Unified Logistics

Leverage Blue Yonder's seamless capabilities in planning, optimization and orchestration across transportation, warehousing and labor.

BlueYonder
Fulfill your potential™

The logistics landscape has been completely transformed.

Even before the emergence of COVID-19 in early 2020, the world of logistics was already experiencing a dramatic transformation.

Next-day and same-day delivery promises from mega retailers were resulting in rising customer expectations not just in retail, but in every industry. In both B2C and B2B channels, online purchases were growing dramatically, creating new logistics challenges and exponentially more complex warehousing and transportation schemes.

Inspired by Uber, new commodity marketplaces were emerging for sourcing transportation, labor and even inventory. Just about every company was beginning to explore dynamic product segmentation strategies that translated into new logistics requirements. For example, some in-demand products would need to be expedited on a regular basis, while others could move through the logistics network more slowly.

While 2020 only exacerbated the need for companies to re-imagine their top-level strategy – and how their logistics networks needed to evolve in support of that strategy – a radical rethinking of the distribution function was already under way.

For online retailers, the average cost to fulfill an order is

70%

of the average order value.[1]

Reducing logistics costs is critical to increasing profit margins.

Five trends are reshaping logistics as we know it.

As consumers have gained power, five new forces have been invisibly shaping the world of supply chain and logistics:

1 Direct-to-consumer sales models in which logistics is a critical advantage

2 Ever-faster fulfillment speeds, driven by rising consumer expectations

3 The increasing availability of automation and robotics to augment human capabilities

4 A shift from rigid business rules to real-time flexibility and adaptability, driven by artificial intelligence and machine learning

5 The rise of a flexible, marketplace mentality where freight, warehouse space and other assets are commodities and not long-term investments

In 2023, global retail eCommerce sales >

$6.54T[2]

creating challenges and opportunities.

We're entering a new era, focused on customer centricity.

What do all these trends have in common? They place an emphasis on extreme logistics speed and responsiveness, while also necessitating tight control of logistics costs, to protect profit margins. They also place the focus squarely on the customer.
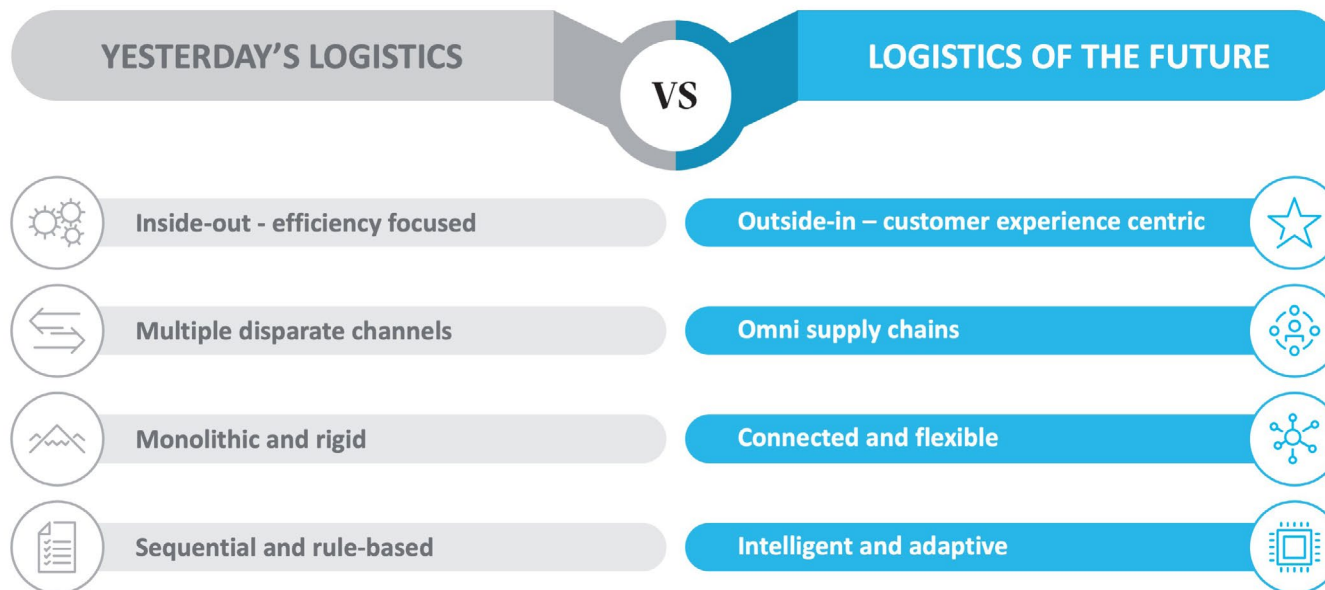
Customer needs and expectations are constantly changing – and those changes are occurring more frequently than ever, in today's volatile markets. Customers are looking for faster delivery and more personalized services, at a lower cost. That means the supply chain must also change. It must be capable of responding to every customer order as a connected, singular entity. It must be flexible and adaptive. It must make intelligent decisions, autonomously, that balance cost and service in a strategic way.

Today, only

42%

of consumers consider 3-4 day delivery to be "fast."[3]

Why Unified Logistics?

