Cold trace

How the need for traceability
in cold storage is providing a
unique opportunity for 3PLs

infios

a Körber company

Introduction

Cold chain is one of the most complex divisions of supply chain logistics—and right now, it's booming. This presents a large opportunity for cold chain 3PLs seeking to grow their business and willing to adapt to a changing market.

The high stakes and fast turnaround required for temperature-controlled food, and the standard of technology needed to keep those temperatures consistent throughout the cold chain is what makes this segment a challenge. But, more recently, increasing regulations and pressures from retail are demanding a higher level of accountability from logistics partners—in other words, traceability.

Now, more than ever, consumers want to know exactly where their food has come from, and how far it has come. "Farm to fork" is a common phrase, and it

sounds simple enough. But facilitating it in a genuine "retail friendly" way involves complex infrastructure—which often falls to the warehouses to facilitate. And this needs to be done without avoiding the public-relations minefield of product recalls.

All of this puts an immense amount of pressure on cold chain logistics providers. But there are ways of applying traceability on products so that businesses, and 3PLs in particular, can benefit.

Cold storage challenges

Cold chain logistics stands out as uniquely complex in the supply chain industry for three specific reasons, two of which unite under one key challenge—food safety.

Food safety: temperature control

Fresh products, such as meat, poultry, fish, dairy products, fruit and vegetables, have a short "shelf life." Aside from having a short lifecycle as profitable stock, they require temperature control at every stage in the supply chain in order to remain fresh long enough to be safe, and good, to eat.

Not only does this call for a much faster turnaround from the logistics provider, it also requires expensive specialist equipment at each stage. The equipment must be able to monitor and alter the temperature the products are kept at, whether they're in a warehouse or on the road. This alone is a very expensive overhead for any business.

Food safety: product recalls

Food safety is not only imperative for public health, it's also critical for the survival of the retailers in question. Because of the serious nature of food safety, and the implications of something going wrong, it is also the most likely product type to be subject to recall.

Food safety standards differ from country to country, and there are always regulations in place which make frequent recalls likely. When the farms, or retailers, discover there's a problem, it is up to logistics businesses to provide the data necessary to trigger a swift and comprehensive recall—before it's too late.

This is especially significant with cold chain, as sometimes changes in temperature during transport, or even in the warehouse, can cause the safety issue in the first place.

In 2018, according to the USDA,[1] the top reasons for product recalls in the US were:

31.0%
foreign material

20.7%
no inspection

17.2%
undeclared allergen

Customer expectations

Not even fresh produce, which cannot obey the usual "warehouse storage" rules due to its short shelf life, is safe from the pervasiveness of the "Amazon Effect," i.e. the demand to have things delivered quickly, and at no extra cost, to the consumer. Much like everything else, retailers are under increasing pressure from consumers to deliver faster, and for less.

> "Now, you have to be more diversified. Rather than ship a whole pallet to one store once a week like you once did, you now have to ship a few cartons to a few stores a few times a week. And it's no longer just seasonal goods. You have to manage international produce, all throughout the year."
>
> **Jeff Englund**
> VP of Professional Services, Infios

Because of this, retailers are placing smaller and more diverse orders more frequently to keep up with demand, and with much shorter lead times. This leads to greater SKU proliferation, and more countries of origin feeding into the chain.

> "The ability to recall down the full chain of custody, from the farm to the fork, is critical. You have to be able to look along the entire supply chain to see where it went. Not only that, but with cold storage food you to have be able to see any change in temperature, and any delay in delivery. Thankfully, there is technology to support temperature monitoring and control right down to the box."
>
> **Colin Hay**
> Sales and Implementation Consultant, Infios

Opportunities

The entire supply chain must take food safety as seriously as the farms and stores. It must also account for a change in customer expectations. This is why 3PLs must build traceability into their processes.

Traceability in the food supply chain

Simply put, "traceability" is the capability to track something specific along each stage in its journey. In the supply chain, this is often required for a mix of regulatory, ethical and environmental reasons. With food, specifically, it's a way for growers, manufacturers, distributors and retailers to get the right items to the right people in the right condition for safe consumption.

> "In most first and second world countries, every produce producing establishment has an ID number which tells us where product came from. This is being developed further. Soon, when tracing a specific beef product for example, we will know what cow it was, what that cow ate, where it was kept, and so much more."
>
> **Colin Hay**
> Sales and Implementation Consultant, Infios

It is essentially a detailed data trail, which follows each product on its "farm to fork" journey, starting from the moment it's "harvested" and concluding with the end-customer purchase. It can be used to tell us:

- Place of origin

- Details of origin (e.g. pesticides used, livestock grazing etc.)

- Date of "harvest" (whatever that looks like, depending on the type of produce)

- Where it has been stored at each interval

- How long it has been stored for at each interval

- How it has been stored (i.e. ambient temperature, fluctuations/changes, other conditions)

- Duration of transit, etc.

It can also be used to tell the people working at each stage what the ideal conditions, temperatures and storage durations are, and how much time each item has to safely reach the next stage in its journey. As traceability grows in importance, the level of detail required grows too.

