BlueYonder
Fulfill your potential™

Smarter Fresh Food Management

Simplifying the Fresh Food Challenge

The Global Fresh Foods Challenge

Globally, the battle is on to win in fresh. Shifting customer preferences toward healthier lifestyles is driving growth on the store perimeter, while center store lags, despite competition from other grocers, convenience chains and a resurgent restaurant sector.

Fresh foods are one of the most critical areas to get right in order to win customer trust. But managing fresh foods is not easy. Volatile supply and demand rarely align, frequently causing shelf gaps or margin eroding markdowns and waste.

When you consider the end-to-end fresh chain, there are a lot of complex iterations that can throw off the best plan.

According to the NRF, the weather is rarely consistent year-to-year, only repeating itself around 15% of the time. The effect is felt in two ways. There is a very local effect on customer demand when weather changes. Consider two stores, hundreds of miles apart and with different seasonal patterns. A change in weather from sunny to overcast and rainy may play out very differently in each store. And shifting demand is rarely transferred entirely to another point in the week.

Weather also plays a role on the supply side, helping to determine the size and quality of fruit and vegetable yields, or the grazing conditions for livestock. Often, the seasonal supply is determined well before the customer has begun thinking about what to put on the table. Demand is also driven by public events locally, nationally and internationally – consider the demand for party food during the World Cup – alongside other factors like price, the day of the week and social factors particular to a local store. These are often written into the sales record compromising the baseline used for future planning.

In warehouses and stores, variable supply and demand can cause over handling of inventory as it moves through the supply chain, being put away before it moves on to the shop floor, often in volumes higher than local demand, with a subsequent clean-up for store staff in re-facing and markdown or waste.

The typical response has been to avoid rules-based replenishment systems and give store department managers remit for managing their fresh inventories. After all, they know their customers better than an algorithm. Or do they? Most human planners tend to overstate demand, and warehouses rarely have the time to consult supply chain strategies where they receive more or less stock than their stores are asking for.

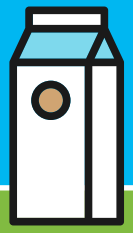
The result is orders mis-aligned to demand that are reviewed and picked under pressure against variable supply. And ultimately, disappointed customers and lost margin. To get ahead in fresh, a new approach is required.

Different types of fresh foods have unique problems

Fresh foods can define a grocer's market offer, but come with unique challenges

Fresh Produce

- High waste
- Difficult supplier collaboration
- Need to multi-source
- Market buys and crop commits
- Difficult to track shelf life
- Variable quality