YESTERDAY'S LOGISTICS	VS	LOGISTICS OF THE FUTURE
Inside-out - efficiency focused		Outside-in – customer experience centric
Multiple disparate channels		Omni supply chains
Monolithic and rigid		Connected and flexible
Sequential and rule-based		Intelligent and adaptive

To win, you need to understand the fundamental shift in how logistics is viewed and managed.

Older approaches – characterized by long lead times, rigid business rules, bulk handling and serial execution – are insufficient to meet today's new challenges. Logistics must shift to a mindset of speed, flexibility, personalization and connectivity.

The traditional, linear model of the logistics function is being reimagined today, as customers demand greater delivery speed and responsiveness, and digitization reshapes processes and workflows to enable higher service levels. Instead of a sequential chain based on pushing orders to customers, today's pull-based logistics model requires that the entire network functions as a set of closely connected nodes that actively collaborate in real-time.

Bulk deliveries and long lead times are a thing of the past. Instead, personalization and flexible last-mile services ensure that the needs of individual customers are served by the entire logistics network, acting strategically and cohesively.

Logistics Footprint of the Future

Connected nodes. Pull instead of push. For each customer order. Actions are closer to the customer.
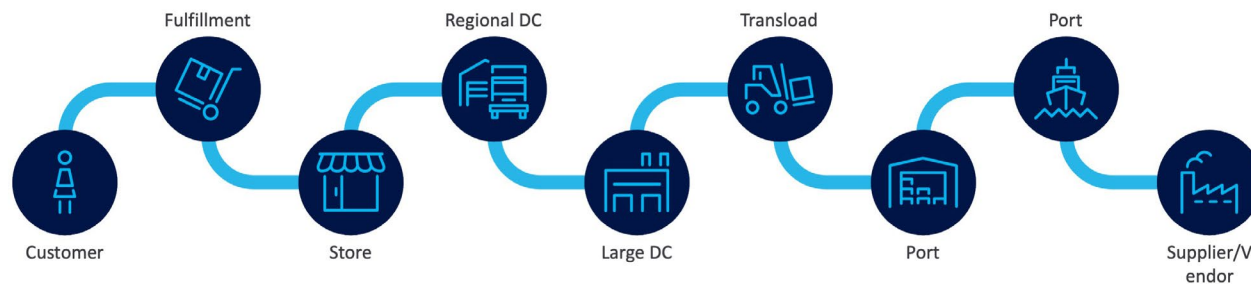
In the past, there were very broad delivery ETA windows. Daily operations in distribution centers (DCs) were reactive and designed for bulk handling. Transportation and warehouse processes lacked visibility and were limited to serial execution, with long planning cycles.

In the future, this environment is no longer sustainable. The rising expectations of customers, driven by eCommerce, must be satisfied by smaller shipments and same/next day delivery – enabled by automated fulfillment, humans plus robotics, seamless workflows, flexible freight networks and tight supplier collaborations, supported by digitization.

Unified Logistics: A transformed approach for a transformed landscape.

Across today's complex, geographically distributed supply chains, how can you achieve this level of speed and responsiveness?

The solution is to move from a siloed, functional approach to Unified Logistics – where all stakeholders, internal and external, share the same data and objectives. Customer orders, inventory, resources, movement and other tasks are seamlessly planned and optimized across every supply chain node by relying on digitization.