Increasing importance of traceability
Recalls are a public business. The ability to track the offending items quickly and accurately is important for public relations, but it's about far more than just damage control. It's about trust and confidence, and the trust between the consumer and the retailer is no longer the only thing at stake—now the full supply chain must inspire confidence in everyone involved.

This is because consumers are becoming increasingly aware of the significance of the supply chain, and of the wider effects of contamination. World events have led to a whole new level of scrutiny, from every angle, right up to logistics providers. Confidence and trust only come with the integrity and visibility that full traceability brings.

> "Trust is everything in business. The ability to track the quality of that product all the way through the chain is critical to success."
>
> **Colin Hay**
> Sales and Implementation Consultant, Infios

Opportunities for 3PLs
Cold storage is "purpose built" in every single way. Each building and vehicle within the chain requires a certain level of cold chain technology, as standard. 3PLs providing cold storage are already offering their clients a higher level of specialism than any other type of logistics provider. This requires a huge level of investment to establish and maintain, but it also means cold storage 3PLs are more flexible and adaptable than other types of logistics providers, as standard.

This means, to remain competitive, and attractive to their clients, they must be highly efficient, responsive and trustworthy. This extends far beyond the hardware, too. For such an important and highly complex market, every base must be covered at all times, up to and including the software.

3PLs with traceability built into their digital infrastructure will be the efficient and responsive logistics providers that retailers will want to partner with.

> "The 3PLs may not own the product, but they should be accountable for traceability, because to be successful, they need to be a trusted partner for the client. The ability to provide the data that their clients need quickly and efficiently in multiple formats, from emails to text messages to customer portals, is a part of that."
>
> **Colin Hay**
> Sales and Implementation Consultant, Infios

Solutions

Traceability via WMS
Only a sophisticated WMS (warehouse management system) can provide the level of traceability, data collection and management that the fast and unforgiving cold storage market needs. Ideally, it must:

- Provide traceability from production to shelf
- Contain the full lifecycle of data for each individual item (right down to each movement and temperature change—scheduled and otherwise)
- Provide visibility of that lifecycle for all stakeholders (including clients and customers)

The most effective WMS will offer enough accessible data to function as a knowledge hub for all interested parties, helping every 3PL using it to differentiate themselves from the competition, adding a whole new level of expertise.

Traceability via automated supply chain solutions
Automated material handling solutions (i.e. automated warehouses, robotics) can further improve the quality of product tracking and tracing. Introduced in the last century by the pharmaceutical industry to tighten traceability, full automation of product transportation and storage can avoid human error altogether.

To meet customer demand, 3PLs are having to handle more individual cases, rather than full pallets, increasing the time staff spend in cold conditions. Automated solutions can help overcome the labor challenges associated with working in cold storage.

Frialsa Frigorificos

Ranked in the worldwide top 20 by the International Association of Refrigerated Warehouses (IARW)

Storage space: 20 regionally-orientated warehouses across Mexico and Peru

Headquarters: Atitalaqula, Mexico

Solution: Fully-integrated cloud-hosted 3PL WMS (deployed across each location)

Results:

• Higher volumes, greater productivity
• Standardized workflow practices
• Precise inventory record maintenance
• Integration with existing database
• Comprehensive reporting and customer visibility
• Reduced customer service requirements
• Faster and cheaper cycle counting
• Dramatically reduced paper and printing costs

Frialsa's customers can access the WMS to view the status of their inventory or the inbound and outbound status of their merchandise.

"Our customers have taken to it quickly and they like it because they can see in detail how we handle their product. It provides them with traceability and it gives them confidence in our services."

Gustavo Equihua
Corporate Strategic Planning and Innovation Manager, Frialsa Frigorificos

"You must acquire tech that is easily upgradeable and adaptable to requirements. Heavily customized solutions reduce your adaptability as they aren't usually flexible. This includes your WMS."

Colin Hay
Sales and Implementation Consultant, Infios

Future of cold storage

The logistics sector as a whole is evolving rapidly, alongside consumer habits. A sudden public awareness of the function of the supply chain, brought about by recent world events, means a higher level of accountability and visibility in cold storage is called for. It's only through full traceability that these things can be achieved.

From a 3PL perspective, cold storage requires an almost unique standard of future-proofing, from the ground up. Not only must the hardware be state-of-the-art, but the software must be too. This is why a partner with a proven track record and a broad range of experience and solutions, is ideal.

An out-of-the-box cloud-based WMS solution, which is updated and reconfigured automatically, is all most 3PLs need to seize the opportunities and counteract the challenges presented by the booming, and changing, cold storage market.

Consumers are looking for retailers they can trust, and retailers are looking for 3PLs they can trust.

CONCLUSION

Cold storage is a fast and reactive market by its very nature, and completely reliant on technology to survive —more so than any other logistics sector. Whether it's the ongoing challenges of food safety, or an increase in customer expectations, only the fastest and most reactive 3PLs will be able to service the ever-changing and ever-growing needs of the market.

Trust is key, and only through traceability can trust be found.

See how Infios's flexible WMS and automated material handling solutions can help you future-proof your business:

FIND OUT MORE

Reference

1. https://www.foodsafetynews.com/2018/08/bacteria-top-fda-recall-stats-for-2q-foreign-matter-leads-usda-recalls/

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