Dairy

- High waste and spoilage
- Growing assortments and non-diary alternatives

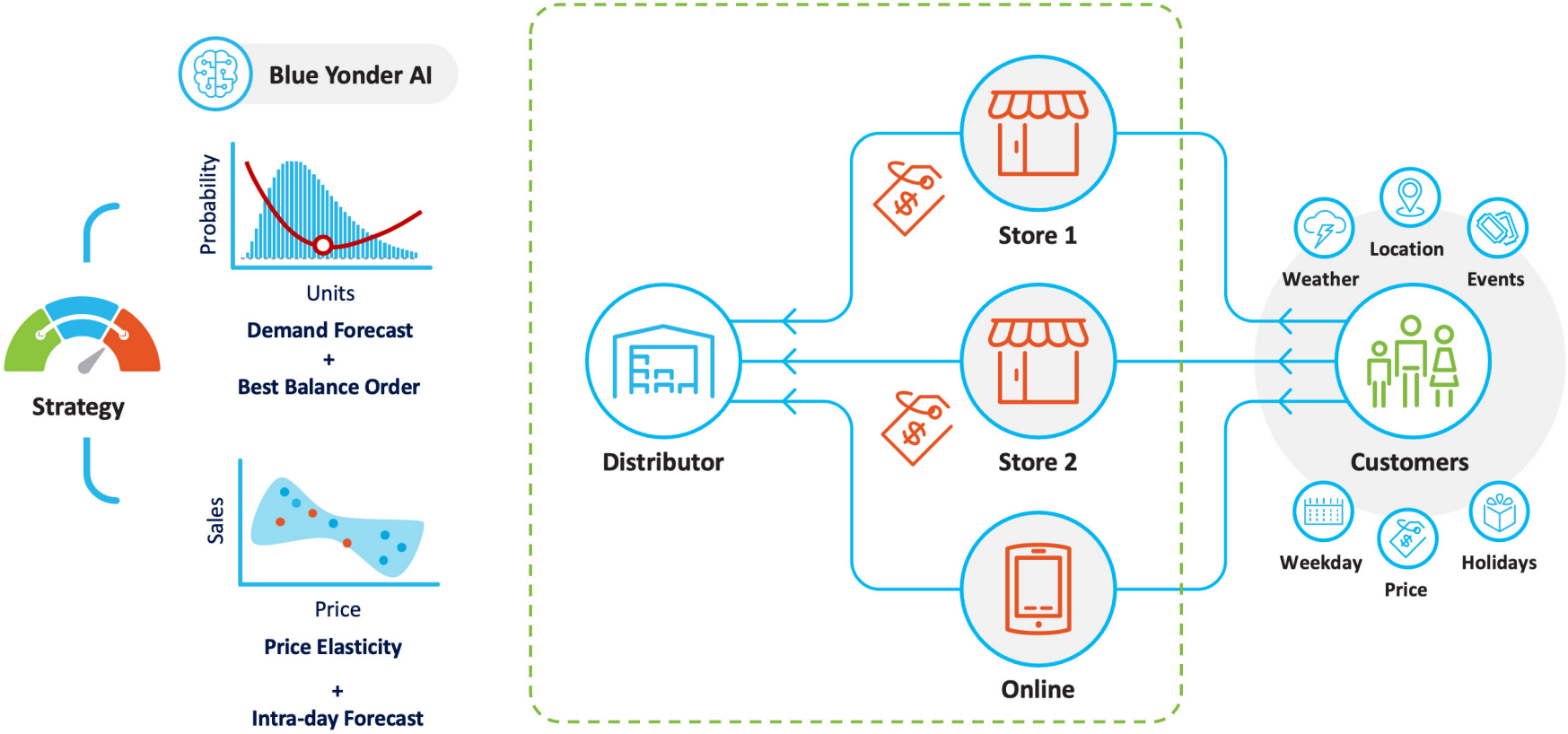
Meat

- Volatile cost pricing
- Variable yield
- Waste on high margin
- Variable quality
- Pick to zero

Blue Yonder Simplifies the Fresh Challenge

Turn Uncertainty into Strategy

Blue Yonder's Luminate supply chain platform consolidates data in one place and shares this across capabilities. Proprietary artificial intelligence (AI) enables efficient and highly automated workflows designed to turn uncertainty into a strategic asset, rather than a challenge to be mitigated.



Customer Uncertainty

Customer demand is one of the most volatile components in the fresh foods supply chain. When customers are shopping, they are simultaneously influenced by the weather, the day of the week, prices, where the store is located, the proximity of public holidays and events, among many factors. At any point in time, some factors will dominate others, especially at the local level. Consider the demand for ice cream on a warm public holiday weekend at a small format store close to the beach against the same demand in an out of store hypermarket.

Measuring customer demand needs to be done at the source. Pushing responsibility for store orders to department managers in some way acknowledges this. But the quality of departmental orders is not consistent, nor does in-store ordering cater well for eCommerce.

Neither can customer demand be measured at the DC and disaggregated to stores, without losing the local nuances that drive poor availability, high waste and lost margin.

An additive model – one that uses machine learning to adjust a historical baseline – cannot match that level of agility. By replaying and adjusting history, it will make it more difficult to adapt to changing patterns, whether these are driven by changing weather or shaking up a stale promotional plan. Less adaptive demand will hold you back in a changing market.