From a public health threat like COVID-19 to extreme weather, new regulatory guidelines or other unforeseen supply chain disruptions, a Unified Logistics approach, backed by advanced digital technologies, allows your organization to anticipate and instantly adapt to changing circumstances. The response is both orchestrated and boundaryless, spanning multiple functions and considering all potential business impacts.
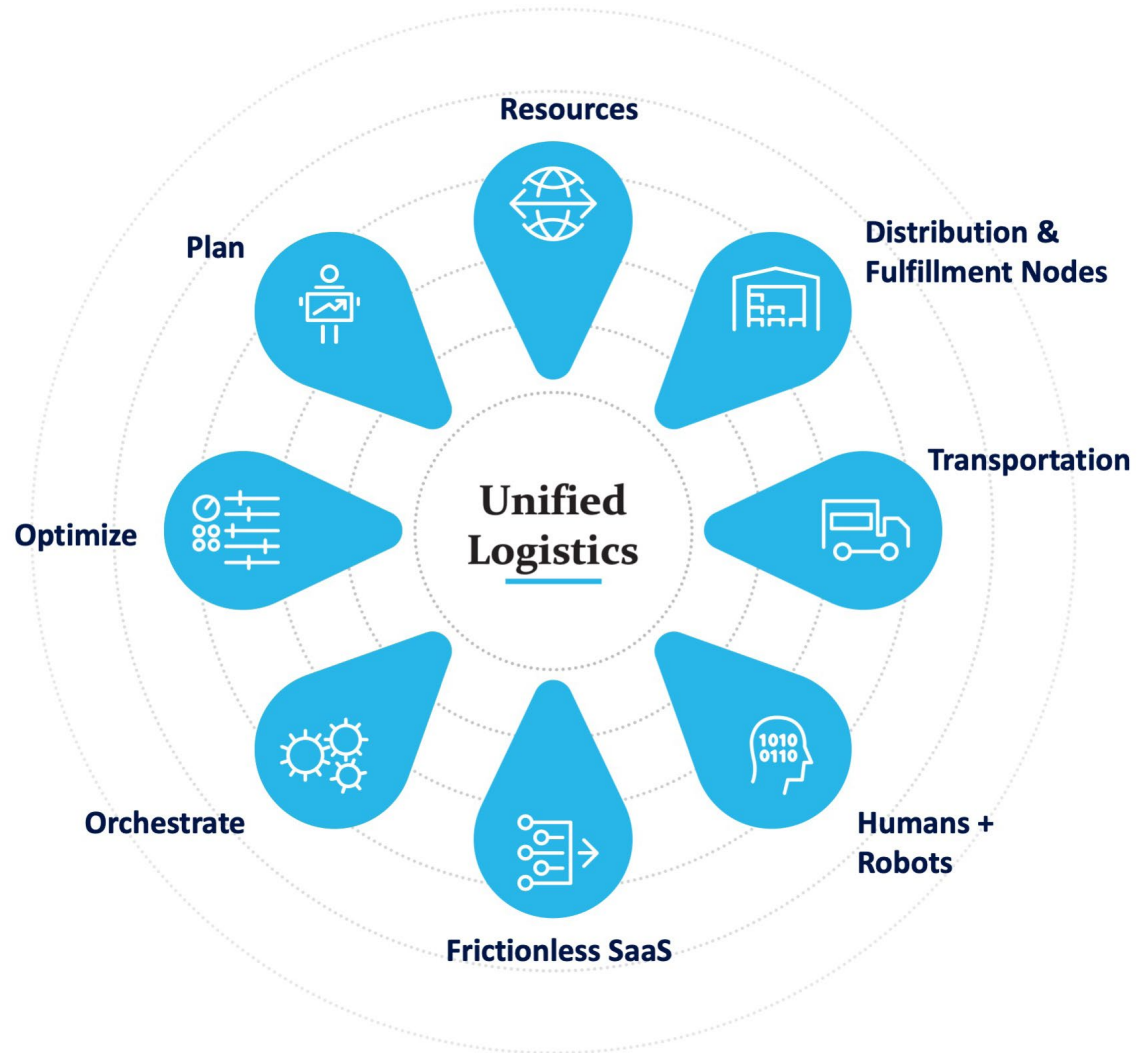
Blue Yonder: Your partner on the journey.

How can your logistics team accomplish such an ambitious digital transformation? By partnering with Blue Yonder, a leader in supply chain solutions with a 20-year history of software innovation and more than 450 customer engagements focused specifically on logistics. Blue Yonder is a leader in all four Gartner Magic Quadrants, including Transportation Management.

Blue Yonder customers have achieved incredible logistics results via digitization, including:

- **A 40% increase in service levels**

- **A 10% reduction in transportation costs**

- **A 50% decrease in warehouse and labor costs**

- **An 80% reduction in manual tasks**

Blue Yonder's Luminate Logistics platform delivers industry-leading transportation, warehouse and labor management capabilities that place artificial intelligence (AI), machine learning (ML), automation, robotics, data science, analytics and other advanced technologies within the reach of every organization. With their ability to increase visibility, speed, flexibility and responsiveness across functions, these capabilities form the backbone of Unified Logistics.

DHL

"We have to continually evaluate transportation costs, warehouse costs and service levels. Blue Yonder solutions can show us the impact in service levels, and transportation and warehouse costs, as well as how we can improve the service levels."

How will you get there? Six Blue Yonder capabilities enable Unified Logistics.

While most businesses have invested in technology solutions that overcome functional siloes – and connect multiple functions and trading partners – most are far from truly achieving Unified Logistics.

The six key digital capabilities, all delivered by Blue Yonder's Luminate Logistics, are absolutely essential in supporting the speed, customization, flexibility and agility demanded by a modern, pull-based logistics approach.

