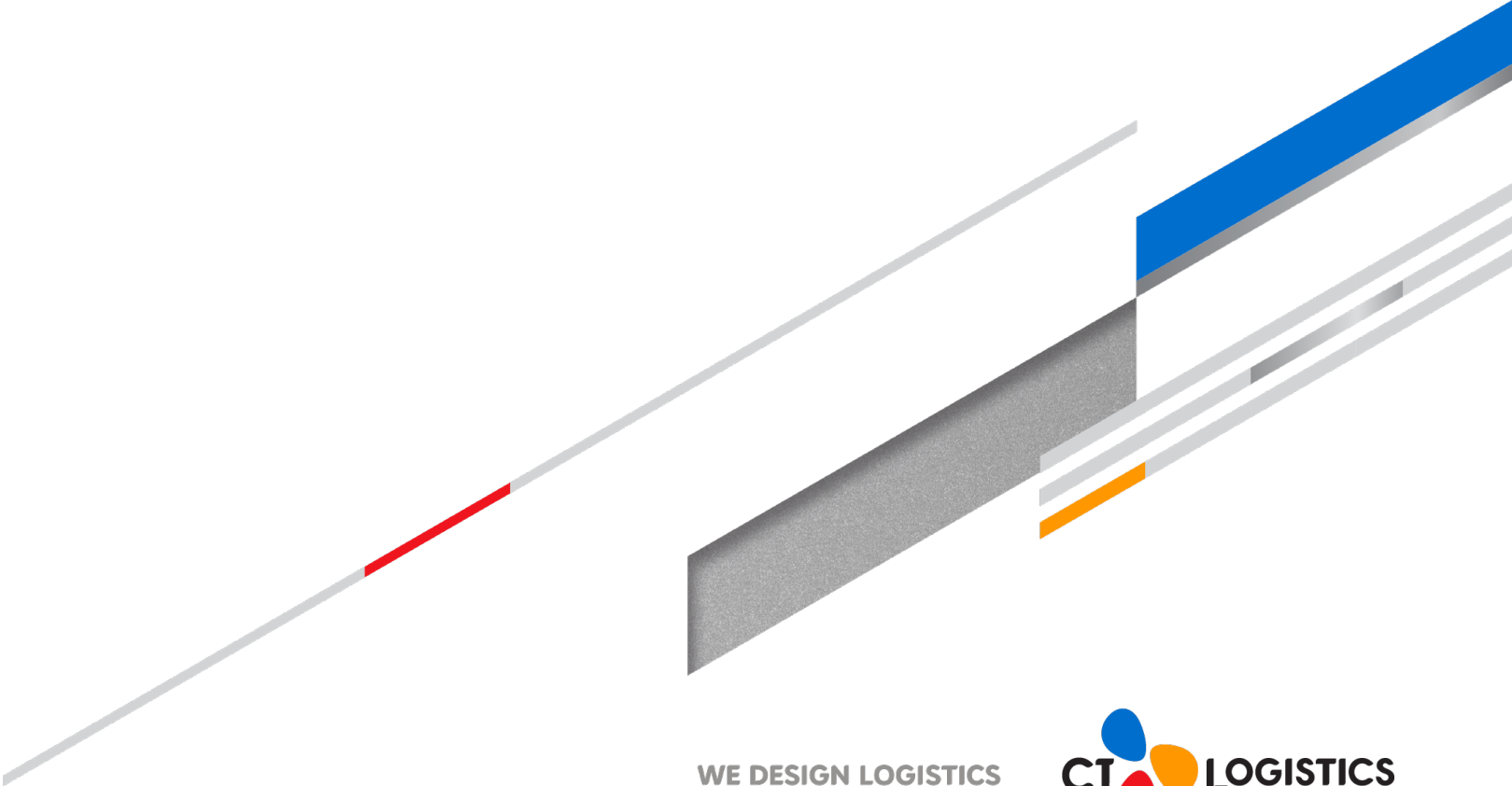


NUTC Industry Workshop

Logistics of Food Waste and Loss Management – A 3PL Perspective

The Woman’s Club of Evanston | Evanston, IL

November 13, 2024



WE DESIGN LOGISTICS



Logistics of Food Waste and Loss Management – a 3PL Perspective

- I. CJ Logistics Customer & Business Overview
- II. Food Waste-Related Trends & Opportunities
- III. Examples of CJ Logistics Initiatives & Actions

WE DESIGN LOGISTICS



CJ Logistics Customer & Business Overview

CJ Logistics has led the Korean logistics market for the last century and is working to become the number one food & CPG company in the Americas.