Blue Yonder AI intuitively understands what drives the customer by measuring the relative strength of the things that influence demand at the SKU/store/day level, then using these to predict the future.

The other advantage of Blue Yonder demand forecasting is that it calculates a full probability density rather than a single mean value; a value that may or may not be realized. The probability density is a measure of uncertainty. You can consider it as a measurement of the confidence in the forecast, but it is best used to automatically identify the risks of waste and being out of stock. The benefits are in spreading the risk of uncertain demand across many items, while demand planners will claw back hours spent in cloning items and stores, then manually adjusting the results.

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Blue Yonder AI understands this complex (human) network...

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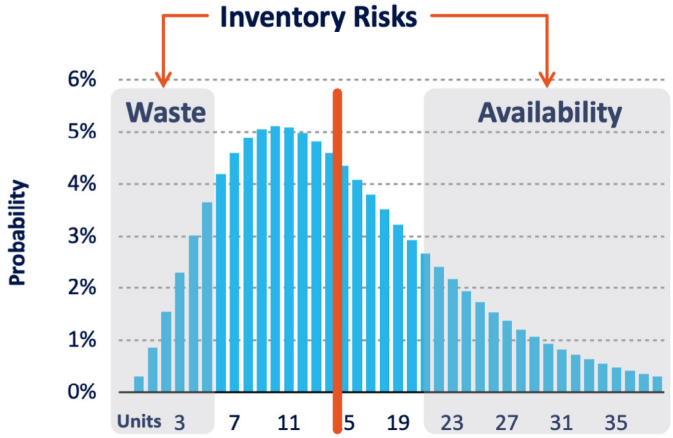
...And uses it to predict uncertain customer demand



Unconstrained Store Orders

Blue Yonder's Best Balanced Ordering simplifies fresh food management. Rather than use parameters like safety stock to attempt to calculate the amount of inventory a store needs, it poses a fundamental strategic question: what do you want to achieve? In fresh foods, the classic trade off is waste and availability. Safety stock might cover availability but is often the driver for high waste.

Best Balanced Ordering elegantly accounts for both simultaneously. By assigning a relative cost to each competing goal, it is possible to automate orders using plain language like, "I value availability more than controlling waste," by determining the lowest possible cost. It is possible to incorporate other relative costs such as freshness, cost to serve or presentation into the strategy.

Best Balanced Ordering is tightly coupled to the probability density function, with the forecast driving the calculation of cost and automating store orders based on what the inventory planner is trying to achieve. Uncertainty becomes a strategic asset rather than another challenge to mitigate.

Constrained Store Orders

Uncertainty is not just present on the demand side, it also occurs with supply and should be factored into the ordering process. Simply aggregating store orders to build a supplier order propagates uncertainty up the supply chain without attempting to mitigate it. Ultimately it cannot solve availability and waste problems in an automated way.

Best Balanced Orders offer a superior approach. Unconstrained orders are fed up the supply chain, in an unbroken chain linking demand uncertainty all the way to the supplier. Where supply is short, or DC receipts are over expected volumes, store orders are automatically re-calculated against the available supply using Best Balanced Ordering, ensuring that the same supply chain strategy is applied consistently in all circumstances, and the grocer minimizes the costs that hurt them the most.

This approach is smarter and more agile than using rules to define where to allocate stock and can help resolve supply-induced bullwhips. The orders your suppliers receive will factor in the demand uncertainty you measured in your customers.

Clearing Short Code Inventory

No matter how smart the ordering process, customer demand volatility will always occur, often exacerbated by mis-aligned supply. Customers rarely respect first in, first out principles, which can lead to remaining short code inventory.