Six key digital capabilities are needed to support seamless planning, optimization and orchestration.
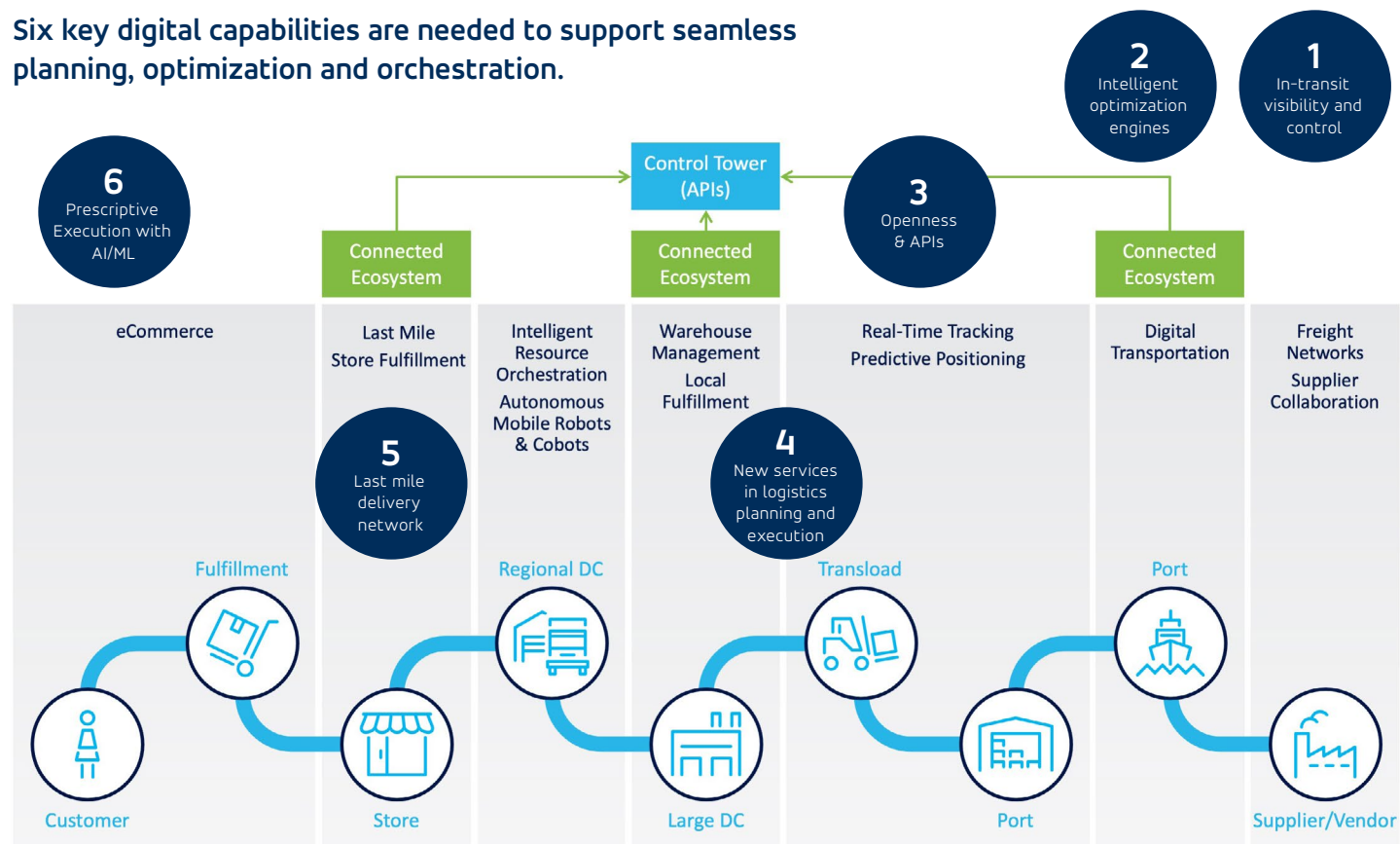
In-transit visibility and control.

Today's logistics networks are incredibly complex, spanning thousands of miles, involving dozens of trading partners, and serving customers around the world through a range of channels and delivery options.

While this complexity can be a strength, enabling your organization to offer a range of flexible, highly customized services, it also creates significant risk exposure. A problem at any point in the network can have disastrous consequences if it is not predicted in advance, giving the organization an opportunity to pivot.

Luminate Logistics and Luminate Control Tower future-proof your logistics ecosystem with 360-degree intelligence that provides complete, real-time visibility into inventory movements, transportation capacity, carrier availability and other critical events across the logistics network that affect your costs or service levels. Dashboards reveal issues and enable rapid intervention when disruptions occur.

This fact-based, real-time, end-to-end perspective on the supply chain ensure that your logistics function understands all possible threats, opportunities and risks. By seeing what's happening right now, both upstream and downstream, AI-enabled digital control towers and other intelligent supply chain solutions can identify relevant events. This visibility is complete and objective, considering all signals, all internal conditions and all external drivers.
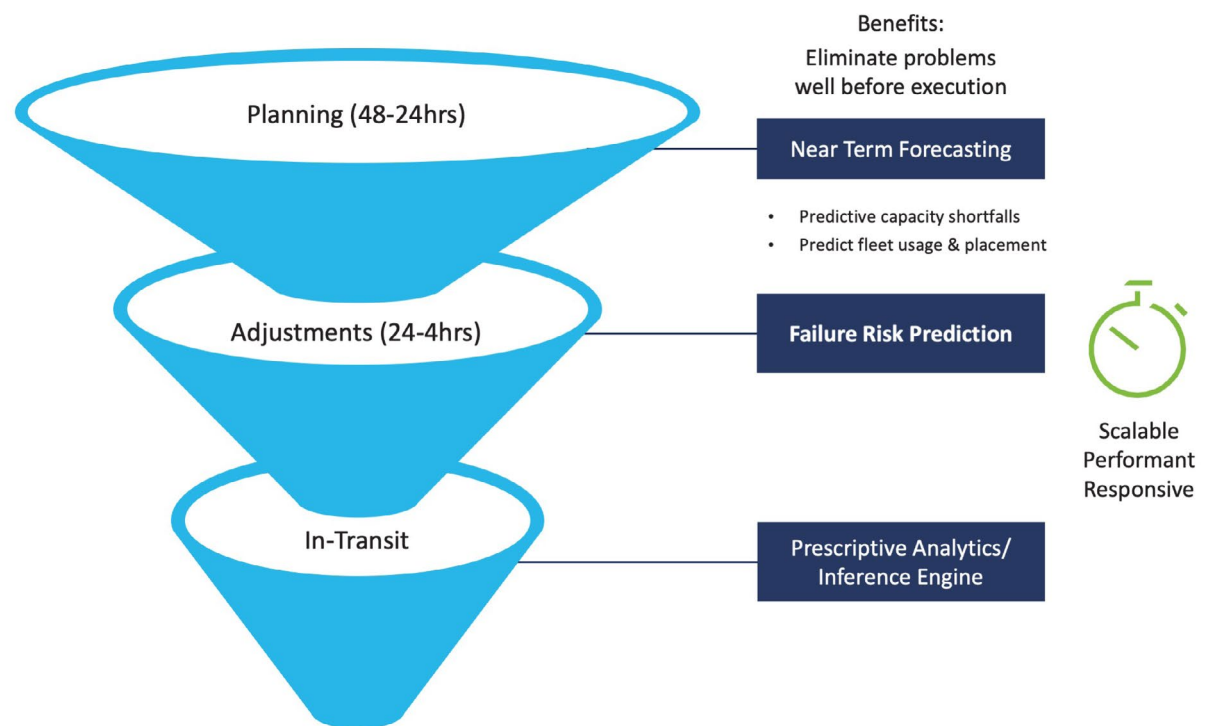
Intelligent optimization engines.

