

Inventory Heatmap & Stock-Out Alerts for Essential Goods

Problem Statement

Sudden stock-outs of essential goods such as food and medicines occur due to fragmented inventory data and lack of real-time visibility. There is no predictive system to warn stakeholders before shortages occur.

Solution Overview

An AI-powered platform that provides real-time inventory heatmaps and predictive stock-out alerts using Snowflake.

- 1 Real-time inventory intelligence
- 2 AI-based demand forecasting
- 3 24–72 hour stock-out alerts

Key Features & USP

- 1 Region-wise and product-wise heatmaps
- 2 Privacy-safe cross-company insights
- 3 Role-based dashboards
- 4 Focus on essential goods for social impact

Architecture & Tech Stack

- 1 Data Sources → Snowflake → AI Models → Dashboards & Alerts
- 2 Snowflake Data Cloud & Snowpark (Python)
- 3 Power BI / Streamlit for visualization
- 4 Secure Data Sharing, Snowpipe, Streams

Impact & Future Scope

- 1 Reduced stock-outs of essential goods
- 2 Improved supply chain decision-making
- 3 IoT integration and GenAI-based restocking recommendations