Historically, there have been two methods of managing short code inventory. Wasting it or marking it down manually. In the markdown case, often the decision is left to a department head based on intuition or delegation. Both approaches lead to uncontrollable margin loss

Blue Yonder's short code markdown capabilities uses many of the same machine learning principles to manage uncertainty used when bringing inventory into the network. A SKU/store/day specific price elasticity measurement ensures that you can predict how responsive your customers are to price changes, while an intra-day demand forecast helps build clearance prices based on the amount inventory at a point in time that is convenient to the store. The third element is a strategy. Do you want to maximize your markdown revenue, or do you want to maximize your chance of clearance? Together they lead to a single, smarter markdown price for fresh food that helps make stores more efficient in an area that's typically high in effort but low in return.

A Different User Experience

Blue Yonder's approach to managing an intelligent fresh supply chain is different, and so is our approach to the user experience. High levels of automation are built into processes to ensure that users only need to intervene where the directed. AI cannot make an automated decision based on the strategic objectives set by its human masters. Users are directed to exceptions, such as the need to source from alternative suppliers or intervene where load building thresholds might cause an out of stock.

Many of the screens you would typically need an a more manual or rules-based system are no longer required. Humans work in a different more strategic way, relieved of the burden and time pressures of constant intervention caused by imperfect calculations.

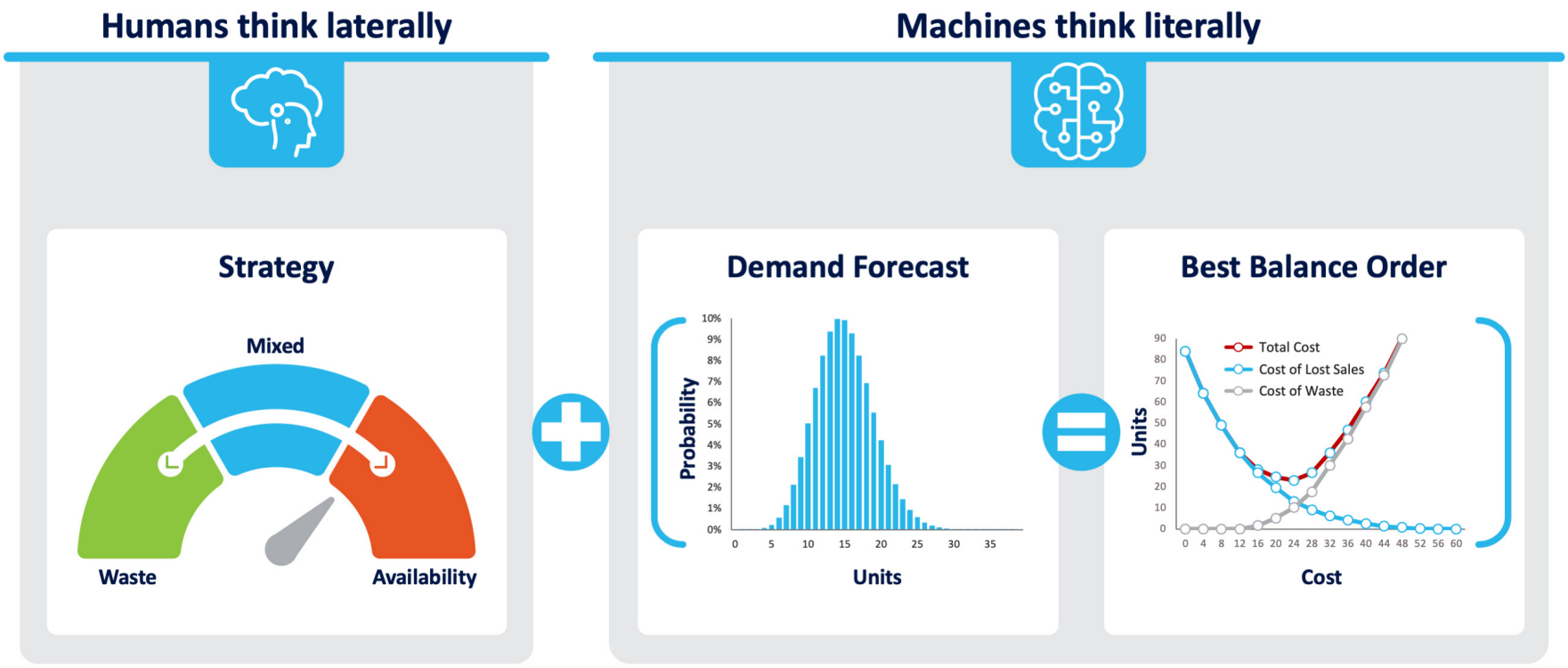
People and machines have different strengths.

