



World's Largest Coffeehouse Chain Minimizes Food and Dairy Shrinkage Loss

Starbucks reduced its shrinkage of dairy and food supplies with Sensitel's Sens Cold Chain Monitoring System.

EXECUTIVE SUMMARY

Customer: Starbucks, Seattle, WA

BUSINESS CHALLENGE

- Keeping track of condition and quality of food and dairy
- Monitoring delivery times to stores

BUSINESS SOLUTION

- Sensitel Sens Monitoring System integrated with Eclo mobile printer

BUSINESS RESULTS

- Reduced shrinkage by eliminating bacterial growth in consumables
- Moved to shelf life-based replenishment for perishables
- Over US\$13 million in annual savings

Company Background

Founded in Seattle in 1971, Starbucks is the world's largest coffee company and coffeehouse chain with over 21,500 locations worldwide. The company buys and roasts over 500 million pounds of coffee and uses over 100 million gallons of milk per year. In addition, it also sells teas, bagels, hot and cold sandwiches, croissants, and salads. The company has Regional Distribution Centers – Store Supplies and Consolidated Distribution Centers – Perishable & Consolidated Supplies around the world. It had revenue of \$16.45 billion in FY2014.

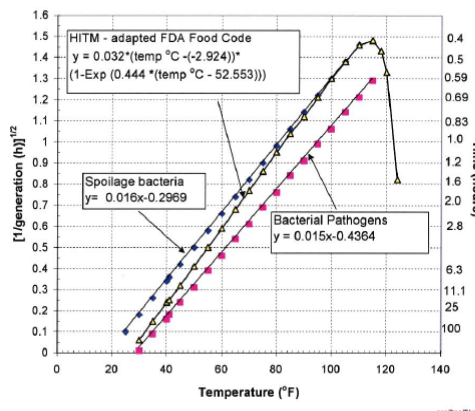
Business Challenges

Starbucks's Distribution Centers around the world operate trucks for food and dairy product deliveries. Each truck serves 6 to 12 stores per night and the operator (truck driver) delivers products in the night. Consumables have a short shelf time: Sandwiches, 1 day; pastries, 1 to 2 days; and milk, 2 days. The company had to have tradeoff between consumer's expectations of full display and out-of-stock. Store managers are customer-focused baristas and not experts on replenishment.

Restricting the time that perishable goods stay at temperatures above 4 °C (40 °F) and below 60 °C (140 °F) to two hours or less reduces the growth of harmful bacteria, as the graphic below shows.

Growth of Bacteria in Food

BASED ON FDA FOOD CODE HOLDING / STORAGE RECOMMENDATIONS



Temp (°F)	1 Generation	10 Generations
<30	Safe	Safe
30	297.14 hr.	123.8 days
35	46.34 hr.	19.3 days
40	17.99 hr.	7.5 days
41	15.55 hr.	6.5 days
45	9.49 hr.	4.0 days
50	5.85 hr.	2.4 days
55	3.96 hr.	1.7 days
60	2.86 hr.	1.2 days
70	1.69 hr.	16.9 hr.
80	1.12 hr.	11.2 hr.
90	0.79 hr.	7.9 hr.
100	0.59 hr.	5.9 hr.
110	0.47 hr.	4.7 hr.
120	0.56 hr.	5.6 hr.
125	3.10 hr.	31.0 hr.

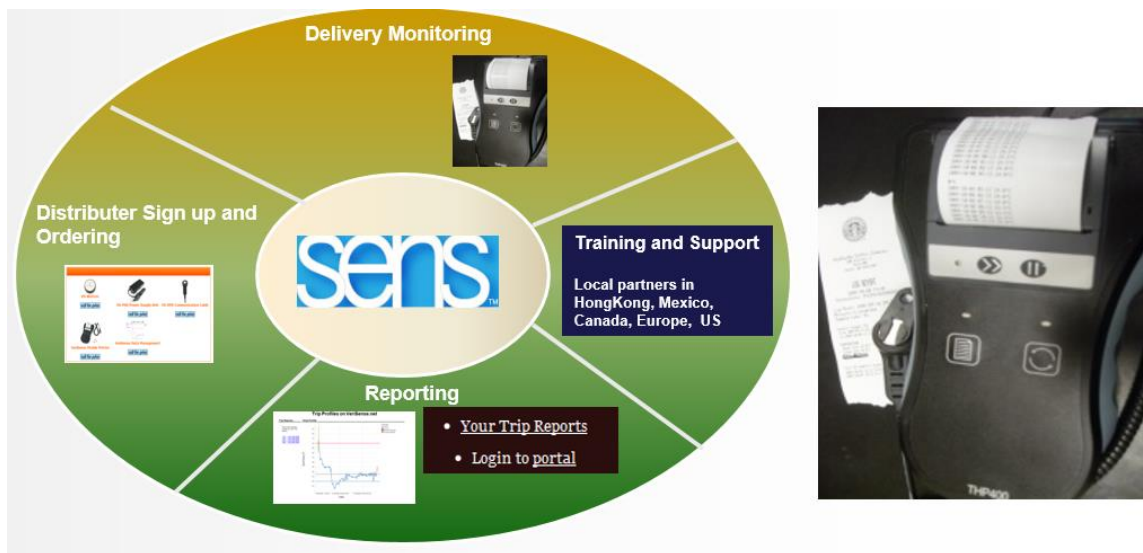
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However, the company identified certain limitations with this supply chain model:

- Stores could not verify that perishables were maintained at the temperatures below 40 °F during delivery.
- In case of dispute with the distributors, the company had no way of validating that milk was supplied out of specifications, namely, 40 °F.
- In case of any consumer complaints, there was no fallback to prove the products were transported and maintained at correct temperatures.

Sensitel Sens Monitoring Solution

Partnering with Portugal-based mobile printer vendor Eclo, and US-based Maxim Integrated, Sensitel developed a comprehensive solution of providing a mobile printer to print a receipt for every delivery. Integrated with a logger, the printed output shows the temperature history and time of delivery, eliminating any conflicts.



Customer Benefits

- 70% reduction in food shrinkage by eliminating bacterial growth in consumables
- Moved to shelf life-based replenishment for food and dairy items
- Over US\$13 million in annual savings
- Zero learning curve for Baristas
- Solution is extensible to Bluetooth, Wi-Fi, and other wireless devices

With the success of initial Hong Kong pilot, customer opened up additional geographies in Asia, Mexico, Canada, Europe and China for rollout of SENS solution.

For More Information

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