

How FLO reduces lost sales by 12% with AI-powered demand forecasting, allocation and replenishment

Key Results

12%
less lost sales

4.7%
more revenue

Solutions

Allocation
Replenishment
Transfers
Markdowns

Background:

Managing complexity across a global retail network

FLO, one of Europe's largest footwear retailers, operates in 25 countries across three continents. With over 800 stores and a multi-brand e-commerce platform, the company manages millions of SKUs each season to cater to every need. Balancing local fashion cycles, promotional calendars and clearance assortments across both physical and digital channels requires precise inventory planning—ensuring the right styles, sizes and quantities are in the right place at the right time to delight customers and protect revenue.



Invent.ai's margin-driven, profit-optimizing science, tailor-fit algorithms and AI-powered probabilistic demand forecasting offer everything we're looking for. Their solutions enable us to achieve the most profitable inventory levels using a sophisticated economic model that analyzes demand patterns, inventory costs, margins and other parameters.

Hakan Ugur
Chief Merchandising Officer
FLO

FLO

Case Study

About FLO

Number of employees: 11,000+
Number of stores: 650+
Number of DCs: 15



Challenge:

Overcoming outdated planning and inventory silos

FLO's rapid growth and expansive footprint brought its own complexities. Planners relied heavily on legacy, spreadsheet-driven processes that struggled to keep pace with real-time shifts in customer demand. By the time data from a promotion or a regional trend filtered through, many stores were already either overstocked on slow-moving styles or experiencing frustrating out-of-stocks on bestsellers. That reactive cycle drove desperate, last-minute shipments from distant DCs, additional fulfillment costs and left shelves empty.

At the same time, stock operated in silos. Central warehouses, regional hubs and the online fulfillment team guarded their own inventory pools, competing for the same limited inventory rather than collaborating to meet total demand. Without a unified view of available stock and expected demand across its channels, FLO missed opportunities to transfer excess inventory from one location to another, resulting in markdown-driven clearance and lost revenue.

FLO needed more than a static spreadsheet. They needed a demand-forecasting engine that worked in real time, a single view of inventory across every channel and an automated way to shift stock or time markdowns for maximum revenue. In short, they needed to turn fragmented, reactive planning into a seamless, predictive, revenue-driven machine.

Key requirements of the solution included:

- Real-time demand forecasting down to SKU-store-day granularity
- Unified inventory visibility
- Automated replenishment and transfer recommendations
- Dynamic markdown timing to protect revenue
- Financially optimized decision-making rather than KPI-only targets



Solution:

Leveraging AI to drive revenue focused inventory decisions

FLO partnered with invent.ai to bring a unified, AI-driven platform into its planning processes. Deployed on the Amazon Web Services (AWS) scalable infrastructure, the solution integrates sales data, web analytics, promotion schedules and external signals—such as local weather or events—to produce real-time forecasts down to each SKU, store and day. This granular view replaces static spreadsheets with dynamic insights, enabling planners to anticipate demand shifts before they turn into costly overstock or stock-outs.

At the heart of this system is a financial optimization engine that looks beyond standard fill-rate metrics. It calculates the trade-offs between potential lost sales and inventory holding costs, then recommends the best allocation and restocking moves to maximize revenue. When unexpected demand pops up the system flags which stores are running low and which have excess. It recommends transfers from overstocked locations to those in need, helping keep inventory balanced. And, as products near the end of their shelf life, the platform figures out the best markdown strategy, so clearance happens efficiently without taking a hit on revenue.

Invent.ai's agentic AI also takes on a tricky challenge: size optimization. It groups stores with similar size-selling patterns and then fine-tunes case packs to match each cluster. This leads to fewer odd sizes left over and stronger sell-through. On top of that, invent.ai helps FLO model different distribution network setups—adjusting DCs, hubs and store routes to see how changes would affect speed, cost and service before making any real-world moves.

Key capabilities introduced:

- Granular, real-time forecasting: Predicts demand by SKU, store and day using internal and external data sources
- Profit-optimized inventory planning: Weighs lost sales vs. carrying costs to guide better allocation decisions
- Automated replenishment and transfers: Rebalances inventory dynamically across stores and channels
- Markdown strategy optimization: Times price reductions to move inventory without cutting into revenue
- Size-level pack customization: Adapts case packs based on store cluster demand patterns
- Distribution network modeling: Tests different configurations to evaluate service, speed and cost

By bringing these capabilities together, FLO has moved from reactive planning to a more agile model—keeping shelves stocked with what customers actually want while protecting revenue.



Results:

Improved availability, less stockouts and growing revenue

Since implementing invent.ai, FLO has experienced a transformation in how it manages inventory, meets customer demand and drives growth. The shift from manual, spreadsheet-based planning to an automated, predictive system has delivered measurable improvements across the business including:

✦ **Product availability:** An increase from 71% to 94%, allowing more consistent customer service

✦ **Out-of-stocks:** Dropping from 15% to 3%, reducing lost sales and improving the shopping experience

✦ **Customer trust:** Restored through better on-shelf availability and responsiveness

✦ **Markdown strategy:** Became more effective, leading to a 4.7% increase in revenue

✦ **Supply chain network:** Expanding from 62 to 360 locations, improving delivery speed and coverage

✦ **Fulfillment speed:** Improved with a 17% reduction in shipment duration—without adding inventory

✦ **Sales revenue:** Grew by 2.7% due to improved inventory placement and faster fulfillment. Gross profit grew by 1.1% and net profit by 0.9%, reflecting stronger margins and more efficient operations



Today, FLO and invent.ai continue to deepen their partnership. New efforts are underway to refine size-level assortment planning, further automate seasonal transitions and unlock additional revenue through advanced forecasting and optimization tools. The goal is not just to react faster, but to get ahead of shifts in customer demand and turn planning into a competitive advantage.

By transforming fragmented workflows into an integrated data-led approach, FLO has strengthened both its operational efficiency and its ability to grow in a fast-changing retail landscape. With intelligent planning now at the core, FLO is better equipped to serve customers, scale efficiently and protect revenue—no matter what comes next.



About invent.ai

Invent.ai is a multi-agentic AI-decisioning platform that enables retailers to turn data into real-time decisions and automated actions across inventory, pricing and merchandising. Powered by a multi-agentic AI architecture, the platform predicts outcomes, refines strategies and executes merchandising decisions at scale —driving measurable sales, revenue and margin performance. By combining advanced AI with deep retail expertise, invent.ai helps retailers across the globe navigate dynamic markets, improve operational efficiency and achieve sustainable financial outcomes.

Invent.ai is recognized in the Gartner® Market Guide for Retail Forecasting, Allocation and Replenishment Solutions and for Retail Unified Price, Promotion and Markdown Optimization Applications – Short Life Cycle. The company has also received the RetailTech Breakthrough Awards' Customer Experience Award, SupplyChainBrain's Great Supply Chain Partner recognition and Supply & Demand Chain Executive's Top Supply Chain Projects award. With SOC 2 and ISO 27001 certifications, invent.ai ensures security and data protection across all AI-powered solutions.



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