One of the biggest supply chain issues is consuming big data. Here people lose out to machines who can process big data faster and with much greater granularity than people ever can. Machines are literal. They see things objectively.

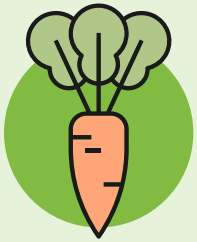
People are lateral. They are able to extrapolate strategies from limited data sets and determine desired outcomes.

Humans set a strategy - I want to reduce waste in short life stone fruit, for example, or maximize availability of soft drinks or snacks during peak trading – which machines then execute against at speeds beyond humans.

By combining the best of both human and machine intelligence, Blue Yonder builds meaningful human/machine interactions. Our robust models and analytics are presented in an explainable, actionable way.

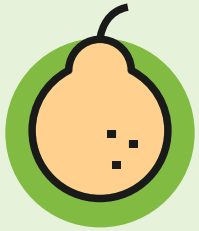


Business Impact



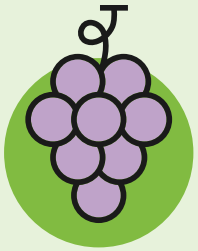
More resilience

By measuring customer demand at the source, including the probability of variability, then passing this uncertainty up the supply chain, Blue Yonder ensures that all decisions can be automated strategically in response to changing market dynamics.



Faster speed to market

Supply chain strategies are applied consistently at each node of the network, ensuring a consistency of approach and high levels of automation. Inventory isn't locked in a location while variation is manually resolved.



Less inventory handling

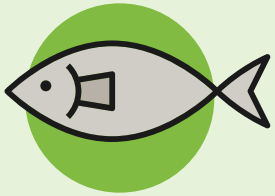
Overall levels of inventory are lowered by strategically ordering against weighted costs. This lowers the overall level of inventory in the network, resulting in less inventory handling. Orders move from DC to store to customer basket with minimal putaway without sacrificing availability or freshness.

Improved efficiency

Both stores and head office colleagues benefit from higher automation. Stores can focus on presentation, stock counts and customer service instead of ordering or determining markdown prices. Demand and inventory planners can focus on strategic tasks rather than adjusting forecasting algorithms, cloning history or reviewing and approving all orders.

Higher margins

Less inventory and strategic control of waste helps improve margin while satisfying customer concerns about sustainability. More intelligent markdown pricing ensures that intuition and experience are not eating into your bottom line.



Complete grocery solution

Customer volatility and supply variability exists outside of fresh foods. Here, Blue Yonder's unique ability to turn uncertainty into dynamic strategy can be deployed outside of fresh foods. Promotions and seasonality, often seen in ambient foods, can also be automated using the same capabilities, ensuring that you can deploy one set of business processes and avoid deploying two replenishment solutions.

Our Customers

Join these industry leaders managing fresh foods in a smarter way

Morrisons Since 1899

Case Study

ASDA

Learn more

Supermercados Peruanos SA

Case Study

Sainsbury's

Learn more

Loblaws

NorgesGruppen

Southeastern Grocers

Wakefern Food Corp.

For more information on how Blue Yonder can help solve some of grocery's biggest challenges, please visit https://blueyonder.com/solutions/retail-grocery

or download the eBook on how grocery replenishment works https://blueyonder.com/knowledge-center/collateral/luminate-retail-replenishment-ebook

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