In addition to delivering 360-degree visibility and sensing inevitable disruptions at the earliest possible moment, Luminate Logistics features intelligent optimization engines, powered by AI and predictive analytics, that act as a strategic response lever.

As soon as a major disruption is sensed – whether in the logistics planning phase or when inventory is already in transit – these powerful decision engines are already weighing the options. As they gather real-time data and apply advanced analytics, they are able to define failure risks and assess potential outcomes that are linked to various intervention strategies. Then, before logistics performance is significantly impacted, these optimization engines can rapidly choose and implement an autonomous response that can be iteratively re-planned as conditions evolve.

Machine-learning capabilities mean that, over time, Luminate Logistics gets smarter and smarter about disruption signals, potential responses and their real-world impacts across the logistics network. This drives continuous improvement and more consistent results that balance customer services objectives with positive financial outcomes.

TMS Machine Learning: Cognitive Planning Assistant

Planning (48-24hrs)

Adjustments (24-4hrs)

In-Transit

Benefits:
Eliminate problems well before execution

Near Term Forecasting

- Predictive capacity shortfalls
- Predict fleet usage & placement

Failure Risk Prediction

Prescriptive Analytics/ Inference Engine

Scalable
Performant
Responsive

An open, API-enabled technology platform.

Unfortunately, logistics has historically been managed via an insular, siloed approach to planning and execution. The result? Ever-larger and more complex technology solutions that are difficult to manage and upgrade – and disparate applications, across multiple trading partners, that operate in a disconnected manner.

In contrast, Luminate Logistics is built on an application programming interface (API) enabled architecture that supports collaboration across your enterprise, as well as with external trading partners. Via loosely coupled, flexible integration points, your logistics network can seamlessly consume, enhance, supplement, mine and analyze rich datasets to detect previously unseen insights and define an orchestrated response via AI and ML.

Because it's built on the industry-leading capabilities of Microsoft Azure, and powered by API services from MuleSoft, Luminate is able to consider huge volumes of data, run predictive analytics and deliver an autonomous response in the fastest and most cost-effective manner possible. It easily connects previously unconnected logistics nodes, eliminating the blind spots and latency driven by disjointed, suboptimal technology solutions.

"Blue Yonder's API-enabled environment is a game changer because of the speed it facilitates in our communications. Ford can now connect directly with its large network of logistics service providers. We can automate processes like docking and invoicing via digital connectivity."

New services in logistics planning and execution.

Luminate Logistics is built to support an interconnected ecosystem that senses and responds to changing conditions along the end-to-end supply chain. But Luminate Logistics also offers a series of new services that increase the accuracy, efficiency and profitability of your daily logistics activities. These new services include:

- **Load building.** This robust solution is designed to build inventory-aware full truckloads from fulfillment orders and provide optimal load containerization plans that maximize trailer utilization. It considers inventory availability and constraints to reduce inventory shuttling.

- **Dynamic price discovery.** This tool helps planners view and compare freight rate quotes from marketplaces with contracted rates, while considering market supply-and-demand influenced pricing and capacity – resulting in better tendering decisions. It acts as a single point of integration for shippers and their partners.

- **Warehouse tasking.** This Blue Yonder capability positions your business to align and leverage resources at a task level. Warehouse tasking uses machine learning to assign tasks based on predefined parameters, optimize task-related shift lengths and track the position of resources in real-time.

- **Robotics Hub:** This solution enables accelerated onboarding of multiple robotics vendors in a warehouse environment. Robotics Hub significantly reduces integration complexity between the warehouse management system and bot vendors.

- **Fleet management.** This Luminate Logistics capability helps you optimize your trucks, drivers and other assets via dynamic routing, real-time tracking, driver mobility and flexible load composition. It autonomously makes optimal cost/service tradeoffs.

