

Multivariate Forecasting

Incorporates external factors and cross-series correlations

Product Lifecycle Support

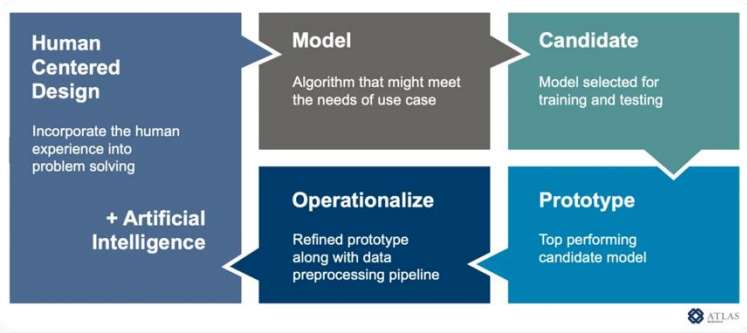
Handles new product introductions and discontinuations

Missing Data Handling

Fills gaps with statistical smoothing and synthetic data

Continuous Learning

Improves accuracy through closed-loop feedback



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Smart Model Selection & Ensemble Capabilities

The OptiU RLA Agentic Forecaster evaluates each SKU or demand profile against a comprehensive portfolio of forecasting models.

Supported Forecasting Models

Statistical Models

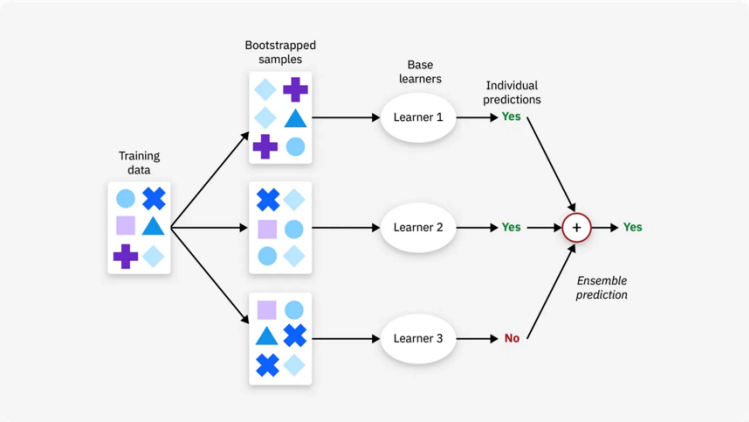
- AutoARIMA
- ETS
- SARIMA
- SBA

Machine Learning Models

- XGBoost
- RandomForest
- Prophet

Deep Learning Models

- LSTM
- GRU
- TCN
- NBEATS



Ensemble Capabilities

Multivariate Forecasting & External Drivers

The OptiU RLA Agentic Forecaster enhances prediction accuracy by incorporating multiple data dimensions and external factors.

Cross-Series Forecasting

Leverages patterns across multiple products, locations, and customer segments to capture shared seasonality and substitution effects

External & Causal Drivers

Incorporates exogenous variables including promotions, weather, competitor pricing, and macroeconomic shifts

Causality vs. Correlation

Distinguishes between true causal drivers and spurious correlations for more explainable forecasts

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Technical Architecture

The OptiU RLA Agentic Forecaster integrates multiple forecasting approaches through a sophisticated technical architecture:

Forecasting Algorithms

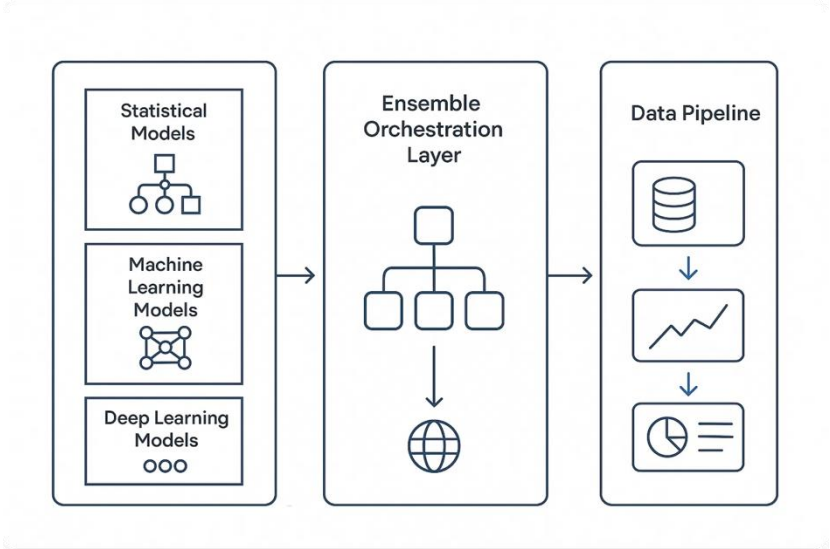
- Statistical: AutoARIMA, ETS, SARIMA, SBA
- Machine Learning: XGBoost, RandomForest
- Deep Learning: LSTM, GRU, TCN, NBEATS
- Hybrid: Prophet, Ensemble Pairing

