Demand Forecasting and Planning

Improve demand forecasts and reduce inventory risk with our probabilistic demand forecasting—part of **ToolsGroup Service Optimizer 99+ (SO99+)**

// Demand Forecasting at a Glance

Our probability forecasting and machine learning engines crunch multiple demand variables to automatically generate a reliable, accurate demand forecast. This probabilistic approach allows you to predict demand behavior much more accurately than traditional one-number forecast models, especially for hard-to-forecast intermittent demand.

// Key Features & Benefits

- Probabilistic forecast
- Single, self-tuning algorithm
- Machine learning-powered automated model
- Customer order frequency consideration
- Better forecast for slow movers and intermittent demand

ToolsGroup SO99+ generates better demand forecasts, empowering supply chain planners to make better decisions. This helps companies improve their bottom line. Gartner research shows the best forecasters have "15% less inventory, 17% stronger order fulfillment and 35% shorter cash-to-cash cycle times."[1]

SO99+ demand forecasting combines unique probability forecasting with machine learning for smarter demand plans and supply decisions

Today companies are dealing with more slow-moving items with unpredictable demand patterns. The result is that inventory mixes are wrong. Some products are being over-served, locking up precious working capital, while others are being under-served, and causing loss of margin and market penetration. Companies have too much of the items they don't need and not enough of the items most in demand. This creates a significant opportunity to improve both their top and bottom line.

ToolsGroup offers a probabilistic approach to demand forecasting. While other solutions analyze historical data to provide a discrete single-point forecast, SO99+ combines historical data with artificial intelligence to generate a range of probable outcomes in your forecast. Our probabilistic forecast approach is ideal for the most challenging demand patterns. SO99+ gives you the insight you need to make better supply decisions.

Unlike Traditional Forecasting Solutions, ToolsGroup Offers:

/ **Probabilistic Forecast:** Our probabilistic approach helps you manage the risk that comes from demand volatility. Our forecast provides a range of possible values with their probability of occurrence. When dealing with slow movers and "long-tail" demand, our approach provides the information needed to make the correct decisions in a highly uncertain environment.

/ **Single, Self-Tuning Algorithm:** SO99+ features a single forecasting model, containing a variety of features and parameters that are automatically adjusted in an automated way. Contrary to the traditional "best-pick" model approach, our solution ensures much higher stability in the forecast. This is essential to maintain high service levels and low inventories.

/ **Machine Learning Automation:** Our probabilistic forecasting and machine learning engines consider multiple demand variables to automatically generate a reliable demand forecast. This self-tuning approach allows you to predict demand behavior much more accurately than considering demand history alone, and helps you leverage the power of "big data" such as macroeconomic trends, social media and customer web behavior in your forecast. Because our forecast is so reliable, planners are able to spend less time on the forecast and more time on valuable exception-based planning.

✅ 50-90%

ToolsGroup customers commonly see a 50-90% decrease in planner workload.

ToolsGroup Demand Forecasting and Planning Capabilities

/ **Demand Modeling:** Our demand modeling approach allows you to layer demand insight to produce an optimal demand plan. We start with a baseline probabilistic forecast, augmented by the machine learning engine to incorporate seasonality and demand sensing data. Then we layer on media and promotions, new product introductions, special actions and events, and market intelligence. The demand model layers add increasing insight for an optimized demand plan.

/ **Demand Forecasting:** Behind the simplicity of our baseline forecast is a powerful engine, capable of optimizing each item or your entire SKU portfolio against target service levels. Our adaptive algorithm automatically generates a reliable probabilistic baseline forecast for every SKU, by location—from fast-movers to slow-movers—even in complex, multi-echelon supply chains.

/ **Demand Planning:** SO99+ seamlessly integrates both bottom-up and top-down planning. Our solution is designed to forecast demand and plan supply in an optimal way, generating a forecast you can trust and enabling planners to focus on exception management.

/ Demand Collaboration: Our Demand Collaboration Hub brings together demand and forecast data from multiple sources. The user-friendly environment empowers even inexperienced or casual users inside or outside your organization to easily collaborate and participate in the demand planning process.

/ Demand Sensing: Our solution closes the gap between your plan and what's actually happening in your supply chain. It automatically detects changes and patterns in downstream activities by analyzing replenishment orders, POS data and EDI transactions so you continue to hit target service levels in the face of demand volatility.

/ New Product Introductions and Launch Profiles: SO99+ can calculate a baseline forecast for new product introductions even when only a few months of demand data are available, or even no demand history at all. Our launch profiles create groups of product/market combinations with similar launch profiles in the past and use the correlation with launch attributes to assign launch profiles to new items. New production introduction and launch profiles work together to provide you a complete forecast for new product launches in the future.

/ Promotions: Our promotions forecasting harnesses machine learning technology based on artificial intelligence techniques. It generates baseline and promotional lifts that you can trust to yield reliable operational planning ROIs and smooth supply chain operations. It cuts out the noise and recognizes the shared characteristics of promotional and media events, identifying their effect on baseline sales. The result creates major improvements in demand visibility, forecast accuracy and customer service levels.

/ Seasonality: Our machine learning engine creates groups of products and groups of markets to model periodic, repetitive, and generally regular and predictable patterns. These groups are then used to calculate seasonality and improve the baseline forecast.

Service Optimizer 99+ Platform for Service-Driven Planning

Download our brochure to see our entire Service Optimizer 99+ service-driven planning suite.

+	Demand Forecasting & Planning	Demand Sensing	Promotions Planning	Inventory Optimization
	Supply Planning & Optimization	Production & Capacity Planning	Allocation & Replenishment	S&OP

toolsgroup®

Service Optimizer 99+

Service-Driven Supply Chain Planning Software

(1) Gartner, How Good Is Your Forecast?, Refreshed 4 February 2013, Published 11 February 2011