A robust, flexible last-mile delivery network.

Luminate Logistics represents the industry's leading open, digital transportation services for optimizing both service levels and costs during the critical last mile. This innovative solution enables you to secure the best rate, take the most favorable route, maximize capacities and otherwise make intelligent, fact-based decisions as you fulfill your delivery promises.

By connecting your organization with an extensive carrier network and other critical external partners in real-time, Luminate Logistics automates crucial tasks like procurement, dock and yard scheduling, warehouse tasking and freight management, relying on AI and ML to smooth disruptions and arrive at the best outcome.

As data is shared across the transportation planning ecosystem, Luminate Logistics re-plans iteratively based on changes in carrier pricing, capacity availability, container load requirements and other key metrics.

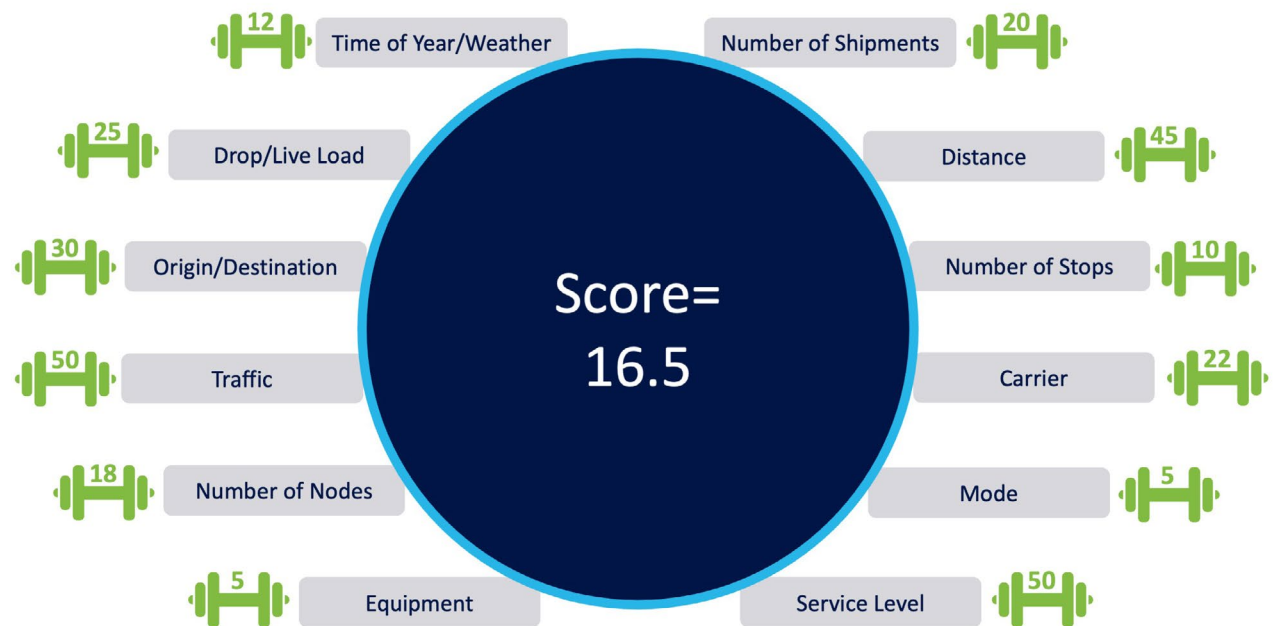
Open Digital Transportation Services

Prescriptive execution via artificial intelligence and machine learning.

The AI and ML capabilities that underlie Luminate Logistics enable organizations to not only plan their logistics activities upfront, but to pivot and re-plan as conditions inevitably change. Prescriptive analytics and AI combine to identify any execution roadblocks, assess the risks and impacts of various corrective actions, and run what-if simulations that accurately predict the long- and short-term impacts of each option. Only then does Luminate Logistics autonomously pull the right lever to keep the plan on track.

Consider an in-transit equipment failure such as a vehicle breakdown – or an order that suddenly requires expediting. Luminate Logistics applies proprietary algorithms that weigh the cost and service outcomes of possible responses. Each outcome is scored based on key metrics that include cost and service, but also consider asset utilization, weather and other complex factors.

The execution phase is loaded with complexity and uncertainty, which means that human cognition and manual planning processes are insufficient to truly analyze every option and its impact, then arrive at the best, optimal course of action. AI and ML are required to conduct the in-depth analysis, then autonomy is needed to pull the right lever immediately, before performance is impacted. Luminate Logistics delivers both capabilities in an easy-to-consume, intuitive solution package.

Failure Risk Prediction: Weighted Multi-Factor Optimization

Score= 16.5

- 12 — Time of Year/Weather
- 20 — Number of Shipments
- 25 — Drop/Live Load
- 45 — Distance
- 30 — Origin/Destination
- 10 — Number of Stops
- 50 — Traffic
- 22 — Carrier
- 18 — Number of Nodes
- 5 — Mode
- 5 — Equipment
- 50 — Service Level

Achieve Unified Logistics with Blue Yonder, starting today.