CJ MANAGEMENT PHILOSOPHY



GLOBAL

Established
1930

Global HQ
Seoul, Korea

Revenue
\$12.5B

Employees
13,600+

MISSION

TO BE THE STRATEGIC PARTNER
DESIGNING AND IMPLEMENTING
THE BEST SCM SOLUTION
FOR CUSTOMERS TO SUCCEED

VISION

THE GLOBAL SCM SOLUTION PROVIDER
WITH DATA-DRIVEN TECHNOLOGIES
LEADING CPG AND
E-COMMERCE LOGISTICS

CORE VALUES



PRINCIPLES

INTEGRITY · PASSION · CREATIVITY · RESPECT

NORTH AMERICA

Established
1960

NA HQ
Des Plaines, IL

Revenue
\$1B+

Employees
4,000+

CJ Logistics Customer & Business Overview

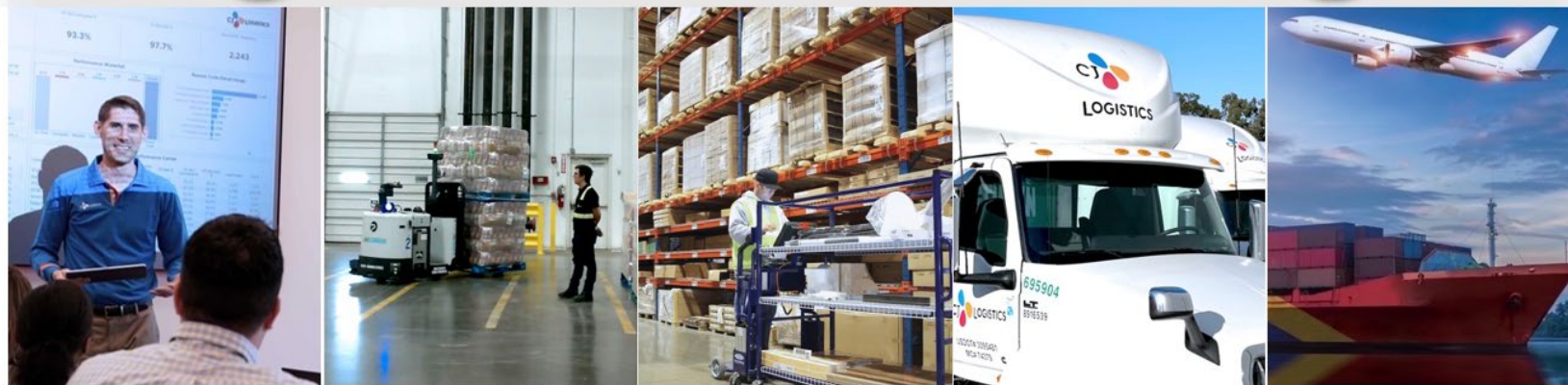
Our business is built around long-term partnerships with major food companies, and their business objectives drive our priorities.

INTEGRATED SUPPLY CHAIN SOLUTIONS

SUPPLY CHAIN CONSULTING	WAREHOUSE MANAGEMENT	SUPPLY CHAIN PACKAGING	TRANSPORTATION MANAGEMENT	FREIGHT FORWARDING
60+ engagements per year	80+ facilities and 30+ million sq. ft.	1 million sq. ft. of production space	4+ billion pounds of freight optimized each year	7 offices connecting a global network



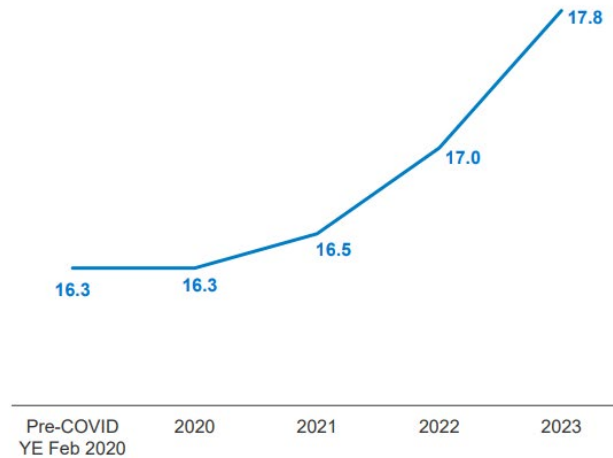
TES – Technology, Engineering, Systems & Solutions
(Industry Insights, Information Technology, Business Intelligence)