Ensemble Orchestration Layer

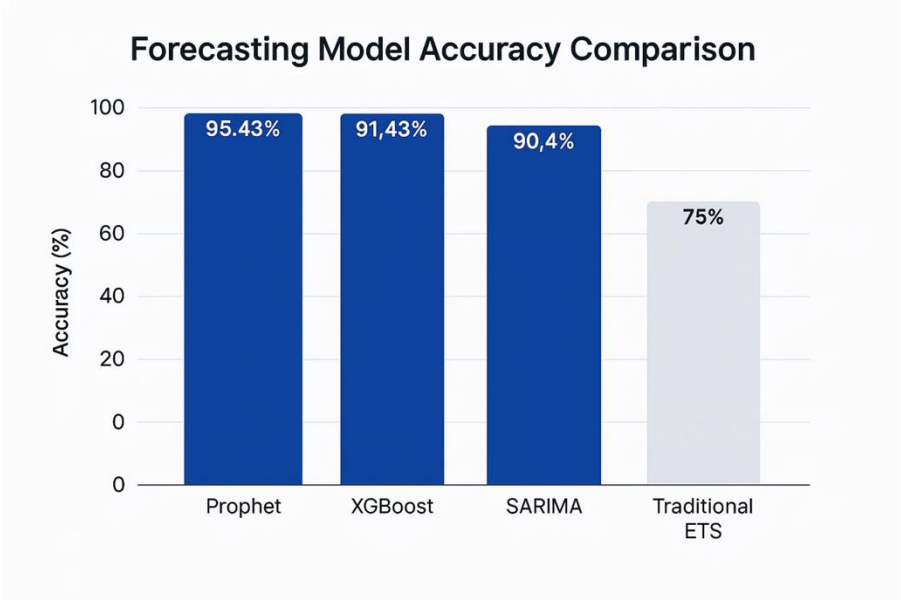
- Intelligent model pairing for complex demand patterns
- Example: XGBoost (short-term) + Prophet (long-term)

Data Pipeline

- Inputs: Transactional, External, Custom data



Performance Benchmarks



Source: Barns SA Case Study (N=120 SKUs)

Barns SA Case Study Results

Real-world implementation across 120 SKUs demonstrated significant performance improvements:

- **88% Overall Accuracy** across all 120 SKUs
- **MAPE of 8-12%** , significantly better than industry standards
- **RMSE reduced by 80%+** compared to baseline ETS models
- **Prophet model** achieved highest accuracy at 95.43%

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Business Impact

The OptiU RLA Agentic Forecaster delivers tangible business value through:

Waste Reduction

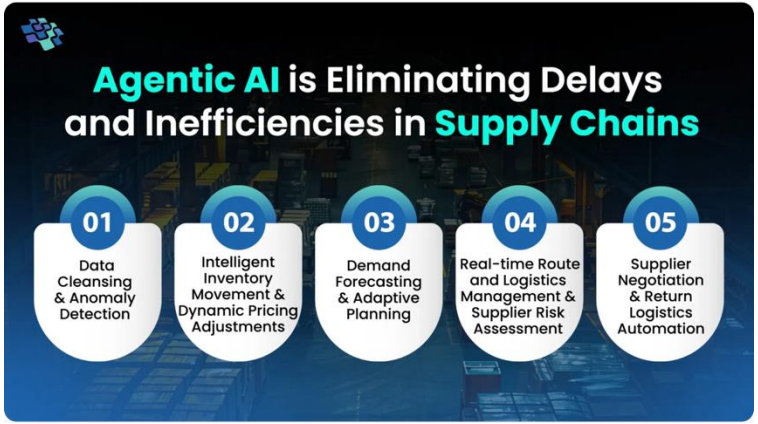
Aligns inventory levels with actual demand, minimizing excess and obsolescence

Profitability Boost

Reduces costly stock-outs and overproduction scenarios

Competitive Edge

Outperforms traditional demand planning with AI-driven selection and interpretability



Rapid ROI: Deployable in 3–6 months

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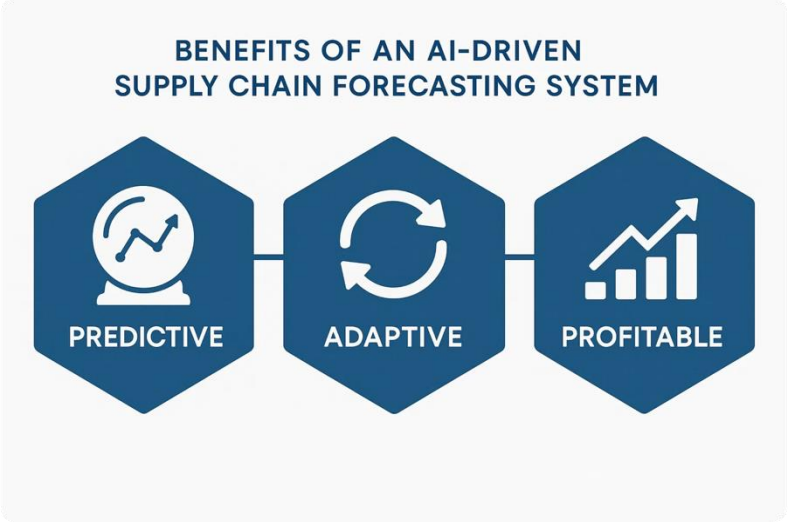
Conclusion



Redefining Supply Chain Forecasting

The OptiU RLA Agentic Forecaster integrates statistical rigor, machine learning power, and deep learning adaptability into a single platform. By supporting both integration-less pilots and enterprise-grade integrations, organizations can quickly validate, scale, and embed this solution to transform their demand planning capabilities.