The words "digital transformation" can be intimidating. And concepts like artificial intelligence and machine learning may still seem like science fiction.
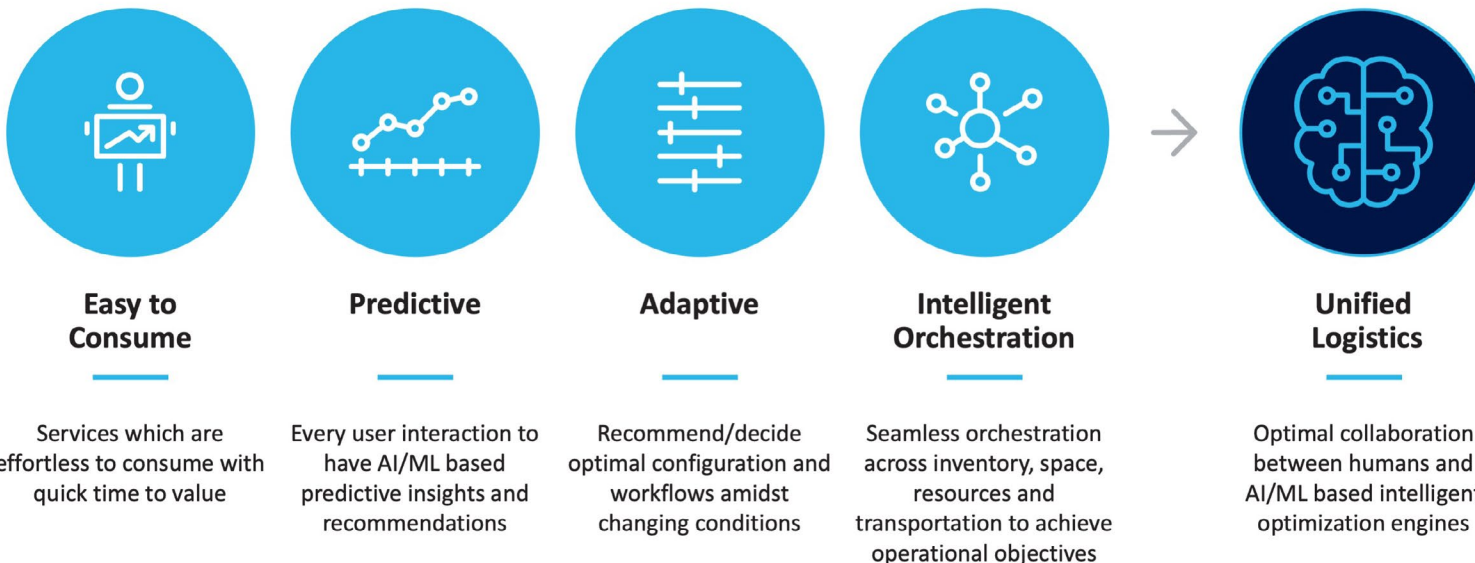
But Blue Yonder makes it easy, seamless and cost-effective to incorporate even the most advanced digital technologies into your day-to-day logistics operations.

Blue Yonder's flexible platform, SaaS delivery model and innovative user interfaces make its industry-leading logistics solutions easy to deploy and consume. And, because the cognitive capabilities of Blue Yonder's AI/ML engines exceed those of human planners, anticipating and adapting to unforeseen disruptions quickly becomes easy and routine.

No matter what challenges arise, all your logistics activities, across multiple functions, are intelligently and autonomously orchestrated to achieve the best possible outcome – one that strategically balances cost and service.

Delivering Game-Changing Logistics Experience

Easy to Consume

Services which are effortless to consume with quick time to value

Predictive

Every user interaction to have AI/ML based predictive insights and recommendations

Adaptive

Recommend/decide optimal configuration and workflows amidst changing conditions

Intelligent Orchestration

Seamless orchestration across inventory, space, resources and transportation to achieve operational objectives

Unified Logistics

Optimal collaboration between humans and AI/ML based intelligent optimization engines

Blue Yonder: Unifying logistics – and delivering results – for world leaders

Hundreds of manufacturers and third-party logistics (3PL) providers rely on the scope and power of Luminate Logistics to master their distribution challenges, including world-leading brands. Blue Yonder's logistics capabilities have consistently been highly rated by industry analysts, including Gartner.

A Leader for nine years running in Gartner's Magic Quadrant for Transportation Management Systems, in 2020 Blue Yonder was positioned as a Leader with the furthest position on the "Completeness of Vision" axis.

In addition, Blue Yonder has been named a Leader in every Gartner Magic Quadrant for Warehouse Management Systems published since 2012. In 2020, Blue Yonder was recognized for its strength in "Ability to Execute" and "Completeness of Vision."

Consumer Package Goods

Tyson · PEPSICO · Unilever · P&G · SMUCKER'S · ConAgra Foods · HERSHEY'S THE HERSHEY COMPANY · Mars

Industrial & Automotive

3M · KOHLER · ANDERSON · brother · Cummins · AVNET · NOV · TOYOTA TSUSHO AMERICA, INC. · POLARIS · SUBARU · BOSCH

Third-Party Logistics

FedEx · PENSKE · DHL · OM Owens & Minor · KUEHNE+NAGEL · americold CUSTOMER FIRST · TOLL · MDLOGISTICS · ACCURISTIX ADVANCING HEALTHCARE LOGISTICS

Lower costs, higher service levels: Imagine the possibilities.

