Tracking and Traceability Use Case

Milk tracking system with GE Historian/MES integration for dairy compliance.
Industry: Food & Beverage / Dairy

Quick Facts

Attribute	Value
Facility	Milk Processing Plant
Departments	4 (Intake, HTST, Make, Load Out)
Lines	11 total
PLC Tags	~85 totalizers (0-1,000,000 pounds)
Historian	GE Historian (500 Tag Enterprise)
MES	GE Plant Applications
Front End	FrameworX (500 Tag license)

The Challenge

Challenge: Implement unified tracking system for milk across entire production process — receiving, transfers, pasteurization, and cheese-making — for compliance, loss management, and operational efficiency.

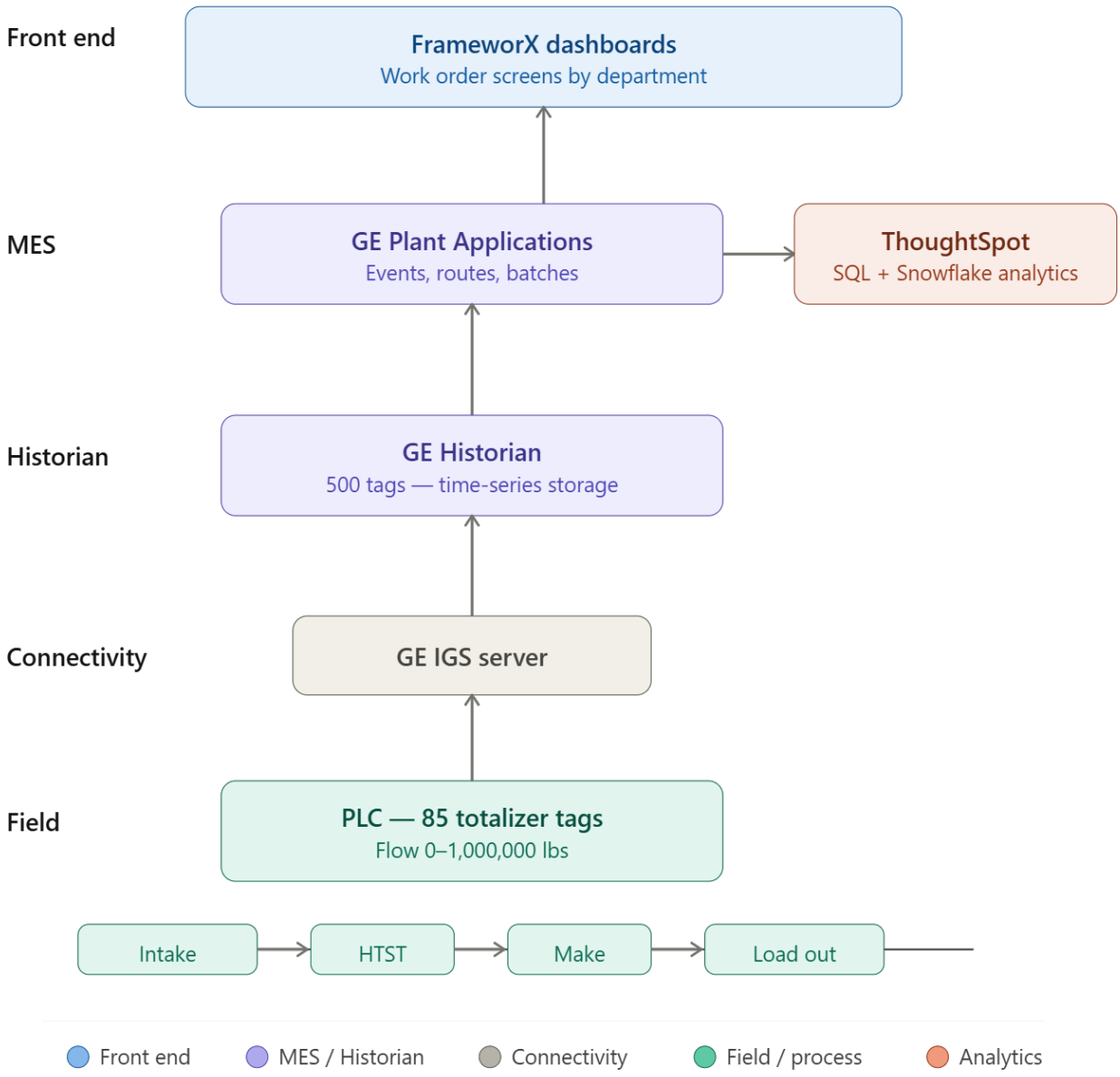
Specific pain points:

- Milk receiving, transfers, pasteurization, and cheese-making lacked unified tracking
- Gaps in visibility for compliance requirements
- No system for loss management and operational efficiency tracking
- Manual recordkeeping and fragmented system data
- Insufficient accuracy and traceability for modern dairy operations

Impact: Without unified tracking, facility cannot meet compliance requirements, identify losses, or optimize operations.

The Solution

Architecture



Tier	Component	Capabilities
Field	PLC (85 tags)	Flow totalizers (0-1,000,000 lbs)
Connectivity	GE IGS Server	PLC-to-Historian bridge
Historian	GE Historian (500 tags)	Time-series data storage
MES	GE Plant Applications	Events, routes, batches
Front End	FrameworX Dashboards	Work order screens by department

Department Hierarchy

Department	Lines	Function
Intake	TB01-TB03	Milk receiving

HTST	PA01-PA02	Pasteurization
Make	CM01-CM02	Cheese production
Load Out	MLO/WLO/WCLO/SCLO	Product shipping

Key Features

- Tracks pounds of milk at every transfer point
- Work orders tied to Milk Ticket, Batch, or Purchase Order
- 500 transactions per screen storage
- SQL integration with ThoughtSpot and Snowflake for analytics

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Key Enablers

FrameworX capabilities that made this solution possible:

Capability	Application
Dedicated Operator Interface	FrameworX as sole GUI for milk tracking
Event & Route Integration	Production events tied to orders, tickets, batches
Historian Connectivity	GE Historian for time-series trending and replay
Work Order Management	Entry and admin pages for each department and line
Department Hierarchy	Plant Department Line model for standardization
Scalability	~85 PLC tags, 500 historian tags, 500 transactions per screen

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The Results

- **First Dedicated Tracking System** — Established unified milk tracking at the facility
- **Compliance Achievement** — Improved compliance with complete traceability from tanker receipt to cheese making
- **Real-time Visibility** — Provided operators and managers with instant access to milk flows and losses
- **Reduced Manual Effort** — Automated transfer totals, differences, and batch tracking
- **Scalable Foundation** — Delivered historian-backed solution ready for enterprise integration

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This case demonstrates dairy production tracking with GE Historian/MES integration for compliance and operational visibility.

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