CJ Logistics Customer & Business Overview

We are strategically prioritizing an expansion of our presence in the cold chain based on the needs of our customers, consumer trends, and sustainability considerations.

Frozen Share of In-Home Occasions



Pre-COVID YE Feb 2020 2020 2021 2022 2023

Frozen Food Tailwinds



- Frozen food demand is growing at a significantly faster rate than non-frozen due to tailwinds that show no signs of subsiding
- Customers like J.M. Smucker, KraftHeinz, B&G Foods, and Kellanova have refrigerated/frozen product lines as well as ambient storage products
- Numerous customers and prospects have expressed a desire for an alternative to their current cold chain provider(s)
- Cold storage building inventory is insufficient and aging (average 35-40 years)
 - Investors with development capabilities have begun to partner with 3PLs to overcome cost-related barriers to entry
 - Newer cold facilities are environmentally friendly and advance customer ESG objectives

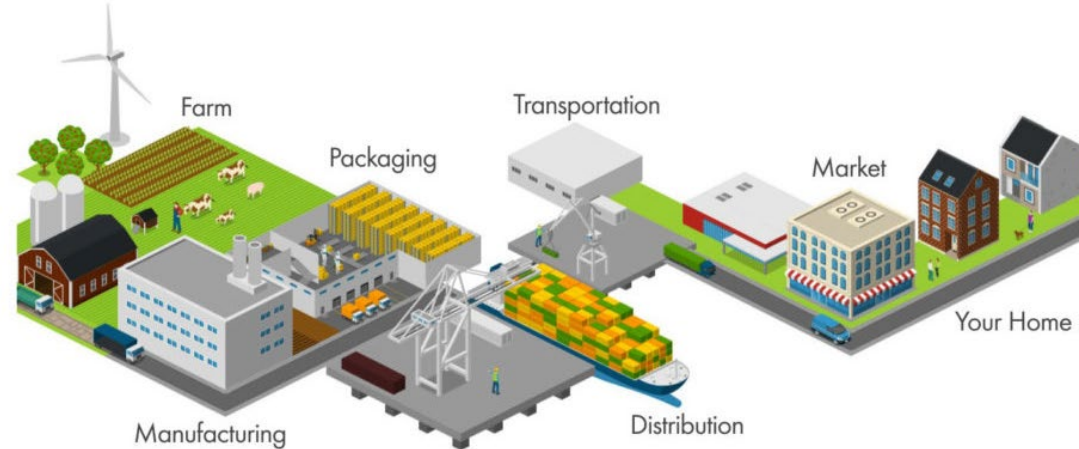
Source: Circana / National Eating Trends; Sourced IH/Retail, Pre-COVID is 12 Months Ended February 2020, all other 12 Months Ended November, excludes beverage occasions

Food Waste-Related Trends & Opportunities

As a 3PL, we are well-positioned to advance food waste reduction initiatives in the transportation and warehousing segments of the food supply chain, and we partner with our customers to identify and implement opportunities to eliminate food waste.

Facts

- Roughly 33% of food produced globally is wasted or lost, at a cost of \$2.6 trillion/year (UN FAO)
- Fruits and vegetables have highest wastage rate (nearly 50%)
- US food system is responsible for 34% of GHG emissions worldwide
- Transportation contributes 25% of all produced emissions
- 20% of landfilled waste is methane-producing food waste (IEPA)
- 1 in 9 Illinoisans are food insecure
- National Strategy for Reducing Food Loss and Waste and Recycling Organics published 6/24



Trends

- Restorative/regenerative circular economy initiatives, e.g. upcycling (using surplus food and by-products to make other products)
- From “greenwashing” to “greenhushing” – food companies who may have been aggressively promoting their ESG efforts now avoiding the term and not publicizing sustainability efforts due to politicization
- Advanced analytics and technology-driven integration and collaboration between 3PLs and customers are becoming more prevalent, enabling waste and loss management improvements

