

Provender — Food Manufacturing ERP

Own Product (Handisi Digital Solutions Ltd)

Ongoing (launched)

Enterprise ERP capabilities at SMB pricing

98%+

Cost Savings

< 5 min

Compliance Speed

45%

Waste Reduction

The Challenge

Food manufacturers in the \$5M-\$50M revenue range face an impossible triangle: they need FSMA 204 compliance automation (FDA traceability deadline July 2028), unified D2C and B2B commerce capabilities, and manufacturing management — but enterprise ERPs like BatchMaster and Deacom cost \$120K+/month.

These SMBs use 5+ disconnected systems with critical data gaps — spreadsheets for manufacturing, Shopify for D2C, separate payment gateways, no end-to-end lot traceability. When an FDA inspection arrives, manufacturers spend 8+ hours manually reconstructing batch records instead of having instant compliance documentation.

Our Approach

As founder, I designed and built Provender using a three-tier architecture that delivers enterprise functionality at SMB pricing.

ERPNext Foundation: Leverages 12-18 months of proven, open-source ERP functionality (manufacturing, inventory, accounting) as vanilla infrastructure — no custom Frappe apps, keeping it upgradeable and avoiding vendor lock-in.

Custom FastAPI Backend: Adds the food-specific compliance logic that ERPNext doesn't provide — FSMA 204 Key Data Element capture at every Critical Tracking Event, graph-based lot genealogy for forward and backward traceability, HACCP Critical Control Point monitoring with IoT sensor integration via MQTT, and FEFO picking automation.

Modern Next.js Frontends: Four user-facing applications — D2C storefront for consumer sales, B2B wholesale portal with customer-specific pricing, production floor tablet UI with guided workflows and barcode scanning, and admin dashboards for compliance monitoring and KPIs.

Outcomes

Launched unified ERP platform at \$500-\$2,000/month — 98%+ cost reduction compared to enterprise alternatives at \$120K+/month.

FSMA 204 compliance automation generating FDA lot trace-back reports in under 5 minutes, down from 8+ hours of manual reconstruction.

HACCP Critical Control Point monitoring with IoT sensor integration for automated temperature and humidity logging — eliminating paper-based compliance records.

D2C storefront and B2B wholesale portal with real-time batch-aware inventory, Shopify integration, and Stripe payment processing. Production floor tablet UI reducing batch completion time by 30 minutes through guided workflows.

Technology Stack

Next.js 14+

FastAPI / Python

ERPNext

PostgreSQL

Redis

Stripe

MQTT