What kinds of benefits have Blue Yonder customers achieved from implementing a Unified Logistics approach? Consider these examples:

- **Bayer** (formerly Monsanto) is a life sciences company that needs to balance customer responsiveness with internal efficiency. Bayer has relied on Blue Yonder's Luminate Logistics to achieve a 4% reduction in cost-to-serve, a 7% improvement in asset utilization and a 3% increase in services levels.

- Implementing Blue Yonder's warehouse management allowed **SodaStream**, the world's largest sparkling water brand, to decrease its order fulfillment time by 30%. By leveraging Blue Yonder's warehouse mobility technology to become more efficient with order fulfillment and inventory management, the company was able to achieve a $30 million reduction in its inventory investments.

- Grocery retailer **Bon Preu** applied Luminate Logistics to improve its store revenues, reduce warehouse inventory levels, and enhance the overall efficiency and productivity of its operations. Other results include improved availability, reduced stock losses, decreased shrinkage at the store level and improved customer service in stores.

sodastream®

"For us, Blue Yonder is a mission critical partner. We have achieved great savings, realizing our return on investment in less than six months. The impact on the company's revenue and profitability was amazing."

– Head of Global IT

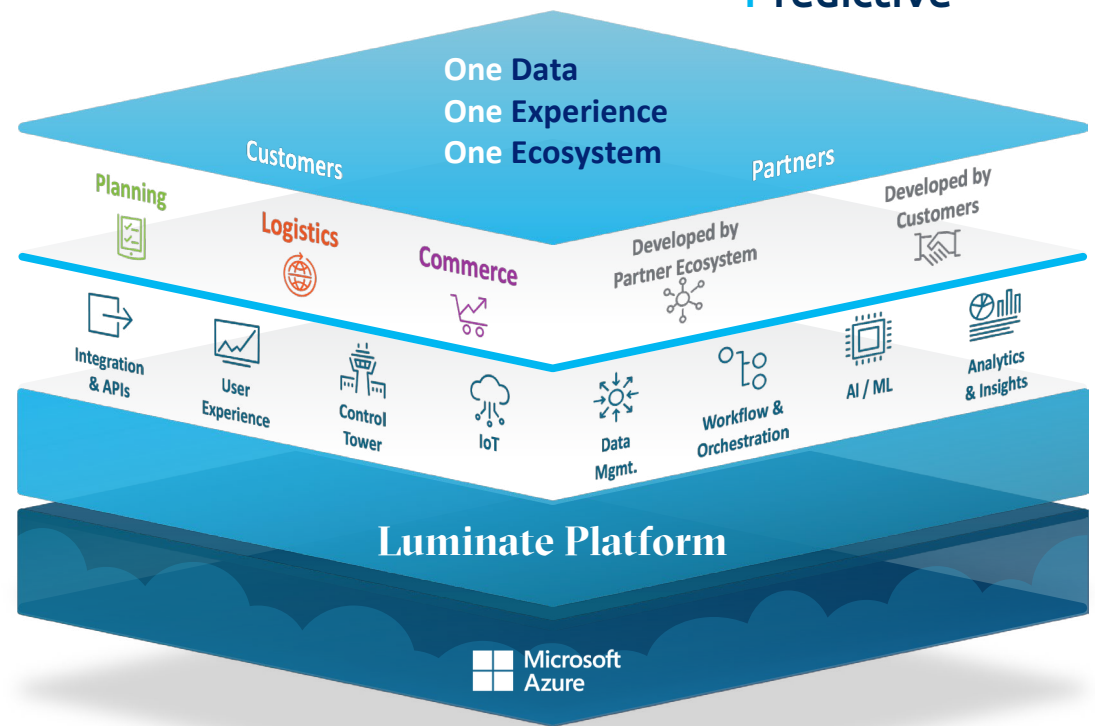# Start transforming your logistics – and beyond.

To learn more about Blue Yonder's Luminate Logistics solution portfolio, and the unique value it can drive for your business, visit https://blueyonder.com/solutions/luminate-logistics.

But Blue Yonder's supply chain optimization capabilities don't end there. Visit https://blueyonder.com/ to explore how Blue Yonder can help digitally transform your end-to-end supply chain, including your planning and commerce activities.

Discover why over 4,000 leading companies rely on Blue Yonder to deliver significant financial returns and unparalleled responsiveness in today's volatile business environment.

Blue Yonder's Luminate Platform
Powered by AI/ML

Trusted
Outcome-Driven
Predictive

One **Data**
One **Experience**
One **Ecosystem**

Customers — Partners

Planning — Logistics — Commerce — Developed by Partner Ecosystem — Developed by Customers

Integration & APIs — User Experience — Control Tower — IoT — Data Mgmt. — Workflow & Orchestration — AI / ML — Analytics & Insights

Luminate Platform

Microsoft Azure

1 https://www.efulfillmentservice.com/wp-content/uploads/2017/09/State-of-Ecommerce-Order-Fulfillment-Shipping.pdf
2 https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/
3 "State-of-Ecommerce-Order-Fulfillment-Shipping", eFulfillment Service

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