Opportunities

- Route and warehouse/network optimization
 - Reduces transit times, improving freshness upon arrival and limiting spoilage in transit
- Redistribution of surplus inventory
 - Partnerships with food banks or secondary markets (federal law protects donors from liability)
- Cold chain temp/humidity monitoring and storage, handling and transport innovations
 - Real-time temp/humidity monitoring prevents loss, and innovations like blast freezing decrease waste during receiving
- Just-in-time replenishment
 - DSD model for high-turnover perishables minimizes handling and shortens lead times

Food Waste-Related Trends & Opportunities

Some interesting upcycling and waste reduction examples from our customers...



Another beer from our sustainable craft beer range. Throw Away is a hoppy IPA, brewed using upcycled Kellogg's Corn Flakes. Throw Away benefits from residual sweetness as a by-product of the cereals in the mash. Hopped with Chinook, Amarillo, Loral and Talus Cryo to create a truly modern IPA.



Heinz has launched the "Helping reduce food waste since 1869" campaign to demonstrate how Heinz Tomato Ketchup fans have shown their love for this product for years, thus preventing edible food from unnecessarily going into the trash.



THE J.M. SMUCKER Co



Before sustainability was, well, sustainability, our founder, J.M. Smucker, was focused on building a company founded on limiting waste. In 1897, J.M. began collecting "seconds" from apple orchards to turn what would have been wasted apples into apple butter. And the rest is Smucker history.

Examples of CJ Logistics Initiatives & Actions

We are implementing operational and technological innovations that reduce food waste and advance sustainability objectives at our new Gainesville, GA cold chain facility.

Gainesville, GA Examples

Site Overview



- 3875 Cornelia Hwy, Lula
- 270K Sqft, 35k Plt
- Rail access
- Blast Freezer (800 Plt)
- Developer: RL Cold
- Delivery : Oct, '24

- Gainesville, GA is known as the “Poultry Capital of the World” and is home to dozens of poultry processing facilities
- Initial customers include Soulshine Farms, Pilgrim’s Pride and CJ Foodville (Tous Les Jours bakeries)
- First inbound product received on 11/4
- Food waste-reducing features of Gainesville operation including turret trucks and blast freezing (see next slide)

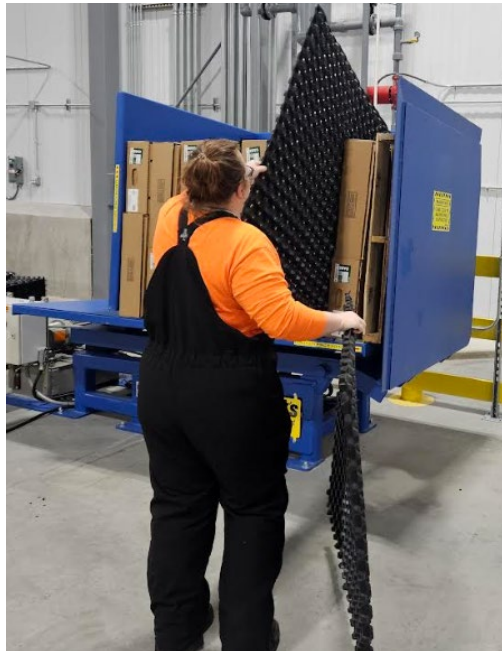
Examples of CJ Logistics Initiatives & Actions

Utilization of QFM blast freezing at our new Gainesville, GA cold chain facility results in substantially less food waste than traditional blast freezing.



Chilling and freezing poultry

Poultry that is ready to cook and labeled as "fresh frozen," "quick frozen," or "frozen fresh" must be frozen within 48 hours of being chilled. If the poultry isn't frozen immediately, it must be kept at a temperature between 26°F and 36°F. Within 72 hours of entering the freezer, the internal temperature of the poultry must be 0°F or below. #



QFM Blast Freezing

- Freezes 80% faster than traditional and dedicated fan and plenum pulls air through each pallet
- Occupancy sensing – QFM starts when pallet is placed in front of QFM system
- Allows freezing of occupied pallet positions only
- Eliminates downtime with no bulk freezing and no damage from pallets slammed together
- Less waste and less energy used

Traditional Blast Freezing

- 48-60 hour or greater freeze time and no dedicated fan or airflow across each pallet
- Bulk freezing process – blast cell must be 100% loaded, then frozen and unloaded all in bulk
- Product slammed together in bulk often creates damage and loss
- Energy & operational inefficiencies

Examples of CJ Logistics Initiatives & Actions

We are implementing operational and technological innovations that reduce food waste and advance sustainability objectives at our new New Century, KS cold chain facility.

New Century, KS Examples

Site Overview



- New Century, KS
- 291K Sqft (Anchor 60% / Public 40%), 45k Plt
- Rail access
- Developer: Yukon/BGO
- Delivery: Q3, 2025

- Long-term contract with Flora Food Group for 60% of facility (mostly plant-based butters and spreads and dairy-free cheeses)
- Consolidates three external warehouses for Flora into one
- Bridge and conveyor system connects plant to warehouse, reducing loss due to truck transportation and extra handling
- Remaining 40% of facility will serve frozen food customers
 - Central location for beef processors reduces inbound miles and transit time



BETTER PLANET
 After a four-year journey, we are proud to announce our brand-new *plastic-free* paper tub, a world first for our plant butters and spreads!

- Flora is embracing sustainability in its stated purpose to be a more affordable, more sustainable next generation of food



Examples of CJ Logistics Initiatives & Actions

We are continuously looking for ways to serve our customers' needs as sustainably and efficiently as possible, in our ambient and cold chain facilities and transportation operations.

- Collaborate with customers to optimize transportation routing and warehouse network design to balance relevant considerations such as proximity to customers, aggregate miles and emissions, total cost, inventory investment, etc.
- Top-tier Warehouse Management System (“WMS”) allows for effective inventory management and prevents loss due to spoilage, lot code/best by date expiration or mysterious disappearance
- Surplus redistribution of slightly damaged or near-expiration products to food banks and secondary markets per customer instructions
- Prescriptive and predictive analytics enabled by greater customer-provider integration are producing better planning and forecasting outcomes (less over-ordering) and improved order cycle time, fill rates, and trading partner communications
- Strengthening real-time and item-level visibility capabilities for customer monitoring and planning purposes and traceability compliance
 - FSMA Rule 204 (FDA Food Traceability Final Rule) goes into effect on 1/1/26

TYPES OF NETWORK MODELING

1. Demand Model
2. Network Optimization
3. Complete Network Study



NETWORK MODELING CASE STUDY – PRIVATE LABEL FOOD

SITUATION

Food/CPG customer with both private label and national brands had grown quickly through acquisitions. Operations were fragmented and complex with over forty shipping points, ambient and refrigerated temperatures and multiple customer channels. Goal was to both reduce the number of distribution points and create room for additional growth.

SOLUTION / APPROACH

Scenario Themes	Impacts	Modeling Steps
Customer sourcing / Distribution center consolidation	Transportation Costs	1. Optimized Single Sourced DC 2. Consolidation of orders 3. DC rationalization - # of locations (4 site, 5 site and 6 site models)
Inventory strategy at each distribution center	Inventory Carrying Costs	4. Inventory strategy trade-offs (SKU level study)
RDC Optimization	Implementation Planning	5. Service Constraints 6. RDCs layout requirements

RESULTS

- Reduced complexity from fewer sites
- Lower inventory investment and improved working capital
- Improved service from closer proximity to customers
- Faster integration of acquisitions and launch of new products

Balance among network rationalization, cost and growth

MULTIPLE

CHANNEL COMPLEXITY

+40

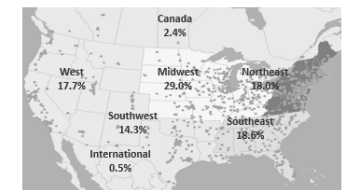
SHIPPING POINTS REDUNDANCY

2

NETWORKS (REF. AND AMB.) COMPLEXITY

GROWTH

NEW POTENTIAL ACQUISITIONS CAPACITY



- Over **3 million miles** reduced from the network annually
- Reduction in **13 million pounds** of carbon emissions
- Annual transportation **savings of 5-7%**

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